FACULTY PERCEPTIONS OF ONLINE TEACHING AT A MID-SIZED LIBERAL ARTS UNIVERSITY IN THE PACIFIC NORTHWEST: A MIXED METHODS STUDY

by

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ABSTRACT

Faculty resistance to online teaching is a problem that can affect institutions looking to increase online learning options for students. Prior research has identified a number of encouraging and discouraging factors that may affect faculty motivation to teach online. Given limited institutional resources, it would be difficult for an institution to address all of the factors identified in prior research. Furthermore, faculty at liberal arts colleges have not been studied as a specific population of interest in prior research. Therefore, to increase acceptance and participation in online teaching at Pacific Lutheran University (PLU), this study employed a convergent, parallel mixed-methods research design to investigate faculty perceptions of online teaching among faculty not currently teaching online. The Decomposed Theory of Planned Behavior (DTPB) provided a theoretical lens to examine the influence of attitudes, subjective norms, and perceived behavioral control on an individual's willingness to engage in an innovative practice, i.e. online teaching. Latent qualitative content analysis examined faculty perceptions of online teaching and identified six themes in the dataset. Using descriptive statistics, an examination of 21 quantitative factors identified 17 factors reported by more than 50% of respondents to influence their decision to teach or not teach online. Merged analysis found strong agreement between the two datasets, with only minor areas of divergence. Study participants perceived online learning as attractive to students but they wanted any online courses carefully regulated, in part because online learning was seen as contrary to their teaching values. Participants were influenced by personal preferences but also the

desire for robust faculty resources, and more effective technology and infrastructure. Overall, the three constructs of the DTPB were evident in the dataset and results were generally consistent with prior research.

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CHAPTER ONE: INTRODUCTION

This research study explored faculty perceptions of online teaching at Pacific Lutheran University, a mid-sized liberal arts university in the Pacific Northwest, in order to increase faculty acceptance and participation in online teaching. Faculty resistance to online teaching in higher education is an issue that has persisted for nearly 20 years (Allen & Seaman, 2015). Prior research has identified a variety of factors affecting online teaching; however, there is no consistent and comprehensive explanation of faculty perceptions of online teaching. Furthermore, the perceptions of liberal arts faculty at smaller, residential institutions have not been explored in prior research. Given limited resources, Pacific Lutheran University may benefit from employing targeted strategies to address the online teaching issues reported as most important to faculty at their institution.

This study utilized a convergent, parallel, mixed-methods design to gather data on faculty perceptions of online teaching. A survey instrument collected distinct but complementary quantitative and qualitative data for a more complete understanding of the phenomenon (Creswell & Plano Clark, 2011). Six qualitative themes and 17 quantitative factors were identified as influential to faculty participants' decision to teach or not teach online. The Decomposed Theory of Planned Behavior (DTPB) (Taylor & Todd, 1995) provided a framework for discussing the results of this study by considering the influence of faculty attitudes, subjective norms, and perceived behavioral control on faculty behavior. Research results will be used to inform future policies and procedures

supporting online teaching at the institution under study. This study may also be useful to other liberal arts institutions interested in examining their faculty's perceptions of online teaching.

Background of the Study

Education is evolving from the influence of technology. This trend is especially evident in the field of online education. While campus enrollments in higher education have declined across the United States, online learning has shown steady or increasing growth (Seaman, Allen, & Seaman, 2018). However, many faculty who teach in higher education have resisted the idea of teaching online and view online education with fear or disdain (Allen & Seaman, 2015; Allen, Seaman, Lederman, & Jaschik, 2012; Mitchell, Parlamis, & Claiborne, 2014; Shea, Pickett, & Li, 2005; Vivolo, 2016).

For twenty years, researchers have examined issues affecting faculty participation in online education. Nevertheless, faculty acceptance of online education has remained unchanged at an acceptance rate of only 30% (Allen & Seaman, 2015). If online education is to succeed at an institution, faculty must accept and participate in online teaching (Schopierary, 2006). This study explored faculty perceptions of online teaching at Pacific Lutheran University (PLU) by utilizing a mixed methods research approach.

During a review of the literature, a wide variety of factors were acknowledged as relevant to faculty perceptions of and participation in online teaching. A synthesis of relevant research identified factors related to personal challenge and satisfaction, flexibility and convenience, greater student access, additional instructional options, and institutional rewards and recognitions as important for encouraging faculty to teach online. Factors reported to discourage faculty from teaching online related broadly to

faculty time and workload, technology issues, decreased student engagement, intellectual property rights, course quality, and fear or resistance to change.

Examining the self-reported perceptions of faculty members at an individual institution provides important insight for leaders tasked with guiding change at that institution. Human behavior is complex and can benefit from research that examines both quantifiable factors and qualitative narratives from the population under study. Furthermore, a study of human behavior may benefit from the application of a theoretical model for describing research results from a psychological perspective. Therefore, this study applied the DTPB during the analysis of quantitative and qualitative data.

The Decomposed Theory of Planned Behavior (DTPB) was selected for this study because it provides a useful framework to discuss faculty's planned decisions to teach online through an examination of three relevant psychological constructs. The DTPB was developed by Taylor and Todd (1995) by combining the Theory of Planned Behavior and the Technology Acceptance Model to examine determinants of technology usage and more effectively utilize resources in an organization. The DTPB aligns well to the purpose of this study which seeks to better understand faculty perceptions of online teaching in order to increase acceptance and participation in online teaching. Understanding faculty perceptions of online teaching can help PLU more effectively use institutional resources when creating new policies and procedures in support of online teaching.

Statement of the Problem

Recruiting faculty to teach online can be challenging for some universities looking to expand their online offerings. For the past 20 years, many faculty have resisted

the idea of teaching online and have viewed online education with fear or disdain (Allen & Seaman, 2015; Allen et al., 2012; Mitchell et al., 2015; Shea et al., 2005; Vivolo, 2016). Strategies for supporting online teaching can vary greatly and reflect a variety of organizational structures, priorities, resources, and cultures. Prior research has examined issues affecting online teaching, but conclusions have been inconsistent and do not provide enough guidance for universities looking to recruit existing faculty to teach online. Furthermore, no research has specifically examined the perceptions of liberal arts faculty, who may resist attempts to change the instructional practices that have traditionally been the foundation of a liberal arts education. Understanding the complexity of faculty behavior may require a researcher to examine the issues at a specific institution in order to identify the factors of most importance to their faculty population and develop a focused strategic plan that optimizes the use of limited institutional resources.

Purpose of the Study

The purpose of this study was to examine how faculty perceived online teaching at Pacific Lutheran University (PLU) in order to increase faculty acceptance and participation in online teaching at that university. At this time, no fully online programs are offered at PLU; however, faculty across various disciplines have been trained and certified by the university to teach individual online courses during summer or winter terms. This study will provide information for the leadership of Pacific Lutheran University as they make policy and planning decisions that affect their faculty.

A convergent, parallel, mixed-methods design was selected to gather research data from the population under study. Qualitative data was analyzed for the identification

of key themes using latent content analysis methods. Quantitative data gathered from the survey was analyzed using descriptive statistics to identify factors reported as influential on faculty's decision to teach online. Quantitative and qualitative data were examined through the lens of the DTPB and then combined for a holistic analysis of the problem.

Research Questions

This study was guided by the following research questions (RQs):

- RQ1. How do faculty perceive online teaching at PLU?
    - RQ1.1 Are the dimensions of the DTPB evident for faculty at PLU when discussing online education at their institution?
- RQ2. What factors are reported to affect faculty's decision to teach or not teach online at PLU?
    - RQ2.1. Do attitudes affect faculty perceptions of online teaching?
    - RQ2.2. Do subjective norms affect faculty perceptions of online teaching?
    - RQ2.3. Does perceived behavioral control affect faculty perceptions of online teaching?
- RQ3. To what extent do faculty perceptions on online teaching and learning agree with the factors reported to affect faculty's decisions to teach or not teach online at PLU?

Significance of the Study

This study contributes in several ways to the current body of research examining faculty perceptions of online teaching in higher education. First, studies on faculty perceptions of online teaching have not specifically examined faculty teaching at liberal arts institutions. A review of the literature supports the possibility that faculty priorities

and values at liberal arts institutions may be unique. Baker and Baldwin (2015) stated, "Future research should continue to explore the evolution underway among LACs [liberal arts colleges] and identify the types of first and second order changes that are occurring and should explore the factors that influence change" (p. 260). Bacow et al. (2012) observed that barriers to the adoption of online learning in the U.S. vary greatly according to the nature of the institution. Maguire (2005) noted that research on faculty participation in online education lacks a discussion of cultural and contextual influences on faculty motivation at different institutions. Although the results of this study are not intended for generalization, the research results could provide some insight into the perceptions and priorities of this specific population.

Applying the DTPB to this study contributes a theoretical lens to examine perceptions of online teaching among liberal arts faculty. Meyers (2014) conducted an extensive review of the literature supporting faculty development for online teaching and found that only 15% referred to supportive theories and models. She cited this as a serious deficit and urged future researchers to better connect their research to an interpretive theory. Only one other study has analyzed faculty perceptions of online teaching using the DTPB. Dos Santos and Okazaki (2013) examined how faculty at public Brazilian universities perceived influential factors of e-learning adoption. Dos Santos and Okazaki's research hypotheses and survey instrument were designed around the dimensions of the DTPB. Although the purpose of this study is not to test the validity of the DTPB, the theory contributes to the discussion of results and provides a useful framework for analyzing faculty behaviors.

This research study also provides specific, actionable data for the institution under study. Research results will be posted online and shared with the PLU community and leadership. Study results can inform decisions about online teaching and learning as the university evaluates and clarifies its academic identity and priorities for the next ten years. This study's results can be referenced when making key decisions, strategic plans, and institutional policies aimed to increase the success of online teaching at the university. The study may also be of interest to future researchers and universities looking for an evidence-based approach to increasing faculty participation in online teaching.

Rationale for Methodology

A mixed-methods design was selected for this study because this approach was well suited for examining perceptions and assessing community needs in a comprehensive manner (Creswell, 2014; Gideon, 2012; Lavrakas, 2008; Watson, 1999). Valuable insights arose from examining faculty perceptions of online teaching from both a quantitative and qualitative approach. Qualitative methods allowed for an authentic examination of topics generated by faculty respondents whereas quantitative methods allowed for a focused evaluation of specific factors.

A convergent, parallel mixed-methods approach was selected because there was limited time for data collection, there was equal value for collecting different but complementary data on the same topic, and there was a desire to synthesize results for a more complete understanding of the phenomenon (Creswell & Plano Clark, 2011). The data for this study was collected using a survey instrument. Survey research is common for action-focused research in higher education, especially when researchers are

interested in the attitudes, opinions, and perceptions of a large population (Watson, 1999). Furthermore, use of a survey instrument aligns well to the convergent, parallel approach because it allows both quantitative and qualitative data to be collected simultaneously.

Assumptions of the Study

This study assumes that participants responded honestly to survey questions. To promote participation and honest responses, data was collected confidentially. There is also an assumption that participation in the survey was not influenced by the faculty member's relationship with the researcher, who works with faculty at the university. Participants were invited to participate via email and chose whether to participate or to refrain from answering any of the survey questions.

Another assumption is that all faculty who are not teaching online at Pacific Lutheran University should be considered as potential participants for this study. It is possible that some faculty not teaching online at PLU may have taught online at another institution and could fit more appropriately in the group of faculty excluded from participation in this study due to their experience with online teaching. However for this study, it is assumed that all faculty who have not completed the PLU Teaching Online training program were the most logical population for the research problem.

This study also assumes minimal survey error and response bias. Strategies were implemented to increase the response rate, including advance notification of the study, sponsorship from the Office of the Provost, multiple reminders, and the opportunity to complete a paper survey in place of an online survey. The response rate is reported in Chapter 3. There is also an assumption that study results are intended to reflect the

perceptions of the faculty under study and are not meant to be generalized to other populations of faculty.

Summary

In sum, this study examined faculty perceptions of online teaching among faculty not certified to teach online at Pacific Lutheran University using a convergent, parallel, mixed-methods design. A mix of qualitative and quantitative survey questions allowed for a comprehensive analysis of faculty perceptions. The DTPB provided a framework for discussing the results of the study. Results from the survey will be used to inform strategic plans and priorities at Pacific Lutheran University.

In the remainder of this paper, Chapter Two provides a brief review of the literature on teaching at liberal arts colleges, a summary of relevant theories including a closer look at the DTPB, and a synthesis of prior research organized by common factors identified as influential on faculty perceptions and participation in online teaching. Chapter Three describes the mixed-method research design selected for this study, including the process to analyze the quantitative and qualitative data gathered from the survey. Chapter Four presents the findings for this study; six themes were identified in the qualitative data and these aligned closely to the quantitative factors reported as influential to faculty in their decision to teach or not teach online. A discussion of the research results, connections to prior research and the DTPB, as well as implications for the study are presented in Chapter Five.

CHAPTER TWO: REVIEW OF LITERATURE

Online learning has continued to grow in the United States in contrast to declining enrollments on many college campuses (Seaman et al., 2018). For institutions looking to offset the revenues lost from declining enrollments, online learning offers an opportunity for new revenue sources. Despite substantial research on the benefits afforded by learning online, institutions of higher education continue to observe faculty resistance to teaching online (Mitchell et al., 2014; Shea et al., 2005; Vivolo, 2016). To recruit and retain online instructors, institutions must understand the issues that affect faculty's willingness to teach online. Determining the most effective strategies for encouraging faulty to teach online is essential to the successful implementation of online learning at an institution (Schopieray, 2006).

Over the past 50 years, researchers have observed teachers resist changes to current educational practices, even when changes could be considered necessary and beneficial (Schopieray, 2006). According to Allen and Seaman (2015), "A continuing failure of online education has been its inability to convince its most important audience - higher education faculty members - of its worth" (p. 21).

Annual Babson survey research data has provided critical insight into online learning trends in the U.S. since 2002. In a 2015 Babson report, Allen and Seaman noted that faculty acceptance of online education had changed very little since the Babson Survey Research Group first started gathering data on the topic. In 2002, only 27.6% of chief academic officers reported that their faculty accepted the value and legitimacy of

online education, and in 2014, faculty acceptance continued to hover at 28.0% (Allen & Seaman, 2015). Allen and Seaman's research highlights that faculty acceptance of online education has failed to increase despite investments in technology resources, support staff, and infrastructure. If institutions across the United States have been unsuccessful as a whole in changing faculty acceptance of online learning, this raises the question, "What are the most important issues that an institution should address to effectively encourage faculty acceptance and participation in online education?"

This chapter presents a review of the literature relevant to this study. First, there is a brief look at liberal arts education and what is known about the culture of such institutions. Next, there is a summary of different theories utilized by past researchers as they explored faculty motivation and online teaching. This is followed by a detailed overview of the DTPB, the theoretical framework selected for this study. The remainder of the chapter presents a synthesis of research themes from the past twenty years related to faculty participation in online teaching. Prior research is organized and presented according to themes identified by the researcher during the literature review.

Literature Review Process

This review of the literature began with a library database search of relevant topics. Keywords for the search included: online teaching in higher education, liberal arts teaching, faculty motivation for online teaching, incentives for online teaching, and barriers to online teaching. Around 20 relevant studies were identified from keyword searches. To expand the literature search, the reference sections of these studies were reviewed for related resources. Additional research articles were identified and references were explored again until no further pertinent research could be identified.

Liberal Arts Teaching

This study explored the perceptions of faculty at a mid-sized, Christian, liberal arts university and posits that the perceptions of this population may be distinct, especially from faculty at larger research institutions or community colleges. No studies to date have directly compared perceptions of online education at different types of institutions. However, the culture of liberal arts institutions may favor educational experiences that are more traditional than those associated with online teaching and learning.

According to the Association of American Colleges and Universities (2019), a liberal education combines broad knowledge with in-depth study to empower and prepare students for a complex, diverse, and ever-changing world. Liberal arts colleges are often small, residential institutions that value close interaction between faculty and students (AACU, 2019). The classical and Christian approach to liberal arts education has traditionally been grounded in pre-modern, Western traditions and texts (Deneen, 2014). According to Wells (2016), pedagogical strategies and curriculum for Christian liberal arts education are distinctive, with particular focus given to cultivating formal virtues and instilling a sense of meaning, vocation, and purpose.

In his 1987 book *The Academic Life: Small Worlds, Different Worlds* (1987), Clark describes stark differences in the academic life of faculty in research universities, liberal arts colleges, and community colleges. Academic culture, teaching, research, and student relationships differed for faculty teaching at mid-sized, non-elite liberal arts colleges (Clark, 1997). In his research, Clark (1997) noted that faculty in middle-level, liberal arts colleges often claimed their relationships with students were what was most

valued to them as academic professionals. In his study of online teaching, Shea (2007) noticed differences in the willingness of faculty from different types of institutions to consider teaching online, specifically stating that cultural distinctions might favor community college faculty to teach online more than faculty at four-year colleges.

Within scholarly articles written about liberal education, there is noted tension between faculty's desire to survive during times of change and the desire to maintain the distinct characteristics that liberal arts education has cultivated for over a hundred years. Some liberal arts faculty worry about trends favoring professional education, STEM programs, and modern pedagogical approaches. Thompson (2015) dramatically stated:

> We are witnessing nothing less than the collapse of classical education, which is to say we are witnessing the death of any meaningful understanding of what the academy has been for hundreds of years. For those of us who take the life of the mind seriously, whose lives are concerned day-to-day with reading and teaching old books and with discussing and debating the ideas and institutions that have shaped Western culture for millennia, we are now strangers in a strange land. (pp. 418-419)

Faculty who have chosen to teach at a liberal arts institution may be especially resistant to attempts to change that tradition's pedagogical practices. Baker and Baldwin (2015) noted:

> Traditional higher education institutions, such as liberal arts colleges, usually have a solid core of professionals with strong ideas about mission, purpose, norms, and procedures about what constitutes legitimate practice. The views of

> this internal core often compete with demands for adaption, change, and reform that come from external forces and constituents (pp. 249-250).

That is, faculty often have strong opinions about what constitutes good teaching at their institutions and can feel threatened by initiatives that may change long-held teaching values.

Baker and Baldwin (2015) described how many liberal arts colleges have felt compelled to create a clear brand that establishes their unique value, while managing or attempting to find balance among the varied forces that affect their survival. Some of the key forces driving change in higher education include technology, new approaches to teaching and learning, budget constraints, changing student demographics, and increased competition (Baker & Baldwin, 2015). Specifically, one of the challenges Baker and Baldwin (2015) mention is "supplementing traditional classroom learning strategies with technology-enhanced instruction and with out-of-class learning opportunities" (p. 248). Online education and online learning pedagogies could be seen as threatening or outright incompatible with traditional liberal arts teaching. Therefore, faculty perceptions of online teaching at a mid-sized, liberal arts institution were explored in this study to better understand the unique perspective of this demographic.

Theoretical Foundations

In the literature on faculty participation of online teaching, a variety of theories informed research studies, the development of research instruments, and the analysis of data. There appeared to be no single theory or model most frequently cited in the literature. A few relevant theories are summarized here to provide insight into the different ways researchers have examined faculty perceptions of online teaching.

The evolutionary model of change has been used by several researchers to explore how liberal arts colleges respond to change (Baker & Baldwin, 2015; Kezar, 2001). This model assumes that change is affected by situational variables and by the organizational environment through interaction, openness, homeostasis, and evolution.

The Diffusion of Innovation Theory, developed by Rogers in 1962, was utilized in several studies examining online teaching (Dooley & Murphrey, 2000; Hiltz, Kim, & Shea, 2007; Shea et al., 2005; Shea, 2007; Zhen, Garthwait, & Pratt, 2008). Rogers's theory explains how innovations spread through a population over time, with individuals progressing through five stages of adoption (Rogers, 1962). Activity theory formed the basis of a 2008 study by Blin and Munro, while Wolcott and Betts (1999) applied social exchange theory, expectancy theory, and social comparison theory to analyze work motivations and the complex interplay of motivation, expectations, and the delivery of rewards. Self-determination theory was used in the research of Johnson, Stewart, and Bachman (2015) as well as Bouwma-Gearhart (2012) to examine how individual needs are met and influenced by motivation, cognition, and behavior.

Ulrich and Karvonen (2011) utilized principles from the Technology Acceptance Model (TAM) to identify, compare, and analyze the behavior of online instructors. The TAM supposes that perceived usefulness and perceived ease-of-use influence a person's decision to accept and utilize a new technology (Davis, 1989). Wingo, Ivankova, and Moss (2017) conducted an analysis of 67 published studies on this topic and found that even though only five peer-reviewed journal articles were explicitly based on the TAM, all 67 studies had findings that could fit into one or both of the TAM constructs. Wingo et al. (2017) recommended the Technology Acceptance Model 2 (TAM2) as the framework

for exploring faculty perceptions about teaching online. The TAM2 extends the TAM construct known as “perceived usefulness” to include five dimensions: subjective norms, image, job relevance, output quality, and result demonstrability (Venkatesh & Davis, 2000).

The Decomposed Theory of Planned Behavior (DTPB), developed by Taylor and Todd in 1995, combines dimensions of the Technology Acceptance Model (TAM) and the Planned Theory of Behavior (PTB) to explain how behavior related to innovative practices and technologies is influenced by attitudes, subjective norms, and perceived behavioral control. Ajjan and Hartshorn (2008) used the DTPB to study faculty perceptions of Web 2.0 technologies. Five years later, Dos Santos and Okazaki (2013) utilized the DTPB to test an e-learning adoption model with 446 Brazilian university faculty. The next section provides a closer examination of the DTPB, the theory selected for this study.

Decomposed Theory of Planned Behavior

Taylor and Todd (1995) developed the Decomposed Theory of Planned Behavior (DTPB) to better understand the determinants of technology usage for the effective deployment of resources in an organization. Taylor and Todd first examined models from social psychology that focused on the identification of factors affecting behavioral intention and selected two existing theoretical models for empirical testing: The Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM). The Theory of Planned Behavior is an extension of the Theory of Reasoned Action (TRA), which claims that behavior is a direct result of behavioral intention as influenced by attitudes, subjective norms, and perceived behavioral control. The Technology Acceptance Model

(TAM) is an application of the Theory of Reasoned Action (TRA) and claims that behavior is a direct function of behavioral intention as influenced by attitudes toward the usage of an innovation, specifically perceived usefulness and ease-of-use. Perceived Usefulness is itself based on the TRA's concept of relative advantage while ease-of-use is based on the TRA concept of complexity (Taylor & Todd, 1995).

Taylor and Todd (1995) decided to combine elements of the Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM) to create a new, third model for empirical testing, the Decomposed Theory of Planned Behavior (DTPB). The DTPB supposes that intentional behavior is influenced by attitude, subjective norms, and perceived behavioral control, like the TPB. However, the new model alters the dimensions of the TPB's attitude construct to include ease of use rather than complexity, and perceived usefulness, rather than relative advantage (Taylor & Todd, 1995), using the TAM's nomenclature. "Specifically, this model incorporates additional factors, such as the influence of significant others, perceived ability, and control, which were not taken into account in TAM but proven to be important determinants of IT usage behavior" (Dos Santos & Okazaki, 2013, p. 366).

Taylor and Todd tested the TPB, the TAM, and the DTPB to determine which model was most effective for explaining behavior related to innovative practices and technology usage. Questionnaires collected data from 786 students on their planned usage of a computing resource center available to business school students. Over the next three months, all visitors to the computing resource center completed a short questionnaire. This allowed the researcher to track the planned behaviors and actual behaviors of students in the research group.

Explanatory power, overall fit, and significance of individual paths were assessed for each model to determine the total effects for each construct on behavioral intention and usage of an innovative practice. The DTPB was found to provide a "fuller understanding of usage behavior and intention and may provide more effective guidance to IT managers and researchers interested in the study of system implementation" (Taylor & Todd, 1995, p. 170). In the next three sections, the DTPB's major constructs and dimensions are briefly defined. An overview of the DTPB constructs and dimensions are depicted below in Figure 1.

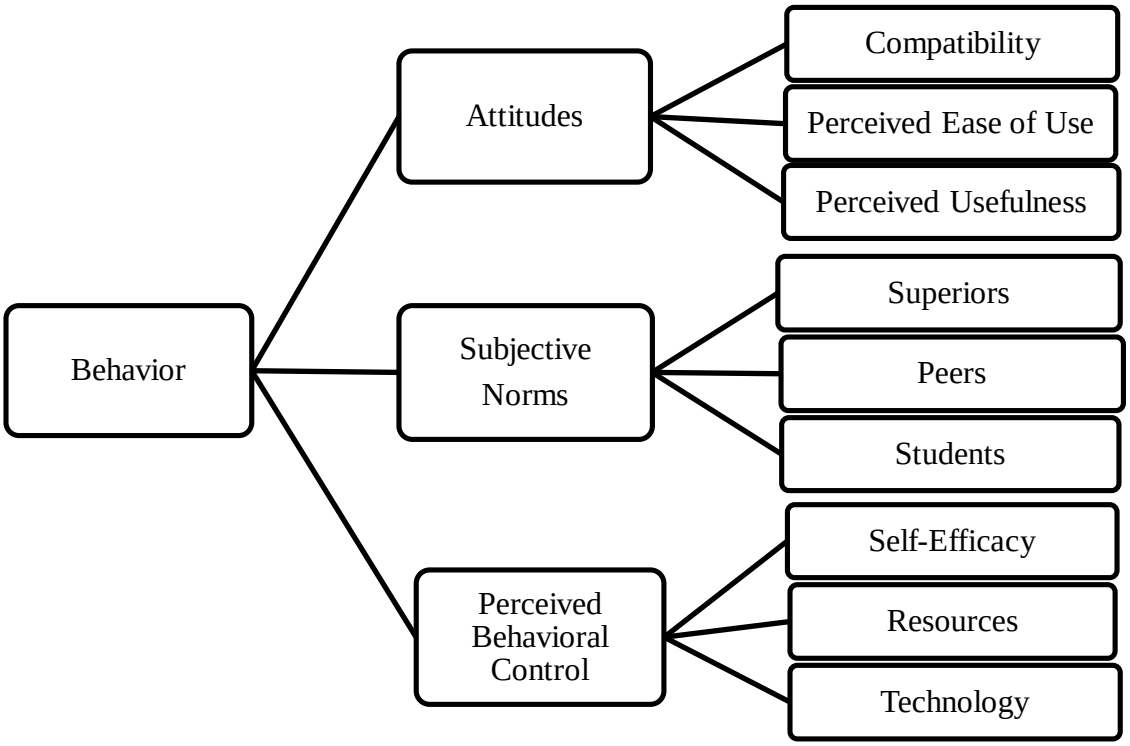

Figure 1. Overview of Decomposed Theory of Planned Behavior

Decomposed Attitudinal Belief Structures

The attitudinal beliefs component of the DTPB model describes perceptions of an innovative practice and examines the degree to which an individual supports the behavior under study (Taylor & Todd, 1995). Attitudinal beliefs are examined through the

dimensions of compatibility, perceived ease of use, and perceived usefulness. "Compatibility" describes how an innovative practice aligns with an individual's existing values, needs, and experiences. "Perceived ease of use" or "complexity" describes the perceived difficulty to understand, learn, or operate the components of an innovative practice. "Perceived usefulness" or "relative advantage" refers to the degree with which an innovative practice provides important benefits or is better than the current practice (Taylor & Todd, 1995).

Decomposed Normative Beliefs Structures

The normative beliefs component of the DTPB model describes the influences or social pressures of different groups on an individual's behavior (Taylor & Todd, 1995). Normative beliefs are influenced by three dimensions: peers, superiors, and subordinates. Normative groups within an educational organization are comprised of "peers" (faculty), "superiors" (institutional leaders), and "subordinates" (students) (Taylor & Todd, 1995). It is possible for the effects of one referent group to be favorable toward a new technology and another be reluctant. These contrasting beliefs may cancel each other and produce no overall influence, or one group's influence may dominate in importance (Dos Santos & Okazaki, 2013).

Decomposed Control Belief Structures

The control beliefs component of the DTPB model relates to internal and external forces that affect an individual's behavior (Taylor & Todd, 1995). Perceived behavioral control describes how easy or difficult a person believes it would be to participate in a specific behavior (Ajzen, 1991). A person is more likely to engage in a behavior if they

believe they have control over the outcome of the behavior (Dos Santos & Okazaki, 2013).

Control beliefs are affected by the three dimensions of self-efficacy, available resources, and available technology (Taylor & Todd, 1995). “Self-efficacy” is an internal dimension related to one’s perceived ability to be successful at a task. The dimensions of “available resources” such as time and money and “available technology” are considered “facilitating conditions” (Taylor & Todd, 1995). Taylor and Todd note that the absence of facilitating conditions may present a barrier to usage but the presence of facilitating resources may not necessarily encourage usage.

Justifications for the DTPB

The DTPB encompasses a comprehensive set of psychological dimensions useful for studying faculty perceptions and behavior. The DTPB was developed to explain determinants of technology usage in order to more effectively utilize resources in an organization (Taylor & Todd, 1995). The purpose of the DTPB aligns well to this study, which seeks to understand faculty perceptions of online teaching in order to increase acceptance and participation in online teaching. Such an understanding could help PLU more effectively use institutional resources when creating new policies and procedures in support of online learning.

Since the DTPB’s development in 1995, several research studies related to technology usage have utilized the DTPB as a theoretical framework. For instance, the DTPB has been applied to the study of internet banking usage (Shih & Fang, 2004), undergraduate student adoption of e-textbooks (Hsiao & Tang, 2014), and civil servants’ usage of Web 2.0 tools for learning (Lai, 2017). Sadaf, Newby, and Ertmer (2013)

applied the DTPB to a mixed methods study of pre-service teachers and their intention to use technology in future teaching. A study of Taiwanese teachers utilized the DTPB to examine factors that influence teachers' usage of basic classroom technologies (Shiue, 2007). Another study used the DTPB to examine higher education faculty perceptions and intentions to use Web 2.0 technologies in their teaching (Ajjan & Hartshorn, 2008).

Dos Santos and Okazaki (2013) were interested in learning more about how Brazilian university faculty perceived influential factors of e-learning adoption. They used a quantitative online survey of faculty to test the effectiveness of an e-learning model based on the DTPB. Nine of their 13 hypotheses were supported by the data. Dos Santos and Okazaki concluded that peer influence and interaction are especially important for successfully e-learning adoption among Brazilian university faculty. They suggested that university administrators provide information on the benefits and utilities of e-learning from the faculty perspective.

In sum, a review of the literature found several theories and models applied to the study of faculty participation in online teaching. The Decomposed Theory of Planned Behavior (DTPB) provides a good model for analyzing faculty's planned participation in online teaching by examining faculty's attitudes, subjective norms, and behavioral control. Taylor and Todd (1995) demonstrated that the DTPB is a more comprehensive model for predicting and explaining behavior than the Technology Acceptance Model or Theory of Planned Behavior. Online teaching requires faculty to embrace technology usage and innovative behavior. Dos Santos and Okazaki (2013) applied the dimensions of the DTPB to a survey of Brazilian faculty, and they found their model to be effective for explaining e-learning acceptance. The DTPB and its dimensions provide a useful lens for

examining faculty's acceptance of innovative technologies, so the DTPB was selected for this research study to better understand perceptions of online teaching.

Factors Influencing Faculty Participation in Online Teaching

Research on faculty motivation is complex, and there are many intrinsic and extrinsic factors that can affect behavior (Feldman & Paulsen, 1999). Prior research on faculty acceptance and participation in online teaching has lacked focus, and as a result, many influential factors have been identified. When analyzing factors that affect faculty's perception of online teaching, some researchers broadly grouped these variables into two categories: (1) encouraging factors, also called incentives, bridges, or motivators and (2) discouraging factors, also called obstacles, barriers, or de-motivators (Bacow et al., 2012; Berge, 1998; Haber & Mills, 2008; Herman, 2013; Hiltz et al. 2007; Maguire, 2005; Shea, 2007). In past studies, these broad categories were considered in conjunction with theory-based dimensions as a way to view research results for policy and planning decisions. This section of the literature review identifies some researched-based factors influencing faculty participation in online teaching and synthesizes similar factors into themes. Research themes are linked, when appropriate, to the dimensions of the DTPB to consider how prior research findings about online teaching in higher education may relate to the DTPB.

Factors that Encourage Online Teaching

Hiltz et al. (2007) explained that incentives or motivators encourage, enable, support, or reward faculty and increase their willing to teach online. In this section, five categories of factors that encourage online teaching are explored: personal challenge and

satisfaction, flexibility and convenience, greater student access, increased instructional options, and institutional rewards and recognitions.

Personal Challenge and Satisfaction

Some faculty are motivated by the opportunity for professional, technical, or creative challenges (Allen & Seaman, 2008; Betts & Heason, 2014; Bollinger & Wasilik, 2009; Bouwma-Gearhart, 2012; Feldman & Paulsen, 1999; Johnson et al., 2015; Hiltz et al. 2007; Lee, 2001; Lloyd, Byrne, & McCoy, 2012; Maguire, 2005; Miller & Husman, 1999; Schifter, 2000; Schopieray, 2006; Shea, 2007; Wasilik & Bollinger, 2009; Wolcott & Betts, 1999). Feldman and Paulsen (1999) claimed that key intrinsic incentives for faculty include "faculty members' innate needs for competence and self-determination, their valuing of activities that interest and challenge them, and their seeking of opportunities to learn and achieve" (p. 74). Giannoni and Tesone (2003) concluded that self-actualizing factors were the most important motivator for senior-level, tenured faculty who were the focus of their study.

Faculty may be energized by the opportunity to grow personally and professionally through learning new technology and teaching skills (Shea, 2007; Hiltz et al., 2007). Professional development for online teaching has been found to enhance faculty's face-to-face teaching, providing increased satisfaction and benefits for online faculty (Dooley & Murphrey, 2000; Wolcott & Betts, 1999).

When considering the DTPB, personal challenge and satisfaction were interpreted as related to the dimensions of compatibility and self-efficacy. The tendency of a faculty member to be motivated by the challenge and satisfaction of learning something new may be influenced by their attitudes and the compatibility of online teaching with their current

beliefs, interests, and priorities. Personal challenge and satisfaction could also be related to perceived behavioral control and personal feelings of self-efficacy; faculty who believe it is possible for them to be successful teaching online might be encouraged by the challenge while others might be discouraged by the perception that they would be unsuccessful or unhappy teaching online.

Flexibility and Convenience

The flexibility afforded by asynchronous online teaching is a benefit appreciated by many faculty (Allen & Seaman, 2008; Betts & Heaston, 2014; Bollinger & Wasilik, 2009; Hiltz et al. 2007; Johnson et al., 2015; Lloyd et al., 2012; Maguire, 2005; Schopieray, 2006; Shea, 2007; Wasilik & Bollinger, 2009). Reports by Hiltz et al. (2007) and Shea (2007) concluded the most important motivator that encouraged faculty in their studies to teach online was the ability to teach any time or place. Schedule flexibility may allow faculty to improve their work-life balance or incorporate more opportunities for research, travel, or family care (Shea, 2007). Flexibility can be especially attractive for faculty with non-traditional needs (Dooley & Murphrey, 2000).

Flexibility and convenience were interpreted as related to the DTPB's dimension of perceived usefulness. If faculty believe online teaching provides more flexibility and convenience for them, they could be more willing to teach online. Conversely, if faculty do not desire increased flexibility and convenience, this factor may not be perceived as useful and may not motivate them to teach online.

Greater Student Access

The possibility of increasing access to higher education for a wider audience of learners can be an incentive for faculty to teach online (Allen & Seaman, 2008; Bollinger

& Wasilik, 2009; Dooley & Murphrey, 2000; Hiltz et al. 2007; Maguire, 2005; Shea, 2007; Wasilik & Bollinger, 2009). Opportunities to connect with new learners from different cultural backgrounds, geographic locations, and socio-economic circumstances may align with faculty interests or institutional missions (Shea, 2007). Faculty may also feel encouraged to teach online because online learning has the potential to provide students with greater access to high-demand or highly-specialized courses that might otherwise present enrollment challenges for departments. Feldman and Paulsen (1999) note that student influence and preferences can be strong motivators for faculty.

Greater student access was interpreted as related to the DTPB dimensions of perceived usefulness and student influence. Faculty may perceive online teaching as useful for increasing access to different student populations. Additionally, faculty may be influenced by student interest or demand for online courses, which could in turn motivate faculty to teach online. Conversely, if faculty believe the students they teach do not like learning online, they may be discouraged from teaching online.

Additional Instructional Options

Faculty may be motivated by the possibility of using new, technology-enabled strategies for teaching and learning, including additional options for adaptive and personalized learning (Dooley & Murphrey, 2000). Some studies suggested that online learning provides faculty with attractive options for increasing peer-to-instructor and peer-to-peer communications (Wasilik & Bollinger 2009). For instance, in an online, asynchronous forum, all students can be provided with an equal opportunity to communicate. This may especially benefit introverted students, second-language

students, or those who would have missed class conversations due to an absence (Hiltz et al. 2007).

Factors related to unique instructional options were interpreted as similar to the DTPB dimensions of perceived usefulness and student influence. Faculty may perceive online teaching as useful if they are looking for additional instructional options that online learning could fulfill. Or, faculty may be influenced by student requests for additional learning options that accommodate different preferences.

Institutional Rewards and Recognition

When considering online teaching, faculty may strongly consider whether their institution recognizes and rewards such efforts through credit during the promotion and tenure process, teaching awards, course releases for development time, and/or financial stipends (Betts & Heaston, 2014; Bollinger & Wasilik, 2009; Bouwman-Gearhart, 2012; Feldman & Paulsen, 1999; Gannon-Cook & Crawford, 2002; Haber & Mills, 2008; Herman, 2013; Hoyt & Oviatt, 2013; Johnson et al., 2015; Lee, 2001; Lloyd et al., 2012; Maguire, 2005; Wasilik & Bollinger, 2009; Wolcott & Betts, 1999). If faculty believe they have to work harder to develop and teach an online course, then it is understandable that faculty might demand compensation for additional hours of work, either with supplemental pay or release time from other duties. For many faculty, the decision whether to teach online or not reflects how they perceive the return on investment (Wolcott & Betts, 1999).

Compensation and rewards for online teaching varies greatly across institutions (Herman, 2013; Hoyt & Oviatt, 2013; Wolcott & Betts, 1999). A national study by Hoyt and Oviatt found 82% of participants reported receiving extra compensation to develop or

revise an online course. Typical monetary compensation ranged from $2,000-$3,000 dollars (Hoyt & Oviatt, 2013). Numerous researchers have recommended that institutions prioritize compensation for online course development (Betts & Heaston, 2014; Lloyd et al., 2012; Mitchell et al., 2014; Vivolo, 2016).

Some researchers have proposed that institutional recognition of faculty time and effort may be more important than the dollar amount provided from a stipend (Betts & Heaston, 2014). Recognition can come from faculty peers or school leaders, institutional awards, or credit for promotion and tenure (Feldman & Paulsen, 1999).

When considering the DTPB, factors related to institutional rewards and recognition were interpreted as related to the dimension of perceived usefulness, peer influence, and superior influence. Faculty may find online teaching more or less useful depending on how they are rewarded for participating in such practices. Recognition from peers and/or superiors could also influence faculty's decision to teach online if such recognition is personally motivating for an individual.

Factors that Discourage Online Teaching

Academic leaders can promote participation in online teaching by addressing the concerns that may dissuade faculty from teaching online. Barriers or de-motivators discourage, constrain, or decrease faculty's willingness to teach online (Hiltz et al., 2007). Discouraging factors play an especially important role in motivation because barriers perceived to be too burdensome have the potential to negate incentives that might otherwise encourage online teaching (Shea, 2007). Commonly reported themes in the literature included: faculty time and workload, technology issues, student engagement, intellectual property, course quality concerns, and fear or resistance to change.

Faculty Time and Workload

A factor consistently reported to discourage online teaching is faculty's belief that teaching online requires more time than teaching face-to-face (Bacow et al., 2012; Berge, 2002; Berge, Muilenburg, & Hanegan, 2002; Betts & Heaston, 2014; Birch & Burnett, 2009; Blignaut & Trollip, 2005; Bollinger & Wasilik, 2009; Gannon-Cook & Crawford, 2002; Haber & Mills, 2008; Hoey, McCracken, Gehrett, & Snoeyink, 2014; Hoyt & Oviatt, 2013; Lloyd et al., 2012; Maguire, 2005; Mitchell et al., 2014; Wasilik & Bollinger, 2009; Wolcott & Betts, 1999.) Berge (2002) found that a lack of time and compensation were ranked as the greatest barriers in all stages of an organization's development of online learning. Blignaut and Trollip (2005) wondered if administrators placed higher expectations on online instructors' teaching to counter concerns and complaints from the community, which could promote perceptions of an increased workload. At some institutions, junior faculty may be discouraged from teaching online because of the assumed time commitment needed and its potential to detract from other research, teaching, and service obligations (Wolcott & Betts, 1999). Birch and Burnett (2009) recommended institutions take into consideration the time it takes academics to develop and maintain e-learning environments in performance reviews and promotion interviews. Concerns about faculty time and workload could be assuaged with appropriate rewards (stipends, release time, tenure credit, etc.) and institutional support services (instructional design, technology support, etc.).

Time and workload factors were interpreted as related to the DTPB dimensions of "perceived ease-of-use" and "facilitating technology". If faculty believe online teaching requires too much effort, then factors related to ease-of-use could prevent faculty from

considering the practice. However, institutions could provide faculty with resources, such as instructional design support, to decrease the time and effort required to teach online. In this way, faculty time and workload could also relate to the DTPB dimension "facilitating resources".

Technology Issues

Faculty may express concerns about the complexity of online teaching technologies or feel dissatisfied with the level of technology support and infrastructure provided by institutions (Berge, 2002; Berge et al., 2002; Hiltz et al., 2007; Lloyd et al., 2012; Mitchell et al., 2014; Shea, 2007; Shea et al., 2005; Wasilik & Bollinger, 2009). In Maguire's (2005) extensive review of the literature on faculty motivation for online teaching, she found that a lack of technical support was the most frequently mentioned concern. Frustrating encounters with technology can also prevent faculty from participating in online teaching (Lloyd et al., 2012). Shea et al. (2005) went so far as to claim that participation in online teaching "may rest upon the ability to persuade faculty that adequate technical support will be available as they decide whether to participate" (para 41). To ease faculty's concerns about technology, some researchers recommend faculty try or test new technologies in low-stakes environments in order to help them feel more comfortable taking additional steps toward online teaching (Birch & Burnett, 2009; Shea, et. al., 2005; Vivolo, 2016).

Technology factors were interpreted as related to the DTPB dimensions "perceived ease-of-use" and "facilitating technologies". If faculty believe that the technologies required to teach online are cumbersome or difficult to use, then factors related to ease-of-use could prevent them from teaching online. Furthermore, faculty may

want to be assured that facilitating technologies will be appropriate, available, and effective before they consider online teaching.

Decreased Student Engagement

Another factor that may discourage online teaching is the perception that the quality of student engagement in online courses is poor compared to face-to-face courses (Allen & Seaman, 2015; Bacow et. al, 2012; Berge, 2002; Berge et al., 2002; Bollinger & Wasilik, 2009; Dooley & Murphrey, 2000; Hiltz et al., 2007; Lloyd et al., 2012; Maguire, 2008; Mitchell et al., 2014; Shea et al., 2005; Vivolo, 2016; Wasilik & Bollinger, 2009). Faculty may be unable to imagine themselves as online professors or understand how such changes could positively impact their professional lives and relationships with students (Saba, 2005). Faculty may fear a decrease in enjoyment from teaching if they believe that they will not be able to witness their impact on students' lives when teaching online (Bacow et al., 2012; Mitchell et al., 2014).

Concerns about student engagement and student relationships were interpreted as related to the DTPB dimensions of compatibility and student influence. If faculty believe students in online environments will be less engaged with the instructor or peers, then they may believe their instructional values and preferences are incompatible with online teaching. Additionally, if faculty believe students will feel less engaged, this student influence may cause faculty to avoid online teaching.

Intellectual Property Rights

Concerns about intellectual property and course ownership may be a barrier for some considering online teaching (Bacow et al., 2012; Berge, 1998; Dooley & Murphrey, 2000; Herman, 2013; Hoyt & Oviatt, 2013; Maguire, 2005; Wasilik & Bollinger, 2009).

When teaching a face-to-face course, many universities grant faculty ownership of their own course materials. However, online courses often require a substantial investment of institutional resources, including faculty training as well as support from technical staff, instructional designers, or additional subject matter experts. And because learning takes place online, faculty may need assistance to develop more digital instructional materials like videos, documents, and web-content than they would for a face-to-face course. This raises concerns for some faculty about who owns the rights to such content and whether content may be used by others at the university.

According to Bacow et al. (2012), "Faculty are extremely reluctant to teach courses they do not 'own'" (p.21), and may be reluctant to teach a course that doesn't allow them to customize "how, what, and when material is presented to students" (p. 22). Clear and fair policies for course ownership and intellectual property, determined in consultation with the faculty body, can help faculty decide whether to teach online (Bacow et al., 2012; Herman, 2013; Hoyt & Oviatt, 2013; Vivolo, 2016).

Intellectual property factors were interpreted as related to the DTPB dimensions of "compatibility" and "facilitating resources". Faculty may believe that threats to course ownership make online teaching incompatible with their priorities and values. Or, faculty may believe that facilitating conditions have not been provided to support online teaching, such as clear institutional policies and guidelines that protect faculty ownership of content.

Course Quality

Concerns about online course quality, fit, and effectiveness have persisted for twenty years and continue to be a barrier to recruiting faculty to teach online (Allen et al.,

2012; Betts & Heaston, 2014; Berge et al., 2002; Hoyt & Oviatt, 2013; Maguire, 2005; Wasilik & Bollinger, 2009). Some faculty may believe that the instructional content, rigor, and experience of teaching online cannot match traditional onsite coursework (Vivolo, 2016). In Allen et al.'s (2012) study, 66% of surveyed faculty believed learning outcomes for online courses were inferior or somewhat inferior to traditional face-to-face courses and only 25% of faculty felt their institutions had good tools to assess the quality of online courses. Furthermore, some faculty may have negative perceptions of online learning and not want to be associated with its reputation (Mitchell et al., 2014).

Concerns about course quality were interpreted as related to the DPTB dimensions of "compatibility", "peer influence", "superior influence", and "facilitating resources". Faculty could perceive online course quality as inferior and incompatible with their teaching values. Peers and/or supervisors could hold negative opinions of online learning that could influence faculty's willingness to try it. And, faculty may believe their institution does not have effective policies, procedures, and support to ensure online course quality and therefore they might avoid the practice.

Fear and Resistance to Change

An important factor discouraging faculty from teaching online may also be an underlying fear or aversion to change. A survey of higher education faculty found that 51% of faculty at two-year institutions were more fearful than excited about the growth of online learning, and 60% of faculty at four-year institutions reported feelings of fear (Allen et al., 2012). Mitchell et al. (2014) identified fear as a key source of faculty resistance to online teaching. Faculty may fear technology as too time-consuming; faculty may fear failure when learning a new way of teaching; or faculty may fear the loss of a

comfortable and successful approach to teaching (Mitchell et al., 2014). Some may fear a loss of personal relationships with students. Or, faculty may fear the effect online learning will have on their own reputation or the reputation of their institution (Mitchell et al., 2014).

Many of these fears echo barriers identified in other studies. A key approach to this issue may lie in how institutions address concerns based on fear and not facts. Vivolo (2016) noted that, "Oddly enough, the resistance [to online teaching] can come from those who base their careers on facts and research, but continue to ignore the evidence. Even performance results get ignored" (p. 399). Concerns about change or loss of professional identity may lead to resistance against the adoption of new teaching practices and technologies (Schopierary, 2006). Understanding how faculty view technology personally and within their organization is critical to developing a plan to positively support and encourage change.

A small number of researchers have considered psychological issues that affect resistance and aversion to change. Bascow et al. (2012) noted, "As with any profound institutional change, skeptics abound and outright resistance exists" (p. 6). It is therefore critical that organizations also understand the psychological factors that influence faculty resistance so appropriate strategies can be implemented.

Bacow et al. (2012) believed that teaching online "calls into question the very reason that many pursued an academic career in the first place" (p. 18). Faculty may be unable to imagine themselves as online professors or understand how such changes could positively impact their professional lives (Saba, 2005). The influence of culture, identity,

and personal values might be important factors overlooked by some researchers in favor of more tangible barriers.

Many faculty strongly value autonomy and academic freedom. If faculty feel these values may be threatened, resistance will be strong and online initiatives may stall or fail (Mitchell et al., 2014). If faculty's identities are influenced by a shared institutional teaching culture that values face-to-face learning, these factors might help to explain why the existence of support services and incentives for online teaching does not necessarily reduce faculty resistance to the idea.

Fear and resistance to change were interpreted as related to the DTPB dimensions of compatibility and self-efficacy. Faculty who feel threatened by online teaching may feel that it is incompatible with their instructional values and preferences. Or, faculty who are afraid that they would be unsuccessful at online teaching might resent institutional efforts to increase online learning. These factors could discourage faculty from considering online teaching.

Online Teaching Experience's Effects on Faculty Perceptions

Research supports the conclusion that concerns about the quality of online courses, as well as other barriers, are most significant to faculty who have no direct experience teaching online (Allen et al., 2012; Berge, 1998; Berge et al., 2002; Betts & Heaston, 2014; Dooley & Murphrey, 2000; Johnson et al., 2015; Lloyd et al., 2012; Mitchell & Geva-May, 2009; Shea, 2007; Ulmer, Watson, & Derby, 2007; Wingo et al., 2017). Shea (2007) explained that although experienced online faculty identified barriers to teaching online, their concerns were different and not perceived as negatively when

compared to faculty with no online teaching experience. Essentially, direct experience with online education may decrease negative perceptions.

Several studies noted that faculty at institutions with minimal or no online courses perceived barriers as greater, and faculty's perception of barriers lessened in institutions who participated more in online learning (Berge, 1998; Berge et al., 2002; Shea et al., 2005; Shea, 2007). Berge et al. (2002) concluded that perceptions of critical obstacles changed as an organization gained experience with online learning and as distance education became more central to an institution's mission and strategic plan. Discussions with trusted faculty peers may also provide inexperienced online faculty with a clearer understanding of the practice. Vivolo (2016) claimed, "Those who resist often respond well to respected colleagues who have already had some experience with online learning" (p. 407).

In another example of the effect of online teaching experience, Betts and Heaston (2014) compared faculty with and without online teaching experience. They identified the top three incentives reported by faculty with online teaching experience as personal motivation to use technology, greater course flexibility for students, and greater course flexibility for faculty. In comparison, faculty members with no prior experience teaching online listed their top three potential motivators as financial compensation, release time, and access to appropriate equipment. Betts and Heaston concluded that it may be necessary to motivate and support these two faculty groups in different ways.

In their review of the literature, Johnson et al. (2015) found that extrinsic motivation was key for initially recruiting faculty to teach online, but continued involvement in online teaching resulted more often from intrinsic incentives. Shea (2007)

identified key incentives for experienced online faculty consisted of opportunities for learning and professional advancement opportunities, benefits associated with novelty and innovation, and increased flexibility, convenience, and access. Analyzing the motivations of experienced and inexperienced online faculty as distinct populations could help academic leaders more accurately address the needs of each group.

Limitations of Prior Research

There are a few limitations that should be noted for researchers and academic leaders reviewing prior research on the topic of faculty motivation for online teaching. First, Maguire (2005), Meyer (2014), and Wingo et al. (2017) completed extensive reviews of the literature on this topic and did not identify a consistent connection to theory in those studies. Meyer's (2014) analysis of 58 articles and 5 books determined that only 15% explicitly referred to supportive theories and models. Meyer claimed this was a serious flaw in the prior research on this topic that needed to be remedied in future studies.

Additionally, there is inconsistency in the factors selected for examination in past research studies. Specific factors selected for study can have an obvious effect on conclusions and can make generalizations across studies more difficult. Furthermore, the definitions for various quantitative factors examined in a study were often missing from research reports, making consistency and generalizations even more difficult.

Although there are common themes that arise from the research, studies have not unanimously reached the same conclusions on what factors are most significant for faculty motivation. For instance, several studies challenged whether time commitment is truly a barrier to teaching online. Zhen et al. (2008) concluded that faculty most often

reported a lack of time as the reason they did not want to teach online. But, Zhen et al.'s statistical model suggested that stated concerns about time concealed deeper issues related to self-efficacy and personal values. Research on online teaching has typically studied faculty's self-reported perceptions, which may or may not provide an accurate explanation for their actual behaviors.

Finally, some research on faculty motivation examined faculty with and without online teaching experience as one population, without distinguishing results for each group when reporting data. As discussed in the previous section, faculty without online teaching experience report different incentives and barriers than faculty with experience teaching online. Therefore, these two populations should be analyzed separately in order to most accurately represent their perceptions and motivations.

In sum, a lack of consistent factors, supportive theories, sample populations, and study results make it challenging to generalize conclusions on faculty motivation for online teaching. Future research should aim to ground studies in relevant theories and differentiate between faculty with and without online teaching experience, in addition to more consciously considering the type of institution under study.

Conclusion

Given the evidence that experience with online teaching reduces faculty's concerns with online teaching (Allen et al., 2012; Berge, 1998; Berge et al., 2002; Betts & Heaston, 2014; Dooley & Murphrey, 2000; Johnson et al., 2015; Lloyd et al., 2012; Mitchell & Geva-May, 2009; Shea, 2007; Ulmer et al., 2007; Wingo et al., 2017), institutions must find ways to encourage faculty to try online teaching if they wish to increase participation and acceptance of online learning. Understanding what factors

encourage or discourage online teaching is an important step for motivating faculty to teach online. This review of the literature identified personal challenge and satisfaction, flexibility and convenience, greater student access, additional instructional options, and institutional rewards and recognitions as factors that encourage online teaching. Factors that discourage teaching online included faculty time and workload, technology issues, decreased student engagement, intellectual property rights, course quality concerns, and fear and resistance to change.

Given the breadth of issues represented in the literature on this topic, institutions looking to increase faculty participation in online teaching should consult with faculty at their individual institutions to develop targeted priorities, policies, and plans. This is especially true for liberal arts institutions which may experience resistance to online teaching from faculty who hold strong beliefs about teaching and who value in-person relationships with students.

A review of the literature revealed a variety of theories used for examining online teaching in higher education. The DTPB provides a useful lens for understanding faculty perceptions and factors that affect participation in innovative practices. Examining factors related to faculty attitudes, subjective norms, and perceived behavioral control can provide greater insight into issues that influence faculty's decision to teach or not teach online.

CHAPTER THREE: METHODOLOGY

Chapter 3 describes the methodology and design of this research study. The purpose of this study was to examine how faculty perceive online teaching at Pacific Lutheran University in order to increase faculty acceptance and participation in online teaching at that university. Descriptions of the study population, research methodology, survey instrument, data collection process, data analysis procedures, and ethical considerations of the study are discussed in this chapter.

Research Methodology

A convergent, parallel mixed methods research design was selected for this study because this methodology provides the most effective means for exploring the research questions. Mixed methods research has a strong history of use in the social, behavioral, and human sciences for research problems seeking both quantitative and qualitative viewpoints and methods (Johnson, Onwuegbuzie, & Turner, 2007). According to Rossman and Wilson (1985), mixed methods research may be appropriate when a combination of methods can enable broader or richer data collection and analysis, corroborate or validate results through triangulation, or allow new modes of thinking that may emerge from differences between two data sources. Research on the nature and definition of mixed methods research has clarified that mixing may take place along a quantitative-qualitative continuum and can occur while conducting, analyzing, and/or interpreting the research (Johnson et al., 2007).

Creswell (2013) explains that qualitative research is conducted when a complex problem needs to be explored in order to achieve a detailed understanding of an issue. Qualitative questions allow the researcher to explore nuanced and personal aspects of participants' perceptions. Qualitative survey questions collected data from more participants than could have been obtained from a limited number of interviews conducted over the same period. The addition of quantitative questions via a mixed methods design allowed the researcher to obtain data on specific factors identified from a review of the literature, factors represented in the dimensions of the DTPB, and factors sourced from the recommendations of reviewers.

A cross-sectional survey was used in this study to collect data on faculty's self-reported perceptions of online teaching. Surveys are well-suited for action research in higher education, especially when researchers are interested in the attitudes, opinions, and perceptions of a large population (Watson, 1999). Vogt, Gardner, and Haeffele (2012) believe that surveys are most effective when an adequate number of reliable responses are expected and the data can be obtained directly from respondents through brief answers to structured questions. In this study, self-reported quantitative and qualitative data was collected from the survey instrument in order to examine perceptions and assess the needs of a large population of participants (Creswell, 2014; Gideon, 2012; Lavrakas, 2008; Watson, 1999).

A convergent parallel design allowed data collection and analysis to take place concurrently during a single phase of study. A "fixed" approach rather than "emergent" approach was selected for this study due to time restrictions; fixed designs use pre-determined procedures and questions that are planned in advance by the researcher, rather

than ones naturally emerging during the research process (Creswell & Plano Clark, 2011). Convergent designs are appropriate when there is limited time for data collection, there is equal value for collecting different but complementary data on the same topic, and there is a desire to synthesize results for a more complete understanding of a phenomenon (Creswell & Plano Clark, 2011).

Johnson et al. (2007) described the fundamental principles of mixed methods research and recommended that studies be designed to allow for divergence and convergence in a way that maximizes the overall design viability and usefulness. In this study, open-ended qualitative survey questions explored faculty's perceptions of online teaching at PLU and quantitative questions classified the influence of different factors on faculty's decision to teach or not teach online. Data was collected in parallel and then analyzed separately. Interaction and mixing of the data occurred when answering Research Question 3, as explained later in this chapter.

Finally, this research study is framed as action research, where the goal is to improve the effectiveness of current practices for a specific population (Mills, 2010). Action research typically focuses on a setting where the researcher possesses a natural responsibility for making improvements (Ervin, 2018). Researchers often conduct studies with participants they have worked with in the past or will continue to work with in the future (Beck, 2016).

Research Questions

This study investigated the following research questions (RQs) to better understand faculty perceptions of online teaching for the purpose of increasing acceptance and participation in online teaching:

- RQ1. How do faculty perceive online teaching at PLU?
    - RQ1.1 Are the dimensions of the DTPB evident for faculty at PLU when discussing online education at their institution?
- RQ2. What factors are reported to affect faculty's decision to teach or not teach online at PLU?
    - RQ2.1. Do attitudes affect faculty perceptions of online teaching?
    - RQ2.2. Do subjective norms affect faculty perceptions of online teaching?
    - RQ2.3. Does perceived behavioral control affect faculty perceptions of online teaching?
- RQ3. To what extent do faculty perceptions on online teaching and learning agree with the factors reported to affect faculty's decisions to teach or not teach online at PLU?

RQ1 was answered with qualitative data obtained through three open-ended, written survey questions that explored faculty perceptions of online teaching using respondents own words. RQ2 was answered with descriptive quantitative data from a survey question that asked participants to classify and rank the importance of 21 factors that may affect participation in online teaching. RQ3 required the researcher to synthesize qualitative and quantitative data results from RQ1 and RQ2 in order to compare perceptions and factors from both data sets. All three research questions analyzed faculty perceptions of online teaching through the lens of the DTPB by considering the influence of attitudes, subjective norms, and perceived behavioral control on the decision to teach or not teach online.

Participants and Context

This study was implemented at Pacific Lutheran University (PLU), a medium-sized liberal arts university located just outside of Tacoma, Washington and about 45 miles south of Seattle. The university was founded in 1890 and currently educates around 3,300 students. Programs are contained within eight main academic units, where students can choose from 44 majors and 54 minors, including liberal arts and professional programs at the undergraduate and graduate level (www.plu.edu/about, 2018).

Potential participants in this study included all faculty who had not completed the PLU Teaching Online program, which is approximately 320 of the 370 of the faculty employed at Pacific Lutheran University with active job status. Within the total faculty population, there are approximately 206 tenure-track faculty members. Sixty-five percent of all faculty have terminal degrees. In the entire faculty body, 42% are men and 58% are women. Approximately 16% of faculty are under the age of 40, 30% are between 41-50 years of age, 23% are between 51-60 years of age, and 21% are over 61 years of age. The faculty body is 85% white, 5% Asian, 5% Hispanic, 1% African American, and 4% other races (Faculty at PLU, 2017).

PLU officially began offering blended courses in fall 2014 and online courses in summer 2015. Online courses require no on-campus meetings and may only be offered during summer terms or the winter term (JTerm), which are typically 4 weeks in length. Blended courses provide a balance of online and face-to-face learning as defined by the instructor and they may be offered in any term. Course schedules, formats, and offerings are determined by each department. There were 20 online courses offered during the summer terms of 2018 and five online courses offered during the winter term (j-term).

There are no official university policies related to online or blended learning; however, a new policy is planned for development in 2019. This research study will help to inform the final draft of that policy.

All faculty who teach online or blended courses must complete the Pacific Lutheran University Teaching Online (PLUTO) Program. The PLUTO program is itself a blended faculty development experience which includes a textbook, online course consisting of 25 lessons written specifically for PLU, four institute sessions run by PLU staff, and a course quality review process. As of summer 2018, there were 62 faculty who had completed the PLUTO program (PLU Teaching Online, 2018). Fifty PLUTO- trained faculty are currently employed at the university, but not every trained faculty member teaches an online or blended course every term. According to the university's intellectual property policy, all full-time, part-time, tenure-line or contingent faculty own and control all instructional materials or scholarly work that they create, including electronic materials and online courses (PLU Intellectual Property Policy, 2018).

Survey Participant Description

Of the 320 faculty invited to participate in this survey, 79 faculty submitted surveys for a completion rate of 25%. Table 1 shows the number of faculty in each division or school at the university who opted to participate in the survey. Faculty in the divisions of Social Science and Natural Science had the highest representation within this sample. Participants ranged from newly hired instructors to faculty with 40 years of experience at the university; Table 2 shows the years of employment at the university for the various participants. The majority of participants were employed full time as full or associate professors, as Tables 3 and 4 describe.

Table 1 Characteristics of Survey Participants: School/Division

School/Division	Frequency	Respondents
Business	9	11.4%
Humanities	8	10.1%
Educ. & Kinesiology	2	2.5%
Natural Sciences	18	22.8%
Nursing	3	3.8%
Arts & Communication	12	15.2%
Social Sciences	25	31.6%
Library	2	2.5%
TOTAL	79	100%

Table 2 Characteristics of Survey Participants: Years at Institution

Years	Frequency	Respondents
0-3	17	21.5%
4-7	17	21.5%
8-11	14	17.7%
12-15	9	11.4%
16-19	10	12.7%
20+	12	15.2%
TOTAL	79	100%

Table 3 Characteristics of Survey Participants: Tenure Status and Title

Years	Frequency	Respondents
Tenured (Full/Associate)	44	55.7%
Tenure Track (Assistant)	18	22.8%
Not Eligible (Visiting)	17	21.5%
TOTAL	79	100%

Table 4 Characteristics of Survey Participants: Employment Status

Years	Frequency	Respondents
Full-Time	72	91.1%
Part-Time	7	8.9%
TOTAL	79	100%

PLU Culture and Values

Although there is no official or written testimonial describing the culture of PLU, personal observations from my six years working at this institution can provide some perspective on the culture there. PLU's mission is to educate students for lives of thoughtful inquiry, service, leadership, and care for other people, for their communities, and for the earth (About PLU, 2018) and faculty reference this mission often. PLU strongly identifies as a Lutheran liberal arts university, and faculty learn about PLU values during new faculty orientation. PLU promotes the revered values of diversity, justice, and sustainability in many different ways, including co-curricular activities and general education courses. There is a strong culture of faculty governance, and the faculty community is vocal and involved in decision-making.

The university promotes faculty-student relationships for learning, mentoring, and research, in addition to strong connections to campus living and learning. There are eleven residential learning communities, themed by student interests and identities. According to their website, "Residential Learning Communities (RLCs) are an integral component of the PLU experience" (Residential Learning Communities, 2019). Class sizes at PLU are typically small, with most classes containing less than 25 students. Students and faculty value the opportunity to build relationships during the learning process.

Some faculty believe that PLU as an institution should focus on the campus-based learning experience and have expressed concerns that online learning is not aligned with PLU values. However, faculty opinions over the past five years appear to have become slightly more accepting of online learning, possibly due to the positive reputation of the

PLUTO training program and influence of PLUTO-trained faculty. Nevertheless, faculty within some academic departments are particularly resistant to the idea of allowing online learning options in their programs.

Instrumentation and Data Sources

A survey instrument collected all of the data for this study during a single collection window in November 2018. After an extensive review of the literature, no existing survey instruments were sufficient to answer the research questions proposed for this study. As discussed in Chapter 2, Ajjan and Hartshorn (2008) developed a quantitative survey based on the DTPB to examine faculty's reported comfort and attitudes toward Web 2.0 technologies as a predictor of actual usage. However, this survey's questions did not reflect factors affecting online teaching specifically, and so it was not appropriate for this study. Dos Santos and Okazaki (2013) used the DTPB to study perceptions of e-learning among Brazilian faculty. However, their survey included only quantitative questions and a mixed-methods approach was desired for this study. Therefore, a new survey instrument was developed to answer the research questions in this study and allow for discussion of the results using the DTPB.

Survey Instrument Development Process

The development of a survey instrument for this study began during summer 2017. At this time, the plan was to investigate the problem of faculty participation in online teaching from a purely quantitative approach that evaluated the importance of specific incentives and barriers to online teaching identified in previous research. Feedback was obtained during expert and participant pre-testing of the survey instrument resulting in a second version of the instrument. In 2018, the research questions for this

study were re-evaluated and the method for the survey was changed to a mixed-methods approach to allow for a more comprehensive exploration of the problem under investigation. A third version of the survey instrument was developed and shared with a new test group of faculty, staff, and administrators with knowledge of online teaching at the university. Based on the feedback and recommendations of this group, a fourth and final version of the survey was developed to further refine the instrument for clarity and accuracy. A summary of the process is described in Table 5. A detailed description of the testing process is provided in the next section.

Table 5 Summary of Survey Development

Version	Date	Prompts	# Factors	Question Type	Major Changes
1	June 2017	4	37	Quantitative	Grouped sections
2	July 2017	2	31	Quantitative	Add qualitative
3	September 2018	4	22	Quantitative & Qualitative	Revise wording & organization
4	October 2018	4	21	Quantitative & Qualitative	N/A

Pre-Testing Initial Drafts of Survey Instrument

To establish face validity for the survey instrument, feedback was gathered from experts in the field of educational technology as well as faculty at Pacific Lutheran University who were currently participating in a PLU Teaching Online (PLUTO) Institute. Ruel, Wagner, and Gillespie (2016) recommend that researchers conduct expert-driven pretests and respondent-driven pretests to determine if questions and response options are relevant and clearly articulated.

Version 1 of the instrument, provided in Appendix 1, was shared in June 2017 with two faculty in the Department of Educational Technology at Boise State University with an expertise in online teaching as well as experience with surveying university

faculty. They suggested the instrument contain smaller sections of grouped factors to make it easier for participants to read. Another suggestion was to include open-ended, qualitative questions that could explore the problem from a different perspective.

Version 2 of the survey instrument, provided in Appendix 2, contained only quantitative questions and asked participants to assess 31 factors that may affect their decision to teach online. The instrument asked participants to complete the survey by categorizing each factor as a definite incentive/barrier, somewhat of an incentive/barrier, or not an incentive/barrier. The second version of the survey was pretested in July of 2017 with ten faculty at Pacific Lutheran University. Faculty in the pre-test group were asked to review each factor and make recommendations for what factors should be added or eliminated to best address the stated research question. Participants also provided general feedback on how to improve the design and effectiveness of the survey instrument.

Several faculty in the pre-test group suggested the survey include open-ended questions, such as asking what participants thought of the role of online learning at a mid-sized residential liberal arts college like PLU. This feedback was similar to feedback from the expert reviewers and so this revision was taken under further consideration. With regard to instrument design, one reviewer suggested that participants rank order factors, while another suggested that the rating scale be expanded to include five rather than three categories of responses. These suggestions reflected observations that response options were not granular enough to analyze subtle differences between the factors. A few factors were removed and a few others added in response to feedback. Participants

shared a number of suggestions to clarify the wording of factors, and these were taken into consideration when creating the next version of the survey.

For the third iteration of the instrument, the research design was changed to mixed methods. Survey question prompts and factors were revised to represent key themes from prior research and the dimensions of the Decomposed Theory of Planned Behavior, while also reflecting the recommendations of reviewers. Version 3 of the survey, provided in Appendix 3, includes three qualitative question prompts and one quantitative question that asks participants to rate the importance of 21 factors on participants' decisions to teach or not teach online at PLU.

Version 3 of the survey instrument was reviewed in September of 2018 with a group of ten faculty, staff, and administrators experienced with online learning at PLU. Individual interviews were conducted with each of these ten reviewers to discuss the instrument in detail. In response, numerous clarifications were made to the wording of factors. Reviewers asked for more examples or definitions to help survey participants better understand the intention behind each factor. Therefore, clarifying information was added in parentheses to factors listed on the survey instrument. A few reviewers expressed concern that the open-ended questions might not solicit detailed responses, and so updates were made to include additional prompts within each question. Several reviewers found the matrix of factors too long and suggested the matrix be broken into smaller sections, so this suggestion was implemented in Version 4. Several reviewers suggested revisions to the quantitative scale for evaluating factors; therefore, the updated scale in Version 4 includes a classification and a rating of each factor, described in more detail in the next section.

Description of Survey Instrument Used in the Current Study

The fourth and final version of the survey instrument contained four survey question prompts (SQ), with three qualitative prompts to answer RQ1 and one quantitative prompt to answer RQ2. The full version of the instrument is provided in Appendix 4 and summarized below in Table 6.

Table 6 Overview of Survey Instrument Questions

Survey Question	Research Question	Data Type
S1. What role do you think online learning should have in the future of education at PLU? What do you see as potential strengths, weaknesses, opportunities, and/or threats for online learning at PLU? Please explain.	RQ1. How do faculty perceive online teaching at PLU?	Qualitative
S2. How do you view the idea of teaching online courses at PLU? Would you consider teaching online? If so, when and why? Please explain.	RQ1. How do faculty perceive online teaching at PLU?	Qualitative
S3. What would it take for you to feel comfortable teaching online at PLU? What would be the most important factors affecting your willingness to teach online? Please explain.	RQ1. How do faculty perceive online teaching at PLU?	Qualitative
S4. Consider each of the factors listed below. Determine whether each factor would encourage, discourage, or not influence your decision (neither encourage nor discourage you) to teach online at PLU. Then rate how important each factor would be on your personal decision to teach or not teach online.	RQ2. What factors are reported to affect faculty's decision to teach or not teach online at PLU?	Quantitative

To reduce the time and effort needed to complete the survey, the instrument did not ask participants to provide demographic data. Instead, the Office of the Provost

provided a file containing demographic data for each faculty member invited to participate in the study. Relevant categories of data were retained, unnecessary data was removed, and the participant file was imported into Qualtrics for analysis alongside participant results. The descriptive elements reported for participants included: (1) the school or division where participants primarily teach courses, (2) the number of years they have worked at PLU, (3) their tenure status, and (4) their employment status.

Participants were not asked whether they have online teaching experience at another institution because it would be complicated to collect useful data for this characteristic. For instance, some participants may have taught one online course 15 years ago or several online courses at a different institution the year prior. To standardize the population, participants in this study were eligible if they had not completed PLU's training for online teaching and therefore were not currently teaching online at the university.

The survey began with three open-ended, qualitative prompts that asked participants to discuss the role of online learning (SQ1), the idea of online teaching (SQ2), and what it would take for them to feel comfortable with teaching online (SQ3) in addition to probing questions for each prompt. Qualitative questions were placed first on the survey instrument to decrease the possibility of priming or bias that may result from participants reflecting on the specific factors provided in the second half of the survey.

Survey question four (SQ4) presented 21 factors to be classified by participants as either encouraging, discouraging, or not influential in their decision to teach online. These classifications were intended to assess how participants believed each factor would affect their planned behavior, i.e. their decision to teach or not teach online. When factors

were reported to encourage or discourage faculty to teach online, participants were then asked to rate the importance of the factor on a scale from one (slightly important) to four (very important). In their book on *The Practice of Survey Research*, Ruel et al. (2016) note that a scale of five points is common and reliable for most surveys. Given the initial classification of each factor as either encouraging, discouraging, or not influential, a fifth rating for "not important" was omitted and the scale was reduced from five points to four points.

The 21 factors on this survey were selected from a review of the literature, from dimensional components of the DTPB, and from the recommendations of expert reviewers. The survey instrument, available for review in Appendix 4, provided parenthetical examples and definitions to help participants better understand the meaning of each factor. Table 7 below explains how survey factors align to the different dimensions and constructs of the Decomposed Theory of Planned Behavior. This alignment is based on the researcher's interpretation of survey factors and the definitions of the DTPB dimensions provided by Taylor and Todd (1995).

Table 7 Alignment of Survey Factors to DTPB

DTPB Construct	DTPB Dimension	Survey Factors
Attitude	Perceived Usefulness	Reflecting on current teaching practices and exploring new ways of teaching *(i.e. evaluating and updating instructional strategies and content)*
Attitude	Perceived Usefulness	Personal schedule flexibility for instructors *(i.e. the ability to teach anytime or anyplace and accommodate other restrictions on availability)*
Attitude	Perceived Usefulness	Accommodating a wider variety of students *(i.e. increasing access for students who may not be able to enroll in existing campus-based options)*
Attitude	Perceived Usefulness	Opportunity for improved proficiency with instructional technologies *(i.e. learning how to better use Sakai, online video, etc.)*

Attitude	Perceived Ease of Use	Option to teach online during all academic terms *(i.e. current practices limit online courses to j-term and summer term)*
Attitude	Perceived Ease of Use	Time and effort required to teach online *(i.e. comparability of face-to-face and online teaching commitments)*
Attitude	Compatibility	Online learning's alignment to institutional identity *(i.e. consideration for the mission, vision, and values of the university)*
Attitude	Compatibility	Suitability of online teaching and learning for course needs *(i.e. a good fit for course content, methods, discipline, etc.)*
Attitude	Compatibility	Student engagement in online courses *(i.e. how active students are in the learning experience and the quality of interpersonal interactions)*
Attitude	Compatibility	Student retention in online courses
Subjective Norm	Student Influence	Influence of students *(i.e. student demand or preferences for specific instructional formats)*
Subjective Norm	Peer Influence	Influence of colleagues *(i.e. peer attitudes regarding teaching online courses)*
Subjective Norm	Superior Influence	Influence of university, division, school, or department leadership *(i.e. encouragement or discouragement to teach online courses)*
Perceived Control	Self-Efficacy	Past personal experiences with online teaching or learning
Perceived Control	Self-Efficacy	Prior experience teaching a blended course *(i.e. skills and confidence from teaching a blended course before teaching fully online)*
Perceived Control	Self-Efficacy	Current skills with instructional technology *(i.e. your confidence in your ability to learn and use instructional technologies)*
Perceived Control	Facilitating Resources	Time available for online course development and training *(i.e. priority for this among other commitments)*
Perceived Control	Facilitating Resources	Instructional support provided by the institution *(i.e. training, instructional design, peer mentoring)*
Perceived Control	Facilitating Resources	Additional compensation for online course development and training
Perceived Control	Facilitating Technology	Technical support for instructors provided by the institution (*i.e. training, instructional technologies)*
Perceived Control	Facilitating Technology	Technology available for teaching and learning online *(i.e. adequate software, tools, and technology infrastructure for successful teaching and learning online)*

The DTPB construct “attitude” was considered through the evaluation of ten survey factors. Attitudinal survey factors reflect the perceived usefulness, ease-of-use, and compatibility of factors when deciding whether to teach online. “Reflecting on current teaching practices and exploring new ways of teaching”, “personal schedule flexibility for instructors”, “accommodating a wider variety of students”, and “opportunity for improved proficiency with instructional technologies” are attitudinal factors believed by the researcher to relate to the perceived usefulness of online teaching. Perceived ease-of-use is considered on the survey with the factors “option to teach online during all academic terms” and “time and effort required to teach online”. The attitudinal dimension of compatibility was assessed in the factors “online learning's alignment to institutional identity”, “suitability of online teaching and learning for course needs”, “student engagement in online courses”, and “student retention in online classes”.

The DTPB construct “social norms” was considered through the evaluation of three factors. Normative factors as identified in the DTPB are reflected the influence of peers, subordinates, and superiors when deciding whether to teach online. The researcher considered the survey factors “influence of colleagues” to represent peer influence, “influence of students” to represent subordinate influence, and “influence of university, division, school, or department leadership” to represent superior influence.

The DTPB construct “perceived behavioral control” was considered in this study through the evaluation of eight factors. Control factors reflect the importance of self-efficacy, facilitating resources, and facilitating technology when deciding whether to teach online. The researcher interpreted self-efficacy factors as “past personal experiences with online education”, “prior experience teaching a blended course”, and

"current skills with instructional technology". Facilitating resources included "time available for online course development and training", "instructional support provided by the institution", and "additional compensation for online course development and training". Facilitating technology factors included "technical support provided by the institution" and "technology available for teaching and learning online".

Data Collection and Management

The survey instrument for this study was built and distributed using the Qualtrics Research Suite, a web-based survey program. Each participant was provided access to the web-based survey using an individual link distributed via email. Paper copies of the online survey were sent to non-respondents, per the recommendation of Dillman, Smyth, and Christian (2014). A unique identifying number was assigned to each participant to for maintaining confidentiality. The unique identifying number assigned to each electronic or paper survey also ensured that participants could complete the survey only once, regardless of the modality. Access to participant data was limited to the researchers and protected via password. Data is stored in Qualtrics as well as in Google Drive.

Sampling Procedure

In determining the population for this study, the decision was made to focus on faculty who were not currently participating in online or blended teaching at the university. In a review of the literature, Shea (2007) claimed, "We have reached a stage in which the early adopters are, to a large extent, already involved. We need to know more about the factors that lead less enthusiastic faculty to become engaged in online teaching and learning" (p. 75). A review of the literature highlighted significant differences in the perceptions of faculty who have and who have not taught online (Allen

et al., 2012; Berge, 1998; Berge et al., 2002; Betts & Heaston, 2014; Dooley & Murphrey, 2000; Johnson et al., 2015; Lloyd et al., 2012; Mitchell & Geva-May, 2009; Shea et al., 2005; Shea, 2007; Ulmer, Watson, & Derby, 2007; Wingo et al., 2017). Therefore, participants in this study included all faculty at Pacific Lutheran University who had not completed the PLU Teaching Online program, in order to focus on the perceptions of that specific population of faculty.

Potential participants included approximately 320 of the 361 of the faculty employed at Pacific Lutheran University. The same group of participants provided data for the quantitative and qualitative strands of this convergent mixed methods study. While a non-probabilistic sample did not allow for the generalization of results beyond this institution, it did maximize the sample size for this study.

Research Study Permissions

This study was endorsed by the Office of the Provost at Pacific Lutheran. A copy of the survey instrument was provided to and approved by the Associate Provost of Undergraduate Education and the Associate Provost of Graduate and Continuing Education. Institutional review board (IRB) approvals were obtained at Boise State University and at Pacific Lutheran University.

Data Collection & Storage

Before the survey was distributed, each participant was assigned a unique identifier to protect the confidentiality of respondents. This number was used to track data collection and to send paper copies of the survey to participants who do not complete the survey online within one week. Individual participant names and their associated ID numbers were stored in a protected location separate from the data set. Demographic data was not analyzed alongside individual responses.

Participants directly responded to open-ended and closed-ended questions by writing or selecting responses within the survey. Qualitative data was collected from the self-reported, written responses of participants to three open-ended questions within the survey. This portion of the survey should have taken about ten minutes to complete. Quantitative data was collected from one question presenting 21 factors for evaluation in the survey. Participants were asked to first classify the factor as either encouraging, discouraging, or not influential in their decision to teach online. If a factor was influential, then participants were asked to rate the importance of the factor. Response options included: minimally important (1), somewhat important (2), fairly important (3), very important (4). This portion of the survey should have taken about five minutes to complete.

Paper copies of the survey instrument were sent to participants who do not respond to the online survey within seven days, via campus mail. The instrument contained directions on how to complete and return the hand-written, paper survey. Paper surveys received by the researchers were manually entered into Qualtrics on behalf of the

participant, to ensure the entire dataset was maintained in one location. Four paper surveys were submitted in lieu of an electronic survey.

Data is securely stored on the researcher's password protected Google Drive account and within a password protected Qualtrics Research Suite account. The original data for this study will be stored for a minimum of ten years past the date of collection. The original data set is available for review upon request.

Strategies to Increase Response Rate

Increasing survey response rate is important for reducing non-response errors that contribute to the total survey error. Common strategies for increasing response rates for surveys involve establishing trust, increasing benefits, and decreasing costs to participate (Gideon, 2012; Dillman et al., 2014; Watson, 1999; Perkins 2011). An email for the survey was sent to establish the value/purpose of the project (Dillman et al., 2014; Watson 1999) and utilize sponsorship by the Office of the Provost at the university (Dillman et al., 2014; Watson, 1999; Perkins, 2011; Manzo & Burke, 2012). The email requested participant's help and advice for the purpose of informing future policies and strategies at the university (Dillman et al., 2014) and expressed appreciation for their time and input (Watson, 1999). The burden of length and complexity was minimal (Dillman et al., 2014; Watson, 1999). The format made it convenient and comfortable to respond (Dillman et al., 2014) and the simple visual design of the instrument was easy for participants to complete (Dillman et al., 2014; Manzo & Burke, 2012).

Survey Administration

Multiple modes and instances of communication were utilized to increase response rates (Dillman et al., 2014). A notification of the upcoming survey was shared

in the Provost Office Newsletter one week prior to the study commencing. When the survey window opened, an email was sent through Qualtrics and included a personalized link to participate in the survey. This link allowed confidential participant ID numbers to be associated with survey responses. Qualtrics used the email address pluto@plu.edu as the sender of the survey, as the PLUTO program and this survey were both sponsored by the Office the Provost at PLU. The lead researcher for this study is currently a staff member in the Office of the Provost and permission was obtained to conduct this study.

An email reminder was sent 72 hours after the survey window opened to those who had not completed the survey. After one week, a paper copy of the survey was sent to the campus mailbox of any faculty who had not completed the survey. A final email reminder was sent to faculty who had not completed the survey after ten days. The survey closed after 14 total days.

Data Analysis and Procedures

Creswell and Plano Clark (2011) recommend that researchers analyze the qualitative and quantitative strands of a convergent mixed method study separately before merging the results. Researchers use their discretion to interpret the ways and the extent to which the qualitative and quantitative results converge, relate to each other, or combine to provide a clearer understanding of the research problem (Creswell & Plano Clark, 2011). In this study, the qualitative and quantitative data sets were evaluated separately for RQ1 and RQ2 and then merged for RQ3. The processes for analysis are explained below.

Data Preparation

Survey data was reviewed and cleaned according to the process described by Ruel et al. (2016). First, four surveys responses submitted on paper were entered manually into the database and checked for accuracy. Responses were sorted according to identification numbers to ensure each data set was unique and there were no duplicate submissions. No duplicate submissions were identified. A cosmetic review of variable labels, response value labels, and formatting labels was conducted to ensure no errors were present.

Data cleaning included removing any survey submissions that did not contain at least one answered question. This resulted in the removal of approximately 11 submissions. No questions on the survey were completed by 100% of the 79 participants. All questions were optional and some participants skipped responding to one or more questions. According to Schlomer, Bauman, and Card (2010), “In this situation, it is ideal to report the percentage of missing responses for each item of the measure” (p. 2). The number of submitted responses and a completion rate for each survey question was calculated and is reported in the table below.

Table 8 Survey Response Rate per Question

Survey Question	Number of Responses	Completion Rate
SQ1	75	94.93%
SQ2	77	97.47%
SQ3	76	96.20%
SQ4-F1	73	92.41%
SQ4-F2	69	87.34%
SQ4-F3	69	87.34%
SQ4-F4	72	91.14%
SQ4-F5	69	87.34%
SQ4-F6	70	88.61%
SQ4-F7	69	87.34%
SQ4-F8	72	91.14%
SQ4-F9	71	89.87%
SQ4-F10	72	91.14%
SQ4-F11	69	87.34%
SQ4-F12	69	87.34%
SQ4-F13	67	84.81%
SQ4-F14	67	84.81%
SQ4-F15	69	87.34%
SQ4-F16	68	86.08%
SQ4-F17	70	88.61%
SQ4-F18	69	87.34%
SQ4-F19	69	87.34%
SQ4-F20	69	87.34%
SQ4-F21	68	86.08%

Qualitative Content Analysis

This study utilized latent content analysis to describe faculty perceptions of online teaching. For over 25 years, educational technologists have used content analysis as a systematic way to describe and study applications of computer-mediated communication (Rourke & Anderson, 2004). Qualitative content analysis is one of several methods researchers can use to analyze text from open-ended survey questions. “Qualitative content analysis is defined as a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278). The aim of this

analysis process is to attain a succinct but broad description of a phenomenon (Elo & Kyngas, 2007). Hsieh and Shannon (2005) explain that content analysis is often used to describe a phenomenon when existing theory and research is limited.

The inductive nature of content analysis allows insights to emerge as the researcher grapples with analyzing the data. This study specifically employed latent, projective content analysis, where the researcher focuses on her interpretation of the content utilizing techniques linked to cognitive psychology (Potter & Levine-Donnerstein, 1999). By exploring latent or underlying themes in participant responses, the researcher can more easily discuss beliefs that could affect faculty behavior. The analysis of latent content is common in computer-mediated communication research (Rourke & Anderson, 2004), which is similar to online teaching in that this modality of teaching requires computer-mediated communication with students.

Content Analysis Process

There are no universal rules for conducting latent content analysis. Rourke and Anderson (2004) recommended that researchers begin by clarifying the reason for the research, typically for description or decision purposes. This study analyzes data initially for descriptive purposes, and ultimately for decision purposes, i.e. strategic planning at the university under study.

Elo and Kyngas (2007) described the process of content analysis as consisting of three main phases: preparation, organizing, and reporting. Before analysis can begin, the researcher must prepare and determine the unit of analysis for the content. Units that are too broad or too narrow in scope can be problematic and so researchers should strive to select units that are “large enough to be considered as a whole and small enough to be

kept in mind as a context for meaningful units during the analysis process" (Elo & Kyngas, 2007, p. 109). In this study, analysis involved two units: the coding of distinct ideas within each survey question and the coding of distinct themes across all three survey questions according to participant (Graneheim & Lundman, 2004).

The second phase of analysis in this study consisted of organizing the data. Elo and Kyngas (2007) pointed out that content analysis involves the researcher coming to decisions through interpretation in order to better describe and understand the phenomenon. Generally, the researcher open codes the data set, develops coding guides, groups the codes with headings, classifies the data into broader categories, and then abstracts even more general categories (Elo & Kyngas, 2007). Such a process was followed for this study.

Repeated readings and immersion into the data helped the researcher to obtain a broad perspective of the data set (Hsieh & Shannon, 2005). Key concepts were highlighted within the text in order to create codes. The researcher noted initial impressions which were then developed into a set of initial codes. "Coders faced with the coding of projective content begin by looking for an element on the surface of the content. But rather than limit their search for a pattern in the content, coders regard the content patterns as cues that lead them to their own internal schema that are often primitive definitions of the concept being codes" (Potter & Levine-Donnerstein, 1999, p. 265). Initial codes were reviewed and sorted into meaningful categories or clusters. Categories were organized into broader categories and given a distinct name, definition, and exemplars (Hsieh & Shannon, 2005). The researcher moved from identifying specific instances within data to general themes (Elo & Kyngas, 2007). Ideas were sorted and

resorted, with less significant ideas set aside. It is common for the coding process to be refined by eliminating indicators that were not being used, to reword or discard unreliable indicators, and move conceptually misaligned indicators to more appropriate categories (Rourke & Anderson, 2004).

In this study, latent content analysis began with two initial readings of the entire data set. The researcher used memoing to record codes that were identified during initial reading of the data. After reviewing the memos, codes were created for each discrete concept. The researcher then read through the dataset a third time, assigning codes to every distinct concept within each qualitative survey question. In instances where a distinct concept could not be assigned a code, a new code was created for that idea. Using this strategy, a participant response to one question may have been assigned one code or many codes, depending on how many unique ideas were mentioned in each question. The initial coding process resulted in over 50 codes.

The next step in the latent content analysis process was to group similar codes together using a descriptive heading. This involved reviewing and sorting the initial codes into groups with similar concepts. After several rounds of reflection, sorting, and re-wording, 15 categories remained, as displayed in Table 9 below.

Table 9 Overview of Codes at Each Stage of Analysis

Round 1 Codes	Round 2 Categories	Round 3 Themes
Convenience, access, and flexibility for students Maintaining connection to students over summer Recruitment and support of nontraditional students Benefits for student retention Adds to PLU course options Competitive market advantage	Attractive to students	Attractiveness to students
PLU values, distinction, and strengths Leadership support and vision	Value compatibility	Teaching

Primacy of face-to-face learning Importance of in-person communication Impersonal nature of online communication Importance of campus community		values compatibility
Online teaching strategy benefits Student learning benefits	Instructional considerations	
Concerns about effectiveness Evidence of online teaching quality Poor perceptions of online learning	Course quality	Regulation of online learning
Well suited for some courses Best for motivated students Not a good fit for some disciplines, courses, levels Restrict to certain academic terms/courses Restrict to new courses/programs Growth without taxing physical spaces	Course considerations	
Concerns about course ownership Content copyright and protection	Intellectual property	
Importance of good technology and infrastructure Availability of technology LMS improvements Technical support Insufficient technical resources	Technology and infrastructure	Technology and infrastructure
Importance of faculty training and skill Availability of training	Training considerations	Faculty Resources
Concerns of development time, and resources Requests for release time and money Effects on teaching load Requests for specific conditions Portfolio of offerings is too small Other schools can provide better online learning	Resource considerations	
Effects of personal factors, such as timing Doesn't fit personal goals/preferences Convenience/ease of teaching Prefer to focus energy and effort elsewhere	Personal considerations	Personal influences
Support for blended learning Openness to blended teaching	Blended – positive	
Support for online learning Experience teaching online at other schools	Online – positive	
Ambivalent feelings about online learning	Ambivalent	
Online learning should not be allowed Not open to teaching online	Online – negative	
Unrelated negative comments	Off-topic	

The researcher conducted another review of the categories in order to identify themes that would represent the most salient issues present in the data set. Less common codes were discarded, as were codes less relevant to the research questions. The remaining ten categories were reviewed again and consolidated down to six final themes. The titles and descriptions of these themes were refined over the course of several weeks in an effort to provide the clearest and most accurate representation of the latent content. The final themes are shown in Table 9 above.

The final stage of coding assessed participants' responses to all three questions, evaluated as one unit. Using this strategy, a participant's response may have been assigned to zero of the themes at a minimum or all six of the themes at a maximum. This coding process allowed the researcher to identify the percentage of respondents who made comments related to each of the final themes. This information was useful for answering Research Question 3, merging the qualitative and quantitative data for comparison. Table 10, in Chapter 4, describes the percentage of participants who made comments about each of the six themes.

Quantitative Data Analysis

Quantitative data analysis for this study was conducted for descriptive purposes in order to answer Research Questions 2 and 3. Descriptive statistics analyze sample data to describe characteristics of that sample without making inferences about the sample's larger population. To answer the question, "What factors are reported to affect faculty's decision to teach or not teach online at PLU?" a frequency table was generated that displays each factor's relative frequency and percentage. Table 12, in Chapter 4, shows

how many participants categorized each of the 21 survey factors as either encouraging, discouraging, or not influential.

To assist in answering Research Question 2, participants were also asked to rate the importance of each influential factor on a scale ranging from one to four. A score of 1 indicates the factor is minimally important, 2 is a rating of somewhat important, 3 is rating of moderately important, and 4 is a rating of very important. Calculation of a mean importance rating for each influential factor allowed the researcher to identify the highest mean scores for consideration during the discussion of results.

Merged Data Analysis

After an analysis of the qualitative and quantitative survey data, the datasets were considered together in order to answer the research question, "To what extent do faculty perceptions of online teaching and learning agree with the factors reported to affect faculty's decisions to teach or not teach online at PLU?" Merged data is organized in Chapter 4 using a "joint display", where quantitative data is arranged by qualitative themes (Creswell & Plano Clark, 2011). Analysis of the merged data via a joint display allowed the researcher to compare the data sets and identify areas of convergence and divergence between responses.

Validity and Reliability Strategies

Strategies for establishing validity and reliability in a mixed methods study can vary. Creswell and Plano Clark (2011) define validity in mixed methods research as using strategies to strengthen data collection, analysis, and interpretation, including strategies for carefully merging and drawing conclusions from the data. Creswell and Plano Clark

(2011) provide 14 specific strategies to minimize validity threats, and the following eight strategies were utilized in this study to increase validity:

- "Draw quantitative and qualitative samples from the same population to make data comparable" (p. 240).
- "Use large qualitative samples or small quantitative samples so that the same number of cases can be selected" (p. 240).
- "Address the same question (parallel) in both quantitative and qualitative data collection" (p. 240).
- "Develop a joint display with quantitative categorical data and qualitative themes" (p. 240).
- "Find quotes that match statistical results" (p. 240).
- "Address each mixed methods question" (p. 241).
- "Use procedures to present both sets of results in an equal way (e.g. a joint display" (p. 241).
- "Consider how a problem, a theory, or a lens might be an overarching way to connect the stages or projects" (p. 241).

Creswell (2013) suggested that qualitative researchers document the accuracy of their studies as evidence of validity. He offered eight validation strategies and suggested that researchers engage in at least two of them for each study. The five validation strategies suggested by Creswell (2013) and used in this study included:

- Triangulation - a process where evidence from multiple sources is used to shed light on a theme or provide a different perspective

- Peer review – an external check of the research process, including questioning the researcher about methods and interpretations
- Clarifying researcher bias – discussion of the researcher's experiences that likely shape their approach and interpretation
- Member checking – sharing preliminary analyses with participants to obtain feedback on accuracy
- Rich, thick description – providing details about a theme by providing abundant details and quotes

Establishing inter-coder agreement is another common strategy for increasing the trustworthiness and reliability of qualitative research (Creswell & Plano Clark, 2011). Inter-rater coding exercises can be conducted on codes, themes, or both (Creswell, 2013). The process typically involves coding text using a predetermined coding scheme and then comparing the results (Creswell & Plano Clark, 2011). Creswell (2013) notes that he typically seeks an 80% agreement rate between coders, followed by revisions of the codebook as needed.

Coding Reliability Exercise

To increase the coding reliability for this study, a random sample of 25% of qualitative responses were coded by the researcher and chair of her dissertation committee. First, the researcher established detailed definitions and guidelines for each code. Coding was completed at the participant level, with responses to all three survey questions coded for six themes. Twenty participant responses were coded independently by both the researcher and chair. Each response was reviewed to determine what, if any,

of the six themes were represented. This provided 120 opportunities for coding comparison.

After independent coding was completing, coding assignments were compared. An initial agreement rate of 85.8% was achieved. Next, there was a review of each instance where the coders initially assigned different codes. Discussions of each instance allowed the coders to reach consensus, resulting in a final agreement rate of 100%. The exercise achieved clarification of code definitions and a more consistent application of codes for the remaining 59 responses.

Member Checking

To increase the validity and trustworthiness of the data analysis, the findings of this study were discussed with five members of the community. Response statistics, qualitative themes, quantitative results, and initial conclusions were examined for accuracy. The focus group agreed that the preliminary analysis appeared representative and consistent with their perspective on the topic under study. The discussion provided an opportunity to clarify the themes as well as to validate the analysis.

Triangulation of Data for Trustworthiness

Denzin (1978) recommended the use of between-method triangulation to promote "a convergence upon the truth about some social phenomenon" (p. 14). Survey question 3 (qualitative) and survey question 4 (quantitative) both ask participants to identify factors that would encourage them to teach online. These questions provide an opportunity for triangulation between the quantitative and qualitative data sets. Additionally, the convergence of data analysis to answer Research Question 3 helps improve the reliability and trustworthiness of the researcher's conclusions (Kumar, 2007). According to Burns

(2000), triangulation is an important strategy for checking the consistency of data analysis and findings, reducing bias that may result from reliance on only one method or data source. The process for analyzing the mixed methods data may involve explanations of the convergences, inconsistencies, and contradictions (Denzin, 1978). Triangulation of the data is further explored in Chapter 4 and Chapter 5.

Ethical Considerations

Several strategies were implemented to protect participants. First, informed consent was obtained on the opening page of the survey instrument. At any time, respondents were able to terminate their participation in the survey. Participants were allowed to contact the Office of the Provost and the researcher with any concerns about the study. To protect participants' privacy, the dataset was password protected and individual names were replaced with unique identifiers stored separately from the data. Finally, research results will be shared with the university community and posted online for review.

Survey questions asked participants to share their opinions. Questions were not of a sensitive nature and should not have triggered significant distress in participants. It is possible that some faculty in the population may not support the university's exploration of online learning and could have felt that this study was a threat to the future of the university. Similarly, some faculty may believe that online learning is not a good fit for the values of the institution. For this reason, faculty may have chosen not to participate if they were concerned the survey might be used to expand online learning at the institution and they were against that goal. Furthermore, some faculty may have felt pressured to participate in the study because it was sponsored by the Office of the Provost. To address this concern, all information provided to participants emphasized that participation was voluntary and participant identities would not be disclosed.

The Role of the Researcher

The researcher is employed at the university under study as an instructional designer within the Office of the Provost and reports to the Associate Provost for

Undergraduate Education. In this role, the researcher provides instructional support to all university faculty and interacts with faculty on a regular basis. The researcher also leads the PLU Teaching Online faculty development program, in addition to providing leadership and support for online teaching and learning at the institution.

The researcher's involvement in supporting online teaching at this institution inspired the decision to conduct this study. As the university began to draft policies and plans related to online teaching and learning, the researcher recognized a need to better understand issues of importance to faculty. Particularly, there was a desire to understand the perceptions of faculty who may be resistant to online teaching and learning at the university so the researcher could better address concerns and support the success of online learning at the institution.

As a member of the community under study, there is the potential for complications to arise during the research process. Given the researcher is a member of the community and the results could directly impact policies and plans that affect faculty participants, this may influence participation. While researchers may not be able to entirely remove themselves from the research process, especially when qualitative analysis is involved, the interpretation of results has been discussed with full awareness of the researcher's role at the university.

Summary

This study used a convergent, parallel, mixed methods research design to explore how faculty perceive online teaching at PLU, what factors are reported to affect faculty's decision to teach or not teach online at PLU, and the extent to which the qualitative and quantitative findings are similar. The population for this study included all active status

faculty at Pacific Lutheran University who have not participated in the PLU Teaching Online (PLUTO) program. Of the 320 faculty in the population, 79 faculty chose to participate in the survey. A survey instrument collected responses to answer quantitative and qualitative research questions. Faculty were asked to explain what role they think online learning should have in the future of education at PLU, how they view the idea of teaching online courses at PLU, and what it would take for them to feel comfortable teaching online. Then, participants classified and rated 21 factors that may encourage or discourage them from teaching online. In Chapter 4, the results of the mixed methods data analysis are presented.

CHAPTER FOUR: RESULTS

In this chapter, findings are shared for each of the three research questions. Qualitative and quantitative data results are reported separately for RQ1 and RQ2 and collectively for RQ3. For RQ1, qualitative data analysis identified six major themes within participants' written responses to open-ended questions. For RQ2, quantitative data analysis identified 17 influential factors among 21 factors presented to participants. For RQ3, quantitative and qualitative results were merged in order to identify commonalities and divergences between both sets.

Research Question 1: Faculty Perceptions of Online Teaching

The first research question (RQ1) in this study asks, "How do faculty perceive online teaching at PLU?" To obtain qualitative data to answer this research question, participants responded to the three open-ended survey questions: (1) What role do you think online learning should have in the future of education at PLU? What do you see as potential strengths, weaknesses, opportunities, and/or threats for online learning at PLU? Please explain. (2) How do you view the idea of teaching online courses at PLU? Would you consider teaching online? If so, when and why? Please explain. (3) What would it take for you to feel comfortable teaching online at PLU? What would be the most important factors affecting your willingness to teach online? Please explain.

Six themes were identified in the qualitative data: (1) teaching values compatibility, (2) attractiveness to students, (3) regulation of online learning, (4) faculty resources, (5) personal influences, and (6) technology and infrastructure. Each set of

participant responses was coded to identify what, if any, of the six major themes appeared among participants' responses. The definitions used to identify themes within the dataset are provided in Appendix 6. Every respondent discussed one or more of the six themes; the percentage of respondents who discussed each theme is presented in the table below.

Table 10 Frequency of Qualitative Themes

Qualitative Theme	Frequency	% Respondents
Teaching values compatibility	60	76%
Attractiveness to students	57	72%
Regulation of online learning	45	57%
Faculty resources	44	56%
Personal influences	42	53%
Technology and infrastructure	27	34%

The three most common qualitative themes involved discussions of the compatibility of online learning with faculty's current teaching values, the attractiveness of online learning for students, and the desire to regulate online learning at the university. Specifically, many respondents discussed beliefs that online learning may be out of alignment with important faculty values and institutional strengths, especially campus community and in-person communication. Respondents acknowledged that online learning can provide students with greater flexibility and access, which could increase retention and recruitment and allow more non-traditional students to participate in a PLU education. Faculty participants also discussed perceptions that online learning may be more appropriate for some disciplines, courses, students, levels of learning, or terms than others may be. Other recurrent themes were the importance of investments in technology, infrastructure, and faculty resources such as faculty training, compensation, and instructional support. Personal preferences also were important to many participants' perceptions. Each of these themes is described further in the following sections.

Theme 1: Teaching Values Compatibility

The most common theme that surfaced in participants' responses involved opinions about how "good teaching" at Pacific Lutheran University should be delivered to students. This theme was evident in 76% of responses, with discussion of the importance of face-to-face learning, in-person communication, live interactivity, and campus community as valued practices that online learning cannot provide. Many faculty participants believed that PLU's distinctiveness is based in part on its ability to cultivate in-person relationships with students. One faculty member stated, "The promise we make potential PLU students is that they will be known and will have a face to face encounter with their professors, will have the opportunity to meet with their professors, and even do research with their professors." Therefore, some faculty believe that if learning occurs online, this distinctive feature of a PLU education will not be provided to students. Another respondent emphasized the importance of the campus community saying, "A strength of PLU is that the PLU learning experience includes 'campus life' and in-class personal interactions with students and faculty. Thus, a weakness of online learning would be the lack of the total experience."

Respondents had mixed feelings on the alignment of online teaching with their personal teaching values and the shared values of the institution. For instance, one faculty member stated, "I would not consider teaching online. Online courses assume that what we do in the classroom, face-to-face with students, can be replicated in an electronic format. It undervalues our art of teaching and I see it in direct conflict with our values as an institution." Concerns typically focused on how online learning might adversely affect the preservation of personal and institutional values, distinction, and strengths. One

respondent said, “One of the main advantages we offer over public universities and community colleges is our direct, FTF teaching. If we compromise that by relying on more online learning, we will dilute that advantage."

Others believed that online learning could positively align with university values by providing a PLU education to a broader range of students. Comments in support of online learning noted, "Online education is consistent with PLU's mission of access, particularly for those who cannot commute or reside for any number of reasons." The value of increasing access to a wider range of students relates to the second theme: Attractiveness to students.

Theme 2: Attractiveness to Students

A prevalent theme in the qualitative data set, noted by 72% of respondents, was discussions of the many practical reasons that students may be attracted to online learning. For instance, one participants stated, “Offering online courses over summer and JTerm [January term] makes sense because it allows students to earn credit while being away from campus.” Some comments emphasized that online courses provide flexible learning options that meet the needs of a wider range of students, especially adult, military, working, or commuter students. One faculty member explained, “I think that online teaching offers the ability to reach non-traditional students and those who struggle to balance on-campus responsibilities and daily-life responsibilities.” Online learning may also be attractive to students with specific learning styles. For instance, one respondent observed, "I think this can help students who are more introverted or less comfortable participating in full group discussion to engage."

Participants described benefits to retention, recruitment, and competitiveness, especially for non-traditional students. Online options can attract students who might otherwise withdraw from PLU or take courses at a local community college. One respondent discussed the need to attract students who may be considering other institutions, claiming, “By putting more efforts to online education, PLU will gain competition power against other local universities.” Many respondents felt that PLU could attract or retain students by providing a wider variety of learning options to help them succeed and graduate. One faculty member said, "Online, particularly blended learning has the potential to enrich the experience AND possibly via a bridge course, help students catch up."

Theme 3: Regulation of Online Learning

Theme 3 broadly encompassed comments made by participants that online learning at PLU would be acceptable only under certain conditions, and therefore it should be carefully regulated. This concept was present in 57% of responses through written opinions that certain disciplines, courses, students, levels of learning, or terms are more appropriate for online learning than others are. One faculty member advocated for disciplinary restrictions stating, “I worry that by switching to teaching classes online we will be shortchanging students. I therefore think that online classes in the future should be offered in moderation, and only in certain disciplines. I do not think that mathematics and science courses should be taught online, for example."

Some of faculty respondents’ comments emphasized restricting online courses to certain types of courses. For instance, "I would teach online for certain electives but core courses should be in-class only." Others advocated for restricted online learning to certain

types of students. For example, one faculty member said, "Students often have quite a bit of difficulty adjusting to the independent motivation needed to be successful in an online course, so I think it should be used in cases where students have demonstrated their abilities or for courses that are not required." Many faculty favored term restrictions for online learning with comments such as, "Online learning is best used in the summer or during j-term for courses that students might otherwise import from a community college."

This theme also included concerns about the quality and effectiveness of online courses, with many comments suggesting online courses should be regulated and monitored more closely than face-to-face courses. One faculty member claimed, "There are some online classes at PLU that have a reputation of being complete 'slacker' classes. I think there needs to be more quality control of online courses. There needs to be a stricter review of online and blended courses so that the academic rigor is equal to face-to-face classes." Others were interested in "seeing evidence that students actually learn at least as much as in a regular format."

Theme 4: Faculty Resources

The fourth theme represented 56% of responses and emphasized participants' desire for the university to invest resources into the successful development and teaching of online courses. Comments related to this theme including beliefs that additional time, effort, compensation, and training are necessary for online teaching, and the university should provide such resources if they want faculty to teach online. For instance, one faculty member bluntly stated, "The only possible motivation for teaching an online

course would be to have a much greater stipend and/or course release to make up for the huge amount of labor that is put into developing an online course."

Some respondents emphasized the importance of training and support. One comment noted, "Faculty development would definitely be necessary, and the opportunity to work with a group of peers who are also experimenting with online teaching, so we would have a built-in support group to consult when issues arise." Interest and support for the PLUTO program was high, and several faculty expressed enthusiasm for the opportunity to participate. When asked about what it would take to help them feel comfortable with teaching online, one respondent stated, “It helps to hear from faculty who currently [teach] online. Hearing their positive experiences about the PLUTO training and about teaching their courses (include hybrid courses) has been invaluable.”

Theme 5: Personal Influences

The fifth qualitative theme, present in 53% of responses, included discussions of faculty’s personal goals, situations, preferences, concerns, experiences, and interests as it affects online teaching. This theme contained comments where participants stated a personal dislike or attraction to online teaching, or they expressed general fears or concerns about their personal ability to teach online. Comments within this theme differed from concerns about online teaching’s effectiveness in general, which is a "teaching value compatibility" issue, or concerns about workload, which is a "faculty resource" issue.

Some expressed openness to blended teaching, with comments such as "I might have considered a blended course but cannot imagine teaching a completely online course." Some comments reflected personal preferences that would be difficult to address

by institutional policies or planning. For instance, one faculty member humorously stated, “I would never feel comfortable teaching an online course because what I teach is old world - made up by people who take naps in the middle of the day.”

Some personal influences were affected by the realities of time. Several faculty members made comments such as, “I am nearing retirement and I do not plan to develop the skills necessary to teach online." When asked what would make an individual more comfortable with teaching online, one faculty member stated: "Being younger. Any major change in the instructional setting takes a lot of effort on the part of the instructor. I prefer to put my limited energy into trying to make my courses welcoming to our more diverse student body, rather than learning to deliver courses in a completely different way." Others were interested in the benefits of convenience, with comments such as, “I would consider it, since I drive 50 miles each way to work."

Theme 6: Technology and Infrastructure

The sixth and final theme found in 34% of responses included a variety of comments on the importance of technology, infrastructure, and technical support. Concerns about technology ranged from vague fears to specific concerns. For instance, one faculty member stated, “There's a lot about the online space that simply isn't comfortable for me. I don't like managing technology, because I find it frustrating. Teaching while frustrated isn't a good fit for me or my students (and I have the teaching evaluations to back that up).” Respondents also wanted the university to ensure adequate technical support was available to instructors and students who would be relying heavily on technology that must function well in order for online learning to be successful.

Comments included statements such as, "All I can say is that extensive infrastructure and support are needed to make a success of such undertakings."

This theme included concerns about the learning management system, which was the most frequent complaint respondents expressed about technology. Many found the learning management system difficult to use and ill-suited for online teaching. For instance, one faculty respondent stated, “I don't like the tools that are required/available (Sakai). I would consider it more strongly if there were more options for content delivery. There are a wide variety of modern, flexible tools available. Sakai (especially the current version that we use) lags far behind.”

In sum, participants in this study perceived online teaching at PLU as attractive for students who may need non-traditional options for learning. In order to be successful, faculty respondents desired facilitative technology and infrastructure as well as faculty resources. However, these things alone were not enough to motivate faculty participants to teach online. Personal influences and considerations also affected perceptions of online teaching and learning. Additionally, the teaching values of participants greatly influenced their perceptions of online teaching. Many respondents believed that online education at the institution needed to be regulated to safeguard course quality and to ensure it was only permitted in specific circumstances. Overall, many faculty participants were skeptical of online education but willing to consider it under the right circumstances.

Research Question 1.1: Evidence of DTPB dimensions

Research Question 1.1 (RQ1.1) asks, "Are the dimensions of the DTPB evident for faculty at PLU when discussing online education at their institution? When using the DTPB as a theoretical lens for analyzing the qualitative dataset, each of the three constructs are indeed evident. An overview of the results for RQ1.1 are presented in Table 11 below. The next three sections provide evidence for each construct.

Table 11 Evidence of DTPB Dimensions in Qualitative Responses

DTPB Construct	DTPB Dimensions	Illustrative Themes
Attitudes	Compatibility	Teaching values compatibility
	Perceived ease-of-use	Attractiveness to students & Regulation of online learning
	Perceived usefulness	Technology and infrastructure
Subjective Norms	Superiors	Not evident
	Peers	Faculty resources (minimally)
	Students	Attractiveness to students
Perceived Behavioral Control	Self-efficacy	Personal influences
	Facilitating resources	Faculty resources
	Facilitating technology	Technology and infrastructure

Decomposed Attitudinal Belief Structures

Attitudinal beliefs describe the degree to which an individual supports an innovative practice, as examined through the dimensions of compatibility, perceived ease of use, and perceived usefulness. All three dimensions surfaced in the qualitative data, however, "compatibility" was most evident. Compatibility refers to how an innovative practice aligns with an individual's existing values, needs, and experiences. Theme 1: Teaching Values Compatibility showed how deeply held beliefs about good teaching influenced faculty's perception of online teaching. If faculty believed that online teaching was not compatible with the culture of their institution or their personal values, then online education was perceived negatively. For instance, one participant stated:

> I would not want to see online courses being offered very often in the full academic year; I think this takes away from the value of a liberal arts education focused on community and civic engagement. It also does not make sense for an institution that is a private liberal arts university that is competition with much more affordable options; we are here to offer small class sizes and one-on-one mentoring and instruction options. I don't see curriculum being put completely online to be in line with our mission.

The DTPB dimension "perceived usefulness" was evident in themes two and three. Theme 2: Attractiveness to Students encompassed comments about online learning's potential usefulness for increasing retention, recruitment, and competitiveness as well as greater access to a PLU education. For example, when asked about their perception of online learning, one faculty participant stated, "I think offering more online courses would attract more students and especially more diverse or non-traditional students (returning, or students with daytime jobs)". Theme 3: Regulation of Online Learning describes faculty's desire to limit, regulate, or restrict the implementation of online learning at the institution. Comments categorized under theme three discussed how online learning could be useful for certain disciplines, courses, students, levels of learning, or terms but less useful or appropriate for others. Many noted that online learning needed to be regulated to ensure it was not allowed in situations perceived by some as less useful or less suitable.

The DTPB dimension "perceived ease-of-use" was represented in the data, particularly through concerns about the difficulty of using the learning management system and other online teaching technologies. One respondent commented, "honestly, if

Sakai is the vehicle, I am hesitant to even consider it. Sakai is clunky for even simple things like quizzes." If teaching online was perceived as difficult or time-consuming, then faculty were less willing to consider it. This sentiment was evident with comments such as, "Seems like a lot of work for the first time, and I don't have time to take that on."

Decomposed Normative Belief Structures

The normative beliefs construct of the DTPB asserts that social groups exert influence on an individual's behavior. Student influences, peer influences, and superior influences are dimensions of subjective norms. Student influences were represented the most in the qualitative dataset. Theme 2: Attractiveness to Students describes the importance of student preferences on faculty's perception of online teaching. Some faculty participants in this survey seemed either encouraged or discouraged to teach online based on their perceptions of student preferences. When asked what it would take to feel comfortable teaching online, one faculty participant replied, "Primarily knowing that students would respond well to the opportunity." Another respondent wrote:

> I overheard two strong students who are Religion minors in a course I'm currently teaching recently discussing the weaknesses of an online teaching module. They were expressing their desire to take a class with a particular professor, but were disappointed to hear that it was only going to be offered online this year. They wished to be able to have more in-person contact with the professor as well as to hear her ideas and points of view more often.

If faculty believed that students did or did not want to take online courses, this influenced their perception of online teaching.

Peer influence was minimally evident and superior influence was not evident in the qualitative dataset. A few faculty commented on the influence of seeing their peers successfully teach online. For example, one respondent said, “It helps to hear from faculty who currently [teach] online. Hearing their positive experiences about the PLUTO training and about teaching their courses (include hybrid courses) has been invaluable.” No qualitative comments directly mentioned the influence of school leadership, although a few requests were made for the school leadership to better articulate the vision for online learning at PLU.

Decomposed Control Belief Structures

Control beliefs describe the internal and external forces that affect a person’s behavior when confronted with an innovative practice. In the DTPB, this is represented through the dimensions of self-efficacy, available technology, and available resources. All three dimensions were evident in the qualitative data. Self-efficacy surfaced in Theme 5: Personal Influences when faculty discussed whether they believed they could successful teaching their courses online. When asked what would make faculty comfortable teaching online, one respondent stated, “I don't anticipate feeling uncomfortable with the idea. I would just like to know that there is IT support available if issues came up, but I assume there is plenty of support through the past PLUTO sessions and with IT.” Others wondered if they would be able to be successful teaching online in their current circumstances. “To try to teach in a new way, and to do so well, while remaining committed to a full course load, and without additional compensation, would be extremely challenging for even the best educators among us.”

The DTPB dimension “available technology” matches Theme 6: Technology and Infrastructure, which describes faculty’s desire for sufficient online teaching technologies. The technology available to faculty at PLU was one barrier to faculty’s willingness to teach online. When asked about what it would take to feel comfortable teaching online, many faculty commented on the available technology. For instance, one faculty member replied by saying they would need “a more viable LMS option, more interactive tools besides blogging and discussion boards.”

The DTPB dimension “Available resources” matches Theme 4: Faculty Resources, which categorized comments about time, money, support, and other resources that affect faculty’s willingness to teach online. Many faculty viewed online teaching as a burden that the university should ameliorate by providing additional resources. Course development support was perceived as an essential resource by many faculty. One respondent captured this dimension well in their comment:

> Faculty development would definitely be necessary, and the opportunity to work with a group of peers who are also experimenting with online teaching, so we would have a built-in support group to consult when issues arise. Compensation for the required time and effort would also be essential.

If respondents believed that the university would not provide the resources needed for successful online teaching, then they were hesitant to consider online teaching.

In summary, RQ 1.1 asked, “Are the dimensions of the DTPB evident for faculty at PLU when discussing online education at their institution?” Based on the results above, the theoretical constructs and dimensions of the DTPB were evident when faculty discussed online education in open-ended survey questions.

Research Question 2: Factors Affecting Decision to Teach Online

The second research question (RQ2) asks, "What factors are reported to affect faculty's decision to teach or not teach online at PLU?" To answer this question, faculty classified factors as encouraging, discouraging, or not influential in their decision to teach online. More than 50% of faculty reported 17 of the 21 provided factors as influential to their decision to teach or not teach online. Table 12 below shows the frequency of survey factors selected by respondents. The top five factors selected included "suitability of online teaching and learning for course needs", which was considered influential by 93% of faculty participants; "instructional support provided by the institution" and "student engagement in online courses" were influential to 90% of respondents; "time available for online course development and training" was influential for 89% of respondents; and, "reflecting on current teaching practices and exploring new ways of teaching" was influential to 86% of respondents.

Table 12 Frequency of Factors, Sorted by % of Total Influence

Factor	Total % Influenced	Factor	Total % Influenced
Suitability of online teaching and learning for course needs	93%	Additional compensation for online course development and training	74%
Instructional support provided by the institution	90%	Opportunity for improved proficiency with instructional technologies	72%
Student engagement in online courses	90%	Current skills with instructional technology	67%
Time available for online course development and training	89%	Student retention in online classes	64%
Reflecting on current teaching practices and exploring new ways of teaching	86%	Option to teach online during all academic terms	59%
Technology available for teaching and learning online	84%	Influence of students	54%
Time and effort required to teach online	83%	Past personal experiences with online teaching and/or learning	49%
Accommodating a wider variety of students	81%	Prior experience teaching a blended course	35%
Online learning's alignment to institutional identity	66%	Influence of colleagues	29%
Personal schedule flexibility for instructors	77%	Influence of department leadership	29%
Technical support for instructors provided by the institution	75%		

Appendix 6 provides a full list of all survey factors and their statistical calculations.

Encouraging Factors

Table 13 below displays survey factors selected as encouraging by more than 50% of faculty respondents. “Accommodating a wider variety of students” was the most frequently selected encouraging factor, reported by 72% of respondents. Faculty also reported being encouraged by personal schedule flexibility (69%), additional

compensation for course development and training (67%), technical support (65%), instructional support (66%), available technology (59%), opportunities for improved technical skills (64%), reflecting on current practice and exploring new ways of teaching (61%), and the suitability of online teaching for course needs (54%).

Table 13 Encouraging Factors Reported by 50%+ Respondents

Factor	% Respondents	Importance
Accommodating a wider variety of students	72%	3.15/4
Personal schedule flexibility for instructors	69%	3.15/4
Additional compensation for online course development and training	67%	2.96/4
Instructional support provided by the institution	66%	3.51/4
Technical support for instructors provided by the institution	65%	3.56/4
Opportunity for improved proficiency with instructional technologies	64%	3.21/4
Reflecting on current teaching practices and exploring new ways of teaching	61%	2.95/4
Technology available for teaching and learning online	59%	3.39/4
Suitability of online teaching and learning for course needs	54%	3.41/4

Participants were asked to assign a rating of how important an influential factor would be on their decision to teach or not teach online. A rating of 4 was “very important” and a rating of 1 was “somewhat important”. Importance scores for this set of factors ranged from 3.56 to 2.95. “Technical support for instructors provided by the institution” was given the highest importance rating at 3.56. Given the relatively narrow range of scores, the importance score provided minimal value for interpretation.

Discouraging Factors

Three of the 21 survey factors were classified as discouraging by greater than 50% of faculty participants. Respondents reported they were discouraged by the time and effort required to teach online, concerns about student engagement in an online course,

and their time available for course development and training, as noted in Table 14 below. Importance scores for this set of factors ranged from 3.50 to 2.67. “Time available for online course development and training” was given the highest importance rating at 3.50. Given the relatively narrow range of scores, the importance score provided minimal value for interpretation.

Table 14 Discouraging Factors Reported by 50%+ Respondents

Factor	% Respondents	Importance
Time and effort required to teach online	63%	2.67/4
Student engagement in online courses	59%	3.00/4
Time available for online course development and training	54%	3.50/4

Not Influential Factors

Four factors were selected by more than 50% of faculty as not influential in their decision to teach online, as noted in Table 15 below. Many faculty respondents (71%) felt that the influence of peers or leadership was not influential for their decision-making, nor were past experiences with teaching blended (65%) or online (51%) courses. These items were not assigned scores of importance because they were not classified as influential.

Table 15 Not Influential Factors Reported by 50%+ Respondents

Factor	% Respondents	Importance
Influence of colleagues	71%	N/A
Influence of department leadership	71%	N/A
Prior experience teaching a blended course	65%	N/A
Past personal experiences with online teaching and/or learning	51%	N/A

Research Question 2.1: Effect of Attitudes on Perceptions

Research Question 2.1 (RQ2.1) asked, “Do attitudes affect faculty perceptions of online teaching?” The researcher identified ten quantitative survey factors she believed could be classified under the “attitudes” construct of the DTPB. All ten of these factors were classified as influential by more than 50% of respondents all of factors on the survey. Table 16 displays survey factors aligned to the DTPB construct attitudinal beliefs. These factors included: reflecting on current teaching practices and exploring new ways of teaching (86%), personal schedule flexibility for instructors (77%), accommodating a wider variety of students (81%), opportunity for improved proficiency with instructional technologies (72%), option to teach online during all academic terms (59%), time and effort required to teach online (83%), Online learning's alignment to institutional identity (66%), suitability of online teaching and learning for course needs (93%), student engagement in online courses, (90%) and student retention in online courses (64%). Therefore, attitudes as defined in the DTPB do affect faculty perceptions of online teaching.

Table 16 Attitude Factors Selected by 50%+ of Respondents

DTPB Dimension	Survey Factors	% Respondents
Perceived Usefulness	Reflecting on current teaching practices and exploring new ways of teaching	86%
Perceived Usefulness	Personal schedule flexibility for instructors	77%
Perceived Usefulness	Accommodating a wider variety of students	81%
Perceived Usefulness	Opportunity for improved proficiency with instructional technologies	72%
Perceived Ease of Use	Option to teach online during all academic terms	59%
Perceived Ease of Use	Time and effort required to teach online	83%
Compatibility	Online learning's alignment to institutional identity	66%
Compatibility	Suitability of online teaching and learning for course needs	93%
Compatibility	Student engagement in online courses	90%
Compatibility	Student retention in online courses	64%

Research Question 2.2: Effect of Subjective Norms on Perceptions

Research Question 2.2 (RQ2.2) asked, "Do subjective norms affect faculty perceptions of online teaching?" Only three survey factors were identified by the researcher as primarily aligned to the subjective norms construct of the DTPB, and only one of these three factors was selected by more than 50% of respondents: student influence (54%). The subject norm dimensions of peer influence (29%) and superior influence (29%) were not selected by a majority of respondents. The researcher acknowledges that the statistical likelihood of selecting factors in this DTPB construct is lower than the other constructs because fewer factors from this construct were presented on the survey. Using this survey as a limited measure of this construct, only student influence was reported to affect faculty perceptions of online teaching.

Table 17 Subject Norm Factors Selected by 50%+ of Respondents

DTPB Dimension	Survey Factors	% Respondents
Student Influence	Influence of students	54%

Research Question 2.3: Effect of Perceived Behavioral Control on Perceptions

Research Question 2.3 (RQ2.3) asked, "Does perceived behavioral control affect faculty perceptions of online teaching?" The survey instrument contained eight factors that the researcher believed were similar to the DTPB construct "perceived behavioral control". More than 50% of respondents selected of six of these eight factors as influential, specifically: technical support for instructors provided by the institution (75%); technology available for teaching and learning online (84%); additional compensation for online course development and training (74%); time available for online course development & training (89%); instructional support provided by the institution (90%); and current skills with instructional technology (67%). Two factors, prior experience teaching a blended course (35%) and past personal experiences with online teaching and/or learning (49%) were considered less influential. These results are presented in Table 18 below. Based on these results, perceived control as defined by the DTPB does affect faculty perceptions of online teaching.

Table 18 Perceived Behavioral Control Factors Selected by 50%+ of Respondents

DTPB Dimension	Survey Factors	% Respondents
Self-Efficacy	Current skills with instructional technology	67%
Facilitating Resources	Time available for online course development and training	89%
Facilitating Resources	Instructional support provided by the institution	90%
Facilitating Resources	Additional compensation for online course development and training	74%
Facilitating Technology	Technical support for instructors provided by the institution	75%
Facilitating Technology	Technology available for teaching and learning online	84%

Research Question 3: Comparison of Perceptions and Factors

The third research question (RQ3) in this study asks, "To what extent do faculty perceptions of online teaching and learning agree with the factors reported to affect faculty's decisions to teach or not teach online at PLU?" Comparison of the qualitative and quantitative data showed strong agreement, with a few minor areas of divergence.

It is important to note that the themes derived from the qualitative analysis were broad, encompassing big ideas and multiple codes, whereas quantitative survey factors represented very specific issues selected by the researcher for consideration. Direct comparison of broad themes and specific factors is challenging given differences in the scope of these items. Therefore, to answer this research question, qualitative codes were considered during the comparison of datasets. Table 19 below presents a joint display of themes and some of the codes from the qualitative data and identifies related factors from the quantitative data. Each of the qualitative themes are examined next and compared to related quantitative factors.

Table 19 Comparison of Factors in Qualitative and Quantitative Data

Qual. Themes	Related Qual. Codes	Similar Quant. Survey Factors
Attractiveness to students	Recruitment/support of non-traditional students Competitiveness in higher education market Convenience, access, and flexibility	Accommodating a wider variety of students Student retention in online classes Influence of students
Teaching values compatibility	Importance of face-to-face communication Importance of campus community PLU values, distinctions, and strengths	Student engagement in online courses Online learning's alignment to institutional identity
Regulation of online learning	Not appropriate for all disciplines Not a good fit for my course Evidence of quality and effectiveness Should restrict to specific terms	Suitability of online teaching and learning for course needs Option to teach online during all academic terms
Technology and infrastructure	Technical support desired Infrastructure and technology available LMS improvements	Technical support for instructors provided by the institution Technology available for teaching and learning online
Faculty resources	Accommodations provided – time, course release, compensation Importance of training Concerns about costs and resource allocation	Additional compensation for online course development and training Instructional support provided by the institution Time and effort required to teach online Time available for online course development and training
Personal influences	Personal goals/preferences Convenience for instructor Personal barriers (timing, etc.) Interest in blended/online teaching	Personal schedule flexibility for instructors Opportunity for improved proficiency with instructional technologies Reflecting on current teaching practices and exploring new ways of teaching

Attractiveness to Students

Faculty participants' desire to accommodate a wider variety of students was evident in both the qualitative and quantitative data. Participants discussed how online

offerings at PLU could help retain students who might seek online classes at community colleges or state institutions. Within the he qualitative theme “attractiveness to students”, the code “recruitment/support of non-traditional students” was very similar to the quantitative factor “accommodating a wider variety of students”. The quantitative factor “influence of students” was classified as influential by 54% of faculty, and the influence of students was evident in the qualitative data set when faculty discussed the desire to attract and accommodate as many students as possible.

Teaching Values Compatibility

Concerns about teaching values compatibility was evident in both the qualitative and quantitative data, although different aspects were emphasized in each. The quantitative factor “student engagement in online courses” was an influential factor for 90% of survey respondents; however, this concept was not directly discussed in the qualitative data. “PLU values, distinctions, and strengths” was a qualitative code within the “teaching values compatibility” theme that aligned well to the quantitative factor “online learning’s alignment to institutional identity”. This issue was also expressed in the qualitative data, as many respondents commented on whether online learning would hurt or help the values and identity of the university. Open-ended qualitative responses included many comments on the misalignment of online learning with the values of respondents, the importance of campus community, and the importance of face-to-face communication.

Regulation of Online Learning

Respondents desire to regulate online learning was evident in the qualitative data and quantitative data. The qualitative codes “not appropriate for all disciplines” and “not

a good fit for my course" as found in the theme "regulation of online learning" were similar to the quantitative factor "suitability of online teaching and learning for course needs", which was the most influential factor in the quantitative portion of the survey. The option to teach online during any term was not a request that surfaced in the qualitative dataset; instead, many respondents wished to keep online learning restricted to summer session.

Technology and Infrastructure

The importance of technology and infrastructure was evident in the qualitative and quantitative data. The "technology available for teaching and learning" was influential to 84% of faculty respondents and "technical support" was influential for 75% of respondents. The importance of available technology and support was discussed by 34% of participants in their open-ended responses. Within the qualitative theme "technology and infrastructure", the codes "technical support desired", "infrastructure and technology available", and "LMS improvements" were similar to the quantitative factor "technology available for teaching and learning". This topic may have been more prevalent in the quantitative dataset because it was brought to the attention of participants in the second part of the survey, after participants drafted their open-ended responses.

Faculty Resources

A number of faculty resources that surfaced in qualitative discussions were also selected as influential in the quantitative portion of the survey. Compensation, instructional support, and time available for online course development and teaching were slightly more evident in the quantitative part of the survey, but were present in the qualitative data as well. Here again, the number of survey factors selected for

consideration may skew a comparison of the data sets. Overall, convergence around the influence of available faculty resources was strong.

Personal Influences

A wide variety of personal influences surfaced in the qualitative and quantitative data. “Personal schedule flexibility for instructors” was reported as important to 77% of respondents, but did not appear as frequently in open ended responses. “The opportunity for improved proficiency with instructional technologies” and the “opportunity to reflect on current teaching practices and exploring new ways of teaching” were influential in both the qualitative and quantitative dataset. Past personal experiences with online learning was influential to 49% of faculty and was discussed in qualitative comments about participants’ negative and positive experiences with online teaching and learning.

In summary, there was an overall convergence of the qualitative and quantitative data with a few areas of divergence. Participants’ desire to attract students and increase their access to a PLU education was one area of strong agreement between the datasets. Participants also expressed a desire for faculty resources in both datasets. Minor divergences did occur, likely due to the absence of some topics in the quantitative portion of the survey. For instance, the qualitative data revealed a strong desire to regulate online learning, but this was not a factor directly assessed in the quantitative factors presented on the survey. The available technology and technical support for online education was more evident in the quantitative data, but similar comments did surface in the qualitative portion.

CHAPTER FIVE: DISCUSSION

Chapter Four provided the results of the mixed methods data analysis for this study. Chapter Five presents a summary of the study and discussion of the findings in consideration of prior research and the Decomposed Theory of Planned Behavior (DTPB). The chapter closes with implications for practice, recommendations for future research, and conclusions.

Summary of the Study

This study examined how faculty perceived online teaching at PLU in order to increase faculty acceptance and participation in online teaching at that university. The DTPB provided the theoretical framework to examine how factors related to attitudes, subjective norms, and perceived behavioral control affect faculty's willingness to teach online in the future. The main research questions for the study were:

- RQ1. How do faculty perceive online teaching at PLU?
    - RQ1.1 Are the dimensions of the DTPB evident for faculty at PLU when discussing online education at their institution?
- RQ2. What factors are reported to affect faculty's decision to teach or not teach online at PLU?
    - RQ2.1. Do attitudes affect faculty perceptions of online teaching?
    - RQ2.2. Do subjective norms affect faculty perceptions of online teaching?
    - RQ2.3. Does perceived behavioral control affect faculty perceptions of online teaching?

- RQ3. To what extent do faculty perceptions on online teaching and learning agree with the factors reported to affect faculty's decisions to teach or not teach online at PLU?

A convergent mixed-methods research design was selected, and a survey instrument was created and used to collect data from faculty at PLU who are not currently certified by the university to teach online. Data was obtained from three open-ended qualitative survey questions and one quantitative survey question that asked participants to classify and rate 21 factors that might influence their willingness to teach online at PLU.

Key themes that emerged from the qualitative data analysis included: teaching values compatibility, attractiveness to students, regulation of online learning, personal influences, faculty resources, and technology and infrastructure. Participants were motivated by opportunities to increase student access to higher education, especially for non-traditional learners. However, faculty participants made it clear that they did not want to participate in online teaching if it compromised personal and institutional teaching values. Subsequently, many respondents wanted to regulate online learning by placing restrictions on the disciplines, courses, students, levels of learning, or academic terms permitted online. Personal influences could make or break faculty's willingness to consider online teaching, especially if faculty believed they did not possess strong instructional technology skills. Furthermore, external circumstances were also reported to affect faculty's willingness to teach online. Participants wanted effective technology and infrastructure, particularly improvements to the learning management system. Training, support, and compensation were other essential conditions for teaching online.

Of the 21 factors presented in the quantitative portion of the survey, 17 factors were reported as influential by more than 50% of respondents. The top three most commonly selected factors were (1) the suitability of online teaching and learning for course needs (93%), (2) instructional support provided by the institution (90%), and (3) student engagement in online courses (90%). Overall, there was convergence between the two datasets with only a few areas of divergence. The "suitability of online teaching and learning for course needs" aligned to concerns expressed in the qualitative data that online learning may not be appropriate for all circumstances. Instructional support and training was important in both datasets and reinforced the importance of faculty resources for successful online teaching. In a small point of divergence, student engagement in online courses was a highly influential quantitative factor that did not appear directly in the qualitative data, which focused instead on concerns about student relationships and campus community.

Themes and factors identified during data analysis aligned well to the DTPB and represented the three major constructs and its dimensions. Facilitating conditions were important for participants, but attitudinal dimensions of the DTPB were most prevalent in the qualitative and quantitative findings. The dimension "compatibility" appeared to be an exceptionally important influence on faculty's willingness to teach online. Faculty were strongly influenced by whether they could envision their teaching values and course content as compatible with online learning. Participants were also strongly influenced by the "perceived usefulness" of online teaching, especially for certain populations and circumstances.

Discussion of the Findings

The results of this study showed strong agreement between the quantitative and qualitative data; findings were also consistent with the DTPB and prior research on the topic of faculty perceptions of online teaching. To support the convergence of data for this mixed-methods study, the discussion of findings in this chapter is organized around six key themes from the qualitative data. Each section includes a joint discussion of the quantitative and qualitative data (Creswell & Plano Clark, 2011). This approach was selected because the qualitative themes provided a useful structure for considering both datasets, prior research, and the DTPB from a holistic perspective.

Attractiveness to Students

"Attractiveness to students" was a common theme in the qualitative data that demonstrated the influence of students on faculty's decision to teach or not teach online. "Accommodating a wider variety of students", "student retention in online courses" and the "influence of students" were all factors identified as influential in the quantitative portion of the survey. This qualitative theme and related quantitative factors can be attributed to two constructs of the DTPB: (1) subjective norms as seen through the dimension "influence of students" and (2) attitude as seen through the dimension "perceived usefulness".

The influence of students was important to faculty in this study, while the other subjective norms in the DTPB framework– peer influence and superior influence – appeared to be less important. The influence of students was classified as influential by 54% of respondents, while the influence of colleagues and department leadership was

influence to only 29% of respondents. A similar finding emerged in the qualitative analysis, where discussions of students were most prevalent.

Prior research studies have demonstrated the significance of all three referent groups to varying degrees. Feldman and Paulsen (1999) found, “Students are hardly silent partners in affecting motivation of faculty, encouraging superior teaching, or helping improve faculty performance” (p. 75). Maguire (2005) and Betts and Heaston (2014) both noted the importance of student pressure on faculty’s decision to participate in distance education. Dos Santos and Okazaki (2013) found faculty peers and administrators had a strong influence on Brazilian faculty’s acceptance of e-learning. However, this study of liberal arts faculty found students to be the referent group with the most influence, which aligns well with Clark’s (1997) suppositions that faculty at mid-level American liberal arts institutions highly value their relationships with students.

In this study, student engagement in online courses was reported as influential by 90% of faculty. Accommodating a wider variety of students was reported as influential by 81% of faculty. Additionally, comments related to the attractiveness of online learning to students appeared in 72% of written responses. These results aligned strongly with prior research by Wasilik and Bolliger (2009) who found that student-related issues were most critical to faculty’s satisfaction with online teaching, especially student involvement and increased educational opportunities for students.

Faculty in this study acknowledged the potential benefits of online learning for students, and this encouraged participants to consider teaching online. The possibility of increasing access to higher education for a wider audience of learners was a strong incentive noted in several prior research studies (Allen & Seaman, 2008; Bacow et al.,

2012; Bollinger & Wasilik, 2009; Dooley & Murphrey, 2000; Hiltz et al. 2007; Maguire, 2005; Shea, 2007; Wasilik & Bollinger, 2009). Participants in this study described benefits to retention, recruitment, and competitiveness, especially for non-traditional students, i.e. adult, military, working, or commuter students. This is similar to research by Shea (2007) and Allen and Seaman (2008) who concluded that faculty were most concerned about increasing students' access to higher education and reaching students from different backgrounds. The quantitative factors "accommodating a wider variety of students" and the qualitative theme "attractiveness to students" was interpreted in this study as similar to the DTPB dimension "perceived usefulness" as the anytime, anywhere nature of online education is useful for many.

Teaching Value Compatibility

Despite the attractiveness of online learning for some students, many faculty respondents resisted the idea because they believed it conflicted with their teaching values. Teaching value compatibility was another theme from the qualitative data analysis that emphasized the importance of personal and institutional values when considering change. Participants of this study discussed a strong desire to preserve face-to-face learning, in-person communication, student interactivity, and campus community. Approximately 66% of respondents claimed online learning's alignment to institutional values was influential in their decision to teach or not teach online, and institutional values were frequently discussed in written responses. Many respondents perceived online learning as harmful or counter to the experience of a PLU education. During the process of member-checking the results of this study, the focus group believed this theme was critical to understanding faculty resistance to online teaching at PLU. This theme

was considered by the researcher as related to the DTPB's attitudinal dimension "compatibility", which describes whether an innovative practice aligns with existing values, needs, and experiences.

Prior research supports these findings. Baker and Baldwin (2015) noted that many liberal arts faculty have strong beliefs about what constitutes good teaching and may resist external demands to change. Mitchell and Geva-May (2009) studied the extent to which incongruences in faculty's interests, values, and beliefs can affect the implementation of online learning at an institution. One area of investigation specifically examined intellectual reluctance and perceptions that online learning is inconsistent with professional values and norms. The researchers concluded attitudinal influences and a high degree of concern about institutional change increased resistance to implementing online learning. Similarly, Mitchell et al. (2014) concluded that faculty resist initiatives that appear to threaten their values. Berge (1998) also discussed cultural barriers to online teaching in higher education and found that the institutional culture, i.e. the beliefs, values, expectations, and norms of an organization, was the largest category of barriers to online teaching in his study. Similarly, Zhen et al. (2008) found that faculty's teaching philosophy was a significant variable in their discrete decision model for online teaching.

The comments of faculty respondents in this study demonstrated a strong desire to preserve traditional in-person student relationships. Haber and Mills (2008) also found that one of the greatest barriers to online instruction in their study was concerns about the lack of interaction and communication between faculty and their students. Bacow et al. (2012) concluded that one of the major obstacles to the widespread adoption of online learning was that online instruction is alien to many faculty and calls into question the

reason some may have wanted to be professors. “They became faculty in large part because they enjoyed being students and valued the relationships that they enjoyed with their professors or mentors… they fear it [online learning] will distance them from their students” (p. 20). To encourage faculty to participate in online learning, faculty may need reassurance and support to help them understand how preserve teaching values in the online environment.

The importance of teaching values were evident in quantitative factors classified as influential; 86% of respondents perceived “reflecting on current teaching practices and exploring new ways of teaching” as influential and 73% of respondents classified “opportunity for improved proficiency with instructional technologies” as influential. These factors increased the “perceived usefulness” of online teaching, as described in the DTPB. Not only could online learning be useful for students, it was perceived as useful for some faculty, which influenced their willingness to teach online.

Regulation of Online Learning

Concerns about the compatibility of online teaching with deeply held teaching values comprised the third theme, “Regulation of online learning”. The “suitability of online teaching and learning for course needs” was reported as influential by 93% of survey respondents. Many faculty respondents expressed concerns that online learning was bad for the institution, their program, students, or themselves. Subsequently, many wanted to regulate online learning by placing restrictions on what disciplines, courses, students, levels of learning, or terms would be allowed for online learning. Regulation also involved closely monitoring online courses for quality. These ideas were interpreted by the researcher as linked to the DTPB’s attitudinal belief structure, particularly the

dimensions of perceived usefulness and compatibility. If faculty believed online learning was not useful or compatibility with their needs and preferences, then it was more likely to be avoided.

Many faculty participants in this study discussed how they could accept the usefulness of online learning at PLU only in very specific circumstances. Vivolo (2016) discussed similar concerns that "particular courses cannot be taught online" and "the content or experience is not as 'good' as onsite classes" (p. 403). These beliefs may reflect a willingness to allow some changes to teaching and learning at the institution, but only to a certain degree. Faculty's desire to restrict and regulate online learning could be related to fear and resistance to change, as faculty desire to regulate whatfeels threatening (Schopierary, 2006).

Several participants in this study claimed they could not imagine how their courses could be taught effectively online, while others perceived online learning as simply inferior to face-to-face learning. As noted in the literature review, Allen and Seaman (2015) concluded that just 28% of faculty in surveyed institutions accepted the value and legitimacy of online education. Online learning may be perceived as less valuable and legitimate because faculty believe the learning experience is inferior to traditional classroom learning. The findings of this study are consistent with prior research identifying faculty concerns about online course quality. Betts and Heaston (2014) also identified the quality of online courses as a primary concern of faculty at their institution. This prompted them to develop new institutional regulations for online learning via specific course development and review processes. Faculty's desire to

regulate and restrict online learning in order to preserve the quality of education at an institution is an area that could be investigated in more detail in the future.

Technology and Infrastructure

Another theme identified in the qualitative data highlighted faculty concerns about the technology and infrastructure needed to teach online. “Technology available for teaching and learning” was identified as important to 84% of survey respondents. This theme aligned closely with the DTPB dimension “available technologies”, within the control belief structure. Technology is an essential aspect of online teaching; however the availability of technology is not enough to convince faculty to teach online. The DTPB supports the assumption that perceptions of the ease of use and effectiveness of available technologies will influence faculty’s willingness to teach online, and this was confirmed in the data for this study.

While 84% of faculty classified technology and infrastructure as influential, related comments appeared in only 34% of qualitative responses. This divergence in the findings could be attributed to the design of the survey instrument. Open-ended responses were intentionally presented at the beginning of the survey, in order to capture ideas that appeared first in the thoughts of participants. The broad scope of the qualitative questions allowed participants to discuss what was most importance to them. When presented with specific factors, 84% of respondents acknowledged that available technology was indeed an important issue even if some had not thought to discuss it in earlier questions.

Faculty’s concerns about technology for online teaching are well documented in prior research (Berge, 2002; Berge et al., 2002; Hiltz et al., 2007; Lloyd et al., 2012; Mitchell et al., 2014; Shea, 2007; Shea et al., 2005; Wasilik & Bollinger, 2009; Wingo et

al., 2017). Maguire's (2005) review of the literature found that a lack of technical support, lack of training, and inadequate infrastructure, hardware, and software were some the most frequently cited barriers to online teaching. Berge's (2002) research similarly concluded that concerns about the lack of technical expertise are among the greatest barriers to distance education. Faculty may want assurances that effective technology will be provided for online teaching and learning. If faculty have negative past experiences with instructional technologies, this may affect their belief that they will be able to teach effectively in an online environment (Lloyd et al., 2012).

Many faculty in this study expressed frustration with the learning management system in place at the institution. The LMS was frequently perceived as difficult to use, and participants were frustrated that the institution required instructors to use Sakai for online teaching. If faculty do not feel comfortable with the learning management system, it will be difficult to persuade them to use it more extensively to teach online (Shea et al., 2005). Faculty need the necessary conditions and tools to be successful. If they do not feel the facilitating conditions are present, the DTPB tells us that perceived behavioral control will be limited and this will discourage people from trying an innovative practice.

Faculty Resources

Faculty want their institutions to provide effective technology resources and support, but other resources are also important. In qualitative responses, faculty requested a variety of resources from the institution, including pedagogical training, time, and compensation. The quantitative data echoed these requests, with "instructional support provided by the institution" reported as influential by 90% of respondents, "time available for online course development and training" reported by 89%, and "additional

compensation" reported by 74% of faculty. These factors were classified by the researcher as similar to the DTPB dimension "available resources", in the construct "control beliefs". As with technology, faculty must be convinced that the institution will provide them with appropriate resources and training before they will consider investing time and effort to try an innovative practice like online teaching. Since "self-efficacy" is a dimension of "control beliefs", providing online teacher training might help institutions to increase faculty's confidence in their ability to teach online.

In this study, several participants mentioned compensation in qualitative comments and 74% indicated it was influential in the quantitative portion of the survey. Prior research has documented the importance of various institutional rewards and resources on faculty's consideration of online teaching (Betts & Heaston, 2014; Bollinger & Wasilik, 2009; Bouwma-Gearhart, 2012; Feldman & Paulsen, 1999; Gannon-Cook & Crawford, 2002; Haber & Mills, 2008; Herman, 2013; Hoyt & Oviatt, 2013; Johnson et al., 2015; Lee, 2001; Lloyd et al., 2012; Maguire, 2005; Wasilik & Bollinger, 2009; Wolcott & Betts, 1999). Although institutional rewards are not synonymous with faculty resources, there is overlap between the two. Berge et al.'s (2002) study concluded that faculty compensation and time ranked as the most significant barriers to distance education. If faculty do not have enough time in their workday to develop an online course, faculty may want to be compensated for additional work or they may want other duties relieved to provide them with the time needed.

Personal Influences

Personal goals, situations, preferences, concerns, experiences, and interests can influence faculty's perception of online teaching. Personal influences have an obvious

effect on attitudes like “perceived usefulness”, but they are also strongly associated with the self-efficacy dimension of control beliefs in the DTPB. “Current skills with instructional technology” (67%), “past personal experiences with online teaching and learning” (49%), and “prior experience teaching a blended courses” (35%) were quantitative survey factors the researcher believed could be associated with self-efficacy. Of these factors, “current skills with technology” was perceived as the most influential to participants in this study. This aspect of self-efficacy suggests that faculty’s perception of their current technical skill does affect their willingness to teach online.

“Reflecting on current teaching practices and exploring new ways of teaching” was influential to 86% of faculty in this study. This factor relates to motivation and pleasure from learning new skills. In Maguire’s (2005) review of the literature, she concluded that intrinsic motivators, such as intellectual challenge and personal motivation to use technology, were stronger than extrinsic motivators for online teaching. There is strong evidence in prior research that faculty may be motivated by the opportunity for professional, technical, or creative challenges (Allen & Seaman, 2008; Betts & Heaston, 2014; Bollinger & Wasilik, 2009; Bouwma-Gearhart, 2012; Feldman & Paulsen, 1999; Johnson et al., 2015; Hiltz et al., 2007; Lee, 2001; Lloyd et al., 2012; Maguire, 2005; Miller & Husmnan, 1999; Schifter, 2000; Schopieray, 2006; Shea, 2007; Wasilik & Bollinger, 2009; Wolcott & Betts, 1999).

Dailey-Hebert et al. (2014) also concluded that intrinsic motivators, specifically “the desire to enhance teaching, professional growth, personal interest, and professional satisfaction” (p. 75) were all rated as highly motivating for faculty in their study. Such challenges can be especially motivating to faculty who are well established in their

careers and may be looking for an opportunity to refresh their teaching (Giannoni & Tesone, 2003). Some faculty might also enjoy the challenge and satisfaction that comes from creatively applying new technologies within their teaching (Hiltz et al., 2007).

Decomposed Theory of Planned Behavior

The DTPB was utilized in this study to provide a theoretical lens for examining faculty perceptions of online teaching. Although this study was not intended as a test of the DTPB, the theory provided a wider context for how factors associated with attitudes, subjective norms, and perceived behavioral control could be influencing faculty's decision to teach or not teach online. As discussed in the previous sections, each construct of the DTPB was evident in the qualitative and quantitative datasets, although each dimension within the constructs was not. Specifically, the influence of superiors and peers were two dimensions that were less influential to participants in this study while compatibility and perceived usefulness were strongly represented. Future research on this topic could incorporate the DTPB more rigorously if predictive and generalizable results are desired.

Implications for Practice

The purpose of this study was to examine how faculty perceive online teaching in order to increase faculty acceptance and participation in online teaching at PLU. Based on the results of this study, there are three recommendations that PLU leaders could consider to increase faculty participation in online teaching.

Define Vision, Strategies, and Policies for Online Learning at the Institution

Faculty in this study were motivated to teach online by the desire to increase educational access for students, especially non-traditional learners who may not

otherwise have the opportunity to participate in a PLU education. However, participants were also concerned that online learning might conflict with institutional and personal values. Faculty at PLU may be encouraged by a shared vision for online learning that emphasizes student access, recruitment, and retention. Strategic plans for online education should also identify the resources that will be invested in online education goals, including training, support, and effective technology.

Participants in this study had many different ideas about how online teaching and learning should be regulated. It will be challenging for the university to balance faculty's desire to restrict online learning while allowing opportunities for growth. Based on faculty input obtained during this study, PLU should consider limiting online course offerings to summer terms, as is the current practice. During the summer, a variety of online offerings across disciplines should be provided for students currently enrolled at PLU to help students stay connected to the university and graduate on time.

To increase educational access for non-traditional students, a dedicated online degree program could be considered. An online graduate program, continuing education program, or undergraduate degree for non-traditional students would extend the opportunity for a PLU education to new populations, while preserving campus-based learning for traditional students.

Articulate the Potential Benefits of Online Teaching and Learning

Faculty in this study acknowledged that online learning might provide benefits for the university community. Data on PLU students' interest in online offerings might help convince faculty to try teaching online. The university could also commission a market analysis study to determine opportunities for a new online degree at PLU. New online

learning opportunities should build upon key values that PLU faculty and students typically experience in campus-based learning programs.

Anytime, anywhere learning is not only a benefit for students. It can be helpful for faculty who may need to balance work and family obligations. In addition, it may seem that personal factors are out of the control of an institution, but educational leaders can promote the intrinsic benefits of online learning that may not be immediately apparent to faculty. Faculty participants in the PLUTO training program are typically satisfied with the skills they learn in the program and the benefits that it provides for teaching face-to-face courses. Faculty testimonials about their experiences with teaching online might help others to imagine what it would be like for them. Faculty currently teaching online at PLU, or faculty successfully teaching online at other liberal arts colleges, could be invited to share online teaching experiences, strategies, and resources with the greater PLU community.

Provide Effective Training, Support, and Technology for Faculty

The results of this study confirmed the importance of facilitating resources to support successful online teaching. The university should demonstrate its commitment to high-quality online learning by investing in faculty training, technology, and support personnel. First, faculty need evidence that the learning management system (LMS) can deliver online courses easily and effectively. The LMS could be updated to be more user-friendly. Faculty could also receive high quality training to learn how to better employ the LMS in any course, which could make faculty more receptive to using the LMS in the future for online teaching.

A limiting factor is faculty concerns about not having enough time for course development. One strategy would be to provide greater course development assistance. Instructional designers could be utilized for site building in addition to training and consultation services. Another recommendation would be to continue to offer PLUTO training sessions that provide participants with the opportunity to learn and practice essential online teaching skills. A critical component of this program should be strategies to help faculty preserve the teaching values they cherish most. The PLUTO curriculum can teach faculty strategies for effective online communication, relationship building, research collaboration online, and facilitating synchronous activities. Furthermore, effective examples of online teaching should be shared with the PLU community to relieve concerns and promote a more accurate understanding of what online learning can provide for students.

Concerns about the quality of online courses could be assuaged through course reviews conducted by faculty peers. There are a number of rubrics available for online course review (Baldwin, Ching, & Hsu, 2018). However, PLU could also create their own course review rubric, which emphasizes the teaching values and learning elements that PLU faculty want to ensure are represented in online courses. This approach to course review might be able to increase faculty's confidence in the quality of online learning at the institution.

Limitations and Delimitations

One limitation of this study is the nature of self-reporting opinions, perceptions, and anticipated behaviors. Self-reported data may not accurately predict or explain actual behaviors, which could affect the validity of a study's results. For example, Zhen et al.

(2008) concluded that although faculty in their study reported a lack of time as the reason they did not want to teach online, the researchers' statistical model suggested that concerns about time concealed deeper issues related to self-efficacy and personal values. Therefore, there is an inherent difficulty in evaluating reported perceptions when respondents may not be aware of other unconscious factors.

A second limitation might arise from faculty's personal relationships or perceptions of the researcher, who is employed at the university and has worked with many of the participants. The survey instrument utilized in this study placed some distance between the researcher and the participants, allowed for anonymity, and possibly lowered the risk of bias during the data collection process. However, the researcher could not entirely remove herself from the research process and some inherent bias probably remained.

Another limitation for this study is the issue of non-response. In this study, a response rate of 25% was obtained. A significant rate of response is needed to effectively analyze research questions. There is the potential for non-response bias to invalidate study results if the topic of the survey deterred some participants from responding or if the respondents did not accurately represent the entire population. It should be noted that participants in this study did not reflect the exact demographics of the larger faculty population, For instance, the participant sample contained larger numbers of natural sciences and social sciences faculty than would be represented in the entire population. Therefore, the perceptions of some faculty groups may be over-represented while other groups may be under-represented.

A delimitation of this study could be the effectiveness of the mixed-methods approach for answering the research questions. Creswell and Plano Clark (2011) note that with a convergent design, it can be challenging to examine facets of a phenomenon and merge different data types in a meaningful way that addresses the same concepts. Furthermore, utilizing a survey design limits the type of data that can be collected, especially with regard to qualitative data. Future researcher could include a two-phased, explanatory sequential method, which would allow qualitative data to be collected during follow-up interviews that aim to further explain the results of quantitative data.

Recommendations for Future Research

Future research on this topic could help liberal arts institutions that want to grow their online offerings but need evidence-based strategies for recruiting faculty to teach online. First, a national study of the perceptions of online teaching among liberal arts faculty across the U.S. could contribute broader insight into the perceptions of this population. A large, random sample of faculty from a variety of different liberal arts universities would provide generalizable recommendations for liberal arts institutions in the U.S.

Second, a study that includes interviews with liberal arts faculty would provide an opportunity for in-depth discussion of faculty perceptions. The qualitative portions of this study provided greater insight, due in part to the fact that 17 of the 21 quantitative survey factors were classified as influential, which made it difficult to identify the most salient issues for participants. Interviews may work well for researchers who desire a more in-depth examination of faculty perceptions of online teaching from a smaller sample.

Third, if a mixed-methods approach is desired for future research, there is an opportunity to increase the validity and reliability of the survey instrument designed for this study through subsequent testing and refinement. Factors that surfaced in the qualitative portion of the survey of this study could be considered in place of factors found as less influential to participants among the quantitative factors presented.

Alternatively, the survey instrument could be altered for closer alignment to the dimensions of the DTPB. In this study, the DTPB was used as a framework for data analysis and discussion of findings. However, future researchers may consider designing a research study or instrument exclusively focused on dimensions of the DTPB. An instrument focused specifically on the dimensions of the DTPB would allow for further testing of the theory and greater discussion of the DTPB constructs as determinants of planned behavior as it relates to faculty participation in online teaching.

Subsequent research using the DTPB to study faculty participation in online teaching could re-examine whether the dimensions of peer influence and superior influence are perceived as influential in other populations. This study found the influence of peers and superiors were not influential for research participants at PLU; however, additional testing is needed to determine whether this is an isolated instance or evidence of a larger phenomenon among faculty at liberal arts institutions.

Conclusions

The findings of this study expanded previous research on faculty perceptions of online teaching by studying faculty at a mid-sized liberal arts university in the Pacific Northwest. A mixed-methods approach to the investigation resulted in strong agreement around six key themes and 17 quantitative factors. Overall, faculty at PLU appeared

encouraged or discouraged from online teaching by factors that were noted in prior research and supported by the theoretical framework of the DTPB.

Faculty participants acknowledged that online learning could increase educational access for students, especially non-traditional student populations. This influential factor was supported in prior research and reflected the influence of students and the perceived usefulness of online learning, two dimensions of the DTPB. Faculty in this study also discussed concerns of whether online learning aligned to personal teaching values and the values of their institution, which reflected the DTPB dimension of compatibility. In addition to concerns about compatibility, faculty expressed a need for effective technology, technical and instructional support, development time, training, and other related resources. These findings are similar to prior research and represented in the DTPB through the dimensions of facilitating technology and resources. Faculty respondents in this study also expressed a desired to carefully regulate online education at the institution through a variety of conditions and restrictions. Faculty requests to regulate online learning could indicate a desire to preserve teaching values and ameliorate fears of change, which connected to the DTPB dimensions of compatibility and perceived usefulness.

REFERENCES

About PLU. (2018, July 1). Retrieved from https://www.plu.edu/about/

Ajjan, H. & Hartshorn, R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. *The Internet and Higher Education 11*(2), 71-80.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Processes, 50*(2).

Allen, I. E., & Seaman, J. (2008). *Staying the course: Online education in the United States, 2008*. Needham, MA: Sloan-C. Retrieved from https://www.onlinelearningsurvey.com/reports/staying-the-course.pdf

Allen, I. E., & Seaman, J. (2015). Grade level: Tracking online education in the United *States*. Babson Park, MA: Babson Survey Research Group and Quahog Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/gradelevel.pdf

Allen, I. E., Seaman, J., Lederman, D. & Jaschik, S. (2012). *Conflicted: Faculty and online education*. Inside Higher Ed, Babson Survey Research Group and Quahog Research Group. Retrieved from https://onlinelearningsurvey.com/reports/conflicted.pdf

Association of American Colleges & Universities. (2019). *What is a liberal education?* Retrieved from https://www.aacu.org/leap/what-is-a-liberal-education

Bacow, L. S., Bowen, W. G., Guthrie, K. M., Lack, K. A., & Long, M. P. (2012). *Barriers to adoption of online learning systems in US higher education*. New York, NY: Ithaka S+R.

Baker, V., & Baldwin, R. (2015). A case study of liberal arts colleges in the 21st century: Understanding organizational change and evolution in higher education. *Innovative Higher Education*, *40*(3), 247–261.

Baldwin, S., Ching, Y-H, & Hsu, Y-C. (2018). Online course design in higher education: A review of national and statewide evaluation instruments. *Tech Trends (62)*1, 46-57.

Beck, O. (2016). Informal action research: The nature and contribution of everyday classroom inquiry. In L. Rowell, C. Bruce, J. Shosh, & M. Riel (Eds.), *The Palgrave international handbook of action research* (pp. 37-48). New York: Springer.

Berge, Z. L. (1998). Barriers to online teaching in post-secondary institutions: Can policy changes fix it? *Online Journal of Distance Learning Administration*, *1*(2).

Berge, Z. L. (2002). Obstacles to distance training and education in corporate organizations. *Journal of Workplace Learnin*g, *14*(5), 182-189.

Berge, Z. L., Muilenburg, L. Y., & Haneghan, J. V. (2002). Barriers to distance education and training: Survey results. *The Quarterly Review of Distance Education, 3*(4), 409-418.

Betts, K., & Heaston, A. (2014). Build it but will they teach?: Strategies for increasing faculty participation & retention in online & blended education. *Online Journal of Distance Learning Administration, 17*(2).

Birch, D., & Burnett, B. (2009). Bringing academics on board: Encouraging institution-wide diffusion of e-learning environments. *Australasian Journal of Educational Technology, 25*(1) 117-134.

Blignaut, A. S., & Trollip, S. (2005). Between a rock and a hard place: Faculty participation in online classrooms. *Education as Change, 9*(2), 5-23.

Blin, F. & Munro, M. (2008). Why hasn't technology disrupted academics' teaching practices? Understanding resistance to change through the lens of activity theory. *Computers and Education, 50*, 475-490.

Bollinger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education, 30*(1), 103-116.

Bouwma-Gearhart, J. (2012). Research university STEM faculty members' motivation to engage in teaching professional development: Building the choir through an appeal to extrinsic motivation and ego. *Journal Of Science Education & Technology, 21*(5), 558-570.

Burns, R.B. (2000). *Introduction to Research Methods.* Los Angeles: SAGE Publications.

Clark, B. (1987). The Academic Life: Small Worlds, Different Worlds. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Clark, B. (1997). Small worlds, different worlds: The uniquenesses and troubles of American academic professions. *Daedalus, 126*(4), 21-42.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Los Angeles: SAGE Publications.

Creswell, J.W. (2013). *Qualitative Inquiry and Research Design.* Los Angeles: SAGE Publications.

Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, California: SAGE Publications.

Dailey-Herbert, A., Mandernach, B.J., Donnelli-Sallee, E., & Norris, V.R. (2014). Expectations, motivations, and barriers to professional development: Perspectives from adjunct instructors teaching online. *Journal of Faculty Development (28)*1, 67-82.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.

Deneen, P. (2014). After the interregnum. *Academic Questions, 27*(4), 368–375.

Denzin, N. K. (1978). The research act: A theoretical introduction to sociological methods. New York: Praeger.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. Hoboken: John Wiley & Sons.

Dooley, K. E., & Murphrey, T. P. (2000). How the perspectives of administrators, faculty, and support units impact the rate of distance education adoption. *Online Journal of Distance Learning Administration, 3*(4).

Dos Santos. L. M. R., & Okazaki, S. (2013). Understanding e-learning adoption among Brazilian universities: An application of the decomposed theory of planned behavior. *Journal of Educational Computing Research, 49(*3), 363-379.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62(*1), 107-115.

Ervin, J. A. (2018). Teaching science to non-science majors: An action research study using a learner-centered, inquiry-based approach. *Journal of Ethnographic & Qualitative Research, 13*(2), 79–91.

Faculty at PLU. (2017, September 1). Retrieved from https://www.plu.edu/institutional-research/documents/

Feldman, K. A., & Paulsen, M. B. (1999). Faculty motivation: The role of a supportive teaching culture. *New Directions for Teaching & Learning, 1999*(78), 71.

Gannon-Cook, R., & Crawford., C. (2002). Faculty attitudes towards distance education: Enhancing the support and rewards system for innovative integration of technology within coursework. Paper presented at the annual meeting of the Society for Information Technology and Teacher Education (SITE), Nashville, Tennessee.

Giannoni, D. L., & Tesone, D. V. (2003). What academic administrators should know to attract senior level faculty members to online learning environments. *Online Journal of Distance Learning Administration, 6*(1).

Gideon, L. (2012). Handbook of survey methodology for the social sciences. New York: Springer.

Graneheim, U.H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today, (24)*2.

Haber, J., & Mills, M. (2008). Perceptions of barriers concerning effective online teaching and policies: Florida community college faculty. *Community College Journal of Research and Practice*, *32*(4-6), 266–283.

Herman, J. (2013). Faculty incentives for online course design, delivery, and professional development. *Innovative Higher Education*, *38*(5), 397–410.

Hiltz, S. R., Kim, E., & Shea, P. (2007). Faculty motivators and de-motivators for teaching online: Results of focus group interviews at one university. In *Proceedings of the 40th Annual Hawaii international Conference on system Sciences, January 3–6*. (Hilton Waikoloa Village, Hawaii). Retrieved from https://pdfs.semanticscholar.org/465c/f6ee0e14baada609f1e4abc2c87b1e3a87f1.pdf

Hoey, R., McCracken, F., Gehrett, M., & Snoeyink, R. (2014). Evaluating the impact of the administrator and administrative structure of online programs at nonprofit private colleges. *Online Journal of Distance Learning Administration, 17*(3).

Hoyt, J. E., & Oviatt, D. (2013). Governance, faculty incentives, and course ownership in online education at doctorate-granting universities. *American Journal Of Distance Education*, *27*(3), 165-178.

Hsiao, C.-H., & Tang, K.-Y. (2014). Explaining undergraduates' behavior intention of e-textbook adoption. *Library Hi Tech, 32(*1), 139-163.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288.

Johnson, R., Stewart, C., & Bachman, C. (2015). What drives students to complete online courses? What drives faculty to teach online? Validating a measure of motivation

orientation in university students and faculty. *Interactive Learning Environments, 23*(4), 528-543.

Johnson, R.B., Onwuegbuzie, A.J, & Turner, L.A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research, 1*(2), 112-133.

Kezar, A. J. (2001). Understanding and facilitating organizational change in the 21st century: Recent research and conceptualizations: ASHE-ERIC Higher Education Report, *28*(4), 4. Hoboken, NJ: JohnWiley & Sons.

Kumar, M. (2007). Mixed methodology research design in educational technology. *The Alberta Journal of Educational Research, 53*(1), 34-44.

Lai, H.-J. (2017). Examining civil servants' decisions to use Web 2.0 tools for learning, based on the decomposed theory of planned behavior. *Interactive Learning Environments, 25(*3), 295-305.

Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*. Thousand Oaks, CA: SAGE Publications.

Lee, J. (2001). Instructional support for distance education and faculty motivation, commitment, and satisfaction. *British Journal of Educational Technology*, *32*(2), 153-160.

Lloyd, S., Byrne, M., & McCoy, T. (2012). Faculty-perceived barriers of online education. *MERLOT Journal of Online Learning and Teaching. 8*(1).

Maguire, L. L. (2005). Literature review–faculty participation in online distance education: Barriers and motivators. *Online Journal of Distance Learning Administration, 8*(1).

Manzo, A., & Burke, J. (2012). Increasing response rate in web-based/internet surveys in in L. Gideon (Ed.), Handbook of survey methodology for the social sciences (pp. 330-350). New York: Springer.

Meyer, K. (2014). An analysis of the research on faculty development for online teaching and identification of new directions. *Journal of Asynchronous Learning Networks (17)*4, 93-112.

Miller, M. T., & Husmann, D.E. (1999, Fall). Faculty incentives to participate in distance education. *The Michigan Community College Journal*, 35-42.

Mills, G. (2010). *Action research* (3rd ed.). Boston: Pearson.

Mitchell, B., & Geva-May, I. (2009). Attitudes affecting online learning implementation in higher education institutions. *Journal of Distance Education 23*(1), 71-88.

Mitchell, L. D., Parlamis, J.D., & Claiborne, S.A. (2014). Overcoming faculty avoidance of online education: From resistance to support to active participation. *Journal of Management Education, 39*(3), 350–371.

Perkins, R. A. (2011). Using research-based practices to increase response rates of web-based surveys. *EDUCAUSE Quarterly*, *32*(2). Retrieved from http://www.educause.edu/ero/article/using-research-based-practices-increase-response-rates-web-based-surveys

PLU Teaching Online (2018, July 1). Retrieved from https://www.plu.edu/pluto/

PLU Intellectual Property Policy (2018, July 15). Retrieved from https://www.plu.edu/faculty-governance/wp-content/uploads/sites/169/2019/01/intellectual-property-policy-final-22515.pdf

Potter, W. J., & Levine-Donnerstein, D. (1999). Rethinking validity and reliability in content analysis. *Journal of Applied Communication Research, 27*(3), 258-284.

Residential Learning Communities (2019, April 8). Retrieved from //www.plu.edu/residential-life/residence-halls/themed-residential-learning-communities/

Rogers, E. M. (1962). *Diffusion of innovations*. New York: Free Press of Glencoe.

Rossman, G. B., & Wilson, B. L. (1985). Numbers and words: Combining quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation Review, 9,* 627-643.

Rourke, L., & Anderson, T. (2004). Validity in quantitative content analysis. *Educational Technology Research and Development,52*(1), 5-18.

Ruel, E., Wagner, W.E., Gillespie, B.J. (2016). *The practice of survey research: Theory and applications.* Los Angeles: Sage.

Saba, F. (2005). Critical issues in distance education: A report from the United States. *Distance Education, 26*(2), 255–272.

Sadaf, A., Newby, T. J., & Ertmer, P. A. (March 08, 2013). Exploring factors that predict preservice teachers' intentions to use web 2.0 technologies using decomposed theory of planned behavior. *Journal of Research on Technology in Education, 45(*2), 171-196.

Seaman, J.E., Allen, I. E., & Seaman, J. (2018). *Grade increase: Tracking distance education in the United States*. Babson Park, MA: Babson Survey Research. Retrieved from http://www.onlinelearningsurvey.com/highered.html

Schopieray, S. E. (2006). *Understanding faculty motivation to teach online courses* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (305307371)

Schlomer, G., Bauman, S., & Card, N. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology, 57*(1), 1-10.

Shea, P. (2007). Bridges and barriers to teaching online college courses: A study of experienced online faculty in thirty-six colleges. *Journal of Asynchronous Learning Networks, 11*(2), 73-128.

Shea, P., Pickett, A., & Li, C. S. (2005). Increasing access to higher education: A study of the diffusion of online teaching among 913 college faculty. *The International Review of Research in Open and Distributed Learning, 6*(2).

Schifter, C. (2000). Faculty motivators and inhibitors for participation in distance education. *Educational Technology*, *40*(2), 43-46.

Shih, Y.Y. & Fang. K. (2004). The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. *Internet Research*, *14*(3), 213–223.

Shiue, Y.-M. (2007). Investigating the sources of teachers' instructional technology use through the decomposed theory of planned behavior. *Journal of Educational Computing Research, 36(*4), 425-453.

Stewart, C., Bachman, C., & Johnson, R. (2010). Predictors of faculty acceptance of online education. *Journal of Online Learning and Teaching*, *6*(3), 597–616.

Taylor, S., and P. A. Todd. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research 6*(2): 144–176.

Thompson, C. (2015). On the decline and fall of the liberal arts. *Academic Questions*, *28*(4), 417–427.

Tuition and Financial Aid (2018, June 15.) Retrieved from https://www.plu.edu/summer/tuition/

Ulmer, L.W., Watson, L.W., & Derby, D. (2007). Perceptions of higher education faculty members on the value of distance education. *The Quarterly Review of Distance Education*, *8*(1), 59–70.

Ulrich, J., & Karvonen, M. (2011). Faculty instructional attitudes, interest, and intention: Predictors of Web 2.0 use in online courses. *Internet & Higher Education*, *14*(4), 207–216.

Venkatesh, V., & Davis, F. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186-204.

Vogt, W. P., Gardner, D. C., & Haeffele, L. M. (2012). *When to Use What Research Design*. Retrieved from https://ebookcentral.proquest.com.

Vivolo, J. (2016). Understanding and combating resistance to online learning. *Science Progress*, *99*(4), 399–412.

Wasilik, O., & Bollinger, D. (2009). Faculty satisfaction in the online environment: An institutional study. *The Internet and Higher Education, 12*(3), 173-178.

Watson, S.C. (1999). A primer in survey research. *Journal of Continuing Higher Education, 46*(1), 31-40.

Wells, C. A. (2016). A distinctive vision for the liberal arts: General education and the flourishing of Christian higher education. *Christian Higher Education*, *15*(1/2), 84-94.

Wingo, N. P., Ivankova, N. V., & Moss, J. A. (2017). Faculty perceptions about teaching online: Exploring the literature using the technology acceptance model as an organizing framework. *Online Learning*, *21*(1).

Wolcott, L. L., & Betts, K. S. (1999). What's in it for me? Incentives for faculty participation in distance education. *Journal of Distance Education*, *14*(2), 34-49.

Zhen, Y., Garthwait, A., & Pratt, P. (2008). Factors affecting faculty members' decision to teach or not to teach online in higher education. *Online Journal of Distance Learning Administration, 11*(3).

APPENDIX 1

Faculty Survey: Faculty Perceptions of Online Teaching - Version 1

This survey is intended to identify factors perceived as incentives and barriers to online teaching at your institution. This survey is intended for instructors who have not completed a PLUTO faculty training program for online or blended learning. Results of this survey will be made available to the university community on the website for the Office of the Provost. We appreciate your time and participation. Please contact Dana Bodewes (bodewedl@plu.edu) with any questions

1. Which of the following factors might ***encourage*** you to teach online at Pacific Lutheran University? Please select all factors that are relevant to you.

- Release time for course development
- Financial compensation for course development
- Financial compensation for training
- Successful *blended* teaching experience(s)
- Encouragement from university leadership
- Encouragement from division or school leadership
- Encouragement from a colleague
- Credit toward promotion and tenure
- Desire to learn new technologies
- Opportunity for scholarly research or presentations
- Positive experience with online learning (as a student)
- Technical support from the institution
- Training provided by the institution
- Greater flexibility for students
- Greater flexibility for instructors
- Opportunity to diversify program offerings
- Opportunity to diversify teaching portfolio
- Technology equipment for instructors
- OTHER: _____

2. Please rank the importance of the encouraging factors selected in Question 1, in order of greatest to least importance.

[Selected responses from Question 1 will be displayed using adaptive design]

3. Which of the following factors might ***discourage*** you from teaching online at Pacific Lutheran University? Please select all factors that are relevant to you.

- Current faculty workload
- Discouragement from a colleague
- Concerns about course content's suitability for online learning
- Concerns about student engagement
- Lack of time for training
- Lack of time for course development
- Lack of credit toward promotion and tenure

- Lack of personal motivation
- Lack of release time for course development
- Lack of financial compensation for course development
- Lack of financial compensation for training
- Negative experience with online learning (as a student)
- Lack of prioritization from university leadership
- Lack of prioritization from division or school leadership
- Concern about technical skills
- Concerns of insufficient technical support from the institution
- Concerns of inadequate training provided by the institution
- Concerns that teaching online requires more time than teaching face-to-face
- Lack of free technology equipment for instructors
- Concerns about online learning's alignment to institutional values
- OTHER: _____

4. Please rank the importance of the discouraging factors selected in Question 3, in order of greatest to least importance.

[Selected responses from Question 3 will be displayed using adaptive design]

5. Additional Comments

Thank you for participating in this survey!

Feedback Questions

The following questions are intended to provide feedback on the design of this survey instrument. These questions are not intended to be part of the final survey instrument.

1. Does this survey instrument answer the research questions:
    1. What incentives are most significant for the recruitment of faculty to teach online at a small liberal arts college?
    2. What barriers are most significant for the recruitment of faculty to teach online at a small liberal arts college?

Please provide feedback below.

2. Should any additional questions be added to answer the research questions?

3. Should any of the factors identified as incentives or barriers be excluded from the list? Are any of the factors confusing or poorly worded?

4. Should any additional incentives or barrier be added to the list?
5. What preventable factors might prevent or dissuade you from completing this survey?

APPENDIX 2

Faculty Survey: Faculty Perceptions of Online Teaching Version 2

This survey is intended to identify factors perceived as incentives and barriers to online teaching at Pacific Lutheran University. This survey is intended for instructors who have not completed a PLUTO faculty training program for online or blended learning. The survey is for research purposes only. Results of this survey will be made available to the university community on the website for the Office of the Provost. We appreciate your time and participation. Please contact Dana Bodewes (bodewedl@plu.edu) with any questions.

INCENTIVES FOR ONLINE TEACHING
Consider the following teaching factors, institutional factors, and personal factors and determine how much each would serve as incentive for you to teach online at PLU?

Teaching Factors

	Definite Incentive	Somewhat of an incentive	Not an incentive
Release time for course development			
Financial compensation for course development			
Financial compensation for related training			
Greater flexibility for instructors			
Greater flexibility for students			
Opportunity to diversify teaching portfolio			
Successful blended teaching experience			

Institutional Factors

	Definite Incentive	Somewhat of an incentive	Not an incentive
Encouragement from University leadership			
Encouragement from division or school leadership			
Encouragement from a colleague			
Opportunity to diversify program offerings			
Technology equipment provided for instructors			
Credit toward promotion and tenure			

Personal Factors

	Definite Incentive	Somewhat of an incentive	Not an incentive
Desire to learn new technologies			
Positive personal experience with online learning			
Opportunity for scholarly research or presentations			

BARRIERS FOR ONLINE TEACHING

Consider the following teaching factors, institutional factors, and personal factors and determine how much each would serve as a barrier for you to teach online at PLU?

Teaching Factors

	Definite barrier	Somewhat of a barrier	Not a barrier
Current faculty workload			
Concerns about course content's suitability for online learning			
Concerns about student engagement			
Concerns that teaching online requires more time than teaching face-to-face			

Institutional Factors

	Definite barrier	Somewhat of a barrier	Not a barrier
Discouragement from a colleague			
Lack of release time for course development			
Inadequate financial compensation for course development			
Inadequate financial compensation for training			
Concerns of insufficient technical support from the institution			
Concerns of inadequate training provided by the institution			

Personal Factors

	Definite barrier	Somewhat of a barrier	Not a barrier
Lack of time for training			
Lack of time for course development			
Negative personal experience with learning online			
Concern about personal skills with technology			
Concerns about online learning's alignment to institutional values			

Thank you for participating in this survey!
Please share any comments below.

Feedback Questions

The following questions are intended to provide feedback on the design of this survey instrument. These questions are not intended to be part of the final survey instrument.

Does this survey instrument appropriately gather information to answer the following research questions:(1) What incentives are most significant for the recruitment of faculty to teach online at a small liberal arts college?(2) What barriers are most significant for the recruitment of faculty to teach online at a small liberal arts college?

Should any additional questions be added to the instrument to answer the research questions?

Should any of the factors identified as incentives or barriers be excluded from the list?

Are any of the factors unclear or poorly worded?

If any important incentives are missing, please identify them below.

If any important barriers are missing, please identify them below.

APPENDIX 3

Faculty Survey: Online Teaching Version 3

This survey is intended to better understand how faculty perceive online teaching at Pacific Lutheran University. This survey should take less than 15 minutes to complete and is intended for instructors who have not completed a PLUTO faculty training program for online or blended learning. Results of this survey will be made available to the university community on the website for the Office of the Provost. Please contact Dana Bodewes (bodewedl@plu.edu) with any questions.

1. What role do you think online learning should have in the future of education at PLU? Please explain.

2. How do you view the idea of teaching online courses at PLU? Please explain.

3. What would it take for you to feel comfortable with teaching online at PLU? Please explain.

Consider each of the following factors and rate how important each factor would be on your personal decision to teach or not teach online.

Factor	**Not important**	**Somewhat important**	**Moderately important**	**Extremely important**
Schedule flexibility for instructors *(the ability to teach anytime or anyplace and accommodate other restrictions on your availability)*				
Increased student enrollments *(the possibility of increasing enrollment in course or program due to offering the course online)*				
Improved proficiency with learning technologies *(the opportunity to experiment with new technologies or improve skills with learning technologies such as Sakai)*				
Exploring new ways of teaching *(the opportunity to experiment with different instructional strategies and content)*				
Limiting online teaching to specific terms *(current policies limit online courses to j-term and summer term)*				
Past experience with online education *(positive or negative experiences with online education)*				
Ease of teaching online *(the amount of time and effort needed to teach online)*				
Suitability of instructional method to course needs *(alignment of online*				

teaching to the objectives and topics of the course)				
Student engagement with instructor, peers, and content *(how active students are in the learning experience)*				
Student retention in online classes *(how many students drop or withdraw from class)*				
Online learning's alignment to institutional values *(consideration for the mission, vision, and values of the university)*				
Influence of students *(encouragement or discouragement to offer online courses)*				
Influence of colleagues *(encouragement or discouragement to teach online courses)*				
Influence of university, division, school, or department leadership *(encouragement or discouragement to teach online courses)*				
Prior experience teaching a blended or online course *(skills and confidence from first teaching a blended course before teaching fully online)*				
Online teaching's effect on job security *(perceptions of how teaching online provides positive or negative effects on job security)*				
Personal skills with instructional technology *(confidence in one's ability to learn and use instructional technologies)*				
Time available for online course development and training *(time to develop online course, content, and course site)*				
Compensation for online course development and training *(additional stipend for time to development online courses)*				
Online teaching support provided by the institution *(adequate training and support personnel)*				
Technology available for teaching and learning online *(adequate technology and technology infrastructure for successful teaching and learning online)*				

Technical support provided the institution *(access to adequate technology assistance if and when needed)*				

If there is anything else you'd like to share on the topic of online teaching and learning, please do so in the space below.Thank you for participating in this survey! Your time and thoughts are greatly appreciated!

APPENDIX 4

Faculty Survey: Online Teaching Version 4

This research study is seeking to better understand how faculty perceive online teaching at Pacific Lutheran University. The survey below is intended for instructors who have not completed a PLUTO (PLU Teaching Online) program for online or blended learning. Faculty who have completed a PLUTO Program are authorized to teach online graduate and undergraduate courses at PLU. Online courses have officially been offered at PLU since summer 2015. Online courses are completed entirely online with no campus meetings required. Blended courses are considered distinct from online courses and include a mix of onsite and online learning. At this time, fully online courses are offered only during summer terms and j-term. To learn more about online teaching and learning at PLU, you can visit plu.edu/online and plu.edu/pluto or email pluto@plu.edu.

We greatly appreciate your time and participation. Results of this survey will be made available to the university community on the website for PLUTO. You may contact Dana Bodewes (bodewedl@plu.edu) with any questions.

Please consider the following questions and provide as much detail as possible to help us understand your perceptions and perspectives related to online teaching and learning at PLU.

1. What role do you think online learning should have in the future of education at PLU? What do you see as potential strengths, weaknesses, opportunities, and/or threats for online learning at PLU? Please explain.

2. How do you view the idea of teaching online courses at PLU? Would you consider teaching online? If so, when and why? Please explain.

3. What would it take for you to feel comfortable teaching online at PLU? What would be the most important factors affecting your willingness to teach online? Please explain.

4. Consider each of the factors listed below. Determine whether each factor would encourage, discourage, or not influence your decision (neither encourage nor discourage you) to teach online at PLU. Then rate how important each factor would be on your personal decision to teach or not teach online.

Does this factor would encourage, discourage, or not influence your decision (neither encourage nor discourage you) to teach online at PLU? How important each factor would be on your personal decision to teach or not teach online?	Does this factor encourage, discourage, or not influence your decision to teach online? (Encouraging, Discouraging, Not Influential)	How important is this factor in your decision to teach online? (Slightly important, Somewhat important, Fairly important, Very important)

Online learning's alignment to institutional identity *(i.e. consideration for the mission, vision, and values of the university)*		
Suitability of online teaching and learning for course needs *(i.e. a good fit for course content, methods, discipline, etc.)*		
Reflecting on current teaching practices and exploring new ways of teaching *(i.e. evaluating and updating instructional strategies and content)*		
Time available for online course development and training *(i.e. priority for this among other commitments)*		
Option to teach online during all academic terms *(i.e. current practices limit online courses to j-term and summer term)*		

Does this factor would encourage, discourage, or not influence your decision (neither encourage nor discourage you) to teach online at PLU? How important each factor would be on your personal decision to teach or not teach online?	Does this factor encourage, discourage, or not influence your decision to teach online? (Encouraging, Discouraging, Not Influential)	How important is this factor in your decision to teach online? (Slightly important, Somewhat important, Fairly important, Very important)
Past personal experiences with online teaching and/or learning		
Prior experience teaching a blended course *(i.e. skills and confidence from teaching a blended course before teaching fully online)*		
Time and effort required to teach online *(i.e. comparability of face-to-face and online teaching commitments*		
Instructional support provided by the institution *(i.e. training, instructional design, peer mentoring)*		
Personal schedule flexibility for instructors *(i.e. the ability to teach anytime or anyplace and accommodate other restrictions on availability)*		

Does this factor would encourage, discourage, or not influence your decision (neither encourage nor discourage you) to teach online at PLU? How important each factor would be on your personal decision to teach or not teach online?	Does this factor encourage, discourage, or not influence your decision to teach online? (Encouraging, Discouraging, Not Influential)	How important is this factor in your decision to teach online? (Slightly important, Somewhat important, Fairly important, Very important)
Accommodating a wider variety of students *(i.e. increasing access for students who may not be able to enroll in existing campus-based options)*		
Student engagement in online courses *(i.e. how active students are in the learning experience and the quality of interpersonal interactions)*		
Student retention in online classes		
Influence of students *(i.e. student demand or preferences for specific instructional formats)*		
Influence of colleagues *(i.e peer attitudes regarding teaching online courses)*		
Influence of university, division, school, or department leadership *(i.e. encouragement or discouragement to teach online courses)*		

Does this factor would encourage, discourage, or not influence your decision (neither encourage nor discourage you) to teach online at PLU? How important each factor would be on your personal decision to teach or not teach online?	Does this factor encourage, discourage, or not influence your decision to teach online? (Encouraging, Discouraging, Not Influential)	How important is this factor in your decision to teach online? (Slightly important, Somewhat important, Fairly important, Very important)
Additional compensation for online course development and training		
Current skills with instructional technology *(i.e. your confidence in your ability to learn and use instructional technologies)*		

Opportunity for improved proficiency with instructional technologies *(i.e. learning how to better use Sakai, online video, etc.)*		
Technical support for instructors provided by the institution (*i.e. training, instructional technologies)*		
Technology available for teaching and learning online *(i.e. adequate software, tools, and technology infrastructure for successful teaching and learning online)*		

Thank you for participating in this survey! Your time and thoughts are greatly appreciated! If there is anything else you'd like to share on the topic of online teaching and learning, please do so in the space below.

APPENDIX 5

Survey Cover Letter

Faculty Perceptions of Online Teaching

You are being asked to participate in a research study intended to better understand how faculty perceive online teaching at Pacific Lutheran University. Study participation involves completion of a survey containing written and selected response questions, which should require approximately 15 minutes of your time. This survey is intended for all PLU faculty who have not completed a PLUTO program for online or blended learning.

This study involves no foreseeable or serious risks. Participants will not be financially compensated for survey completion and participation in this survey is voluntary. At any time, you may choose to end your participation in the survey or refrain from answering a question. Data from this survey will be analyzed in aggregate. Responses will be reported anonymously, with participant identification numbers and data only accessible to the principal researcher. Results of this survey will be made available to the university community on the website for PLUTO. Original data will be retained for a minimum of five years. Your participation in this survey will help inform PLU policies, plans, and priorities that affect online teaching and learning at the university.

Permission for this study has been approved by the Office of the Provost at PLU in addition to use for dissertation research at Boise State University. If you have any questions of concerns, you may contact the principle researcher for this study or her faculty advisory:

Dana Bodewes, Instructional Designer
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Pacific Lutheran University
253-535-7572
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Yu-hui Ching, Associate Professor
Educational Technology
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By completing the survey, you are consenting to participate in this study. If you would prefer not to participate, you may refrain from completing the survey.

APPENDIX 6

Qualitative Theme Definitions

Theme	Definition
Theme 1: Teaching Value Compatibility	Comments about how online learning fits or does not fit with deeply held values about good teaching. May include concerns about the importance of face-to-face learning, in-person communication, interactivity, and campus community.
Theme 2: Attractiveness to Students	Discussion of practical reasons that students may be attracted to online learning. Comments may note that online courses provide additional learning options that meet the needs of a wider range of students, especially adult, military, working, or commuter students. May include acknowledgement of how online learning can provide greater access and schedule flexibility for students. Comments may note benefits to retention, recruitment, and competitiveness, especially for non-traditional students.
Theme 3: Regulation of Online Learning	Broadly encompasses comments that online learning at PLU would be acceptable under certain conditions that need to be regulated by the university. There are perceptions that certain disciplines, courses, students, levels of learning, or terms are more appropriate for online learning than others; therefore this theme may include comments about how online courses should or shouldn't be offered in specific instances. This theme also includes concerns about quality and effectiveness of online courses; such concerns are linked to a belief that online learning must monitored more closely and regulated more strictly than PLU's face-to-face courses.
Theme 4: Faculty Resources	Emphasizes the need to invest various resources into the development and teaching of online courses. Comments may include faculty's perspectives on the additional time, effort, compensation, and training necessary for online teaching.
Theme 5: Personal Influences	Includes discussions of faculty's personal goals, situations, preferences, concerns, and interests as it affects their ability to consider online teaching. This should be distinguished from concerns about teaching effectiveness, which is a "value compatibility" issue, or concerns about time, which is a "resource" issue.
Theme 6: Technology & Infrastructure	Comments on the importance of technology, infrastructure, and technical support. This includes concerns about the learning management system, Sakai

APPENDIX 7

Quantitative Survey Calculations

Survey Factors	Frequency: Not Influential	Frequency: Encouraging	Avg. Importance (1 slightly to 4 very)	Frequency: Discouraging	Avg. Importance (1 slightly to 4 very)
Online learning's alignment to institutional identity (i.e. consideration for the mission, vision, and values of the university)	24	21	2.5238	25	3
Suitability of online teaching and learning for course needs (i.e. a good fit for course content, methods, discipline, etc.)	5	37	3.4054	27	3.65
Reflecting on current teaching practices and exploring new ways of teaching (i.e. evaluating and updating instructional strategies and content)	10	42	2.9512	17	3.1429
Time available for online course development and training (i.e. priority for this among other commitments)	8	25	3.696	39	3.5
Option to teach online during all academic terms (i.e. current practices limit online courses to j-term and summer term)	26	27	2.92	16	3.091
Past personal experiences with online teaching and/or learning	36	15	3	20	2.0833
Prior experience teaching a blended course (i.e. gaining skills and confidence from teaching a blended course before teaching fully online)	45	17	2.6667	7	2.5
Time and effort required to teach online (i.e. comparability of face-to-face and online teaching commitments)	12	15	2.667	45	3.364
Instructional support provided by the institution (i.e. training, instructional design, peer mentoring)	7	47	3.51	17	2.83
Personal schedule flexibility for instructors (i.e. the ability to teach anytime or anyplace or to accommodate other restrictions on availability)	16	49	3.14894	6	3.8

Accommodating a wider variety of students (i.e. increasing access for students who may not be able to enroll in existing campus-based options)	13	49	3.14583	6	3
Student engagement in online courses (i.e. how active students are in the learning experience and the quality of interpersonal interactions)	7	21	3.05	41	3
Student retention in online classes	24	14	3.0714	29	2.7
Influence of students (i.e. student demand or preferences for specific instructional formats)	31	28	3.1111	8	2.1667
Influence of colleagues (i.e. peer attitudes regarding teaching online courses)	50	11	3	9	2.5714
Influence of department leadership (i.e. encouragement or discouragement to teach online courses)	48	16	3.2	4	2
Additional compensation for online course development and training	18	47	2.956	5	3.8
Current skills with instructional technology (i.e. your confidence in your ability to learn and use instructional technologies)	23	30	3.4643	16	3.2857
Opportunity for improved proficiency with instructional technologies (i.e. learning how to better use Sakai, online video, etc.)	19	44	3.2143	6	3.2
Technical support for instructors provided by the institution (i.e. training, instructional technologies)	17	45	3.56	7	3.5
Technology available for teaching and learning online (i.e. adequate software, tools, and technology infrastructure for successful teaching and learning online)	11	40	3.39	17	3.69