COMMUNITY COLLEGE FACULTY PERCEPTION OF PREPAREDNESS TO TEACH ONLINE

by

Kao Chongkao Vang

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Approved by:

Dr. Florence Martin

Dr. Chuang Wang

Dr. Mark D'Amico

Dr. Teresa Petty

ABSTRACT

KAO CHONGKAO VANG. Community College Faculty Perception of Preparedness to Teach Online. (Under the direction of Dr. Florence Martin)

Faculty competencies required to teach online have been examined in university settings but there is limited research focusing on community colleges. This study examined 101 community college faculty's perceptions on their preparedness to teach online. An online survey was utilized to collected data on the importance of online competencies and self-efficacy to teach online. Faculty perceptions were examined in four areas of competencies, course design, course communication, time management and technical. This study also explored if there were significant differences on faculty perceptions based on gender, age, years of teaching, years of teaching online, and delivery method and found significant differences based on gender, and delivery method. This research study has implications for faculty who teach online, instructional designers who support faculty to teach online and administrators who support online learning initiatives at the community colleges.

DEDICATION

I dedicate this dissertation to my parents, Mr. Sia Shoua Vang and Mrs. Xai Xiong Vang for their endless life struggle to give their children a world with endless possibilities. To my dad, the hardest working dad I know, thank you for your sacrifices. To my mom, your strength, courage, love, and humbleness have shaped and mold me to who I've become. You two were my unsung heroes, my rock, my shield, and my inspiration to always keep moving when things get rough. Your struggles opened my eyes and your words of wisdom opened my ears. While the two of you never saw the fruits of your labor, I'm a testament that you two were great mentors and teachers who showed me the way. I wished the two of you were still here to have seen the seed you sowed. Many thanks to the two of you for giving me life, giving me hope, and giving me this opportunity to write this wonderful lifetime achievement paper.

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CHAPTER 1: INTRODUCTION

The purpose of this survey-based research study is to examine North Carolina Community College faculty preparedness to teach online. While there are research studies on competencies, self-efficacy and faculty preparedness to teach online (Lichoro, 2015; Hardy, Shepard & Pilotti, 2017), there are very few research studies specifically focusing on community colleges (Instructional Technology Council, 2013). Oblender (2002) noted online learning courses suffer from a high dropout rate, with the average online college course dropout rate in the United States being 50%. This high dropout rate warrants the need to adequately prepare faculty to teach online. Garland (1993) cited students felt online courses took more time than anticipated because they misjudged the demands of work, home and school. Students were also challenged by the technological capabilities or training that may not be sufficient to do what is expected in the online course (Chi-Sing, & Irby, 2008).

According to Allen and Seaman (2017), online education continues to grow each year. The constant increase of students taking online courses require an increased number of highly qualified instructors (Allen & Seaman, 2013). Instructors need comprehensive training to ensure a well-prepared start, and continued support and services throughout their online teaching (Hunnington-Kleing, Cowan, & Goldhaber, 2017; Lieberman & McNett, 2001). When online instructors are fully equipped with the necessary skills to teach in the online learning environment, including effective online pedagogies and teaching strategies, the students are able to succeed in the online learning experience they create (Bedore, 1997).

Growth in Online Course Delivery

Allen and Seaman (2017) cited distance education enrollment continues to increase for the fourteenth straight year. In addition, the annual growth rate of online enrollment continues to surpass the overall higher education enrollment growth rate. According to Straumsheim (2016), the percent of community colleges offering at least one online degree has increased from 66 % to 92%. Community colleges offering online certificate programs also saw an increase from 76% to 84%. Jaggars and Xu (2010) found 14% of students in a 2004 cohort enrolled in at least one online course in their first semester at Virginia community colleges. During their first year, 23% of students attempted an online course. According to Straumsheim (2016), community college online programs are growing about 5 percent per year. Smith (2015) found that nearly all student growth at two-year institutions was attributed to distance education enrollments. In addition, while the overall community college enrollment declined by 3.5 percent from fall 2013 to fall 2014, there was an increase of 4.7 percent in student online enrollment from fall 2012 to fall 2013.

According to Ally (2004), there are four benefits to teaching online. First, online teaching provides many benefits including convenience and flexibility. Faculty can teach online from anywhere with Internet access. For example, faculty can teach while traveling to a conference or teach from home. Second, learning management system grading tools allow faculty to automate the grading process and thus saves instructor time. Third, online teaching provides an opportunity to present instructional material in a variety of formats such as videos, interactive multimedia along with text-based readings and web resources. Fourth, it also enables reaching many students who may not be able to take the class and enhances increased participation from the students. For example, a

discussion forum provides a comfortable venue for shyer students to be a part of discussions and other course activities. These advantages have led to an increase in the number of faculty teaching online (Ally, 2004).

Faculty Preparedness to Teach Online

For many four-year and two-year institutions, it is not uncommon to find faculty who have no formal training to teach in a traditional classroom setting or an online environment. There are still many instructors teaching online while lacking necessary skills and knowledge to teach effectively in online settings. Researchers have argued and echoed the importance of adequately preparing faulty to teach online courses so that institutions and students are successful.

Clearly, there is a difference between teaching an online versus traditional face-to-face course. The authors of "Comparing Face to Face and Online Teaching" (2014) cited differences in pedagogy, operational, students, and instructor roles. Online courses are delivered mostly asynchronous via the learning management system, include discussion forums, emails and announcement for interaction, with various means of content presentation, alternative assessments, and content is designed ahead of course start date. By contrast, face-to-face pedagogy is mostly synchronous interaction with content planned by session. Second, face-to-face has a set time schedule and is held in the same geographic location where online is 24/7. Third, online students are dispersed globally with varied availability while face-to-face students often live near campus. Finally, online instructors are facilitators who help students construct knowledge by guiding discussions (Martin, Sadaf, & Wang, 2017). LaMonica (2001) cite online

teaching is quite different compared to classroom teaching. She also argues teaching online requires different skill sets and pedagogy.

Ko and Rossen (1998) noted a well-prepared online instructor is critical to the success of the online course. Quality professional development for both novice and experienced online instructors is crucial for any online program (Fish & Wickersham, 2009; Lee, Paulus, Lobada, Phipps, Wyatt, Myers, & Mixer, 2010; Palloff & Pratt, 2011). Johnson and Berge (2012) cited support for faculty transitioning to online teaching. Administrative support, professional development, training, and faculty interaction were key items when dealing with online teaching (Covington, Petherbridge, & Warren, 2005). Vaill and Testori (2012) include initial training, mentorship, and ongoing support as a three-tiered approach to faculty development in online learning.

While online course offerings increase, retention and success gaps between face-to-face and online course remains. According to Freitas (2015), faculty development for online instruction is encouraged and required by federal and state agencies. In addition, while there seems to be mandates, some colleges provide extensive training while others provide little or none (Freitas, 2015).

Competencies for Faculty to Teach Online

Competency according to Al-Salman (2011) is a multidimensional concept. It can be defined as observable behavior or skill sets, standards or quality of performance, or dimensions of knowledge, skills and abilities. Faculty are expected to exhibit certain competencies to teach in an online environment. Research studies have repeatedly shown interpersonal communication and feedback to be critical components in effective distance education courses (Thach & Murphy, 1995). Mancuso-Murphy (2007) cited timely and

constructive feedback as valued by students taking online courses. Technology competencies are also critical to online teaching. Wagner and Craft (1998) stated that faculty must learn to use technology to promote interaction in online courses.

Thach and Murphy (1995) identified over 51 online competencies used by online education experts based on various roles. The roles include instructor, instructional designer, technology expert, technician, administrator, site facilitator, support staff, editor, librarian, evaluation specialists, and graphic designer. Some of the instructor competencies include planning skills, instructional design, content knowledge, modeling of behavior skills, interpersonal communication, and feedback skills. Other researchers including Lee and Tsai (2010) addressed competencies in areas of pedagogy, content, and technology. In addition, they proposed online instructor competencies be based on their Web Pedagogical Content Knowledge (WPCK) framework. Other researchers suggested online instructors possess three critical technological competencies such as managing the online environment, preparing content for the environment, and having the ability to leverage online tools such as to create a desirable peer-to-peer communication (Oliver, Osborne, & Brady, 2009).

McConnel (2000) mentioned that in an online course, there is less instructor control and it is much easier for participants to ignore the instructor. The group dynamic also includes equal participation, less hierarchy, no class breaks, and time delay in asynchronous interactions or discussion. Clearly, there is a difference between an online versus a traditional class. Bawane and Spector (2009) suggested no fundamental difference between competencies to teach online versus traditional classroom setting but

cited the application of the competencies may differ based on the context of the role the faculty member must play in the learning process.

Faculty Self-Efficacy for Teaching Online

Self-efficacy is defined as a person's subjective convictions to successfully complete a specific task given the skills he or she processes (Pajares, 1996). Just as competencies are important to teach online courses, faculty self-efficacy has the potential to positively or negatively affect online teaching. According to Albion (2001), Bandura (1997), and Kulinna and Silverman (2000), there is a close association between teacher efficacy and commitment to teaching, adoption of innovations, and use of effective strategies. With students more likely to drop out of an online course, having teachers with a high level of self-efficacy can equate to better student achievement and retention (Chambers & Hardy, 2005). To better understand online teaching self-efficacy beliefs, Bandura's Social Cognitive Theory will be used as the guiding theoretical lens. According to Bandura (1977), people learn from one another through observation, imitation, and modeling. Social Cognitive Theory provides a framework for understanding, predicting, and changing human behavior (Green & Peil, 2009).

Teachers' general orientation toward the educational process as well as how they design instructional activities are affected by beliefs in their self-efficacy (Pajares, 1992; Prosser & Trigwell, 1997; Samuellowicz & Bain, 2001; Trigwell & Prosser, 1996). According to Tschanen-Moran and Hoy (2001) teachers with a strong sense of self-efficacy are more inclined to demonstrate greater levels of planning, organization, eagerness, and allot additional time teaching in areas where their sense of self-efficacy is

higher while tending to stay away from subjects and topics where self-efficacy beliefs are lower.

Another benefit to having high self-efficacy is that teachers tend to accept new ideas, recover better when problems arise, are less critical of students who make mistakes, and work longer with students who have trouble (Gibson & Dembo, 1984). Community colleges have adult students who may not be well versed in technology and when faced with difficulties in using technology such as a learning management system may end up dropping the course (Chambers & Hardy, 2005). Faculty with strong self-efficacy might be able to help students who face difficulties while taking an online course and help them succeed.

Self-efficacy is an important aspect of technology adoption because it illuminates perceived capabilities that link to attitudes regarding adopting technology (Straub, 2009). In other words, faculty must believe they will be successful online instructors while adopting a new instructional delivery method. Research suggests that having higher self-efficacy can be beneficial to faculty. Individuals with higher self-efficacy perform better, cope better when faced with obstacles, and are more motivated (Gist & Mitchell, 1992; Marakas, Yi, & Johnson, 1998; Pajares & Valiante, 1997). Bandura (1977, 1986, 1997) argues that simply having the requisite knowledge and skills to perform a task is not sufficient. Since self-efficacy beliefs lie at the core of human functioning and since effective functioning requires skills and efficacy, one must not only have the skills but also be assured that they could successfully perform the required behavior(s) in challenging circumstances.

Statement of the Problem

Although distance education continues to thrive and grow at the community college, there is a concern in the quality of online courses offered. (Hunnington-Kleing, Cowan, & Goldhaber, 2017). New instructors need comprehensive training to ensure a strong start, continuing support and services to teach online (Lieberman & McNett, 2000). Continued growth and demand for online courses require colleges to commit to in-depth planning when faced with dwindling resources. Leist and Travis (2010) also recommend a commitment by the entire institution to planning and resource allocation if colleges intend to take advantage of the full range of capabilities offered by online technology.

At minimum, institutions need to determine what resources, including personnel, are essential to the maintenance of the online courses; how many courses can reasonably be offered online, given available resources; which courses are best suited for online delivery; and what limits, if any, should be placed on the expansion of online offerings. A report by The Institute for Higher Education Policy (2000) developed a set of quality benchmarks that includes faculty support. The faculty support section includes guidelines for assistance in: 1) course development; 2) transition for traditional to online instruction; and 3) instructor training and assistance (Merisotis & Phipps, 2000).

Purpose of the Research

The purpose of this survey-based research study is to examine community college faculty's preparedness to teach online. Specifically, the study aims to understand how faculty rate the importance of online teaching competencies and their self-efficacy to teach online.

Research Questions

The research questions that guided this study are:

1. What are community college faculty perceptions on the importance of online teaching competencies?
2. What are community college faculty perceptions of their efficacy to teach online?
3. What community college faculty demographic factors are related to faculty perceptions of the importance of online teaching competencies and their efficacy to teach online?

Significance of the Study

The findings of this study will help shed light to the question of how adequate North Carolina Community College facultyare prepared to teach online and their perception of online competencies. On a global scale, the study could confirm a widespread issue regarding faculty preparation to teach online and therefore, warrant training for faculty if needed. The findings from this research study could be used to create professional development training that will better prepare faculty to teach online. The results of the study will provide administrative personnel with feedback on faculty preparation to teach online. In addition, the study will provide a foundation for faculty development program that North Carolina Community Colleges should institute to support online teaching faculty. For the researchers, the study may help uncover new areas for future research.

Survey Based Research

This study used a survey based research approach because of its ability to allow researchers to study complex topics (Ebel, 1980). Three public North Carolina community colleges were selected for this research. This research study utilized survey

research because survey research has historically included large population-based data collection. This type of research obtains information describing characteristics of a large sample of individuals of interest quickly (Ponto, 2015). The ability to obtain information about a large sample of individuals quickly makes survey research effective for this research study. In addition, "Survey research also enables scholars to explore social psychological phenomena with samples that accurately represent the population about who generalizations are to be made" (Viser, Krosnick, & Lavrakas, 2000, p. 247). An electronic survey was sent to the faculty at the three community colleges selected for this research. Appropriate institutional effectiveness personnel were asked to help distribute the electronic survey to all faculty who have taught one online course. To have a better understanding of the general population, this research aims to obtain a sample size of 200 participants. One challenge of a survey is a potential low response rate. An incentive in the form of a gift card was used to help increase participation. The instrument selected for this research was the Faculty Preparedness to Teach Online (FPTO). Among data to be collected was four targeted areas of interest including course design, course communication, time management, and technical competency abilities. Other demographic data was also collected including but not limited to gender, faculty years of teaching, years of teaching online courses, rank, and age.

Limitations

As with any survey research, there are limitations even when the research is carefully planned. One limitation is time consumption. While the survey will be sent electronically, there is no real incentive for faculty from their institution to complete the

survey other than to be aware of the competencies that are important to be prepared to teach online. To provide a small incentive, the researcher is offering a gift-card raffle drawing to help entice as many participants as possible. This limitation could negatively impact the research result. Another limitation to this research is total survey error such as response bias and non-response bias. Survey research attempts to accurately measure constructs within a sample of people who represent the population of interest (Visser, Krosnick, & Lavrakas, 2000). Another limitation is non-probability where the population may or may not be representative. Since a sample is a subset of the population, there is a chance that this research sampling may not be representative of the larger population and therefore, inferences should not be made about all other community colleges with the North Carolina system. Finally, it will be difficult to get a 100% survey return rate.

Summary

The purpose of this survey-based research will provide an understanding on how North Carolina community college faculty perceive the importance of competencies and their self-efficacy of competencies to teach online. Specifically, the study is to better understand how faculty rate the importance of online teaching competencies and their self-efficacy to teach online. With online course quality and student success being a concern, it is imperative to get a better understanding of faculty preparedness to teach online. The finding of this study can provide better faculty preparedness to teach online and ensure institutions have a quality online program.

Chapter 2: Literature Review

Decades of research show the fastest growing segment of higher education to be online learning (Allen & Seaman, 2011). Various estimates indicate between 25% and 33% of college students in the United States enroll in at least one online course (Allen & Seaman, 2013; NCES, 2013). The percentages translate between 5.5 and 7 million college students yearly nationwide with the majority being community college students. While higher education generally saw enrollment decrease in the last decade, the population of online leaners grew by over 9% (Allen & Seaman, 2013). According to Allen and Seaman (2015), nearly all public community colleges now offer online courses. By 2000–2001, community colleges had responded with more online courses (44% of the total) and enrollments (48% of the total) than any other sector (Waits & Lewis 2003). However, student completion rates in community colleges are historically lower than in baccalaureate institutions (Goldrik-Rab, 2010). A report by the Chronicle of Higher Education in July 2011 cited an eight-percentage point gap in completion rates between traditional and online courses at community colleges in Washington state between 2004 and 2009 (Jenkins, 2012). Since national policy commentators continue to emphasize community colleges being crucial to supporting the U.S. economy (The College Board, 2008), community colleges face a great deal of criticism when completion rates are not on par. Low rates of degree completion raise questions about efforts to increase access to higher education for community college students.

A study by Crawford and Persuad (2013) echoes the importance of community college online faculty preparedness to teach online. In their research, community colleges turned away more than 400,000 prospective students in 2011. The researchers noted that

twenty-two million new workers with postsecondary degrees are needed by 2018. With a surge in education attainment, community colleges are steering to online technology to increase capacity and help meet the rising demand of students who seek an education at the community college. This paradigm shift in the community college gives more reason for institutions to better prepare their faculty to teach online. A research study conducted by Jaggars and Xu (2010) on 23 institutions in the Virginia Community College System concluded that learners had a greater likelihood of failing or withdrawing from online courses than from face-to-face courses. Another study conducted by Jaggars and Xu (2011) with the Washington State Community College System had similar conclusions. While students with better educational preparation were likely to enroll in online course, these students were also significantly more likely to fail or withdraw versus students who were enrolled in face-to-face courses.

Allen and Seaman (2010) found that nineteen percent of over 2,500 colleges and universities surveyed nationwide that had online course offerings reported having no training or mentoring programs for online teaching. Johnson and Berge (2012) echo the importance of faculty receiving appropriate support when faculty transition to online teaching. It is critical that faculty receive instruction in online teaching methodologies and have opportunities to learn how to be successful in the online format. According to Ko and Rossen (1998) the success of an online course experience for students and faculty depends on the expertise and dedication of a well-prepared online instructor (Ko & Rossen, 1998). According to LaMonica (2001), there is a clear distinction that teaching online can be different from teaching in a community college classroom. Online teaching requires greater attention to different pedagogies, approaches, and tailoring to specific

student needs. To gain an insight on community college faculty preparedness to teach online, a literature review of faculty preparedness to teach online, online teaching competencies, self-efficacy to teach online, and a competency framework is examined.

Online Teaching Competencies

Online teaching compared to classroom teaching can vary in a community college (LaMonica, 2001). There are differences in competencies when it comes to online and face-to-face teaching. Competency is a multidimensional concept and can be identified as observable behaviors or skill sets, standards or quality of performance, or dimensions of knowledge, skills, and abilities (Al-Salman, 2011). Bawane and Spector (2009) suggests that social issues including establishment of community, interactivity, team projects, communication, and support are critical for online teaching. Shie, Gummer, and Niess (2008) indicate that online instructors must acquire a new set of competencies that include pedagogical, psychological, and social issues. Yang and Cornelius (2005) cited a mastery in design, delivery strategies, techniques, and methods for teaching online.

One fundamental competency required in online learning is instructor interaction (Darabi, Sikorski, & Harvey, 2006). Other competencies include effective collaboration and team learning strategies, ensure facilitated discussions are productive, and that timely feedback is informative (Al-Salman, 2011). Oliver, Osborn, and Brady (2009) found students expecting instructors to supplement the course content with relevant material as necessary, incorporate content discussions, be quick to respond, and provide individualized attention.

Young (2006) noted adapting to student needs, using meaningful examples, motivating students to do their best, facilitating the course effectively, delivering a

valuable course, communicating effectively, and showing concern for student learning as core elements of effective online teaching. Darabi et al. (2006) noted distance education instructors must be experienced with technology to manage the logistical aspects of delivery in addition to its pedagogical components. These aspects include maintaining course content and accuracy, which may necessitate collaboration between course developers and designers to ensure this accuracy. Oliver et al. (2009) suggested three critical technological competencies, which include learning how to manage the online environment, preparing content for the environment, and being able to leverage online tools for desirable strategies such as peer-to-peer communication. The observations noted above is a clear indicator that faculty teaching in distance education must be skilled in appropriate technologies and be willing to adopt and learn new ones (Al-Salman, 2011). Other competencies specific to online teaching include instructors needing to know how to use asynchronous and synchronous communication systems (Collision, Elbaum, & Havind, 2000; Guasch, Alvarez, & Espeasa, 2010; Kersley, 2000).

Another study by Bawane and Spector (2000) asserted that the faculty teaching online must assume a multidimensional role in our urge to integrate a range of numerous competencies for evaluator, administrator/manager, technologist, advisor/counselor, personal and researcher. Other studies cited similar competencies to Bawane and Spector (2009). Shieh, Gummer, and Niess (2008) indicate that online instructors must acquire new sets of competencies including pedagogical, psychological and social issues that arise from the absence of visual cues. Berge (1995) proposed a competency model that include pedagogical, social, managerial, and technical. Content preparation, interaction, collaboration, and assessment skills and competencies were the four dimensions under

the pedagogical umbrella. The managerial dimension focuses on logistics and readiness issues. Community building, interaction, and collaboration are components of the social dimension. Instructor proficiency in computer use and course management fell under the technical dimension. Coppola, Hiltz, and Rotter (2014) cited three roles faculty needed to develop when transitioning from face-to-face to online environment. The first role is developing a cognitive role that involves the mental processes of learning, information storage, and thinking. Having this role enables faculty to advance into a deeper level of cognitive complexity. Second, developing an affective role that encompasses a relationship between faculty and student. In this role faculty learns new tools to express their emotions. Third, when dealing with class and course management, a managerial role is critical because online course often requires the adoption of additional and new ways of monitoring student. Research also shows that online instructors compared to their traditional face-to-face counterpart instructors face different challenges. College professor burnout relating to online teaching was echoed as a concern to university online instructors (Hogan & McKnight, 2007). Course design, course communication, and technical competencies were cited as critical online competencies by Martin, Wang, Jokiaho, Birgit, and Grübmeyer (2017).

The research of Hinson and LaPrarie (2005) gives insight to community college faculty preparedness to teach online. While the research focuses on three major elements necessary for community college faculty to transition from traditional teaching to web-based teaching, certain items within the types of professional development activities also reflects the four main online competencies echoed by Martin, Wang, Jokiaho, Birgit, and Grübmeyer (2017) which will serve as competency framework for this research study.

The professional development model noted by Hinson and LaPrarie (2005) focused on various online competencies including course design, technical abilities using designated course interface, communication, and tasks associated with time management.

Hinson and LaPrarie (2005) cited a lack of engagement between students and faculty while taking online courses at the community college. This lack of engagement appears to be a major factor in the higher attrition rate of online courses. Under the guiding online competencies framework for this research study, engagement is a component of course communication. Another important worthy note from Hinson and LaPrarie (2005) is technical difficulties with online courses. Specifically, community college student express concerns navigating course management systems and following material on the screen. Navigation difficulty could have its root in course design, another critical online competency component. Students in the study also express concerns with lack of structure in online courses. In asynchronous online courses, this creates a low structure course format. Research has shown that community college students in low structure online environments are less likely to participate in class activities, turn in assignments, and turn assignments late. To combat a low structure course format, faculty could make the course more synchronous but this would require faculty to acquire new technical competencies in using application such as WebEx, Skype, or other synchronous application.

Faculty Preparedness to Teach Online

Vaill and Testori (2012) noted that institutions of higher education have a responsibility to their constituents to provide a high-quality online educational experience. Therefore, these institutions need to be mindful that for many faculty

teaching online is a new skill that must be developed. Vaill and Testori (2012) recommended a faculty development approach that includes an initial training, mentorship, and ongoing support for preparing faculty to teach online. Other researches including (Fish & Wickersham, 2009; Lee, Paulus, Loboda, Phipps, Wyatt, Myers, & Mixer, 2010; & Palloff & Pratt, 2011) noted that key to the success of any online program is quality professional development opportunities for both novice and experienced online faculty.

An element of such professional development program may simply consist of learning how to use and teach within a learning management system such as Blackboard. Martin, Wang, Jokiaho, Birgit, & Grübmeyer (2017) cited creating course content one of many competencies in faculty preparedness to teach online. It may also cover pedagogy and best practice of how to teach online.

Teaching an online course requires the use of technology tools. For many faculty, it is understanding how to post content on learning management system. In addition to having access to the tools, Roblyer (2003) discusses technology integration, which is the ability for faculty to use various technology tools to create an active learning environment. The personal comfort teachers have with technology is the biggest barrier to technology integration (Pressey, 2013). Insufficient access to technology, inadequate administrative support, and scarce time for planning affect the instructor's attitude toward integrating technology. Instructors create opportunities for learning with process, technology and pedagogy familiar to them. Faculty may revert to old pedagogy without appropriate access, support and time, familiarity with innovative pedagogy, and modern learning tools (Ertmer, 1999; Ertmer, 2005).

Self-Efficacy to Teach Online

Bandura (1996) defined self-efficacy as, "People's judgments of their capabilities to execute course of action required to attain designated types of performances" (p. 9). In general, self-efficacy is the belief about one's capability but does not necessarily match one's actual capability in a specific domain. Self-efficacy is domain specific. In other words, people judge their capability depending on the domain of functioning (Bandura, 1986). Research findings suggest most individuals overestimate their academic capabilities (Bandura, 1996; Pajares, 1996). According to Bandura (1977), an individual's choice of activities, effort, and persistence are affected by self-efficacy. People who feel efficacious tend to expend more effort and persist longer when dealing with difficulties than those who are not as efficacious. Self-efficacy theory hypothesizes four primary sources in which people acquire information to evaluate efficacy. The four sources include enactive mastery experiences (actual performances), observation of others (vicarious experiences), both verbal and otherwise forms of persuasion, and physiological and affective states from which people partly judge their capableness, strength, and vulnerability to dysfunction. According to research, mastery experiences is the most influential source of self-efficacy (Bandura, 1977; Bandura, 1997). In general, past success increases self-efficacy while failure reduces self-efficacy (Bandura, 1997).

Because self-efficacy is domain specific, personal efficacy is a self-judgement specific to an activity domain (Bandura, 2006). With this in mind, a high self-efficacy in one domain may not be true for another domain. A faculty may have high efficacy to teach a traditional classroom course but have low self-efficacy for teaching an online course. Another interesting research highlighting variance in domain self-efficacy shows

that male faculty and female faculty self-efficacy varies in domain. The study by Horvitz, Beach, Anderson, and Xia (2014) found women with higher self-efficacy in online instructional strategies than men. Chang, Lin, and Song (2011) found that females had greater self-efficacy in classroom management and learning assessment. In addition, greater self-efficacy correlated to the number of years' professors taught. Greater self-efficacy existed in professors who had more than six years of teaching experience. inezhad (2012) also found similar results; professors with twenty years or more teaching experience had higher self-efficacy. In the education research arena, self-report surveys that asks has participants to rate the strength of their belief in their ability to execute a requisite activity measures perceived self-efficacy (Bandura, 2006). Bandura (1997) notes the importance of measuring perceived self-efficacy with domains of functioning in mind and that it must represent gradations of task demands within those domains.

Since there are factors that influence teacher self-efficacy, a few research studies have explored the importance of teacher self-efficacy in relation to their use of the Internet or other applications that are computer based. Presno (1998) found that low self-efficacy played a role in each of the types of teacher anxiety relating to the use of Internet in teaching. Lee and Tsai (2010) found significant correlations between web-based teaching self-efficacy and positive attitudes toward web-based instruction.

Horvitz, Beach, Anderson, and Xia (2015) list several reasons why self-efficacy should be examined. The first is the idea that teachers with higher teaching self-efficacy are more prominent to overcome negative outcome expectations and experiences. Second, teacher's online self-efficacy is impacted by perception of student learning and

satisfaction with online teaching. Finally, there is a difference in the paths to self-efficacy training and support for online teaching compared to traditional teaching methods.

The research of Jackowski and Akroyd (2010) validates the need to examine community college faculty self-efficacy as they prepare to teach online. In their quest to better understand technology usage between community college faculty, the researchers concluded that faculty perception of their technological competence is both an inhibitor and motivator regarding using technology in teaching. Faculty who have higher self-efficacy in the use of technology are more likely to participate in distance education and other technology-based instruction. Conversely, faculty with low self-efficacy are less likely to make use of instructional technology.

Competencies framework

The Faculty Preparedness to Teach Online (FPTO), developed by Martin, Wang, Jokiaho, Birgit and Grübmeyer (2017) competency framework will guide this study. In their study, they identified four categories essential for online teaching shown in Figure 1.

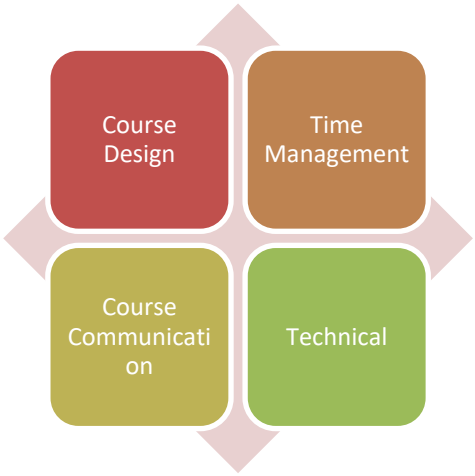

Figure 1. Online Teaching Competency Framework

Course Design

Designing an online course requires a great amount of forethought. Researchers suggest that educational materials are designed to effectively assist students to achieve the desired knowledge results. Some institutions have instructional design professionals review every online course to ensure it is ready and meet certain online course design criteria and institution policies set forth by the institution (Brown & Voltz, 2005). Therefore, "university teachers must think carefully about the design of good learning task… as well as about the resources that students will need if they are to stand a reasonable chance of succeeding in these activities" (Goodyear, 2010, p.4). Clark (2002) noted that a failure to take the right principles into account in the instructional design stage will minimize the effectiveness of information processing and learning.

According to Afifi and Alamri (2014), when designing an online course, faculty and instructional designers also focus on the technologies and multimedia elements. One important aspect of online course design is the course syllabus (McIsaac & Craft, 2003). Because online courses tend to be self-guiding, the instructor must include clear instructions built into the syllabus to make students aware of class expectations and be able to see what lies ahead. Building a complete and well-designed syllabus is the most important step since a good online syllabus is critical for a successful course. The syllabus serves as a roadmap for both instructor and students. It defines all the interactions during the course. Ideally, course syllabi should be mapped clearly to include readings, resources, discussion questions, test dates, and help strategies etc. A successful online syllabus should include due dates for readings, topic of discussion, readings with embedded links and active resource lists, a detailed procedure for discussions,

explanation of tests and assignments, and help procedures (McIsaac & Craft, 2003). Jackowski and Akryod (2010) recommended that faculty have formal training in distance course design. When designing online courses, it is also important to offer learner support and at the same time encourage self-learning.

According to Martin, Wang, Jokiaho, Birgit, and Grubmeyer (2017), other online course design elements instructors need to focus include the followings: 1) creating an online course orientation, 2) writing learning objectives, 3) creating interactive activities such as discussion forums, 4) creating and organizing materials into learning modules, 5) creating instructional videos such as a PowerPoint lecture video, 6) using various teaching methods, 7) creating assignments, tests, and quizzes, and 7) managing student grades. Overall, Course design in an online environment requires a great deal of effective planning, knowledge of instructional design principles, multimedia elements, and use of various instructional design technology tools.

Course Communication

One main difference between teaching online courses versus face-to-face courses is how an instructor communicates with students. Face-to-face course communication involves delivering course content and answering questions during class session. Online teaching requires communication between students and instructors, including responding to student emails pertaining to course assignment due dates, assignment direction clarification, assignment extension due date, and possibly course content and syllabus errors such as outdated assignment due date among others (Schwartz, 1998). Hartfield (1995) claims that the most important factor of student motivation in online course is frequent student-faculty contact. The importance of communication is echoed in the

finding of Meyer and McNeal (2011), who found that faculty teaching at the master's and doctoral-level institutions cited increasing interaction with students was critical in improving student learning productivity in their online courses. Online courses have the technology tools to promote student interactivity in the form of chat and discussion forum. Burke and Chidambaram (1999) argue that chat capability could provide faculty and students with a more satisfactory experience. Interactivity can help students feel part of the online community. The lack of interactivity may have students feeling isolated as if they were taking the online course by themselves versus being part of a learning community where they can share ideas and experiences with one another (Picciano, 2002). Many online courses make use of classroom discussion forum where the discussion is often between students. Instructors are also encouraged to participate in the discussion or create off-topic chat rooms (Vanhorn, Pearson, & Child, 2008).

To build comfort and trust between instructor and students and among classmates, it is critical to build a learning community in an online course. According to Bocchi, Eastman, and Swift (2004), to help prevent isolation in a virtual classroom, students need to interact with faculty, other students, and course content. An initial challenge for students to socialize online may involve technology. Less experienced students may be less interactive, but participation can increase as students become more comfortable (Vrasidas & Mcisaac, 1999). In an online environment, students may expect instructors to be available around the clock, seven days a week and expect an increased level of prompt feedback (VanSickle, 2003). Sheridan and Kelly (2010) found clear course requirements, responsiveness to students' needs, timeliness of information, and instructor feedback to be indicators of instructor presence most important to students. While there

was a focus on instructor communication students were not concerned in synchronous communication or being able to hear their instructors. Mupinga, Nora, and Yaw (2006) cited communication with the instructor and instructor feedback to be important expectations of students.

Mayne and Wu (2011) and Wozniak and Silveira (2004) emphasize the importance of effective communication by citing clear and simple directions for online discussion and setting out expectations are critical in making student to student interactivity effective. Research indicates that effective online learning can be promoted by communication (An, Kim, & Kim, 2008; Haythornthwaite & Andrews, 2011; Rourke & Anderson, 2002; Siemens, 2005). Martin, Wang, Jokiaho, Birgit, & Grubmeyer (2017) provided several communication strategies including sending announcements or email reminders to students, create and moderate discussion forums, communicate with the learners using email, respond within 24 to 48 hours to student questions, provide assignment feedback within seven days after assignment submission, use various synchronous web conferencing tools such as Webex, and ensuring that student expectations are communicated to students. Overall, communication is critical to students feeling being a part of a learning community and that they are not alone in the learning process. Finally, online instructors need to be mindful of the various communication technology tool available to them.

Time Management

Research studies have found that online teaching takes more time than face-to-face teaching (Dibiase, 2000; Hecht & Klass, 1999; Liu & Thompson, 1999; Pachnowski & Jurcyzyk, 2003). The National Education Association's survey concluded that online

teaching is more time-consuming than traditional face-to-face instruction (Association, 2000). Some faculty perceive online teaching more time-consuming than teaching face-to-face (Christianson, Tiene, & Luft, 2002; Sheridan,2006; Van de Vord & Pogue, 2012). Van de Vord and Pogue (2012) note instructors report positive impressions about the success of and satisfaction from facilitating courses online but there is a concern among teaching community that the time required to facilitate an online course exceeds face-to-face classroom. Van de Vord and Pogue (2012) contend that online courses encompass more instructor time in and out of the classroom, while Sheridan (2006) proposed that online faculty spend more hours than traditional faculty in preparing and administering online courses.

Levitch and Milheim (2003) cited instructors needing to develop new time management skills when transitioning to online teaching. Teaching an online course could put instructors on call twenty-four-seven seven days a week, especially when responding to student emails. Depending on the institution, instructor preparedness to teach online may involve learning how to use the institution's learning management system and how to create course contents (quiz, exam, assignments, discussion board, e.g..) within the learning management system. An online instructor spends time interacting with students via asynchronous technology tools, evaluating student work, recording grades, solving technical issues (Van de Vord & Pogue, 2012).

Those who find themselves teaching online may find their workload increase due to the heavy time investment and find themselves becoming "24 hour professors" in order to tend to student inquiries while teaching (Hislop & Atwood, 2000; McKenzie, Mims, Bennett, & Waugh, 2000; Pachnowski & Jurczyk, 2003; Visser, 2000; Young, 2006).

Teaching online can be very demanding and requires instructors to develop new time management skills (Levitch & Milheim, 2003). Elison-Bowers, Sand, Wing, and Barlow (2011) noted time management is a key to success in online teaching. They found that instructors spend more time monitoring discussion boards and communication.

Time management needs to be considered so that not all time is consumed by one specific task. If not careful, instructors can find themselves spending significant time providing student technical support (Bender, Wood, & Vredevoogd, 2004: Lee & Bush, 2005; Santilli & Beck, 2005). Better time management is more than just making sure time is well spent. One area of interest is improvements to hardware and software that could greatly reduce the amount of student contact time. For example, a faster processor takes less time to complete mechanical tasks such as uploading and downloading files, checking email, and accessing the course.

Research also shows time required to teach online is determined by teaching field, type of course, course level, and other factors (Mupinga & Maughan, 2008). Rockwell, Schauer, Fritz and Marx (1999) indicate other factors such as software and technology, instructional design, student-student interactions, faculty-student interactions, student experience with online courses, and faculty experience with online courses may impact time needed to teach online. Teacher-student interaction has been identified as both the most important and time-consuming aspect in teaching online (Mandernach, Forrest, Babuzke, & Manaker, 2009; Tomei, 2004). Previous face-to-face instructors teaching online course cited constant individual communication to maintain online classroom as challenging work (Sword, 2012).

Teaching online course can result in increased workload but there are remedies to

help instructors combat the workload. One technique to manage students on a daily basis is to set student expectations early in the semester. Other technique includes using start and end dates within a learning management system (LMS). When dealing with multiple sections a generic thorough introduction in the form of video can be used (Bates, LaBrecque, & Forner, 2016). Martin, Wang, Jokiaho, Birgit, and Grubmeyer (2017) provided the following guidelines to time management; 1) design the course a semester before delivery, 2) set aside weekly hours to facilitate the course, use learning management system to manage time, 3) set aside weekly hours to grade assignments, 4) allocate time to brush up on new strategies or tools, and 5) use facilitation strategies to manage time spent on course. The need to focus on time management for community college faculty when preparing to teach online is echoed by Jackowski and Akryod (2010). Their research cited time consumption and extra effort to convert traditional face-to-face courses to distance-based courses.

Teaching an online course requires careful attention to time management whether it be an existing course or converting a traditional face-to-face course to an online course. The lack of attention to time management may result in huge amount of time invested in managing one specific task such as responding to student emails on a daily basis. Since more time is needed to create, implement, and administer an online course, faculty need to develop new time management skill since time management has been cited as key to success in online teaching (Elison-Bowers, Sand, Wing, and Barlow, 2011).

Technical

According to Thach and Murphy (1995), more recent literature has echoed the need for training and development for online faculty due to the numerous and

sophisticated emerging technologies. Instructors teaching online courses need to be technological savvy in creating content, managing content, utilizing learning management systems, and student interaction. Every aspect noted requires some form of technical competency. For example, course content may require instructors to create a PowerPoint presentation or a screencast instructional video for a certain topic to be covered in the course. To create videos instructors may need to have access to screen capture software like Camtasia Studio and be able to use the software. Within a course module, instructor may be involved in creating quiz and exam using the institution's learning management system or third-party software. Creating learning or community activities may involve the use of Wikis or blog. Interacting with student may require instructors to use video conferencing software such as WebEx. Video conferencing may require instructors to have a web camera and other instructional technology gadgets (Thach & Murphy, 1995).

Researchers also stress the need for instructors to not only know the technology but to be competent in using it (Catchpole, 1993; Collins & Murphy, 1987; Craft &Wagner, 1988). Researchers recommend instructors to understand the basics of the technology and how to mediate the communication. According to Olson (2015), certain type of communication can be challenging for student especially when students rely on public-access technology such as school computer labs or libraries. In addition, synchronous technology requires significant investments in technological infrastructure.

Besides understanding how to use multimedia, there are many other technical competencies that online faculty must have according to Martin, Wang, Jokiaho, Birgit, and Grubmeyer (2017). One such competency is being able to complete basic computer

operations that may involve creating and manipulating documents, managing files and folders, and working with multiple windows. Instructors need to be able to log into the learning management system and access the class. Within the learning management system technical competencies include navigating the course for critical class components such as the syllabus, modules, gradebook, course mail and other learning management system modules. Within the gradebook, technical competencies may include setting up a grading scale, using points and percentages, and submitting grades. Technical also include the use of email, chat, web conferencing, discussion forums, and announcements. Managing course roster to set up teams is another technical competency. When building an online course, being able to manage course files and folders within the learning management system is another critical technical competency. Another research study focusing on technology usage between community college faculty by Jackowski and Akroyd (2010) cited faculty needing training with software and hardware. More important, the research suggests faculty need training during their first semester of teaching. Clearly, at the heart of software and hardware training is technical competencies. This study validates the need to address technical competencies as community college faculty transitions to an online teaching environment.

A community college study focusing on age-related differences in technology usage by Van der Kaay and Young (2012) examined various variables including gender and age of faculty. The research found technology usage by older faculty less than younger faculty. Both older and younger faculty seem to utilize similar technologies and both groups were found to have equal degrees of perceived skill with the technologies used. This study of community college faculty technology usage by age identifies the

need to examine technical competencies when researching on the importance of faculty competencies and self-efficacy as faculty prepare to teach online course.

Since online course requires the use of various technologies including hardware and software, faculty need to be prepared in using the various technologies. While some technical competencies may simply be to complete basic computer operation such as managing document file, other more technical competencies may require the use of video editing software such as Camtasia Studio to create instructional videos. Research express the need for faculty to be competent in using it (Catchpole, 1993; Collins & Murphy, 1987; Craft & Wagner, 1988).

Faculty Demographic and Online Learning

Demographic factors also determine faculty competency and self-efficacy. Cooper (2006) cited demographics such as age and gender being probable primary factors that influence faculty members to use technology. Spotts (1997) cited male faculty rated knowledge and use of technology higher than female faculty. Cooper's (2006) study also suggests tenured faculty not being compelled to use technology. In addition, older faculty may lack knowledge or training to utilize technology. There is a notion that older tenured faculty may be less competent in using technology.

Martin, Wang, Jokiaho, Birgit, and Grübmeyer (2017) focused on faculty preparedness to teach online. Differences in gender, rank, delivery method, level, years teaching, years teaching online, support received to teach online, and required training by university were examined. The study found female faculty perceptions significantly higher than male faculty perceptions on the importance of course design, course communication, and time management. There was also significant difference between

female and male faculty's perception on the importance of course design, course communication, and time management. However, no significant difference was found between female and male faculty's perception on the importance of technical competence and on all self-efficacy scores.

A study from the State University of West Georgia pertaining to online teaching faculty found only 62% of instructors having one to five hours of instruction prior to teaching their first online course (McKenzie, Mims, Bennett, & Waugh, 2000). While a good majority had instructional seat time, the number of preparation hours may not be sufficient to adequately train faculty. This could lead to faculty not being exposed to various online competencies and as a result, have low self-efficacy. Investigating instructional seat time or training prior to teaching an online course may prove to be a factor worth investigating on the impacts of competencies and self-efficacy in online teaching. Research studies suggest demographics be examined when addressing online faculty competencies and self-efficacy to teach in an online environment.

Chapter 3: Methodology

The study explored North Carolina Community College faculty preparedness to teach online. This chapter includes: (a) research purpose and research questions, (b) research design, (c) research setting, (d) the selection of participation, (e) instrument, (f) data collection, (g) data analysis, and (h) summary.

Research Purpose

The purpose of this survey-based research study was to explore and better understand how adequately to prepare North Carolina Community College faculty to teach online. Specifically, this study examined faculty perceptions on the importance of online teaching competencies and their self-efficacy to teach online.

Research Questions

The research questions that guided this study were:

1. What are community college faculty perceptions on the importance of online teaching competencies?
2. What are community college faculty perceptions of their efficacy to teach online?
3. What community college faculty demographic factors are related to faculty perception of importance of competencies and efficacy to teach online?

Research Design

According to Isaac and Michael (1997), survey-based research is used to address questions that have been raised, solve problems that have been brought up, determine if specific objectives are met, and to establish baselines in which future comparisons can be made. Survey research is an essential method for collecting data for this research study because of its ability to allow researchers to study complex topics and study perceptions

(Ebel, 1980). Johnson and Christen (2010, p. 34) state that "surveys are associated with positivism, which is a research paradigm that advocates for objectivity and uses natural science techniques like statistics to gather data".

The use of survey research method is supported by the fact that surveys can obtain information from large samples of the population. McIntyre (1999) cited surveys are well suited to obtaining demographic data that describes the composition of the sample. In addition, surveys also elicit information about attitudes that are otherwise difficult to measure using observational techniques. Surveys do not require a great deal of investment to create and administer. Surveys are also easy for generalizing (Bell, 1996). Sometimes educators conduct descriptive research to obtain information to learn more about attitudes, opinions, demographics (e.g., gender, age), beliefs, and behaviors of people. Using surveys as a means to collect data about people is commonly use in descriptive research (Johnson & Christen, 2004). "Survey research also enables scholars to explore social psychological phenomena with samples that accurately represent the population about whom generalizations are to be made" (Viser, Krosnick, & Lavrakas, 2000, p. 247). Survey research obtains information describing characteristics of a large sample of individuals of interest quickly (Ponto, 2015).

This study utilizes web survey for various advantage reasons according to Owens (2002). First, web surveys can be administered at low cost. There is no paper, postage, and mailing involved. The ability to reach a large population also makes web survey attractive. There is also the opportunity to program complex skip patterns. Lastly, survey research can obtain large sample size.

Research Setting

The study was conducted at three North Carolina community colleges. The institutional settings are given the following pseudonyms: Interstate Community College, Center City Community College, and Coastal Community College.

Interstate Community College is a fully accredited community college with several campuses located within two counties and classified as a two-year, medium size college. There are 32 degrees, 22 diplomas, and 101 certificates. The faculty to student ratio for the college is 18 to 1. In addition to the regular curriculum, the college also offers college transfer programs in three areas that include Associate in Arts, Associate in Fine Arts in Visual Arts, and Associate in Science. Interstate Community College serves about 8,745 students who took curriculum courses. Forty percent of students are full-time and 59% are part-time. Student demographics consist of .4% American Indian/Alaskan, 1.9% Asian, 10.42% Hispanic, 19.28% Black, 61.77% White, 2.76% multiple races, .66% unknown race, .22% Hawaiian Pacific, and .66% unknown race. Overall, the college employs about 343 faculty. Interstate Community College also offers opportunities for high school students residing in the two counties that the college serves. Regarding distance education, the percentage of students taking at least one online course is 56%. There are degrees, diploma, and certificates that can be obtain all online. Interstate Community College had a total of 1,474 full time equivalent (FTE) or 15,604 students taking an Internet course for the 2016 academic year which consists of Fall, Spring, and Summer semester. There were 2,273 students taking a hybrid course and 4,875 students taking a course that was web-supported.

Center City Community College is massive in many aspects and can be categorized as two-year, very large college. The college serves 31,472 students in credit-based curriculum courses with the majority being female (55%) and male at (45%). The college curriculum demographic breaks down into five major categories; American Indian/Alaska Native (2%), Asian (6%), Black (28%), White (55%), and other/not reported (10%). The college has over 70 associate degree programs, 25 diploma programs, and 154 certificate programs. Regarding online education, the college offers 33 programs that can be conferred through distance education. Within the 33 programs, 12 are associates degree and 21 are certificates. About 4,597 students enrolled exclusively in online courses. While most students taking online courses reside within North Carolina, Center City Community College have students from other parts of the United States as well as a couple outside of the United States. The college has 579 full-time faculty and 375 part-time faculty. Center City Community College has a large amount of students taking an internet course for the 2016 academic calendar, which consists of Fall, Spring, and Summer semesters. There were 5,043 FTEs accounted for students taking Internet courses. Center City Community College's online landscape includes 30 online programs. Within each program, there are certificates and diplomas that can all be obtain via online courses.

Coastal Community College of the three community ranks third among the largest community college in North Carolina. There are 17,409 students in curriculum program and 23,683 students in continuing education programs. Fifty-seven percent of curriculum students are female and 43% of curriculum students are male. The college employs 318 full-time faculty. Student demographics include White Non-Hispanic (50%), Hispanic

(6%), African-American (34%), Asian (2%), multiple race (5%), non-resident alien (1%), and unknown ethnicity (2%). Coastal Community College offers thirteen online program. An assumption can be made that the college employs a good amount of online faculty based on the size of the institution and the number of online programs offered. The college's main distance learning delivery method includes online and hybrid.

Participants

The survey was distributed using surveyshare electronic survey tool to three North Carolina community colleges in the United States. A total of 101 faculty responded to the survey. The study had a 16% response rate. Most of the participants were female (n = 67, 65.7%), 30 (29.4%) male faculty, and 5 (4.9%) who preferred not to answer. Table 1 presents a description of the participants, including age, gender, rank, delivery method, level, years teaching, years teaching online, support received to teach online, and whether they had required training by their college.

Table 1
Faculty demographic characteristics (n = 101)

Variables	Options	Frequency
Faculty Status	Full-time	60 (58.8%)
	Part-time	41 (40.2%)
Delivery Method	Asynchronous	34 (33.3%)
	Synchronous	11 (10.8%)
	Hybrid	23 (22.5%)
	Face-to-Face	34 (33.3%)
Concentration	CTE	49 (48%)
	Transfer	53 (52%)
Years Teaching	1-5 Years	16 (15.7%)
	6-10 Years	26 (25.5%)
	11-15 Years	17 (16.7%)
	More than 15	42 (41.2%)

Years Teaching Online	No experience	4 (3.9%)
	1-5 Years	42 (41.2%)
	6-10 Years	38 (37.3%)
	11-15 Years	8 (7.8%)
	More than 15	10 (9.8%)
Required Training by College	Yes	92 (90.2%)
	No	10 (9.8%)

Instrument

The Faculty Readiness to Teaching Online (FRTO) instrument (Table 2) was developed by Martin, Budhrani, and Wang (2017) with reference to the literature (theoretical models and previous research) and previous studies (Gay, 2010; Downing & Dyment, 2013, Lichoro, 2015). In addition to demographic information, the instrument consists of two constructs: attitude based on importance and self-efficacy which is the perception of ability. The same items were used for each construct, and the respondents were asked to rate how important each competence is for online teaching and how well they are able to accomplish the tasks based upon their own judgment of their competencies. The competencies fall into four categories: Course Design (9 items), Course Communication (10 items), Time Management (6 items), and Technical Competence (7 items). In the section for attitude, respondents were asked to rate the importance of the competencies on a 5-point Likert scale from 1 (not important at all) to 5 (very important). In the section for ability, respondents were asked to rate their capability to accomplish the tasks based upon their own judgment of their competencies on a 5-point Likert scale from 1 (I cannot do it at all) to 5 (I can do it well).

The second set of question asked participants to rate themselves on their ability to accomplish certain competencies. A Likert-type scale with five choices ranging from 1-5

recorded the participant's response. The choices include: (1) I cannot do it at all, (2) I cannot do it, (3) Maybe I can do it, (4) I can do it, and (5) I can do it well. Table 1 lists the four competency categories.

Table 2. Faculty Preparedness Competencies

Course Design • Create an online course orientation (e.g., introduction, getting started) • Write measurable learning objectives • Design learning activities that provide students opportunities for interaction (e.g. discussion forums, wikis). • Organize instructional materials into modules or units. • Create instructional videos (e.g. lecture video, demonstrations, video tutorials) • Use different teaching methods in the online environment (e.g. brainstorming, collaborative activities, discussions, presentations) • Create online quizzes and tests • Create online assignments • Manage grades online
Course Communication • Send announcements/email reminders to course participants • Create and moderate discussion forums • Use email to communicate with the learners • Respond to student questions promptly (e.g. 24 to 48 hours) • Provide feedback on assignments (e.g. 7 days from submission) • Use synchronous web conferencing tools (eg. Adobe Connect, Webex, Blackboard Collaborate, Skype) • Communicate expectations about student behavior (e.g. netiquette) • Communicate compliance regarding academic integrity policies • Apply copyright law and Fair Use guidelines when using copyrighted materials • Apply accessibility policies to accommodate student needs
Time Management • Schedule time to design the course prior to delivery (e.g. a semester before delivery) • Schedule weekly hours to facilitate the online course • Use features in Learning Management System in order to manage time (e.g. online grading, rubrics, speed grader, calendar) • Use facilitation strategies to manage time spent on course (e.g. discussion board moderators, collective feedback, grading scales)

• Spend weekly hours to grade assignments • Allocate time to learn about new strategies or tools
Technical • Complete basic computer operations (e.g. creating and editing documents, managing files, and folders) • Navigate within the course in the Learning Management System (e.g. Moodle, Canvas, Blackboard etc.) • Use course roster in the Learning Management System to set up teams/groups • Use online collaborative tools (e.g. Google Drive, Dropbox) • Create and edit videos (e.g. iMovie, Movie Maker, Kaltura) • Share open educational resources (e.g. learning websites, web resources, games, and simulations) • Access online help desk/resources for assistance

In addition to collecting data that address faculty preparedness to teaching online, the survey collected the following demographic information listed below:

- Gender and demographics of the participants
- Participant age
- Participant years of teaching
- Participant years of teaching online
- Academic area of teaching (CTE or Transfer)
- Primary online teaching methodology (asynchronous, synchronous, hybrid/blended, or face-to-face
- Geographic location (rural or urban)

Cronbach's alpha for all items for attitude was 0.88, and for ability was 0.92 (Martin et al., 2017). Previous studies also showed evidence of structural aspect of the construct validity: comparative fit index (CFI) = .92; incremental fit index (IFI) = .92, standardized root mean square residual (SRMR) = .089, root mean square error of

approximation (RMSEA) = .093, and 90% confidence interval of RMSEA ranged from .090 to .096 (Martin et al., 2017).

Data Collection

Data collection commenced after all community colleges in the study had given permission to utilize their campus as research study settings. IRB approval was obtained from the University of North Carolina at Charlotte. An email was sent to appropriate institutional personnel to help distribute the survey to the three community colleges chosen for this study. The target audience for the study included faculty who have or will be teaching online courses. An incentive of two $20-dollar gift cards was drawn and given to two lucky participants who completed the survey. It is pertinent that a sample size of 200 participants be achieved and therefore, an incentive was put in place to help achieve the desired sample size needed for the research. Survey Monkey was the tool to create and collect the electronic survey. A link was sent to participants and each participant was able to complete the survey once. The researcher then analyzed the data collected in Fall 2018.

Data Analysis

Descriptive statistics (Means and Standard Deviations) are reported both at the item level, at the subscale level and also by various demographic factors. Cronbach's alpha was used to check the internal consistencies of the responses to the survey items. Correlation coefficients were calculated to show the relationship between the subscales. Multivariate analysis of variance (MANOVA) were employed to examine the differences among faculty in their responses to the survey with respect to gender, rank, teaching experience, teaching online experience, primary level of teaching, primary delivery

method, support received and required training. We used effect sizes from MANOVA (small = .01; moderate = .06; large = .14) to document the size of obtained differences (Cohen, 1988). Since this survey research has the potential to reveal confidential information, steps were taken to ensure potential risks is minimized for participants and institutions. Sensitive data such as names of faculty was be collected. The institutions were coded with pseudo names.

Summary

The purpose of this study is to better understand North Carolina community college online faculty preparedness and self-efficacy. While there are research studies focusing on faculty preparedness to teach online, there has been very little research that targets community college faculty. The instrument used in the research is the Faculty Preparedness to Teach Online (FPTO), which consists of four categories: course design, course communication, course management, and technical. The four categories stem from an existing research study framework and instrument to measure faculty preparedness on importance and self-efficacy.

Chapter 4: Results

Reliability of the Instrument

Cronbach's alpha was used to show the internal consistency (reliability) of the participants' responses to the FPTO survey. Cronbach's alpha for all items for importance was 0.93, and for self-efficacy was 0.94. For importance, each of the subscale was 0.81 (course design), 0.84 (course communication), 0.76 (time management), and 0.82 (technical). For self-efficacy, each of the subscale was 0.86 (course design), 0.85 (course communication), 0.88 (time management), and 0.83 (technical).

Faculty Perceptions on the Importance of Online Competencies and Self-Efficacy to Teach Online

Descriptive Statistics (Means and Standard Deviations) by item within each of the four subscales, course design, course communication, time management and technical is reported in Table 2. Most of the items on this survey were rated high for both importance and self-efficacy.

Importance. In *course design,* managing grades online (M = 4.70), creating online assignment (M = 4.61) were rated the highest. In *course communication*, responding to student questions promptly (M = 4.78) and using email to communicate with the learner (M = 4.67) were rated the highest. In *time management*, scheduling time to design the course prior to delivery (M = 4.53) and spending weekly hours to grade (M = 4.47) were rated the highest. In *technical*, navigating within the course in the Learning Management System (M = 4.50) and completing basic computer operations (M = 4.48) were rated the highest.

Self-efficacy. In *course design*, organizing instructional materials into modules or units (M = 4.68) and creating online assignments (M = 4.67) were rated the highest. In

course communication, using email to communicate with the learners (*M* = 4.84) and sending announcements/email reminders (*M* = 4.81) were rated the highest. In *time management*, spending weekly hours to grade assignments (*M* = 4.48) and scheduling weekly hours to facilitate the online course (*M* = 4.39) were rated the highest. In *technical*, completing basic computer operations (*M* = 4.69), creating and editing videos (e.g. iMovie, Movie Maker, Kaltura) (*M* = 4.29), and accessing online help desk/resources for assistance were rated the highest.

Table 3
Descriptive statistics on survey responses by item

	Faculty Preparedness Competencies	**Importance** M(SD)	**Self-Efficacy** M(SD)
	Course Design		
1	Create an online course orientation (e.g. introduction, getting started)	4.45 (0.75)	4.38 (0.76)
2	Write measurable learning objectives	4.21 (0.86)	4.30 (0.63)
3	Design learning activities that provide students opportunities for interaction (e.g. discussion forums, wikis)	4.13 (0.87)	4.27 (0.79)
4	Organize instructional materials into modules or units	4.45 (0.70)	4.67 (0.55)
5	Create instructional videos (e.g. lecture video, demonstrations, video tutorials)	3.88 (0.86)	3.79 (0.86)
6	Use different teaching methods in the online environment (e.g. brainstorming, collaborative activities, discussions, presentations)	4.03 (0.88)	4.05 (0.74)
7	Create online quizzes and tests	4.25 (0.91)	4.55 (0.64)
8	Create online assignments	4.61 (0.66)	4.67 (0.55)
9	Manage grades online	4.70 (0.56)	4.75 (0.44)
	Total	**4.30 (0.78)**	**4.38 (0.66)**
	Course Communication		
10	Send announcements / email reminders to course participants	4.60 (0.69)	4.81 (0.39)
11	Create and moderate discussion forums	4.03 (0.93)	4.40 (0.72)
12	Use email to communicate with the learners	4.67 (0.57)	4.84 (0.37)
13	Respond to student questions promptly (e.g. 24 to 48 hours)	4.78 (0.46)	4.76 (0.47)
14	Provide feedback on assignments (e.g. 7 days from submission)	4.54 (0.66)	4.56 (0.61)
15	Use synchronous web conferencing tools (eg. Adobe Connect, Webex, Blackboard Collaborate, Skype)	3.28 (1.06)	3.69 (.83)
16	Communicate expectations about student behavior (e.g. netiquette)	4.09 (0.82)	4.40 (0.63)

17	Communicate compliance regarding academic integrity policies	4.35 (0.71)	4.44 (0.59)
18	Apply copyright law and Fair Use guidelines when using copyrighted materials	4.43 (0.71)	4.27 (0.66)
19	Apply accessibility policies to accommodate student needs	4.54 (0.59)	4.19 (0.69)
	Total	**4.31 (0.72)**	**4.44 (0.60)**
	Time Management		
20	Schedule time to design the course prior to delivery (e.g. a semester before delivery)	4.53 (0.61)	4.20 (0.82)
21	Schedule weekly hours to facilitate the online course	4.34 (0.65)	4.39 (0.61)
22	Use features in Learning Management System in order to manage time (e.g. online grading, rubrics, speedgrader, calendar)	4.13 (0.61)	4.14 (0.78)
23	Use facilitation strategies to manage time spent on course (e.g. discussion board moderators, collective feedback, grading scales)	3.78 (0.92)	3.87 (0.86)
24	Spend weekly hours to grade assignments	4.47 (0.61)	4.48 (0.63)
25	Allocate time to learn about new strategies or tools	3.98 (0.74)	3.97 (0.71)
	Total	**4.21 (0.69)**	**4.18 (0.73)**
	Technical Competence		
26	Complete basic computer operations (e.g. creating and editing documents, managing files and folders)	4.48 (0.64)	4.69 (0.57)
27	Navigate within the course in the Learning Management System (e.g. Moodle, Canvas, Blackboard etc.)	4.50(0.69)	4.00 (0.88)
28	Use course roster in the Learning Management System to set up teams/groups	3.34 (1.08)	3.49 (0.91)
29	Use online collaborative tools (e.g. Google Drive, Dropbox)	3.28 (1.01)	3.99 (0.84)
30	Create and edit videos (e.g. iMovie, Movie Maker, Kaltura)	3.23 (1.02)	4.29 (0.68)
31	Share open educational resources (e.g. learning websites, web resources, games and simulations)	3.79 (0.97)	3.99 (0.68)
32	Access online help desk/resources for assistance	4.04 (0.89)	4.29 (0.68)
	Total	**3.81 (0.90)**	**4.11 (0.75)**

Figure 2 shows the subscale means for Importance and Self-Efficacy. For course design, course communication, and technical, faculty rated their self-efficacy higher than their perception of importance. For time management, faculty rated their self-efficacy higher than perception of importance.

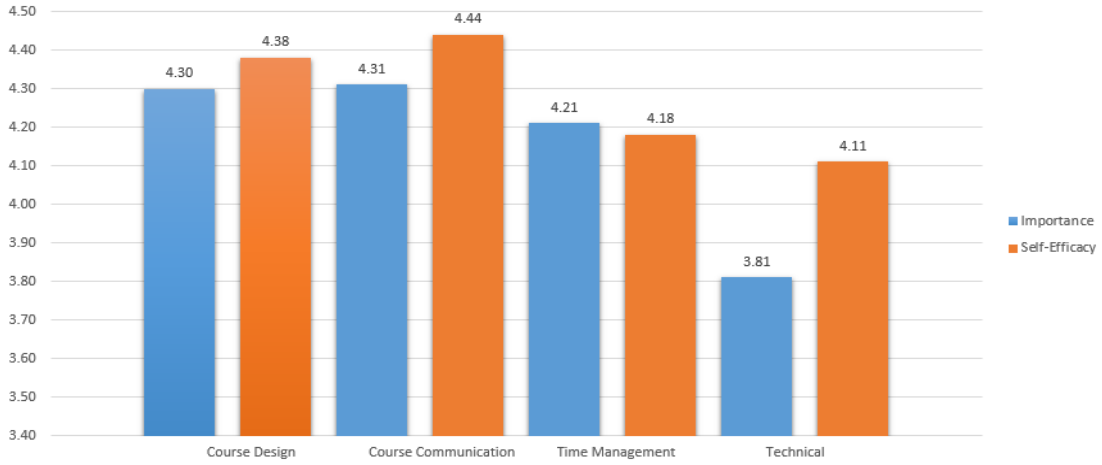

Figure 2. Subscale Means of Importance and Self-efficacy

Descriptive statistics on self-efficacy and importance scores by demographic characteristics are reported in Table 4.

Table 4
Descriptive statistics of self-efficacy and importance scores by demographic characteristics

	Importance				Efficacy			
	Course Design M (SD)	Course Communication M (SD)	Time Management M (SD)	Technical Competence M (SD)	Course Design M (SD)	Course Communication M (SD)	Time Management M (SD)	Technical Competence M (SD)
Gender								
Female	4.36 (0.50)	4.42 (0.46)	4.26(0.49)	3.86 (0.64)	4.42(0.46)	4.46 (0.37)	4.23 (0.57)	4.15 (0.56)
Male	4.12 (0.49)	4.12 (0.48)	4.07(0.53)	3.71 (0.64)	4.28 (0.49)	4.37 (0.48)	4.05 (0.64)	4.14 (0.49)
Status								
Full-time	4.27 (0.52)	4.29 (0.48)	4.15 (0.47)	3.71 (0.63)	4.409 (0.40)	4.42 (0.38)	4.16 (0.62)	4.10 (0.56)
Part-time	4.36 (0.47)	4.40(0.50)	4.30(0.57)	3.95 (0.52)	4.36 (0.69)	4.44 (0.48)	4.183 (0.53)	4.185 (0.47)
Delivery Method								
Asynchronous	4.36 (0.39)	4.47 (0.33)	4.36 (0.50)	4.07 (0.45)	4.67 (0.40)	4.62 (0.32)	4.42 (0.53)	4.49 (0.46)
Synchronous	4.07 (0.48)	4.53 (0.23)	4.39 (0.63)	4.25 (0.34)	4.60 (0.37)	4.49 (0.34)	4.20 (0.67)	4.40 (0.42)
Hybrid/Blended	4.36 (0.41)	4.43 (0.34)	4.23 (0.42)	3.86 (0.53	4.38 (0.45)	4.42 (0.37)	4.03 (0.66)	4.21 (0.44)
Face-to-Face	4.27 (0.55)	4.33 (0.50)	4.19 (0.61)	3.76 (0.68)	4.14 (0.47)	4.31 (0.43)	3.96 (0.51)	3.94 (0.46)
Concentration								
CTE	4.23 (0.58)	4.34 (0.42)	4.22 (0.54)	3.85 (0.67)	4.43 (0.45)	4.38 (0.42)	4.07 (0.63)	4.10 (0.44)
Transfer	4.31 (0.41)	4.43 (0.43)	4.19 (0.46)	3.78 (0.60)	4.44 (0.61)	4.49 (0.38)	4.27 (0.54)	4.18 (0.60)
Years Teaching								
1-5 years	4.47 (0.46)	4.53 (0.47)	4.44 (0.51)	4.13 (0.75)	4.38 (0.51)	4.56 (0.46)	4.21 (0.57)	4.33 (0.61)
6-10 years	4.31 (0.35)	4.33 (0.43)	4.17 (0.39)	3.86 (0.45)	4.41 (0.45)	4.45 (0.35)	4.21 (0.72)	4.26 (0.59)
11-15 years	4.31 (0.48)	4.24 (0.50)	4.00 (0.54)	3.50 (0.55)	4.37 (0.40)	4.42 (0.35)	4.00 (0.52)	4.00 (0.45)
More than 15 years	4.22 (0.59)	4.29 (0.49)	4.21 (0.50)	3.79 (0.67)	4.38 (0.49)	4.38 (0.4)	4.22 (0.54)	4.07 (0.46)

Years Teaching Online								
No experience	4.27 (0.52)	4.40 (0.36)	4.17 (0.78)	3.79 (0.43)	3.83 (.43)	4.18 (0.42)	3.71 (0.48)	3.86 (.37)
1-5 years	4.43 (0.42)	4.41 (0.51)	4.29 (0.52)	3.89 (0.69)	4.33 (0.48)	4.44 (0.39)	4.09 (0.54)	4.10 (0.54)
6-10 years	4.22 (0.45)	4.26 (0.42)	4.14 (0.46)	3.76 (0.50)	4.43 (0.45)	4.46 (0.42)	4.30 (0.65)	4.20 (0.58)
11-15 years	4.40(0.36)	4.39 (0.39)	4.48 (0.47)	3.96 (0.59)	4.54 (0.40)	4.55 (0.37)	4.19 (0.78)	4.21 (0.48)
More than 15 years	4.02 (0.86)	4.21 (0.59)	3.90 (0.34)	3.56 (0.88)	4.50 (0.37)	4.37 (0.40)	4.22 (0.25)	4.14 (0.36)
Required Training by College								
Yes	4.31 (0.51)	4.33 (0.48)	4.20 (0.50)	3.81 (0.65)	4.41 (0.43)	4.47 (0.39)	4.20 (0.58)	4.17 (0.52)
No	4.24 (0.41)	4.38 (0.37)	4.27 (0.55)	3.79 (0.51)	4.10 (0.60)	4.18 (0.40)	3.92 (0.63)	3.86 (0.53)

Relationship Between Faculty Perception of Importance and Self-Efficacy to Teach Online

Table 5 shows Pearson correlation coefficients between the four subscales. The relationships between subscales were high, ranged from .63 to .72 for importance and from .60 to .67 for self-efficacy, whereas the correlation coefficients between the subscales of importance and those of self-efficacy were low (ranged from .10 to .33).

Table 5
Correlations between subscales for Importance and Self-efficacy

	Importance				Self-Efficacy			
	Course Design	Course Communication	Time Management	Technical Competence	Course Design	Course Communication	Time Management	Technical Competence
Importance								
Course Design	-	.721**	.635**	.654**	.095	.171	.103	.255**
Course Communication		-	.640**	.633**	.116	.333**	.177	.331**
Time Management			-	.674**	.036	.134	.196	.158
Technical Competence				-	.039	.207**	.155	.302**
Self-Efficacy								
Course Design					-	.641**	.669**	.658**
Course Communication						-	.655**	.623**
Time Management							-	.602**
Technical Competence								-

Note. $*p < .05$, $**p < .01$, $***p < .001$

Demographic Factors and Faculty Perceptions of Importance and Self-Efficacy to Teach Online

Differences in gender, years teaching online, and delivery method were examined using MANOVA. Results show significant differences in gender and delivery method but not for years of teaching online.

Gender

Female faculty perceptions were significantly higher than male faculty perceptions on the importance of course design and course communication. A significant difference was found between female and male faculty's perception on the importance of course design, F (1, 95) = 4.66, p = .03, partial η^2 = .05 (moderate effect) and course communication, F (1, 95) =8.70, p = .004, partial η^2 = .08 (moderate effect).

No significant difference was found between female and male faculty's perception on the importance of technical competence, F (1, 95) = 1.03, p = .31, partial η^2 = .01 (small effect), or time management, F (1, 95) = 3.33, p = .07, partial η^2 = .03 (small effect), and on all self-efficacy scores, F (1, 95) = 1.67, p = .20, partial η^2 = .02 (small effect) for self-efficacy in course design; F (1, 95) = 1.20, p = .28, partial η^2 = .01 (small effect) for self-efficacy in communication; F (1, 95) = 1.85, p = .18, partial η^2 = .02 (small effect) for self-efficacy in time management; and F (1, 95) = 0.001, p = .97, partial η^2 < .001 (small effect) for self-efficacy in technical competence.

Years Teaching Online

No statistically significant differences were noted for years teaching online in any of the subscales of perceptions of importance and self-efficacy. Specifically, no differences in faculty perception of the importance of course design, F (4, 97) = 1.88, p = .12, partial η^2 = .07 (moderate effect); course communication, F (4, 97) = 0.76, p = .55, partial η^2 = .03 (small effect); time management, F (4, 97) = 2.04, p = .10, partial η^2 = .08

(moderate effect); technical competence, F (4, 97) = 0.73, p = .57, partial η^2 = .03 (small effect), respectively. Similarly, results were found for faculty's self-efficacy in course design, F (4, 97) = 2.11, p = .09, partial η^2 = .08 (moderate effect); course communication, F (4, 97) = 0.67, p = .62, partial η^2 = .03 (small effect); time management, F (4, 97) = 1.32, p = .27, partial η^2 = .05 (moderate effect); or technical competence, F (4, 97) = 0.49, p = .75, partial η^2 = .02 (small effect), respectively

Delivery Method

No statistically significant differences were noted by course delivery method in any of the subscales of faculty perceptions of the importance. Specifically, no differences in faculty perception of the importance of course design, F (3, 98) = 1.07, p = .36, partial η2 = .03 (small effect); course communication, F (3, 98) = 2.59, p = .06, partial η2 = .07 (moderate effect); time management, F (3, 98) = 1.14, p = .34, partial η2 = .03 (small effect); or technical competence, F (3, 98) = 2.65, p = .05, partial η2 = .08 (moderate effect), respectively.

Faculty self-efficacy in the course design varied by their course delivery method, F (3, 98) = 6.38, p = .001, partial η2 = .16 (large effect); so was their self-efficacy in time management, F (3, 98) = 4.41 p = .006, partial η2 = .12 (large effect). However, faculty self-efficacy in course communication and technical competence did not vary by course delivery method, F (3, 98) = 2.34, p = .08, partial η2 = .07 (moderate effect); and F (3, 98) = 2.65, p = .05, partial η2 = .08 (moderate effect), respectively.

Post-hoc multiple comparisons with Tukey's Honest Significance Distance (HSD) method showed that faculty who teach face-to-face courses (M = 4.14; SD = 0.47) have a significantly lower self-efficacy in course design than faculty who teach asynchronous

courses (M = 4.54; SD = 0.38) and synchronous courses (M = 4.63; SD = 0.40). However, the difference was not statistically significant with faculty who teach hybrid courses (M = 4.38; SD = 0.45). Similarly, post-hoc multiple comparisons with Tukey's Honest Significance Distance (HSD) method showed that faculty who teach face-to-face courses (M = 3.98; SD = 0.51) have a significantly lower self-efficacy in time management than faculty who teach asynchronous courses (M = 4.42; SD = 0.54). Differences between face-to-face (M = 3.98; SD = 0.51), synchronous (M = 4.35; SD = 0.58), and hybrid (M = 4.03; SD = 0.66) delivery methods were not statistically significant in self-efficacy in time management.

CHAPTER 5: Discussion

Highest Rated Competencies

Course Design

Creating online assignments and managing grades online were competencies that faculty rated important in online course design. It is important for faculty know if students have achieved course outcomes expected for the online course and this is achieved by designing online assignments. Pollanen (2007) recommends that well-designed assignments such as quizzes, projects, discussions assist in keeping students engaged and motivated. Managing grades online were also rated as an important competency under course design. Farmer (2005) cited that grades can be entered into electronic grade book immediately which allowed students to have faster access to their grades. Ko and Rosen (2001) cited instructor ability to export grades for transmittal to the university registrar is also important when faculty teach online.

For self-efficacy, faculty rated organizing instructional materials into modules and managing grades online as tasks that they are competent in. Faculty's ability to organize instructional materials into modules or units is cited as an essential success factor in distance education (Menchaca & Bekele, 2008). Faculty also rated creating online assignments with high self-efficacy. Bigatel, Ragan, Kennan, May, and Redmond (2012) cited being able to track student performance, submit grades, mark papers, and manage the course roster and other functional skills necessary for general course operation were necessary to prepare a novice or intermediate instructor for online teaching success.

Course Communication

Responding to student questions and using email to communicate with the learners were competencies that faculty rated as very important in online course communication. Masoumi and Lindstrom (2012) agree that interaction is a critical ingredient of a quality online course and it is important to respond to students promptly. Martin, Wang and Sadaf (2018) suggest instructors' timely response to questions as one of the helpful facilitation strategies. They recommend instructors responding to questions within 24 to 48 hours as a best practice. Other researchers cited faculty commitment to responding to questions, requests, and invitations for conversation without preplanning (Newbold, Seifert, Dherty, & Scheffler, 2017). One of the quality standards of Quality Matters (2018) includes prompt response to students as one of the quality indicators in online courses.

Both for importance and self-efficacy, using email to communicate with learners were rated high. Friedman and Friedman (2013) pointed out that online learning is dependent on regular communication such as email, and discussion forum. In addition, Bailie (2017) found that students preferred email as the primary means of communication with their instructor. Bigatel, Ragan, Kennan, May and Redmon (2012) cited various aspects of communication to be critical competency for online teaching. This warrants faculty to be competent in using email to communicate with their students.

For self-efficacy, sending announcements/email reminders was another competency that faculty rated they can do well. Be willing to contact students via email or via announcements was cited as an important online competency by Palloff and Pratt (2001). Current learning management systems have the functionality to email and sending regular announcements to the online students (Eskey & Schulte, 2010). Regular

announcements can be used to send general updates to students and to enhance learner-instructor interaction.

Time Management

Scheduling time for designing course prior to delivery and spending weekly hours to grade assignments were competencies that faculty rated as very important in time management. Levitch and Milheim (2003) cited instructors needing to develop new time management skills when transitioning to online teaching. Sheridan (2006) proposed that online faculty spend more hours than traditional faculty in preparing and administering online courses. Since course design consumes a great amount of time faculty may need to design and have the course ready before the start of the semester. Instructors need to be cognizant of the amount of time involved in developing an online course. Faculty also rated spending weekly hours to grade assignments was very important. Martin, Wang, Jokiaho, Birgit, and Grubmeyer (2017) recommended designing the course a semester before delivery, setting aside weekly hours to facilitate the course, and setting aside weekly hours to grade assignments. The need to focus on time management for community college faculty when preparing to teach online is echoed by Jackowski and Akryod (2010).

Regarding self-efficacy, faculty had a high rating for spending weekly hours to grade assignments and scheduling weekly hours to facilitate the online course as tasks that they can do well. The importance of faculty setting aside time to grade work is echoed by Van de Vord and Pogue (2012) where faculty spends time evaluating student work and recording grades. Sheridan (2006) cited that it is time consuming to teach

online versus traditional teaching which warrants faculty allocating time on a weekly basis for administering and managing the online course.

Technical

Navigating within the Learning Management System and completing basic computer operations were the two competencies in technical that faculty rated as very important. Gay (2016) cited instructor knowledge and use of technology tools very important in online teaching. Since online course is delivered mainly through a learning management system such as Blackboard, a faculty's ability to navigate the learning management system is a critical competency component to teach online. Smith (2005) cited any training program for new online instructors to address technological aspects of the institution's learning management system as one of the fifty-one competencies. Creating and editing documents, managing files and folders are basic computer operations that online instructors are expected to be proficient at (Keramati, Afshari-Mofrad, & Kamrani, 2011). The finding from this research shares consistency with previous research studies noted.

Faculty also rated basic computer operation and create and edit videos with high self-efficacy. The finding is similar to other research study that suggests most faculty are competent in using computer to perform basic operation skills (Sa'ari, Luan, & Roslan, 2005). A high rating in video editing may be explained by the fact that it is one of the core competencies for online teacher as cited by Varvel (2007). It is recommended for instructors who teach online who create videos to share their lectures rather than just re-using web resources. Instructor generated videos is recommended as a facilitation

strategy to enhance instructor presence in the online courses (Martin, Wang and Sadaf, 2018).

Demographic Factors and Competencies

Female Instructors versus Male Instructors

Female faculty perceptions were significantly higher than male faculty perceptions on the importance of course design and course communication. Our findings are in alignment with Chase (2002) who found differences in gender on instructional design practice, particularly on course design. Briggs's (2005) survey also found differences between genders in their perceptions of importance of online teaching competencies including course design.

Another competency where we found differences in gender, was in course communication. Research has found that male and female instructors differ in communication style (Montgomery & Norton, 1981) and this is true to online teaching as well. According to Jones and Johnson (2005), female faculty reported greater use of email to communicate with students and greater use of Internet applications such as course web sites and web boards (Blackboard). The fact that female faculty had greater use of email to communicate with student may explain their higher perception of importance on course communication.

Delivery Method

Faculty self-efficacy in the course design and time management varied by their course delivery method. Faculty who teach face-to-face courses have a significantly lower self-efficacy in course design than faculty who teach asynchronous courses and synchronous courses.

Faculty self-efficacy also varied by time management. Carril, Sanmamed and Sellés (2013) found that faculty who have taught online have better pedagogical practices and this could have resulted in a higher self-efficacy.

Implications

The results of this study could yield new insights for institutions with best practices to adequately transition traditional faculty to teach in an online environment. Faculty perceptions on the importance of online teaching competencies and self-efficacy affects how faculty approach online teaching tasks, challenges, and goals. This study has implications for those providing training for faculty to teach online in community colleges. This could lead to institutions tailoring effective professional development geared towards competencies addressed in the study's instrument. In the pursuit of better training for faculty to transition into the online environment, institutions should examine competencies in regards to importance and self-efficacy.

Therefore, this study has implications that can span across an entire institution ranging from administrators to instructional designers, and both existing and new online faculty. Faculty preparedness to teach online should encompass the study's four competencies: course design, course communication, time management, and technical. Finally, there should be deliberate and concentrated efforts in developing and providing faculty training with the intent of increasing faculty confidence and capacity to effectively use instructional technology. This study and the research of Martin, Wang, Jokiaho, Birgit, and Grubmeyer (2017) help solidifies competency areas of importance that must be addressed when preparing faculty to teach online whether it be for a two-year or four-year education institution.

Limitations

The study had challenges due to methodological limitations. First, the response rate could have been better. Only 101 faculty responded from a 600 sampling frame. Caution should be considered when making a generalization to all community college faculty from this study. Second, the list of competencies in this study is not inclusive of all possible online teaching competencies. Third, the setting consists mainly of medium to large two-year urban community colleges. Finally, self-reported data from the study may yield response bias because self-report questionnaires rely on honest of participants. In addition, participants may lack the introspective ability to provide accurate responses to questions because participants may not be familiar with all online teaching competencies. Readers should interpret the results with caution due to these limitations. Future study could include other competencies and categories from other research studies. In addition, future research could focus on a variety of community colleges across the country. For example, smaller rural community colleges with scarce resources may yield interesting findings.

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APPENDIX A: SURVEY INSTRUMENT

Faculty Preparedness to Teach Online

1. Rate how **important these competencies are for online teaching** in your opinion. Use the following scale to answer these questions accordingly.

1	2	3	4	5
Not Important at all	Not Important	Somewhat Important	Important	Very Important

Course Design

- Create an online course orientation (e.g.introduction, getting started)
- Write measurable learning objectives
- Design learning activities that provide students opportunities for interaction (e.g. discussion forums, wikis).
- Organize instructional materials into modules or units.
- Create instructional videos (e.g. lecture video, demonstrations, video tutorials)
- Use different teaching methods in the online environment (e.g. brainstorming, collaborative activities, discussions, presentations)
- Create online quizzes and tests
- Create online assignments
- Manage grades online

Course Communication

- Send announcements / email reminders to course participants
- Create and moderate discussion forums
- Use email to communicate with the learners
- Respond to student questions promptly (e.g. 24 to 48 hours)
- Provide feedback on assignments (e.g. 7 days from submission)
- Use synchronous web conferencing tools (eg. Adobe Connect, Webex, Blackboard Collaborate, Skype)
- Communicate expectations about student behavior (e.g. netiquette)
- Communicate compliance regarding academic integrity policies
- Apply copyright law and Fair Use guidelines when using copyrighted materials
- Apply accessibility policies to accommodate student needs

Time Management

- Schedule time to design the course prior to delivery (e.g. a semester before delivery)
- Schedule weekly hours to facilitate the online course
- Use features in Learning Management System in order to manage time (e.g. online grading, rubrics, speedgrader, calendar)
- Use facilitation strategies to manage time spent on course (e.g. discussion board moderators, collective feedback, grading scales)
- Spend weekly hours to grade assignments
- Allocate time to learn about new strategies or tools

Gender
Male
Female
Other
Prefer not to answer

Age in Years
less than 30
31-35
36-40
41-45
46-50
51-55
56-60
greater than 60

Academic Discipline
Agriculture/Natural Resources
Arts
Sciences
Business
Education
Engineering/Applied Science
Health Sciences
Law
Medicine
Architecture

Years of Teaching
0
1-5
6-10
11-15
More than 15

Years of teaching online
0
1-5
6-10
11-15
More than 15

Primary Online Method of Teaching
Asynchronous Online
Synchronous Online

APPENDIX B: IRB APPROVAL

OFFICE OF RESEARCH COMPLIANCE
9201 University City Boulevard
319 Cameron Hall
Charlotte NC 28223-0001
(704)-687-1871
Web site: http://research.uncc.edu/
Federalwide Assurance (FWA) #00000649

To: Kao Vang
Educational Leadership

From: Office of Research Compliance

Date: 7/06/2018
RE: Notice of Approval of Exemption with No End Date
Exemption Category: 2. Survey, interview, public observation
Study #: 18-0152

Study Title: Community College Faculty Perception to Teach Online

This submission has been reviewed by the Office of Research Compliance and was determined to meet the Exempt category cited above under 45 CFR 46.101(b). This determination has no expiration or end date and is not subject to an annual continuing review. **However, you are required to obtain IRB approval for all changes to any aspect of this study before they can be implemented.**

The Investigator Responsibilities listed below applies to this study only. Carefully review the Investigator Responsibilities.

Study Description:

Literature reviews cite concerns with the online course including quality and student success among others. With online courses continuing to be a popular choice for many students there are also concerns that online faculty is not adequately being prepared to teach online. The concerns particularly address issues surrounding faculty level of online competencies and self-efficacy. The purpose of this study is to examine faculty perceptions on their preparedness to teach online through a survey of 200 faculty members. The study explores literature review findings on faculty perceptions of online teaching competencies and their self-efficacy to teach online. The research will also try to identify whether gender, age, years of teaching, years of online teaching, academic rank, academic discipline, and method of teaching impacts faculty perceptions on their level of online competence and self-efficacy to teach online.

Your approved consent forms (if applicable) and other documents are available online at
http://uncc.myresearchonline.org/irb/index.cfm?event=home.dashboard.irbStudyManagement&irb_id=18-0152.

Investigator's Responsibilities:

The above-cited determination has no expiration or end date and is not subject to annual continuing review.

However, the Principal Investigator needs to comply with the following responsibilities:

1. Modifications **must** be submitted for review and approval before implementing the modification. This includes changes to study procedures, study materials, personnel, etc.
2. Data security procedures must follow procedures as approved in the protocol and in accordance with ITS Guidelines for Data Handling.
3. Promptly notify the IRB (uncc-irb@uncc.edu) of any adverse events or unanticipated risks to participants or others.
4. Complete the Closure eform via IRBIS once the study is complete.
5. Be aware that this study is now included in the Office of Research Compliance (ORC) **Post-Review & Post-Approval Monitoring program** and may be selected for post-review monitoring at some point in the future.
6. Reply to ORC post-review monitoring and administrative check-ins that will be conducted periodically to update ORC as to the status of the study.
7. Three years (3) following this Exemption determination, ORC will request a study status update (active/not

active).

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records).
CC:
Florence Martin, Educational Leadership
Chuang Wang, Educational Leadership