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Development of the Readiness to Teach Online Scale

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DEVELOPMENT OF THE READINESS TO TEACH ONLINE SCALE

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ABSTRACT

Despite the growing importance of online education, faculty acceptance has remained unchanged. Training programs developed for faculty to teach online have often focused on assessing their cognitive rather than affective and behavioral outcomes. The Readiness To Teach Online scale was developed as part of a multiphase mixed method research project to measure faculty perceptions and motivations toward teaching online. Items in the subcategory Teaching and Learning measured perceptions of technology and online teaching, and motivations regarding resources and other external factors. Items in the subcategories Social and Student Engagement, Faculty and Technology Support, Course Development and Instructional Design, and Evaluation and Assessment collected baseline data for current practices. The pilot study of this scale demonstrated strong internal consistency reliability estimates and support for validity, showing moderately to highly correlated significant relationships between faculty perceptions and motivation to teach online; both perception and motivation constructs were moderately to highly correlated with Social and Student Engagement.

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I am extremely appreciative to all the professors with whom I have taken courses for their guidance and consultation. I am also thankful for the professors who participated in this pilot study. I hope that their input will help to expand the effectiveness of this scale, as well as the practice of online teaching and learning. Last but not least, I sincerely thank my family, friends, and colleagues, whose love and encouragement always help me become a better person in life.

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CHAPTER 1. INTRODUCTION AND LITERATURE REVIEW

Background

The landscape of higher education is changing rapidly. With the advances in learning technologies, changes in student demographics, higher cost of college education, and competition from for-profit universities, postsecondary institutional leaders are increasingly required to include online education in their institutional strategic plans. Distance learning in the United States started from humble beginnings as a remedial tactic for most postsecondary institutions to accommodate nontraditional students. When the Online Learning Consortium (formerly the Sloan Consortium or Sloan-C, OLC hereafter) conducted its annual survey in 2002, less than half of the institutions believed online education was critical to their long-term strategy (Allen & Seaman, 2013). However, the 2014 survey reported that number grew from 48.8% in 2002 to an all-time high of 70.8% (Allen & Seaman, 2015). In the same report,

> the most recent IPEDS[1] data show that 70.7% of all currently active degree-granting institutions that are open to the public have some distance offerings. There is a strong relationship between the size of the institution (as measured by the total number of students enrolled) and the proportion with distance offerings. Over 95% of institutions with 5,000 or more total students reported distance offerings. (Allen & Seaman, 2015, p. 9)

[1] The National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS).

In a 2014 OLC report, the proportion of postsecondary students that took at least one course online reached an all-time high of 33.5% (approximately 7.1 million students). In addition, according to the survey responses,

> ninety percent of academic leaders believe that it is 'Likely' or 'Very Likely' that a majority of all higher education students will be taking at least one online course in five years' time…. Less than one-third of academic leaders believe that there will no longer be concerns about the relative quality of online courses. (Allen & Seaman, 2014, p. 5)

Comparatively, although the 2015 OLC report did not collect total online student enrollment numbers, using responses from more than 2,800 U.S. colleges and universities with indicators from other sources, survey results showed slower but continuing increases in online student enrollment for public and non-profit postsecondary institutions. Regarding academic leaders' perceptions of distance learning, Allen and Seaman (2015) reported,

> The percent of academic leaders rating the learning outcomes in online education as the same or superior to those in face-to-face instruction grew from 57.2% in 2003 to 77.0% in 2012. The upward trend reversed in 2013, with a dip to 74.1%, a rate that has remained constant for 2014. (p. 5)

In order to survive and thrive in this increasingly competitive global knowledge-based economy, postsecondary institutions need more quality online courses, certificates, and degree programs for their audiences. However, the lack of literature on sustainable online faculty development models has left most institutional leaders searching for ways to strategize these visions of connecting students from a distance. Whereas a majority of academic leaders increasingly believe online education is critical to their long-term strategy, only 28.0% of chief academic officers say that their faculty members accept the "value and legitimacy of online education," a rate substantially the same as it was in 2003

(Allen & Seaman, 2015), which is lower than the 30.2% reported for 2013, and even lower than the rate recorded in 2004. With the obvious widening gap between faculty perception and institutional strategic objectives, many institutional leaders are searching for ways to harness the power of distance learning while maintaining the structural integrity of their institutions and promoting online teaching to a faculty who seem less than eager.

Faculty members are the connection between administration and student and therefore the major driving force of each institution in meeting its vision. Consequently, it is essential for the institution to encourage faculty buy-in in order to operationalize its online education plans. But how do academic leaders promote faculty buy-in to teach online? What motivates instructors to offer courses online? Do they continue to digitally integrate their teaching after faculty development programs? These are just some of the unanswered questions in configuring the institutional vision of integrating technology in teaching and learning. The researcher conducted a detailed case study (Chi, 2013) of four faculty members' experiences in online teaching—specifically, what motivated faculty to teach online and continue teaching online. Based on this foundation, the current study aims to continue that research by developing a measure of faculty perceptions of teaching online and factors that motivate faculty to teach online. Understanding the construct of perceptions of teaching online, and creating a measure of that construct, are steps prefatory to further research in online teaching.

Literature Review

Colbeck (2002) stated institutionalization requires changes in rules, values, norms, beliefs, and behaviors, thus encouraging institutions to use multiple indicators to

assess and provide evidence of lasting changes. In order for the university administration to develop appropriate training to encourage and support faculty teaching online, what types of information from faculty are needed to plan and design training for them? The traditional "needs assessment" model for program development suggests using gap analysis, that is, the gap between where the organization is in relation to where it needs to be, to strategize and plan change. The assumption for this model is that an organization needs to have a baseline (where it is) and a milestone (where it needs to be) in order to properly assess the need for any type of program development. However, in academia, the concept of milestone is more ideal than compulsory and often changes themes depending on the administration and the student demographics. Although some institutions made teaching online a job requirement for new hires, the majority of the traditional faculty body still enjoy a great deal of autonomy in teaching courses the way that is familiar to them.

Recent Studies of Postsecondary Online Faculty Development

OLC and Quality Matters (QM hereafter), two of the leading organizations in online education in recent years, have developed different quality frameworks and rubrics in evaluating the quality of online courses. Shattuck (2012), Director of Research at QM, reviewed the web forum discussions from panelists Terry Anderson, Zane Berge, Charlotte "Lani" Gunawardena, "Peggy" Roblyer, and Karen Swan in the November 2009 QM Interaction Summit[2] on the relevant research and its possible impact on QM rubric standards. Shattuck stated,

[2] For notes from QM International summit, see https://www.qualitymatters.org/summary-summit-learner-interaction

> The panelists summarized (1) there is a lack of consistency in the research literature, making it unethical to state broad conclusions about group interactions as a requirement for all course designs. (2) There is a lack of replication in the literature on the value of learner-learner interaction, except for some work underway using the Community of Inquiry framework[3]. (3) There are too many variables influencing outcomes of most studies to draw cross-study conclusions. (pp. 4-5)

Likewise, in order to develop academic technology training programs that align with current online education administrators' priorities, Shelton (2011) reviewed 13 paradigms for evaluating the quality of online education programs and compared them for similarities and differences. However, besides offering training to individual instructors or academic course designers interested in developing/teaching hybrid or online courses, neither OLC nor QM has offered ways to assess the level of readiness for individual faculty members to teach online.

Nevertheless, many postsecondary institutions have developed professional development programs to train their faculty members to teach online. However, as observed by Boyd-Barrett (2000), often efforts of technology education and integration remained ad-hoc projects or were discontinued once the funding was depleted. In addition, Pina (2008) echoed Surrey and Brennan (1998) who stated that organizations, when using models of organizational change, should be cautious of "a deterministic bias—it assumes that once an innovation has been adopted, it will continue to be used" (p. 2).

So what differentiates continuation from abandonment of online teaching? Some faculty admitted that it was "by decree" rather than "by choice" that they got involved in

[3] For details on the Community of Inquiry framework, see http://communitiesofinquiry.com/model

the teaching online faculty development efforts offered by their institutions (Pina, 2008). Regardless whether it is by decree or by choice, there are examples on the institutional level that offer some indicators for consideration. First of all, Lee and Busch (2005) stated,

> Instructors' willingness to participate in DE (distance education) was a function of their perception of the adequacy of training for DE and recognition received. Instructors' willingness was not related to effort and time needed to develop course materials for DE…. Knowledge of experiences and opinions affecting instructors' willingness to participate in DE can help universities create or maintain DE programs. (p. 109)

Lee and Busch's findings echo the six assumptions of Knowles' (1984) andragogy of adult learners: need to know, foundation (experience), self-concept, readiness, orientation, and motivation.

Also, Tabata and Johnsrud (2008), using diffusion of innovation theory, conducted a large 10-campus public research university survey for their 4,534 instructors in fall 2003. They examined faculty participation in relation to their technology use, their attitudes toward technology and distance education, and their adoption of innovation. Tabata and Johnsrud found that faculty members who participate in nontraditional instruction tend to associate distance education with their work style. They identified 16 variables predictive of faculty participation and non-participation in distance education. However, the online education technology landscape has changed considerably since 2003.

Marek (2009) reported results from an online survey of all faculty members from American Library Association (ALA) accredited master's programs to investigate support structures that existed in Library Information Science (LIS) programs. The

survey results "suggest a model of institutional support includes faculty course release, LIS program level training and support, and structured mentoring. Implementation of such a model will help institutions create a culture of support for online teaching" (p. 275).

In an article published in the *British Journal of Educational Technology*, Cook, Ley, Crawford, and Warner (2009) reported on four U.S. studies (1998-2003) regarding

> how rewards systems, extrinsic and intrinsic, could play an important role in providing incentives for university faculty to teach (or remain teaching) electronic and distance education courses.…Using a principal components analysis, the researchers found nine indicators of motivation to participate or not participate in electronic or distance education. (p. 149)

The implications from the first three studies prior to 2003 (1998, 2000, 2000**)** reported faculty were inherently motivated, yet the fourth study (2003) indicated, "While faculty members were inherently committed to helping students, faculty members wanted their basic physiological needs met by university administration through extrinsic motivators, such as salary increases and course releases" (p. 149). Similarly, Lorenzetti's (2011) research on administrators suggested intrinsic motivators, such as a more flexible schedule, the ability to reach a wider audience, faculty's desire to use the flexibility to meet student needs, and self-satisfaction, are stronger than extrinsic motivators, such as faculty reward structure, recognition, and administrative support in online faculty development. Lorenzetti's findings support Pink's (2009) motivational theory outlining three key elements: *autonomy*, *mastery*, and *purpose*.

In addition, Singleton and Session (2011) reported faculty concerns related to distance learning within nontraditional doctoral programs for faculty members who chose to teach in such a program. Among these issues are compensation, administrative

support, technology, innovation, time demands, workload, and promotion and tenure. They also found similarity in faculty motivators and inhibitors for distance learning between nontraditional doctoral programs and Cook et al.'s (2009) findings for the nontraditional environment. Furthermore, Lesht and Windes (2013) suggested administrators viewed facilitating factors in institutional, department, and personal categories and inhibitors in pedagogy, perceptions, and support categories.

In 2012, the researcher conducted an evaluation of a Teaching Online Workshop (TOW), a multiyear, campus-wide online faculty development program developed and implemented by the Office of Teaching and Learning (OTL) at the University of Denver. Based on that evaluation, the researcher developed a logic model for the institutional online faculty development program for redevelopment and assessment purposes. In the case of assessing online faculty development programs where the faculty members were the students, the three *cognitive, affective,* and *behavioral* sub-domains (Peterson & Einarson, 2001) showed very different trajectories. Whereas professors had no difficulty in completing the cognitive outcomes of the training program, change in the affective and behavioral outcomes (Terenzini, 1989) were not as easily observed. In addition, the researcher's (2013) doctoral dissertation on faculty preparation and experiences in teaching online revealed that for professors who chose to learn and continue to teach online, their motivators were primarily intrinsic in nature. However, all interviewees from that study suggested that extrinsic motivations would help to sustain the much-needed momentum to continue their journey to teaching online. The researcher's findings also resonated with Wlodkowski's (1999) adult learning motivation framework

on socio-constructivism, as a theoretical force to improve learning in formal settings, by fostering the four motivating conditions: inclusion, attitude, meaning, and competence.

In a recent national survey of doctorate-granting universities, Hoyt and Oviatt (2013) reported the results from their national survey on the perceptions of the administrators (not the faculty) to determine the current status of institutional policies and practices related to the organization and governance of online courses, faculty incentives to develop and teach online, and course ownership. Whereas survey results showed a wide range of policies and practices, Hoyt and Oviatt identified the common practices as follows:

> About 82% of the universities gave extra pay to faculty to develop online courses, and 94% provided campus-based faculty development workshops or training on online education. The large majority of institutions hired professional course designers (84%) and provided technical assistance to students (86%). Another 84% had an intellectual property policy in place or were developing one, and 77% shared revenues from online courses with academic colleges, schools, or departments. Although these practices existed on campuses, they were not always instituted campus-wide. The researchers found statistically significant relationships for a number of faculty incentives and support services and faculty willingness to be involved in online education. (p. 165)

Although Hoyt and Oviatt provided valuable information on current practices among doctoral-granting universities, the answers of how to increase and retain "buy-in" for individual faculty members remain impalpable. Without longitudinal data of the institutional online development efforts, Pina's (2008) "detrimental bias" still remains unchallenged. With the tension between the lure of competitive advantage of distance education and the suspicion of its uncertain institutional future, Halfond (2014) summarized, "The same old story—the dialectic between the administrative and the

academic—now playing itself out in an unsettling age of new possibilities for instructional delivery with serious stakes for our array of academic institutions" (p. 1).

In summary, earlier studies (Cook et. al., 2009; Lee & Busch, 2005; Tabata & Johnsrud, 2008) of faculty attitudes toward distance education identified factors relating to technology use and competencies, time, workload, institutional support, rewards and incentives, promotion and tenure, and quality of instruction and learning. Recent studies of distance education in postsecondary institutions have mainly emphasized administrators' perceptions of faculty acceptance of online education (Allen & Seaman, 2014, 2015; Hoyt & Oviatt, 2013; Lesht & Windes, 2013), quality of online programs (Shattuck, 2012; Shelton, 2011; Shelton & Moore, 2014), institutional support of online faculty (Marek, 2009), faculty concerns (Singleton & Session, 2011), or faculty technology competency (Palloff & Pratt, 2011). Nonetheless, faculty perceptions and motivations toward teaching online still remain elusive. As postsecondary institutions develop strategic plans in online education, it is imperative to understand current faculty attitude toward teaching online.

Significance of the Study

Typically, most program development and assessment models demand measureable outcomes in cognitive, affective, and behavior sub-domains (Peterson & Einarson, 2001; Terenzini, 1989). How do we assess the level of readiness for faculty to teach online? After several runs of literature review, the researcher summarized the following recent guidelines for online faculty program development.

Current Practices in Evaluating Faculty Readiness to Teach Online

The researcher examined the more commonly used scales currently available in online faculty development. The majority of scales are from particular postsecondary institutions.

First, Palloff and Pratt (2011), in their book, *The Excellent Online Instructor*, developed the scale Assessment of Faculty Readiness to Teach Online, which included four sub-domains (a) technical skills (12 items), (b) experience with online teaching and learning (8 items), (c) attitudes toward online learning (9 items), and (d) time management and commitment (6 items), representing a total of 35 items, using a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*), with 175 possible total points. The Palloff and Pratt scale aims to categorize participants into beginner (<90 points), intermediate (90-150 points), and advanced (150-175 points) groups that require different levels of support and training. However, the scale does not take faculty perception of institutional structures into consideration. In addition, the Palloff and Pratt scale implies that cognitive competency will lead to willingness to teach online, which is inconsistent with other research relating to faculty perceptions and motivations (Boyd-Barrett, 2000; Chi, 2013; Hoyt & Oviatt, 2013; Lee & Busch, 2005; Lorenzetti, 2011; Marek, 2009; Pina, 2008; Shattuck, 2012).

Second, Penn State University[4] developed the scale Faculty Self-Assessment: Preparing for Online Teaching, which includes three sub-domains: technical (8 items), administrative (11 items), and pedagogical (11 items) competencies, with a total of 30

[4] For the Penn State University Faculty Self-Assessment scale, see https://weblearning.psu.edu/FacultySelfAssessment/

items, using a 4-point (or 8-point because some items are weighted) response scale. Again, the Penn State model focuses on individual faculty competencies without taking institutional environment into consideration (Boyd-Barrett, 2000; Chi, 2013; Colbeck, 2002; Hoyt & Oviatt, 2013; Lee & Busch, 2005; Lorenzetti, 2011; Marek, 2009; Pina, 2008.)

Third, SUNY (State University of New York) lists its Learning Network (SLN) Online Teaching Survey[5] for internal users. However, it is not clear who are the ultimate consumers of the information it intends to collect.

Fourth, Illinois Online Learning Network lists a number of key points on "What Makes a Successful Online Facilitator?"[6] for its online learning website. Still, no information on the history or purpose of the questionnaire was available.

Lastly, a handful of local junior or community colleges provide brief questionnaires relating to teaching styles, time management, and technology competency as ways to assess faculty readiness to teach online. In essence, those scales serve more as a quick checklist rather than a genuine assessment of faculty readiness to teach online.

In summary, there is not only a lack of prior reliability or validity information on the aforementioned scales but also no recommendation on how to customize faculty training based on results of self-assessment. In addition, each unique institutional structure and the self-governing nature of academic programs render generalizability of best practices unlikely. Thus, there is a need for developing a customized scale

[5] For SUNY Online Teaching Survey, see http://sln.suny.edu/teachingsurvey/

[6] For the Illinois Online Learning Network, see http://www.ion.uillinois.edu/resources/tutorials/pedagogy/instructorProfile.asp

(DeVellis, 2012; Fowler, 2009) for online faculty program development purposes, a scale that has demonstrated psychometric properties.

If You Build It, Will They Come?

Overall, those aforementioned scales focus on evaluating the cognitive outcomes of online faculty preparation, while making no attempt to resolve the hurdle of the decreasing rate of faculty acceptance presented by OLC's annual report (Allen & Seaman, 2014, 2015). Research suggested that ability does not necessarily translate into willingness or transformation with regard to online faculty development (Boyd-Barrett, 2000; Chi, 2013; Colbeck, 2002; Hoyt & Oviatt, 2013; Lee & Busch, 2005; Lorenzetti, 2011; Marek, 2009; Pina, 2008; Surrey & Brennan, 1998). According to complex adaptive system (CAS) theory (Olson & Eoyang, 2001), individual competencies also do not translate into behavioral change at the micro level without motivating transformational exchanges through the environment.

In his theory for planned behavior (TPB) linking beliefs to behavior as a way to indicate readiness, Ajzen defined *attitude toward the behavior* as the individual's positive or negative feelings about performing a behavior, *subjective norm* as an individual's perception of whether people important to the individual think the behavior should be performed, and *perceived behavioral control* as one's perception of the difficulty of performing a behavior (as referred to in Eagly & Chaiken, 1993). The theory suggests that these three constructs, attitude toward behavior, subjective norms, and perceived behavioral control, jointly shape an individual's behavioral intentions and behaviors, as illustrated in Figure 1 (Ajzen, 1991). The first stage of Ajzen's (1991) TPB framework aligns well with the affective domain in the program development and assessment model,

thus providing the theoretical framework for the readiness assessment of faculty perceptions and motivations toward teaching online.

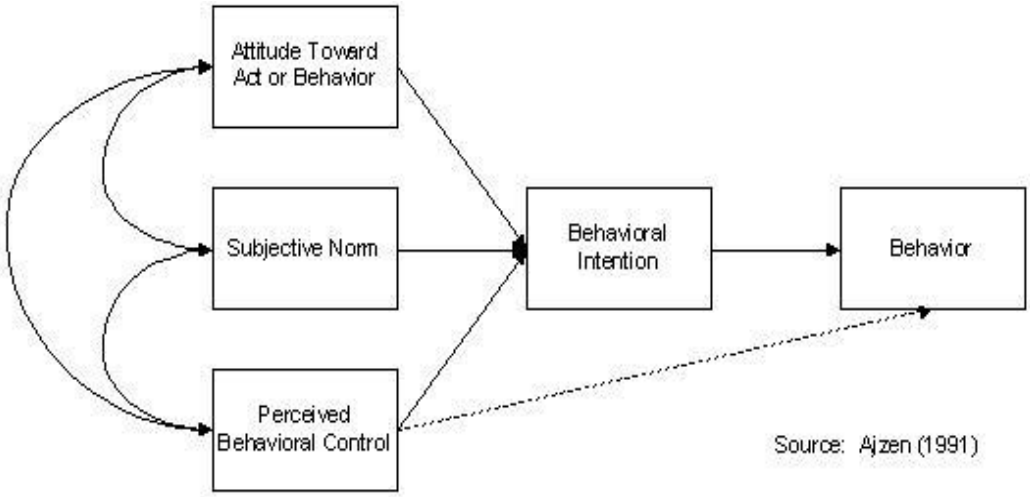

Figure 1. Theory of planned behavior. Adapted from "The Theory of Planned Behavior" by I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes*, *50*(2), web picture source from http://is.theorizeit.org/wiki/Theory_of_planned_behavior

In addition, although learning to teach online is not exactly like learning a second language, it is useful to refer to the definitions from Gardner and Lambert (1972), where they distinguish two types of motivation: *integrative motivation* and *instrumental motivation*. Integrative (intrinsic) motivation is associated with the pleasure of doing something, whereas instrumental (extrinsic) motivation suggests pragmatic purposes for doing something.

Therefore, although it may be useful to collect information on current practices as baseline data in order to categorize levels of competencies, the researcher argues that before any meaningful planning for online faculty program development can take place, the research priority should be providing faculty members the opportunity to reflect on

their affective readiness, in order to properly assess their perceptions and motivating factors when encountering the practice of teaching online. Thus, this study aimed to develop a measure of faculty perceptions and motivations toward teaching online for institutional planning purpose.

Purpose of the Study

The Morgridge College of Education (MCE) at the University of Denver (DU) is going through a strategic planning process for the whole college. MCE has state-of-the-art technology and wants to encourage technology utilization as well as possibly offering online courses for professional development, certificate, and degree programs. A successful strategic plan requires stakeholders' input throughout the planning process. Thus, faculty input will help to customize the development and implementation of faculty training programs to teach online and increase technology utilization at the college level. In addition, the new leadership at DU has been conducting a series of town hall meetings with the DU community at large in "Re-imagine DU" for institutional strategic planning purposes. This study aimed to provide insights on faculty attitudes toward teaching online for the administration for institutional development and advancement purposes.

No single instrument was located that addresses all the areas requiring data necessary for strategic planning. To that end, this study aimed to develop a scale of faculty readiness to teach online (RTTO). Accordingly, the focus for the RTTO scale was to assess the faculty affective readiness to teach online. The researcher analyzed quantitative data to estimate the reliability and validity of the scale. The study is part of a multiphase mixed methods (Creswell & Plano Clark, 2011) research project on academic technology plans for the University.

Organization of the Study

This study followed a classical test theory framework of scale development (DeVellis, 2012; Fowler, 2009). The study was organized into the following parts: (a) purpose of the scale, (b) description of the scale, (c) development process, (d) item analysis (Bobko, 2001), (e) support for reliability and validity, (f) the researcher's comments on the overall strengths and weaknesses of the scale, (g) a summary regarding quality of the scale, and (h) suggestions for further studies.

Definition of Terms Used

Distance Education

Distance education is a method of teaching where time or space, or both separate the students and the instructors. When it comes to defining online learning, multiple iterations included E-learning, distance learning, computer assisted learning (CAL), information communication technology (ICT) enabled classroom, computer-supported collaborated learning (CSCL), and hybrid/blended learning, among others. According to the OLC definition (see Table 1), the type of course is classified by the proportion of content delivered online.

Table 1

OLC Definitions of Types of Courses

Proportion of Content Delivered Online	Types of Courses	Typical Description
0%	Traditional	No online technology used, content delivered in writing or orally

1 – 29%	Web Facilitated	Web-based technology facilitates f-2-f course
30 – 79%	Blended/Hybrid	Substantial proportion of content delivered online (online discussions, reduced f-2-f meetings)
80 + %	Online	Most or all of the content is delivered online, few or no f-2-f meetings

Note. The Online Learning Consortium (OLC) definitions of types of courses can be accessed at http://sloanconsortium.org/publications/survey/pdf/learningondemand.pdf

The Online Learning Consortium

OLC is the leading organization on online learning currently. OLC offers online faculty development courses for instructors, faculty training developers, and administrators in higher education. Since 2002, OLC has conducted annual surveys on the state of online education in higher education in the United States. OLC subsequently developed the five-pillar quality framework as a rubric for institutional online concerns. The five pillars are listed in Table 2.

Table 2

The 5 Pillars – OLC Quality Framework

Goal	Process/Practice	Sample Metric	Progress Indices
LEARNING EFFECTIVENESS			
The provider demonstrates that online learning outcomes meet or exceed institutional, industry, and/or community standards	Academic integrity and control reside with faculty in the same way as in traditional programs at the provider institution or organization	Faculty perception surveys or sampled interviews compare learning effectiveness in delivery modes Learner/graduate/ employer focus groups or interviews measure learning gains	Faculty report online learning is equivalent or better Direct assessment of student learning is equivalent or better

SCALE (COST EFFECTIVENESS AND COMMITMENT)			
The provider continuously improves services while reducing costs	The provider demonstrates financial and technical commitment to its online programs Tuition rates provide a fair return to the provider and best value to learners at the same time Tuition rates are equivalent or less than on-campus tuition	Institutional and organizational stakeholders show support for participation in online education Effective practices are identified and implemented	The provider sustains the program, expands and scales upward as desired, strengthens, and disseminates its mission and core values through online education
ACCESS			
All learners who wish to learn online can access learning in a wide array of programs and courses	Program entry processes inform learners of opportunities, and ensure that qualified, motivated learners have reliable access Integrated support services are available online to learners	Administrative and technical infrastructure provides access to all prospective and enrolled learners Quality metrics for information dissemination, learning resources delivery, and tutoring services	Qualitative indicators show continuous improvement in growth and effectiveness rates
FACULTY SATISFACTION			
Faculty are pleased with teaching online, citing appreciation and happiness	Process to ensure faculty participation in matters particular to online education (e.g., governance, intellectual	Repeat teaching of online courses by individual faculty indicates approval Addition of new faculty shows growing	Data from post-course surveys show continuous improvement:

	property, and royalty sharing) Process to ensure adequate support for faculty in course preparation and course delivery	endorsement	At least 90% of faculty believe the overall online teaching/ learning experience is positive Willingness/ desire to teach additional courses in the program: 80% positive
STUDENT SATISFACTION			
Students are pleased with their experiences in learning online, including interaction with instructors and peers, learning outcomes that match expectations, services, and orientation	Faculty/learner interaction is timely and substantive Adequate and fair systems assess course learning objectives; results are used for improving learning	Metrics show growing satisfaction: Surveys (see above) and/or interviews Alumni surveys, referrals, testimonials Outcomes measures Focus groups Faculty/mentor/ advisor perceptions	Satisfaction measures show continuously increasing improvement Provider surveys, interviews, or other metrics show satisfaction levels are equivalent to or better than those of other delivery modes for the provider

Note. Adapted from "Our Quality Framework," accessed from the Online Learning Consortium website at http://onlinelearningconsortium.org/about/quality-framework-five-pillars/ Copyright 2012 by the Sloan Consortium.

Distance Learning Council

> For the purposes of DU, its Distance Learning Council stated,
>
> Distance learning is further defined as a formal educational process in which more than half (51%) of the contact hours occur when student and instructor are not in the same place. Instruction may be synchronous or asynchronous. Distance learning may employ any combination of correspondence study, audio, video, or computer and other online technologies.[7] (Office of Teaching and Learning, "Definition," para. 2)

Because the DU definition and the aforementioned OLC definition for online courses are different, as part of the study, the researcher asked the individual instructors to clarify their understanding of the definition of distance learning.

The Handbook of Quality Scorecard

Criteria for evaluating quality of online learning have not been standardized in the postsecondary education industry. In order to develop academic technology training programs that align with current online education administrators, Shelton (2011) reviewed 13 paradigms for evaluating the quality of online education programs and compared them for similarities and differences. Subsequently, Shelton and Moore (2014) compiled experts' opinions in the OLC *Quality Scorecard for the Administration of Online Programs: A Handbook*[8], suggesting that an evaluation framework should observe the following categories for program evaluation purposes:

1. Institutional Support
2. Technology Support

[7] See Distance Learning Council website http://portfolio.du.edu/dlc

[8] See Online Learning Consortium Score Card at http://onlinelearningconsortium.org/quality-scorecard

3. Course Development and Instruction
4. Course Structure
5. Teaching and Learning
6. Social and Student Engagement
7. Faculty Support
8. Student Support
9. Evaluation and Assessment

Although these nine constructs outlined in the *Handbook of Quality Scorecard* are primarily for evaluation of institutional distance education practices, in an effort to promote further discussions in the area of online faculty development within the postsecondary environment, the researcher has adapted portions of their framework in developing the Readiness to Teach Online (RTTO) scale.

CHAPTER 2. METHOD

Research Overview

This study is one part of a multiphase mixed method research project. Based on prior literature review and research, the researcher developed a scale to measure faculty self-assessment of readiness to teach online. Responses to open-ended questions were collected for use as baseline data on current practices in technology use. Responses to close-ended questions on faculty perception and motivation were collected by using a Likert scale where the level of agreement with statements was assessed using a 1 to 5 response scale. Experts reviewed the scale, and the researcher made recommended revisions. The researcher first tested the scale with five faculty members not affiliated with MCE via cognitive interviews. Once further revisions were completed, the scale was provided to faculty members through a survey link sponsored by MCE. The responses from scale items were imported and tabulated through SPSS to estimate instrument reliability and validity. This study explored subscales relating to faculty perceptions and motivations toward online teaching. The researcher reports the results of statistical analyses as the summary of this study and suggests further study needed.

Environment

This study took place at the University of Denver (DU). DU is the oldest and largest private university in the Rocky Mountain region. Current enrollment consists of

approximately 11,600 students, with about 5,000 undergraduate students and 6,600 graduate students. The Carnegie Foundation classifies DU as a doctoral/research university with high research activity. With the exception of University College (one of the colleges within DU) that has been offering online degree programs for nontraditional students for the last decade, DU is primarily a brick-and-mortar residential university with primarily traditional courses and a small number of blended courses. The Office of Teaching and Learning (OTL) is the in-house university faculty development center. The OTL supports the faculty learning management system (LMS, previously Blackboard and now Canvas) training and support. In recent years, discussions of technology utilization in teaching and learning have become more prevalent in university meetings. Most of those discussions are coordinated and led by the OTL.

With regard to online course development, the OTL works closely with the university's Distance Learning Council (DLC). According to the OTL website link to the DLC[9], the general understanding of online courses is that

> individual courses need not be formally reviewed by the Distance Learning Council, but should be approved by the appropriate person in the department, division, school, or college and include consultation with the online learning team in the Office of Teaching & Learning. Online instructors must complete the OTL's Teaching Online Workshop before teaching an online course. (Office of Teaching and Learning, "Support," para. 2)

However, no formal procedure is currently in place to ensure all online instructors have completed the Teaching Online Workshop (TOW) prior to offering online courses.

The institutional purpose of the online faculty development program is to identify and train faculty members in order to offer online courses, with an initial emphasis on

[9] See University of Denver Distance Learning Council website http://portfolio.du.edu/dlc

increasing the availability of undergraduate online courses during the summer quarter. In addition, the university intends to increase technology utilization for all courses during the regular academic year. The stakeholders for the online faculty development program include the OTL, faculty participants, students, and program/college/university administrators.

The Morgridge College of Education (MCE) at DU, one of the few named colleges of education in the country, is going through a strategic planning process for the whole college. MCE offers graduate degrees for about 840 students annually in curriculum and instruction; teacher preparation; education policy and leadership; early childhood special education; library and information sciences; research methods and statistics; child, family and school psychology; and counseling psychology. The vision of MCE is to be a global leader in innovative and effective approaches for promoting learning throughout one's lifespan. MCE believes that learning should be a lifelong activity that involves the whole person and that occurs through a variety of methods, anywhere at any time. In accordance with this vision, it is important to include faculty input on academic technology training and concepts on online course development.

Developing the Scale

The purpose of this research project was to develop a readiness to teach online (RTTO) scale consisting of several sub-domains, focusing on faculty perceptions of online teaching and motivations towards teaching online. The RTTO scale includes both quantitative and qualitative items for research and administrative strategic planning purposes. Items were developed following standard measure development methods (Fowler, 2009) while taking subcategories in the *OLC Handbook Quality Scorecard*

(Shelton & Moore, 2014) into consideration, adapted from existing scales, and created by the researcher to address the MCE administration's priorities. The pilot study also included data collection on current practices on technology utilization for MCE. However, this study focused on instrument development, and on providing estimates of the instrument reliability and validity. The initial item pool of the RTTO scale included over 100 items in 7 subcategories outlined in the *OLC Handbook Quality Scorecard.*

Expert Review

Participants

Five experts were invited to review the draft scale on faculty readiness to teach online (RTTO). Two experts were senior staff members at OTL with years of experience in designing, developing, and training faculty to teach online and hybrid courses. Three other experts were faculty members in MCE: one professor taught survey methods and statistical modeling; one specialized in evaluation and research design, with excellent skills in using technology in teaching; and one senior expert specialized in psychometric research in the social sciences. Because the study is part of a multiphase mixed methods study, the researcher has a standing approval from the Institutional Review Board (IRB) for research on DU online faculty development.

Instruments and Procedure

Two teaching online experts reviewed the Palloff and Pratt (2011) scale Assessment of Faculty Readiness to Teach Online, Penn State University scale Faculty Self-Assessment: Preparing for Online Teaching, compared them with OLC and QM frameworks and rubrics, then provided comments relating to scale design, adaptation of existing scales, content constructs, and theoretical framework on RTTO scale

development. All five experts reviewed the RTTO scale to provide additional comments with regard to specific items. The researcher followed up with all experts' comments to clarify the relevance and purpose of constructs and items. Items in the same domain with the same response scale were grouped into one table for increased user-friendliness for participants.

Because participants were appointed faculty members who were familiar with survey research methods, the revisions were focused on customizing the questions for the pilot study participants. The final draft of the RTTO-MCE scale, including 54 items, was utilized for cognitive interviews with instructors not affiliated with MCE.

Cognitive Interviews

Participants, Instrument, and Procedure

The researcher tested the draft RTTO scale with five instructors with both online and face-to-face teaching experience who were not affiliated with MCE. The cognitive interviewees focused on the structure and flow of the scale. The entire data collection process took approximately 20 minutes for each cognitive interview. The purpose of cognitive interviews was to improve the interpretation of items and usability of the scale. Subsequently, two subcategories were merged and eliminated from the scale. The final questionnaire presented in Qualtrics consisted of 33 (19 close-ended) questions in five subcategories: Teaching and Learning, Social and Student Engagement, Faculty and Technology Support, Course Development and Instructional Design, and Evaluation and Assessment. In this study, the researcher analyzed 18 items in the first two subcategories with regard to faculty perception and motivation for teaching online, and social and student engagement.

Data Collection for Pilot Study

Procedure

The researcher piloted the RTTO scale with MCE-appointed faculty members through an email invitation from the Dean, providing a Qualtrics link sponsored by DU. The Dean explained to faculty that RTTO scale results would help shape the academic technology training and online course offering portions of the MCE strategic plan, encouraging faculty participation at a college faculty meeting. The researcher had a 15-day window for completion of the survey. The invitees received a follow-up email 1 week before the submission deadline and a reminder announcement 2 days before the survey was closed. A project consent form and instructions were presented at the beginning of the survey, before responses were recorded. Survey results were collected and analyzed on an aggregate level so no individual data were available to anyone besides the researcher who collected and analyzed the data.

Participants

A total of 49 MCE-appointed faculty received the invitation to participate. The appointed faculty body consisted of 35 female instructors and 14 male instructors. Their ethnic backgrounds included Caucasians (71%), African Americans (14%), Hispanic Americans (10%), and Asian Americans (5%). This total was subsequently narrowed to 32 participants, as discussed in the Data Analysis section.

Demographic information besides faculty rank was not collected to avoid information that could identify individuals. Out of the 32 participants who consented, 9 were tenured faculty, 6 were tenure track faculty, 8 were clinical professors, and 4 were full-time lecturers. Please refer to Table 3.

Table 3

Demographics on Faculty Rank

Demographics on faculty rank	Frequency	Percent
Tenured	9	33%
Tenure track	6	22%
Clinical	8	30%
Lecturer	4	15%
Adjunct	0	0%
Total	27	100%

Instrument

The RTTO scale version provided to faculty can be found as Appendix A. It contained 33 items, of which 18 were used in the present study. The remaining items were included to provide information to the MCE administration. Because the researcher recognized that some correlations might be inflated based on current data, to reduce Type I error, the statistical significance was reported at $p < .01$ level.

Data Analysis

A total of 34 questionnaires were completed via the online survey program Qualtrics, which represented 69% of the total number of appointed faculty members contacted to participate in the survey. Prior to the analyses, the data were screened. A total of 34 (out of 49 appointed faculty members who received invitations) responses were collected, of which 32 responses provided informed consent. The two responses without informed consent were removed because the researcher did not have consent to use their data.

The remaining responses were first checked and entered into SPSS (version 22). The researcher analyzed the quantitative portion of RTTO responses in the major

subcategories Teaching and Learning (Questions 2-17 on perceptions and motivations) and Social and Student Engagement (Question 18) for scale reliability and validity. Analyses directly related to the investigation of the study's research objectives are reported in Chapter 3. The summary for questions in the other three subcategories adapted from Shelton and Moore's (2014) evaluation framework, Faculty and Technology Support, Course Development and Instructional Design, and Evaluation and Assessment, may be found in the appendix section.

CHAPTER 3. RESULTS

The results presented in this chapter are based on analyses of the quantitative portion of RTTO responses in the two subcategories of (a) Teaching and Learning (Questions 2 to 17 on perceptions and motivations) and (b) Social and Student Engagement (Question 18 for scale validity). Such analyses are directly related to an investigation of the study's research objectives.

RTTO Responses for the Two Major Subcategories

The scale statistical analyses were focused on two major subcategories: Teaching and Learning, and Social and Student Engagement. The following paragraphs provide evidence for reliability and validity tests. Please note that because not all items were answered by all participants, for the purpose of SPSS pair-wise statistical analysis, actual numbers of responses were listed in the tables.

Teaching and Learning

In this subcategory, items on faculty (a) perceptions of technology and of online teaching, and (b) motivations with respect to resources and external factors were examined. The intent was to create four scales: Perceptions of Technology, Perceptions of Online Teaching, Motivation to Teach Online with Respect to Resources, and Motivation to Teach Online with Respect to External Factors. An additional scale was intended for the second major subcategory, Social and Student Engagement, which is presented in the subsequent section.

Faculty perceptions of technology. Question 3 asked the faculty how their students would rate their faculty's technology competency: 46.9% of them suggested that they are proficient and 12.5% thought they are excellent. The results are listed in Table 4.

Table 4

How Faculty Thought Students Would Rate Their Technology Competency

Faculty technology by students	Frequency	Percent
Beginner	1	3.1%
Moderate	12	37.5%
Proficient	15	46.9%
Excellent	4	12.5%
Total	32	100.0%

Note. Responses based on scale: 1 = *novice*, 2 = *beginner*, 3 = *moderate*, 4 = proficient, 5 = *excellent*.

Question 4 asked if the faculty were comfortable with students' using technology in their learning. As shown in Table 5, 84.4% were either comfortable or very comfortable with it.

Table 5

Comfort Level With Students' Use of Technology

Comfort level with students use of technology	Frequency	Percent
Uncomfortable	1	3.1%
Neutral	4	12.5%
Comfortable	13	40.6%
Very comfortable	14	43.8%
Total	32	100.0%

Note. Responses based on scale: 1 = *very uncomfortable*, 2 = *uncomfortable*, 3 = *neutral*, 4 = *comfortable*, 5 = *very comfortable*.

For Question 2 on faculty perceptions of technology, which included 7 items, 31 valid responses were analyzed; item statistics are as listed in Table 6. The reliability estimate for the 7 items (Cronbach's alpha) was .84. All 7 items were retained based on contribution to the faculty perceptions of technology scale (see Table 6). Overall, faculty perception of technology and how faculty thought their students would rate faculty technology competency were significantly correlated[10] (= .64, $p < .001$).

Table 6

Perceptions of Technology – Item-Total Statistics and Descriptive Statistics

Perceptions of technology	*N*	Mean	Std. dev.	Skew-ness	Kurtosis	Cronbach's alpha ( ) if item deleted
Comfort using outside of work	31	4.55	.51	-.20	-2.10	.80
Enjoy learning outside of work	32	4.16	.93	-.83	-.35	.80
Comfort using for research	32	4.29	.79	-1.00	.99	.83
Comfort using for teaching	32	4.23	.76	-.88	1.05	.82
Enjoy learning for work	32	4.29	.83	-.86	.00	.80
Open to new technology for teaching	32	4.65	.55	-1.92	4.26	.82
Important for student success	32	4.55	.68	-1.28	.49	.83

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = strongly agree.

[10] indicates the Spearman's correlation between continuous variable and categorical variable.

Faculty perceptions of teaching online. Question 5 (see Table 7) asked about the proportion of content delivered online for a course to be considered an online course. Over 97% of responses reported an online course should have more than 50% of content delivered online. Although DU defines an online course when more than 50% of content is delivered online, OLC's definition is more than 80%. In other words, 59% of the faculty's definitions of an online course are consistent with the institutional (DU) definition, whereas only 38% are consistent with the industry (OLC) definition.

Table 7

Content Percentage Delivered Online for an Online Course

Percentage delivered online for an online course	Frequency	Percent
30-50%	1	3.1%
51-79%	19	59.4%
>80%	12	37.5%
Total	32	100.0%

Question 6 (see Table 8) asked how often the faculty considered teaching online, with a modal response of "sometime." Question 7 asked if the individual faculty member had taught online, with 59% of participants replying "yes" (see Table 9).

Table 8

Frequency of Faculty Considering Teaching Online

Considered teaching online	Frequency	Percent
Never	3	9.7%
Rarely	7	22.6%
Sometimes	11	35.4%

Most of the time	3	9.7%
Always	7	22.6%
Total	31	100.0%

Note. Responses based on scale: 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *most of the time*, 5 = *always.*

Table 9

Frequency of Faculty Who Have Taught Online

Faculty taught online	Frequency	Percent
Yes	19	59%
No	13	41%
Total	32	100%

For those who had not taught online, open-ended Questions 8 and 9 asked what their favorite and least favorite aspects of teaching online might be. The common favorite aspects included added flexibility for students and instructors, use of multi-media content, enhanced creativity, and conversations and discussion opportunities outside of the traditional classroom structure. The common least favorite aspects included increased time commitment for preparation, student technical issues, pedagogical differences from face-to-face classes, challenges in developing a community of learners, and perceived various quality of interactions with students.

If they had taught online, open-ended Questions 10 and 11 asked what their favorite aspect and least favorite aspect of teaching online were. All 19 faculty members who had taught online (from responses in Q7) submitted comments for both aspects. The common favorite aspects included flexibility for students and instructors, improved quality of communication with additional utilization of technology, and opportunities for new pedagogies not available in traditional classrooms, including enhanced discussions

and interactions anytime. The common least favorite aspects of teaching online included time commitment, technology issues, reading and writing focused, lack of direct contact or immediate feedback, hard-to-control direction of discussions sometimes, and more work in preparation and teaching than in face-to-face classes. Question 12 then asked those who had taught online about the numbers and frequencies of those online courses. All responses are provided in Table 10.

Question 13 (see Table 11), ascertaining the level of agreement with perceptions of teaching online, was addressed using a 5-point agreement scale concerning 11 different items about teaching online. Twenty-nine responses were analyzed, and means and standard deviations are shown. Item 13_1 was negatively worded and so was reverse coded. Reliability analysis estimated Cronbach's alpha at .91 for the 11 items. Although deletion of item Q13_1 would increase Cronbach's alpha to .93, the item was retained because it also served as a validating item. An overall perception question (Question 17) was used to provide information about validity for the perception construct, with results reported in Table 12.

Table 10

Number of Online Courses Taught and Frequency

Number of online courses taught and frequency
1. 1 course - 1 time
2. Two courses for a total of 6 classes; four of the classes were from 9-4.
3. 1 course, 3 times (not at DU)
4. 1 course once
5. 4
6. 3
7. 2 courses for 2 semesters each
8. 2
9. This is a horribly worded question. I have taught two courses online, three times each. These were at other universities.
10. 100% of the time; hybrid online program with online and face to face formats
11. One course, one time - hybrid
12. 2
13. At DU I taught one hybrid course for one quarter. At another institution before DU, I taught three courses for about two years
14. 2 course, each for once
15. Three; at least twice for each course
16. 2 courses, 2 times each
17. One course
18. 30
19. I have taught 3 courses that have incorporated an online component.

Table 11

Perceptions of Teaching Online - Item-Total Statistics and Descriptive Statistics

Perceptions of teaching online	*N*	Mean	Std. dev.	Skewness	Kurtosis	Cronbach's alpha (⍺) if item deleted
Take less time than f2f classes	30	4.34	.81	-1.21	1.09	.93
Reach new audiences	30	3.90	.98	-.44	-.73	.90
Flexibility for me	30	3.31	1.20	-.25	-.83	.89
Flexibility for students	30	3.97	1.09	-.66	-.78	.90
Diversify program	30	3.72	1.03	-.38	-.06	.90

offerings						
Improve my teaching	30	3.55	.99	-.32	-.02	.89
Development of new ideas	30	3.83	.97	-.37	-.86	.90
Professional development	30	3.52	1.06	-.36	-.05	.90
Job satisfaction	30	2.59	1.09	.08	-.48	.90
Motivation to learn new technology	30	3.76	1.15	-.59	-.66	.90
Intellectual challenge	30	3.76	.87	-.11	-.62	.90

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree,* 3 = neutral, 4 = *agree*, 5 = *strongly agree.*

Table 12

Faculty Believe They Would Teach Online Soon

Would teach online soon	Frequency	Percent
Strongly disagree	1	3%
Disagree	7	23%
Neither	6	20%
Agree	8	27%
Strongly agree	8	27%
Total	30	100%

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree,* 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*.

Faculty motivation to teach online with respect to resources. For Question 14 (see Table 13) on faculty motivation to teach online with respect to resources, which included 15 resources, 29 valid responses were analyzed, and reported Cronbach's alpha was estimated as .86 for the 15 items. Although item analysis found that deletion of item 14_5 on support group, item 14_6 on option to decide if to teach online, and item 14_7 on option to decide course delivery format individually or in pairs increased reliability slightly to .90, their individual motivating aspects represent unique needs of those

resources, thus all 15 items were retained. Until more data from faculty from various colleges are obtained, the researcher suggests that these items be retained.

Table 13

Motivation to Teach Online with Respect to Resources - Item-Total Statistics and Descriptive Statistics

Motivation with resources	*N*	Mean	Std. dev.	Skewness	Kurtosis	Cronbach's alpha (α) if item deleted
Onsite design help	30	4.07	.74	-.11	-1.09	.85
Group training	30	2.93	1.05	.14	-.52	.86
Individual training	30	3.83	.91	-.52	-.30	.85
Coaching	29	3.86	.88	-.06	-1.02	.84
Support group	30	3.40	1.10	-.56	.18	.87
Own decision	30	3.73	.74	-.62	.62	.89
Own format	30	4.10	.66	-.87	-.56	.87
Administrative support	30	4.13	.68	-1.39	2.28	.86
Time off	30	4.30	.84	-1.44	2.06	.84
Course release	30	4.10	1.21	-1.36	1.29	.86
Stipends	30	4.13	1.07	-.93	1.46	.86
Grants	30	4.20	.96	-.36	-.19	.84
Recognition	30	3.90	.92	-.73	-.74	.84
Endorsement	30	4.07	.91	-.47	-.12	.85
Promotion	30	4.07	.87	-.65	-.68	.85

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*.

Faculty motivation to teach online with respect to external factors. For Question 15 (see Table 14) about faculty motivation to teach online with respect to external factors, which included 6 items, 29 valid responses were analyzed and yielded a Cronbach's alpha of .91 for the 6 items. All 6 items were retained based on contribution to scale internal consistency reliability. In addition, an overall motivation question (see Table 15) was used to provide some evidence for validity of the motivation to teach online construct.

Table 14

Faculty Motivation to Teach Online With Respect to External Factors - Item-Total Statistics and Descriptive Statistics

Motivation with external factors	*N*	Mean	Std. dev.	Skewness	Kurtosis	Cronbach's alpha (⌧) if item deleted
Colleague adaptation	29	2.79	0.90	-.85	.34	.90
Enrollment	29	3.55	1.30	-.55	.73	.90
Program priority	29	3.59	1.12	-.84	.29	.88
Enhance student skills	29	3.79	1.08	-.56	-.33	.88
Institutional expectation	29	3.90	1.08	-1.27	1.95	.90
Open to new technology for teaching	29	3.62	1.05	-1.14	1.17	.90

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = neutral, 4 = *agree*, 5 = *strongly agree*.

Table 15

Feeling Motivated to Teach Online

Feeling motivated to teach online	Frequency	Percent
Strongly disagree	3	10%

Disagree	10	33%
Neither	7	23%
Agree	5	17%
Strongly agree	5	17%
Total	30	100%

Note. Responses based on scale: 1 = *strongly disagree*, 2 = d*isagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*.

Social and Student Engagement

For the sub-domain, Social and Student Engagement, Question 18 (see Table 16) asked faculty perceptions about social and student engagement in an online environment. A total of 28 valid responses to five items were analyzed. Reliability was estimated (Cronbach's alpha) as .65. Although the deletion of item Q18_1 (on faculty support of learner-to-learner activities) could increase the reliability estimate (α = .68) slightly (Table 16), the researcher argues that further analysis with a larger data set is warranted before any revision should take place. Furthermore, given the intent of this study to assess faculty perceptions and motivations, the researcher would suggest additional items be added in this subcategory to further investigate faculty utilization of technology in teaching. Table 17 provides a summary of descriptive statistics for the scales developed.

Table 16

Social and Student Engagement - Item-Total Statistics and Descriptive Statistics

Social and student engagement	*N*	Mean	Std. dev.	Skewness	Kurtosis	Cronbach's alpha (α) if item deleted
Learner to learner activities	28	4.54	.69	-1.22	.27	.68
Online discussions	28	4.07	.98	-1.44	2.80	.59

Online chat	28	3.57	.96	-.40	.68	.56
Quality teaching online only	28	3.14	1.18	-.36	-.97	.50
Quality attention online only	28	3.32	1.19	-.66	-.39	.60

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree,* 3 = *neutral*, 4 = *agree,* 5 = *strongly agree*.

Table 17

Summary of Five Scales

Summary of scales	No. of items	*N*	Mean	Standard dev.	Skewness	Kurtosis
Perceptions - technology	7	31	30.71	3.64	-0.21	-1.46
Perceptions - teaching online	11	29	40.24	8.15	-0.03	-1.03
Motivation - resources	15	29	59.17	7.89	-0.65	-0.20
Motivation - external factors	6	29	21.24	5.44	-1.19	1.48
Social and student engagement	5	28	18.64	3.26	-0.17	-0.15

Note. Responses based on scale: 1 = *strongly disagree*, 2 = *disagree,* 3 = *neutral*, 4 = *agree,* 5 = *strongly agree.*

Evidence Regarding Scale Validity

Taking into account correlations between the faculty perceptions of technology and perceptions of online teaching scales, and faculty motivation to teach online with respect to resources and external factors as two additional scales, analyses found the following statistically significant correlations. Table 18 provides the following:

1. Perceptions of Technology (Q2) and Perceptions of Teaching Online (Q13), r = .53, $p < .01$

2. Perceptions of Technology (Q2) and Motivation to Teach Online With Respect to External Factors (Q15), $r = .51$, $p < .01$
3. Perceptions of Teaching Online (Q13) and Consider Teach Online (Q6), $r_s = .62$, $p < .01$
4. Perceptions of Teaching Online (Q13) and Would Teach Online Soon (Q17), $r = .53$, $p < .01$
5. Perceptions of Teaching Online (Q13) and Motivation to Teach Online With Respect to Resources (Q14), $r = .48$, $p < .01$
6. Perceptions of Teaching Online (Q13) and Motivation to Teach Online With Respect to External Factors (Q15), $r = .79$, $p < .01$
7. Perceptions of Teaching Online (Q13) and Feeling Motivated (Q16), $r = .54$, $p < .01$
8. Motivation to Teach Online With Respect to External Factors (Q15) and Would Teach Online Soon (Q17), $r = .55$, $p < .01$
9. Feeling Motivated (Q16) and Would Teach Online Soon (Q17), $r = .83$, $p < .01$
10. Feeling Motivated (Q16) and Motivation to Teach Online With Respect to External Factors (Q15), $r = .49$, $p < .01$.

Table 18

Correlations Between Faculty Perceptions and Motivation

A. Perceptions of technology	*N*	Correlation	*p* value
Perceptions of teaching online	29	.53	.003**
Motivation - resources	29	.03	.089

Motivation - external factors	29	.51	.004**
Feeling motivated	30	.35	.059

B. Perceptions of teaching online	*N*	Correlation	*p* value
Consider teach online	28	.62	.001**
Would teach online soon	29	.63	< .001**
Motivation - resources	28	.48	.010**
Motivation - external factors	28	.79	< .001**
Feeling motivated	29	.54	.003**

C. Would teach online soon	*N*	Correlation	*p* value
Motivation - resources	29	.21	.284
Motivation - external factors	29	.55	.002**
Feeling motivated	30	.83	< .001**

D. Feeling motivated	*N*	Correlation	*p* value
Motivation - resources	29	.25	.200
Motivation - external factors	29	.49	.007**

Note. ** = Correlation is significant at the 0.01 level (2-tailed).

Although not intended for validity estimates, further analysis revealed moderate to strong correlations between social and student engagement (Q18) with the following:

1. Perceptions of Teaching Online (Q13), $r = .78$, $p < .01$
2. Perception on Would Teach Online Soon (Q17), $r = .69$, $p < .01$

3. Motivations to Teach Online With Respect to External Factors (Q15), r =. 61, p < .01
4. Feeling Motivated (Q16), r =. 59, p < .01

Table 19

Correlations Between Teaching and Learning, and Social and Student Engagement

Social and student engagement	*N*	Correlation	*p* value
Perceptions of teaching online	27	.78	.000**
Will teach online soon	28	.69	.000**
Motivation - resources	27	.37	.056
Motivations with external factors	27	.61	.001**
Feeling motivated	28	.59	.001**

Note. ** = Correlation is significant at the 0.01 level (2-tailed).

A summary matrix of correlation estimates for items in subcategories Teaching and Learning, and Social and Student Engagement is included in Appendix E.

CHAPTER 4. DISCUSSION

Technology advancement in teaching and learning has changed the traditional concept of classrooms from brick and mortar structures to virtual learning communities. The ivory tower status of postsecondary institutions as the proprietors of knowledge acquisition is under increasing scrutiny. Whereas over 70% of postsecondary institutional leaders believe that online education plays an important part in their strategic plans, administrators' view of faculty acceptance of online education has remained mostly unchanged since 2003 (Allen & Seaman, 2015).

Earlier studies (prior to 2003) of faculty attitudes toward distance education (Cook et al., 2009; Lee & Busch, 2005; Tabata & Johnsrud, 2008) in large public postsecondary institutions identified factors relating to technology use and competencies, time, workload, institutional support, rewards and incentives, promotion and tenure, and quality of instruction and learning. However, the distance education landscape of postsecondary education as a whole has changed considerably since those studies took place. More current studies of distance education in postsecondary institutions mainly focus on administrators' perceptions of faculty acceptance of online education (Allen & Seaman, 2014, 2015; Hoyt & Oviatt, 2013), quality of online programs (Shattuck, 2012; Shelton, 2011; Shelton & Moore, 2014), institutional support for online faculty (Marek, 2009), or faculty technology competency (Palloff & Pratt, 2011). In addition, the

researcher's prior studies of online faculty training and online faculty experiences revealed that while faculty demonstrated technology competency that met the institutional teaching online requirement, faculty perceptions and motivations toward teaching online remain uncertain. As MCE and DU develop strategic plans regarding online education, it is imperative to understand faculty attitude toward teaching online. After an extensive literature review of faculty development and evaluations of online programs, the research priority for this study focused on assessment of faculty perceptions and motivations toward online teaching. The development of the Ready to Teach Online (RTTO) measure was underway.

Development of the RTTO Scale

The development of the RTTO scale followed a standard measure development process. The researcher developed items to measure faculty perceptions of technology and teaching online, and faculty motivations with respect to resources and other external factors. These items were placed in the subcategory, Teaching and Learning. In addition, items were generated to collect baseline data for current practices and placed in the following subcategories: Social and Student Engagement, Faculty and Technology Support, Course Development and Instructional Design, and Evaluation and Assessment. Items were generated based on revisions of current scales in faculty readiness assessment and online programs evaluation, and additional items developed regarding faculty affective readiness in accordance with OLC and QM guidelines for a productive online learning environment. Expert review addressed the content validity of the RTTO scale. Cognitive interviews addressed item comprehensibility of the pilot version of the RTTO scale.

Summary of Results

The researcher analyzed results from the RTTO pilot study, which was conducted at the MCE at DU. The researcher estimated internal consistency for items relating to perceptions of technology (α= .84), perceptions of online teaching (α=.91), motivation to teach online linked to resources (α=.86), motivation to teach online linked to external factors (α=.91), and social and student engagement (α=.65). Support was found for concurrent validity in measuring faculty perceptions and motivations relating to teaching online via correlations among scales and with summary items asking about overall perception of online teaching and motivation to teach online.

The researcher found significant relationships between faculty perceptions of technology and online teaching and faculty motivation to teach online. Mostly, faculty perceptions of teaching online and motivations to teach online were moderately to highly correlated (Nunnally, 1978). In addition, both perceptions and motivations constructs were moderately to highly correlated with social and student engagement. Based on results from reliability and validity estimates, all items in subcategories Teaching and Learning and Social and Student Engagement were retained, particularly because analyses were based on a small pilot study. Results from the remaining survey subcategories were summarized and are listed in the appendices because they were not the focus of this study. Because the researcher recognized that some correlations might be inflated based on current data, to reduce Type I error, the statistical significance was reported at $p < .01$ level.

The pilot study of the RTTO scale showed a significant positive correlation between faculty perceptions of technology and how faculty believed their students would

rate faculty technology competency[11] (r_s = .64, p < .001). In addition, respectively, faculty consideration of teaching online (see Footnote 11) correlated significantly with their perceptions of online teaching (r_s = .62, p < .001), with Would Teach Online Soon (r_s = .81, p < .001), with Feeling Motivated (r_s = .60, p = .001), and with Social and Student Engagement (r_s = .78, p < .001). This study supports the Lee and Busch (2005) results that faculty willingness to teach online is related to their perception of adequate training for online teaching and recognition received.

In addition, faculty perceptions of teaching online correlated significantly with motivation to teach online regarding resources (r = .48, p = .01) and with motivation to teach online regarding external factors (r = .79, p < .001). The pilot study supports Marek's (2009) conclusions that implementing a model of institutional support that includes faculty course release, program-level training and support, and structured mentoring would help institutions create a culture of support for online teaching. In addition, the pilot study supports Cook et al.'s (2009) finding that reward systems are vital incentives for faculty involvement in distance education. However, results did not support Lee and Busch's (2005) suggestion that faculty willingness was unrelated to effort and time needed to develop course materials for distance education.

Overall, results from the RTTO pilot study suggest that both perceptions and motivations are important factors influencing faculty's readiness to teach online. The results also highlight a few faculty concerns, similar to those found in prior literature of distance learning relating to compensation, administrative support, technology,

[11] r_s indicates the Spearman's correlation between continuous variable and categorical variable.

innovation, time demands, workload, and promotion and tenure (Cook et al., 2009; Marek, 2009; Singleton & Session, 2011).

In summary, items from the RTTO pilot study demonstrated strong internal consistency reliability estimates and support for validity. The RTTO scale addressed the *attitude toward behavior*, *subject norm*, and *perceived behavior control* aspects outlined in the first stage of Ajzen's theory for planned behavior (TPB). Based on Ajzen's TPB framework and the purpose of readiness assessment, the researcher successfully developed the RTTO scale of measuring faculty perceptions and motivations toward teaching online. The results from the pilot study for MCE also suggest that field administration of the RTTO scale, given to a larger sample, may provide evidence for further revision.

Although a majority of the items met normality tests, the small sample size presented challenges in interpretation of the pilot study data. Depending on the response rate for the particular items, it may be necessary to expand the sample pool to include additional faculty from other colleges in DU through OTL's recommendation before further data analyses are performed. For example, due to the small data set from questions relating to items on current technology utilization in teaching and learning in all delivery formats, not all levels of technology competencies were accounted for. A DU institutional priority for online faculty development and the MCE strategic priority may not coincide directly, thus the scale should be given to a sample with broader experience in online teaching. Hoyt and Oviatt (2013) pointed out in their national survey of administrators in doctoral granting universities, although online teaching practices existed on campuses, they were not always instituted campus wide.

One challenge to interpretation was the lack of prior examples of faculty readiness assessment studies directed specifically to online faculty development. The researcher analyzed survey results and interpreted reliability estimates in the context of responses to open-ended questions in the same domain. Although this survey adopted this domain of the OLC Quality Scorecard of administration of an online program, items in the social and student engagement question were geared toward technology utilization for all course delivery formats. However, further studies with a larger sample may yield different results from this small pilot sample. As Shattuck (2012) stated, "There is a lack of replication in the literature on the value of learner-learner interaction, except for some work underway using the Community of Inquiry framework (pp. 4-5). Respectively, faculty beliefs in social and student engagement correlated significantly with faculty perceptions of technology ($r = .47$, $p = .012$), with perceptions of teaching online ($r = .78$, $p < .001$), with motivation to teaching online regarding external factors ($r = .47$, $p = .012$), with considerations for teaching online ($r = .71$, $p < .001$), with feeling motivated to teach online ($r = .60$, $p < .001$), and with would teach online soon ($r = .70$, $p < .001$). For the purpose of scale development, although inferences concerning the predictive validity of faculty perceptions or motivations regarding faculty beliefs of social and student engagement cannot be made from these data, the significant positive correlations suggest further research is needed in exploring relationships between constructs in the subcategory Teaching and Learning on faculty perceptions and motivations for online teaching, and in subcategory Social and Student Engagement of faculty practices, in an online delivery format as they relate to faculty members deciding to teach online and continuing to teach online.

Limitations of the Pilot Study

The first limitation of this pilot study lies in the inconsistences in definitions of online courses (Q5) between the institution and OLC (2012), which present challenges in future online faculty development planning and research paradigms. Regardless of the generalizability of the RTTO scale for institutions defining online courses differently, this study aimed to acquire additional faculty information not currently available to support MCE strategic planning processes. The summary of this pilot study may provide considerations for future institutional research.

The second limitation is that not all potential issues relating to online faculty development may have been accurately measured. Confounding factors, such as individual appointment, tenure, and promotion (ATP) considerations or personal experiences, may influence participant responses, and investigating the influences of those variables was beyond the scope of the study.

In addition, although a survey is an efficient way to collect data for planning purposes, it was uncertain what the faculty reception would be, related to this type of inquiry. In addition, as much as one likes to assume that faculty members will respond to items accurately and honestly, if the faculty member had a busy quarter, the timing (e.g., final week of the quarter) of administering the scale may have affected the quantity and quality of the responses, which was also beyond the control of the researcher. Although there was one negatively worded item (Q13_1), the addition of validating items not relating to sub-domains may help to capture careless responding. Further, social desirability biases should be examined in future work.

Further Research

The researcher suggests that in the next phase of scale development via field administration of the pilot version given to a larger sample size, a factor analysis be conducted and the scale revised based on the results. For the qualitative portion of the RTTO scale the researcher suggests that the next phase of research be conducted with a larger sampling frame to include thematic analysis of responses, and that qualitative themes be compared to results found with quantitative data for recommendations and implementation purposes. Additional analysis of qualitative data may provide opportunities for triangulation. However, the inconsistent theoretical frameworks and research paradigms in distance learning will continue to present challenges in envisioning the direction of future research (Shattuck, 2012).

Because historically, distance education was rarely the focus of institutional strategic planning, most postsecondary institutions still handle the increasing market demands in a reactive fashion. In addition, although the job description of what constitutes the professorate has evolved over the last few decades, the academic reward structure for appointment, tenure, and promotion has not. This possibly could also explain the lack of advocacy and scant contribution from the faculty point of view in the existing literature. Research regarding online faculty participation has identified facilitating and inhibiting factors relating to institutional structure, such as compensation, administrative support, innovation, work load, and promotion and tenure (Cook et al., 2009; Lee & Busch, 2005; Lorenzetti, 2011; Marek, 2009; Singleton & Session, 2011). The researcher suggests that only when institutional leaders integrate all the components of distance education holistically in their long-range institutional plans will we foster a

steady stream of research on faculty buy-in at the institutional level (Colbeck, 2002, Hoyt & Oviatt, 2013; Lesht & Windes, 2013; Olson, & Eoyang, 2001; Pina, 2008).

REFERENCES

Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior.* In J. Kuhl & J. Beckmann (Eds.), *Action-control: From cognition to behavior*. Springer series in social psychology (pp. 11-39). Berlin: Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States.* Babson Survey Research Group.

Allen, I. E., & Seaman, J. (2014). *Grade change: Tracking online education in the United States*. Babson Survey Research Group.

Allen, I. E., & Seaman, J. (2015). *Grade level: Tracking online education in the United States*. Babson Survey Research Group.

Bobko, P. (2001). *Correlation and regression.* Thousand Oaks, CA: Sage.

Boyd-Barrett, O. (2000). Distance education provision by universities: How institutional contexts affect choices. *Information, Communication & Society, 3*(4), 474-493.

Chi, A. (2013). *The journey to teaching online: A case study of faculty preparation and experiences in online teaching* (Doctoral dissertation). Retrieved from Social Science Research Network http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2303965

Colbeck, C. L. (2002). Assessing institutionalization of curricular and pedagogical reform. *Research in Higher Education, 43*(4), 397-421.

Cook, R. G., Ley, K., Crawford, C., & Warner, A. (2009). Motivators and inhibitors for university faculty in distance and e-learning. *British Journal of Educational Technology, 40*(1), 149-163.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

DeVellis, R. F. (2012). *Scale development: Theory and applications.* Thousand Oaks, CA: Sage.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes.* Fort Worth, TX: Harcourt Brace Jovanovich College.

Fowler, F. J. (2009). *Survey research methods* (4th ed.). Thousand Oaks, CA: Sage.

Gardner, R. C., & Lambert, W. E. (1972). *Attitudes and motivation in second language learning.* Rowley, MA: Newbury House.

Halfond, J. A. (2014). A case of do or die? The fundamental things that apply to online leadership. *New England Journal Of Higher Education, 1.*

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.

Knowles, M. (1984). *The adult learner: A neglected species* (3rd ed.). Houston, TX: Gulf.

Lee, J. A., & Busch, P. E. (2005). Factors relating to instructors' willingness to participate in distance education. *Journal of Educational Research, 99*(2), 109-115.

Lesht, F., & Windes, D. L. (2013) Administrators' views on factors influencing full-time faculty members' participation in online education. *Online Journal of Distance Learning Administration*. Retrieved from http://www.westga.edu/~distance/ojdla/winter144/lesht_windes144.html

Lorenzetti, J. P. (2011). Motivating online faculty from the inside and the outside. *Distance Education Report, 15*(21), 1-8.

Marek, K. (2009). Learning to teach online: Creating a culture of support for faculty. *Journal of Education for Library & Information Science*, *50*(4), 275-292.

Nunnally, J. C. (1978) *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.

Office of Teaching and Learning (2015). Definition. Distance Learning Council website. DU Portfolio, University of Denver. Retrieved from https://portfolio.du.edu/dlc

Office of Teaching and Learning (2015). Support for distance learning. Distance Learning Council website: DU Portfolio, University of Denver. Retrieved from https://portfolio.du.edu/dlc

Olson, E. E., & Eoyang, G. H. (2001). *Facilitating organization change: Lessons from complexity science.* San Francisco, CA: Jossey-Bass.

Palloff, R., & Pratt, K. (2011). *The excellent online instructor: Strategies for professional development.* San Francisco, CA: Jossey-Bass.

Peterson, M. W., & Einarson, M. K. (2001). What are colleges doing about student assessment? Does it make a difference? *The Journal of Higher Education, 72*(6), 629-669.

Pina, A. (2008). How institutionalized is distance learning: A study of institutional role, locale and academic level. *Online Journal of Distance Learning Administration, 11*(1).

Pink, D. H. (2009). *Drive: The surprising truth about what motivates us.* New York, NY: Penguin Group.

Shattuck, K. (2012). What we're learning from Quality Matters-focused research: Research, practice, continuous improvement. Paper published for Quality Matters. Retrieved from http://communitiesofinquiry.com/model

Shelton, K. (2011). A review of paradigms for evaluating the quality of online education programs. *Online Journal of Distance Learning Administration, 14*(1). Retrieved from http://www.westga.edu/~distance/ojdla/spring141/shelton141.html

Shelton, K., & Moore, J. (2014). *Quality Scorecard for the Administration of Online Programs: A Handbook*. Online Learning Consortium website. Retrieved from http://onlinelearningconsortium.org/quality-scorecard

Singleton, H. W., & Session, C. L (2011). Faculty concerns related to distance learning within nontraditional doctoral programs. *New Directions for Adult and Continuing Education, 129*. doi: 10.1002/ace.398

Surry, D. W., & Brennan, J. P. (1998). *Diffusion of instructional innovations: Five important, unexplored questions*. Paper presented at the annual conference of the Association for Educational Communications and Technology, St. Louis, MO.

Tabata, L., & Johnsrud, L. (2008). The impact of faculty attitudes toward technology, distance education, and innovation. *Research in Higher Education, 49*(7), 625-646.

Terenzini, P. T., (1989). Assessment with open eyes: Pitfalls in studying student outcomes. *The Journal of Higher Education, 60*(6), 644-664.

Wlodkowski, R. J. (1999). *Enhancing adult motivation to learn: A comprehensive guide for teaching all adults.* San Francisco, CA: Jossey-Bass.

APPENDICES

Appendix A

Readiness To Teach Online Survey (by domain)

This survey aims to understand current practices and level of interest in faculty development in online teaching. Please answer the following questions with your most reflective response so we may incorporate your ideas and needs in the strategic planning process.

Q1. Informed Consent Form

I. Teaching and Learning

Q2. For the following items, please select the response option that best describes your perceptions,

Strongly disagree____, Disagree____, Neutral_____, Agree____, Strongly Agree____

- I feel comfortable using technology outside of work.
- I enjoy learning new technology outside of work.
- I feel comfortable using technology in research.
- I feel comfortable using technology in teaching.
- I enjoy learning new technology for work.
- I am open to learning more ways in using technology in teaching.
- I believe for students to succeed as 21st century professionals, learning how to use technology is an integral part of their education.

Q3. How would your students rank your technology competency?
Novice____, Beginner_____, Moderate____, Proficient_____, Excellent____

Q4. How comfortable are you with students using technology in their learning?

Very uncomfortable_, Uncomfortable_, Neutral__, Comfortable__, Very comfortable__

Q5. In your opinion, what portion of content should be delivered online for a course to be considered an online course?

<30% _____, 30-50% _____, 50-79%_____, >80%_____

Q6. Have you considered teaching online?

Never_____, Rarely_____, Sometimes _____, Most of the time_____, Always___

Q7. Have you taught in an online format?

Yes_____, No_____

Q8. If you have not taught online, what would be your favorite aspect of teaching online?

Q9. If you have not taught online, what would be your least favorite aspect of teaching online?

Q10. If you have taught online, what was your favorite aspect of teaching online?

Q11. If you have taught online, what was your least favorite aspect of teaching online?

Q12. If you have taught online, how many courses for how many times respectively?

Q13. For the following items, please select the response option that best describes your perceptions.

Strongly disagree____, Disagree____, Neutral_____, Agree____, Strongly Agree____

I believe teaching online

- Takes less time than teaching face to face.
- Will help me reach new audiences.
- Will offer greater course flexibility for students.
- Will diversify program offerings.
- I believe teaching online will offer more opportunities to improve my teaching.
- I believe teaching online will offer me opportunities for development of new ideas.
- I believe teaching online will offer me more professional development opportunities.
- I believe teaching online will offer me more job satisfaction.
- I believe teaching online will motivate me to learn new technology.
- I like the intellectual challenge teaching online presents.

Q14. If made available, I believe the following resources will help to MOTIVATE me to teach online.

- On site Instructional design assistance
- Group technology training
- Individual technology training
- Coaching
- Support group
- Ability to decide whether to teach online

- Ability to decide the format my course is offered
- Administrative support
- Time off to develop online course
- Course release to develop online course
- Stipends for developing online course
- Grant opportunities for developing online course
- Recognition for online teaching
- Institutional endorsement
- Counted toward promotion

Q15. I believe the following factors would MOTIVATE me to teach online.

- Colleagues' adoption of online teaching
- To increase student enrollment
- Online teaching is a program priority
- Adopt to needs of the field
- Provide students with necessary skills
- Increased expectations by College and University leadership

Q16. I feel motivated to teach online in my current professional environment.

Q17. I believe I will teach online in the near future.

II. Social and Student Engagement

Q18. For the following items, please select the response option that best describes your perceptions.

Strongly disagree____, Disagree____, Neutral___, Agree____, Strongly Agree____

- I support learner-to-learner interaction and collaborative activity as a central means of teaching.
- I support the use of online discussion as a means of teaching.
- I support the use of online chat function as a means of teaching.
- I believe that high quality experiences can occur without interacting with students face-to-face.
- I believe that I can provide students the attention they need online.

III. Faculty and Technology Support

Never_____, Rarely_____, Sometimes _____, Most of the time_____, Always___

Q19. Do you use technology in your classrooms?

Q20. Please check how often you use the following technology in your classrooms.

- Learning Management System- e.g. Canvas
- Web sources
- Software
- TechSmith (formerly Camtasia Relay)
- Canvas Video Capture
- Adobe Connect
- Web/Ex
- Videoconference/Skype
- Smart or Promethean Board
- Projector
- Video camera and/or video-editing system
- Student response system, e.g. Clickers, TopHat
- Computer labs

Q21. For the following two items, please select the response that best describes your situation:

Never_____, Rarely_____, Sometimes _____, Most of the time_____, Always___

- I require assistance when using MCE-based technology.
- I feel the classroom support offered by MCE Technology Services meets my needs.

Q22. If you have attended a MCE-based technology PD offering, please list them: (e.g. Activity Insight, Hybrid 3-D Workshop, Canvas Workshop, Social Network Analysis, R, etc.)

Q23. If you have spent individual time learning more about any particular technologies for your use in teaching and learning, please list and describe:

IV. Course Development and Instructional Design

Q24. What is your teaching style? Please describe briefly, e.g., dialectical, constructive

Q25. Which of the teaching strategies do you generally use?

Never_____, seldom_____, sometimes _____, often_____, always_____

- Lecture
- Activities, e.g. in-class exercises
- Discussions
- Interactive
- Collaborative

Q26. Please respond to the following statements and select the applicable ratings accordingly.

Yes_____, No_____

Novice____, Beginner_____, Moderate____, Proficient_____, Excellent____

- I have experienced at least one online course as a student.
- I have received training in online instruction.
- I have completed the OTL training "Teaching Online Workshop."
- I understand what constitutes best practices in online teaching.
- I am proficient in best practices in online teaching.
- I have used online quizzes in teaching my classes.
- I have used online discussions in teaching my classes.
- I have used online chat in teaching my classes.
- I have used my university's course management system (e.g. Canvas) to supplement my classroom teaching.

Q27. Is there a particular technology (hardware, software, or application) that you would like to incorporate into your teaching if possible? If so, please explain below and discuss what would be most helpful to aid you in incorporating that technology.

V. Evaluation and Assessment

Q28. What percentage of your student assessment is conducted using technology (e.g., online quizzes, discussion boards)?

0-20%_____, 21-40% _____, 41-60%_____, 61-80%_____, 81-100%_____

Q29. If you have used different technologies in assessing your students' learning, please describe:

Q30. If you have used different technologies in evaluating your teaching, please describe:

Q31. If you believe assessment is an area where technology can be utilized for better student learning outcomes, please describe:

Exiting the survey!

Q32. Do you have any additional comment with regard to using technology in teaching?

Q33. What is your rank?

Tenured____, Tenure Track_____, Clinical_____, Lecturer____, Adjunct_____

Thank you for your participation!

Appendix B

(III) Faculty and Technology Support

Question 19 - Do you use technology in your classrooms?

Response	Frequency	%
Never	0	0%
Rarely	1	3%
Sometimes	2	7%
Most of the time	12	41%
Always	14	48%
Total	29	100%

Question 20 - How often do you use the following technology in teaching?

#	Question	Never	Rarely	Some times	Most of the Time	Always	Total Responses
1	Learning Management System- e.g. Canvas	1	0	1	3	24	29
2	Web Sources	0	0	5	6	18	29
3	Software	2	2	9	9	7	29
4	TechSmith (formerly Camtasia Relay)	19	4	4	2	1	30
5	Canvas Video Capture	17	5	5	1	1	29
6	Adobe Connect	8	5	12	3	1	29
7	Web/Ex	21	5	3	0	0	29
8	Videoconference/ Skype	5	5	16	3	0	29
9	Smart or Promethean Board	11	13	1	3	1	29
10	Projector	0	2	1	8	18	29
11	Video Camera and/or video-editing system	9	10	7	0	3	29
12	Student response system- e.g., Clickers, TopHat	18	4	3	3	1	29
13	Computer labs	12	7	6	4	1	30

Question 21 - Please select the response that best describes your situation:

#	Question	Never	Rarely	Sometimes	Most of the Time	Always	Total Responses
1	I require assistance when using MCE-based technologies.	0	15	12	2	0	29
2	I feel the classroom support offered by MCE Technology Services meets my needs.	0	3	3	16	7	29

Question 22 - Please list any MCE-based technology PD offerings that you attended:

Text Response	
1.	MCE Faculty Technology Orientation; Activity Insight; Canvas
2.	Activity Insight, Hybrid 3-D, Canvas Workshop, Blackboard, Adobe Connect
3.	Activity Insight
4.	Activity Insight, Canvas Workshops, On-line teaching workshops
5.	Activity insight; OTL training on Blackboard
6.	Canvas Workshop, Activity Insight
7.	Activity Insight
8.	Activity insight, Canvas workshop
9.	Canvas Workshop; OTL stuff;
10.	Activity insight, Canvas, DU Assessment, Smart Board
11.	Activity Insight; Hybrid 3-D Workshop, Canvas Workshops
12.	Activity Insight, Canvas
13.	Hybrid course development
14.	Activity Insight, Canvas workshop, OTL workshop
15.	Promethean Board trainings.
16.	Hybrid 3-d workshop, canvas workshop
17.	Activity Insight, Canvas Workshop, MULTIPLE OTL WORKSHOPS and TRAININGS
18.	Canvas
19.	Activity Insight, Canvas webinars, Demonstration on clickers-
20.	Activity Insight, WebXtender, New Faculty Tech Training, Canvas Workshop
21.	Activity Insight training
22.	Activity Insight

Question 23 - If you have spent individual time learning more about any particular technologies for your use in teaching and learning, please list and describe:

Text Response	
1.	Canvas
2.	Adobe Connect, Google Hangout, DU Video Manager
3.	R (open source stat package; Prezi
4.	NA
5.	Adobe Connect, Haiku Deck
6.	Canvas, R, other software
7.	Clicker programs, DU Course Media, DU video manager
8.	Canvas; video capture; adobe connect; smart board;
9.	Activity insight, Canvas, DU Assessment, Smart Board, Qualtrics
10.	Adobe Connect for use in "live" Webinars
11.	Since so much of my curriculum is based on new technologies, I am constantly learning and presenting these technologies to my students.
12.	Setting up Blackboard containers, learning about Anderson Library resources
13.	A variety of software programs.
14.	Canvas
15.	Camtasia, canvas, adobe connect, SmartBoard
16.	As stated, multiple workshops and trainings offered through the Office of Teaching and Learning; Individual time with several OTL instructors and support personnel; many hours working directly with various aspects on my own time.
17.	Camtasia, Twitter, Canvas, DU video management,
18.	Photoshop, CONTENTdm, Omeka
19.	Canvas
20.	Canvas- learned more sophisticated uses of Canvas
21.	Canvas
22.	Adobe Connect, Canvas, Skype, Polling Software, Online Blog options

Appendix C

(IV) Course Development and Instructional Design

Question 24 - What is your teaching style? Please describe briefly, e.g., dialectical constructive.

Text Response	
1.	Dialectical
2.	I am a Constructivist
3.	More facilitator, some lecture
4.	Interactive, Socratic, theory to practice integration,
5.	Combination, proportion depends on topic, students, time
6.	Dialectical, constructivist
7.	Constructivistic, grounded in reflective inquiry
8.	Demonstrator or coach style
9.	Interactive discussions with students and multi-media--ppt., video, podcasts and direction observation and interaction.
10.	Critical pedagogy; generally awesome
11.	Constructivist; interactive
12.	Constructivist, inquiry based
13.	Facilitate student cooperative learning
14.	Constructive
15.	Lots of classroom discourse and inquiry-based approaches.
16.	Dialectical
17.	Lecture with embedded dialectical conversations
18.	Interactive and constructive
19.	It depends on the class
20.	Constructive
21.	Mix of Constructive, small group discussion break out groups, lecture
22.	Constructivist, interactional
23.	All of the above - depends on course
24.	Humanistic and apprenticeship
25.	Shared dialogue, shared facilitation, rare lectures

Question 25 – Which of the teaching strategies do you use?

Question	Never	Rarely	Sometimes	Most of the time	Always	Total Responses
Lecture	1	5	11	6	6	29
Activities, e.g., in-class exercises	0	0	3	12	14	29
Discussions	0	0	2	11	16	29
Interactive	0	0	3	13	14	29
Collaborative	0	1	4	9	15	29

Question 26.1 – Please respond to the following statements and select the applicable ratings, accordingly.

#	Question	Yes	No	Total Responses
1	I have experienced at least one online course as a student.	16	13	29
2	I have received training in online instruction.	18	12	30
3	I have completed the OTL training "Teaching Online Workshop."	12	16	28
4	I understand what constitutes best practices in online teaching.	17	12	29
5	I am proficient in best practices in online teaching.	15	14	29
6	I have used online discussions in teaching my classes.	23	6	29
7	I have used online quizzes in teaching my classes.	16	13	29
8	I have used online materials in teaching my classes.	27	2	29
9	I have used online chat in teaching my classes.	13	16	29
10	I have used my university's course management system (e.g. Canvas) to supplement my classroom teaching.	27	2	29

Question 26.2 - Please select the applicable ratings accordingly.

#	Questions	Nov-ice	Begin-ner	Moder-ate	Profi-cient	Excel-lent	*N*	Mean
1	I have experienced at least one online course as a student.	7	0	5	7	3	22	2.95
2	I have received training in online instruction.	6	3	7	6	1	23	2.70
3	I have completed the OTL training "Teaching Online Workshop."	6	1	6	4	2	19	2.74
4	I understand what constitutes best practices in online teaching.	5	3	7	8	0	23	2.78
5	I am proficient in best practices in online teaching.	5	6	4	7	0	22	2.59
6	I have used online discussions in teaching my classes.	0	1	8	10	5	24	3.79
7	I have used online quizzes in teaching my classes.	3	1	6	7	2	19	3.21
8	I have used online materials in teaching my classes.	0	0	10	12	5	27	3.81
9	I have used online chat in teaching my classes.	4	4	5	6	0	19	2.68
10	I have used my university's course management system (e.g. Canvas) to supplement my classroom teaching.	0	1	5	16	5	27	3.93

Question 27 - Is there a particular technology (hardware, software, or application) that you would like to incorporate into your teaching if possible? If so, please explain below and discuss what would be most helpful to aid you in incorporating that technology.

Text Response	
1.	I would like to maximize the capabilities that Canvas provides, but simply no time to learn.
2.	More visuals...I attended the OTL workshop in "Elevating my Lectures" and that was great!
3.	Tablets
4.	Software, TopHat, TechSmith
5.	I would like to use the SmartBoard more in my teaching.
6.	No
7.	If there is a technology more conducive to a "live" webinar other than Adobe Connect
8.	In teaching online technology courses, it would be useful to have a virtual sandbox that students can access to test and try different technologies. This should include the ability to set up systems using back-end databases.
9.	Refworld
10.	SPSS
11.	Not at this point. I would be happy just by getting better with what's available to me now.
12.	More work with student video production to represent and share fieldwork and experiences. Permissions and IRB potentially an issue.
13.	Learn to fuse media with power point

Appendix D

(V) Evaluation and Assessment

Question 28 - What percentage of your student assessment is conducted using technology (e.g., online quizzes, discussion boards)?

Response	Frequency	%.
0-20%	9	31%
21-40%	12	41%
41-60%	5	17%
61-80%	2	7%
81-100%	1	3%
Total	29	100%

Question 29 - If you have used different technologies in assessing your students' learning, please describe:

Text Response
1. Qualtrics
2. Pen and paper
3. No
4. See above
5. N/a

Question 30 - If you have used different technologies in evaluating your teaching, please describe:

Text Response	
1.	Students use technology for presentations and I assess their ability to use technology to communicate their ideas
2.	Portfolio
3.	Developed a rubric for assigned IGNITE! Presentation, use Google Forms for exit surveys as formative assessment
4.	Blackboard and Canvas online quizzes
5.	Pen and paper
6.	Use of e-Portfolio for students to display project parts since quizzes and tests are not used in the program
7.	Group assignment, blogs, wikis,
8.	Different than what? Question is not clear.
9.	Watching on-line videos and coding off-line.
10.	Final exams
11.	I read papers online, write comments online, etc.
12.	Blackboard, Canvas

Question 31 - If you believe assessment is an area where technology can be utilized for better student learning outcomes, please describe:

Text Response	
1.	I believe, but don't feel competent enough to offer additional insights on this issue.
2.	I think more use of Video Manager would be helpful to students and me to evaluate their ability to communicate verbally.
3.	Program assessment data collection and analysis
4.	I believe that technology is an important aspect of measuring student learning outcomes. Many of the students are familiar with completing work on line and this will help track the SLO over the long run.
5.	I like the flexibility of technology in a hybrid online course.

Question 32 - Do you have any additional comment with regard to using technology in teaching?

Text Response	
1.	Nope
2.	The more it's used artfully by people in positions of leadership, the more it will be part of our life and more easily incorporated into our teaching.
3.	We need to have a endowed chair in innovative learning technologies who is a resource for learning tech at many levels, and research in this area
4.	Large investment in programming/development (e.g., of simulations and other tools)
5.	I know that I'm not utilizing technology to the greatest extent. I would like to learn how to use technology more effectively and am open to any professional development opportunities.
6.	We need a more expansive understanding of technology
7.	No
8.	Our students prefer face-to-face classes; we have experimented with hybrid classes,
9.	It is a tool.
10.	It is exciting

Appendix E

Correlations

	TCBS	CWST	PT	PO	CTO	WTS	MR	MEF	FM	SSE
TCBS	1									
CWST	.14	1								
PT	**.63****	.21	1							
PO	.19	.15	**.53****	1						
CTO	.31	.09	.39	**.60****	1					
WTS	.11	.14	.35	**.63****	**.79****	1				
MR	-.20	.04	.03	**.48****	.10	.21	1			
MEF	.06	.21	**.51****	**.79****	.41	**.55****	.43	1		
FM	.11	.24	.35	**.54****	**.59****	**.83****	.25	**.49****	1	
SSE	.26	.14	**.47****	**.78****	**.71****	**.69****	.37	**.61****	**.59****	1

TCBS-tech comp by student; CWST-Comfort w/ student tech use; PT-Perception of Tech; PO-Perception of Online Teaching; CTO-Consider teaching online; WTS-Would teach online soon; MR-Motivation-Resources; MEF-Motivation-Ext. Factor; FM-Feeling motivated to teach online; SSE-Social and student engagement

**$p < .01$