2018

A phenomenological study of professors and instructional designers during online course development leading to enhanced student-centered pedagogy

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A PHENOMENOLOGICAL STUDY OF PROFESSORS AND INSTRUCTIONAL DESIGNERS DURING ONLINE COURSE DEVELOPMENT LEADING TO ENHANCED STUDENT-CENTERED PEDAGOGY

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Learning Technologies

by

Debra Chittur

April, 2018

Kay Davis, Ed.D. – Dissertation Chairperson

This dissertation, written by

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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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DEDICATION

This dissertation is dedicated to my mother, Colleen Taranik, and to the memory of my stepfather, James Taranik. Their inspiration, expectations, and love have encouraged me to always give my strongest effort in education and work. I could not ask for better mentors.

ACKNOWLEDGEMENTS

This dissertation is dedicated to my teaching community of practice. Acknowledgements are due first, to my mother, who taught me to read, cheered me on, convinced me that I could go back to school and made this journey possible; my brother, upon whom I practiced my debate and argumentation skills; my father, who was proud of my early accomplishments; and my stepfather, who put me on the path to graduate school – how I wish he were here for this moment.

Recognition must go to my great teachers - Mrs. Leubenthal, my sweet kindergarten teacher, Mr. Fernandes, my fiery junior high band director, and professor Regina Morantz at the University of Kansas. And also to graduate student teaching colleagues Rose Hynes, David Vampola and Paul Mishler—some of the best university teachers I have ever seen. Many colleagues have taught me best practices in teaching just by allowing me to watch them: Joann Wheeler, Jo Hartel, Betsy Lowry, Roger Drost, Priscilla Lee, Tammie Robie, Scott Jaquith, Darlene Richard, John Grady, Patti Wilkins, Alicia McBrayer, Elizabeth Webb, Cheryl Justice, Andrea Lee, Mark Arandia, Sarah Fulkes, Jenny Lowry, Story Stringer, Whitney King, Steve Bock, Lisa Erekson, Sita Bell, and Angie Sweeney.

At Pepperdine I was so fortunate to be mentored by my dissertation advisor, Kay Davis, and Professors Paul Sparks, Judi Fusco, Eric Hamilton, Farzin Madjidi, Sarah Haavind, Jack McManus, Linda Polin, Mark Chen, Rebekka Helford, and Larry Oslund. The “dark and twisty” EDLT Cadre 19 at Pepperdine is the very definition of a learning community: I learned something from every member. Special thanks go to Jill Moe, my learning partner, Antha Holt and Helen Teague, my partners in times of crisis, and Honora Whitfield and Molly Gonzales, who helped me through the dissertation process. Christie Dailo cheerfully answered my many

questions and went out of her way to streamline all the red tape that graduate students can trip over. Maria Brahme and the Pepperdine Library were so helpful throughout my coursework and the research and writing of my dissertation.

My children have also taught me so much about teaching and learning – Rachel is a better student than I ever was, Ben is a better learner than I ever was, and Athena, our digital native, kept me up to speed on Minecraft and all things kidtech. Finally, an acknowledgement goes to my dear husband, Krishnan, who honored the demands on my time and energy throughout this journey and handled the challenges it brought without me asking. I love you, guy.

VITA

Debra Sterling Chittur

EDUCATION

Pepperdine University, Los Angeles, CA (in candidacy stage)
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Boston University, Boston, MA
33 graduate hrs. toward Doctorate of Philosophy in History 1984
Awarded Teaching Assistantship

Brandeis University, Waltham, MA
Master of Arts in American History 1981
Awarded Tuition Fellowship

University of Kansas, Lawrence, KS
Bachelor of Arts in History with Honors 1980

LEADERSHIP EXPERIENCE

Independence University, Remote 2012-present
Associate Dean of Humanities

- Supervise remote team of 22 full-time and adjunct instructors in Humanities department of online not-for-profit professional university.
- Manage curriculum revisions of Humanities courses.
- Design and promote strategies for course completion and student retention.
- Mentor the Student Advisory Committee and oversee all other extracurricular programs for online students

Adult Learning Center, Nashua, NH 1995-2001
Clearway Alternative High School Director

- Provided overall management including staff supervision, curriculum development, maintenance of state certification standards, intake of at-risk students aged 14-20.
- Participated in community efforts to provide services for the at-risk

population.
- Collaborated with area special education personnel, parents and support staff.
- Served as Adult Learning Center's Technology Coordinator.

Even Start Coordinator
Founder of Family Connection (family resource center)
- Designed and implemented Even Start Family Literacy program, including supervising home visitors, early childhood specialists, parenting teachers, and case managers.
- Co-wrote proposal to obtain five-year federal grant
- Administered $500,000+ budget
- Planned and implemented evaluation activities.

Significant Accomplishments
- Established Family Connection, a family resource center, in March 1998.
- As Technology Coordinator drafted technology plan and facilitated network wiring of building by adult students in January 1999.
- Initiated and implemented agreement with the Alternative Program at Nashua High School to identify and recruit teenage drop-outs not being served by either program.

Community Learning Center**,** Cambridge, MA 1987-1995
Program Coordinator
- Coordinated ESL department (1992-1994), family literacy program, hospital ABE/ESL workplace education program and satellite ESL program.

Massachusetts Institute of Technology, Cambridge, MA 1988-1990
Publications Coordinator
- Managed Publications Department of Artificial Intelligence Laboratory

INSTRUCTIONAL DESIGN EXPERIENCE
(eLearning tools portfolio at chitturportfolio.webs.com)

Independence University, Remote 2012-present
Associate Dean of Humanities
- Build and update courses and provide support to instructors and students in Canvas, Pearson LearningStudio, Zoom and Blackboard Collaborate.
- Create eLearning professional development modules in Adobe Captivate 6 and Articulate Storyline for online instructors.

University of Alabama in Huntsville, Huntsville, AL(contract) 2013-2015
Instructional Designer
- Create online eLearning modules in Articulate Storyline and Adobe Captivate and manage LMS for federal training grant for teachers aimed at improving instruction for English Language learners.

- Develop eLearning modules and online learning environment for Introduction to Chemical Engineering MOOC.
- Provide front-end support in Angel, and other LMSs.

TEACHING AND RESEARCH EXPERIENCE

Pepperdine University, Malibu, CA 2015-pres

Research Assistant

- Conduct interviews, transcribe, code and analyze qualitative data in large-scale National Science Foundation-funded research study examining an implementation of video cyberensembles in mathematics courses.

Independence University/Stevens-Henager College, Salt Lake City, UT 2012-pres.

American History Instructor

- Teach 200- level courses in American History in online division of college.

Calhoun Community College, Huntsville, AL 2013

Adjunct Instructor

- Teach Orientation to College online

Decatur City Schools, Decatur, AL 2008-2011

ELL Specialist

- Taught English to middle school English Language Learners (ELLs).
- Developed curriculum aligned to WIDA standards.
- Assisted mainstream teachers with modifications and accommodations for ELLs.
- Administered informal and formal (including ACCESS) assessments.

Talent Pool Teacher

- Responsible for Gifted and Talented pull-out program in middle school.
- Developed curriculum aligned to NAGC standards.
- Assisted mainstream teachers with modifications and accommodations for high-achieving students.
- Coached Robotics and Scholars Bowl teams.
- Wrote winning grant proposal and served as teacher for Kennedy Center's OnLocation program.
- Implemented National History Day program that produced projects that advanced from regional and state to national competitions.

Nashua School District, Nashua, NH 2001-2008

ELL Specialist

- Taught English to middle school English Language Learners (ELLs).
- Developed curriculum aligned to WIDA standards.
- Assisted mainstream teachers with modifications and accommodations for ELLs.

- Administered informal and formal (including ACCESS) assessments.
- Provided district- and state-wide training in Sheltered Instruction Observation Protocol (SIOP) components, working with gifted ELLs, and reducing underachievement.
- Coordinated after-school and parent outreach programs for ELL students and their families.

Community Learning Center**,** Cambridge, MA 1987-1995

Teacher/Administrator

- Taught English as a Second Language (ESL), Adult Basic Education and U.S. History/Civics.

Middlesex County Employment and Training, Cambridge, MA 1987-1989

Workplace Education Teacher

- Developed specialized curriculum for immigrant workers learning English in factory which produced electromechanical parts.

Kirkwood Community College**,** Cedar Rapids, IA 1985-1986

World History Instructor

Boston University, Boston, MA 1981-1984

Graduate Teaching Assistant

ABSTRACT

This study explored the experiences of professors and instructional designers as they interact to design and develop a distance learning course. Six professors from several different universities who reported that their pedagogy improved after these interactions during the conversion process were identified and interviewed, along with the instructional designers with whom they collaborated, to determine what elements of the interaction led to the change in their pedagogical practices. The study used a Hermeneutics phenomenology approach employing a universal instructional design model (Merrill, 2013) and a threat regulation model of trust (Williams, 2007) to shape data collection and analysis. Analysis of the data showed that principles from the instructional design model (Merrill, 2013) were used by the instructional designers to communicate good teaching practices. Strategies from the trust-building model (Williams, 2007) were employed by the instructional designers as well as some of the faculty to reduce threats to collaboration. Faculty reported incorporating a more student-centered approach to their subsequent teaching, based primarily on improved student outcomes in these courses, including satisfaction, engagement, and retention of new knowledge. Four conclusions emerged from the findings: (a) Merrill's First Principles (2013) is a useful model for explaining student-centered practices in higher education, particularly the principle of using real-world problems in course design, (b) Williams's trust-building model explains some of the success of the professor/instructional designer interactions, (c) professors valued pedagogical support from experienced instructional designers, who facilitated changes in their thinking about pedagogy, and (d) professors were more likely to make changes in pedagogy when they could anticipate improved learning outcomes. Universities are recommended to implement the use of professional instructional designers and quality frameworks to introduce faculty to student-

centered teaching practices. As change agents in the universities, instructional designers should take advantage of the opportunity to impact teaching practices in universities. Further research might explore how faculty incorporate new knowledge acquired as a result of interacting with instructional designers into their teaching. In addition, future studies could examine the incorporation of those features of instructional design that are not reflected in active learning methods, particularly the use of backward design to create connections between learning activities.

Chapter One: Introduction to the Study

Higher education in the United States appears to be at a crossroads. Colleges and universities are under fire for high tuition costs, low student achievement, and conferring degrees that do not translate into adequately-paying jobs (Flores & Oseguera, 2013; St. John, Daun-Barnett, & Moronski-Chapman, 2013). The typical university administrative structure appears to be top-heavy and faculty performance incentives like tenure, promotions, and bonuses, are generally awarded on the basis of research prowess, not teaching ability (Martin, 2009; Newman, Couturier, & Scurry, 2010).

University faculty have historically enjoyed a great deal of autonomy in implementing their own notions about course design and teaching methodology in their courses (Martin, 2009). The accountability initiatives that now rule content and delivery in kindergarten through twelfth grade (K-12) education have not yet spread to the publicly-funded postsecondary level: learning outcomes data is collected by most universities, but administrators and faculty have been slow to utilize this information to improve teaching and learning (Kuh & Ikenberry, 2009). There have been efforts, though, to establish higher scrutiny over performance outcomes. States have attempted performance funding schemes, to little effect, aimed at improving college retention rates, hoping that the incentive to receive state aid would pressure their public universities to implement strategies to improve teaching practices that would lead to increased student retention (Hillman, 2015). The federal government has tied government-backed financial aid to job placement and standardized testing of college students in subject areas in for-profit colleges (Bennett, Lucchesi, & Vedder, 2010). In most public colleges and universities, though, there is little pressure or incentive for faculty to improve their teaching practices (Tagg, 2012)

College faculty in public institutions have a great deal of freedom to act as they see fit in the classroom. The responsibility for designing, developing and delivering classroom instruction rests solely on the college faculty. Most instructors teach the way they were taught as students, using lecture-style teaching or the Socratic method of questioning students about their understanding of the subject material (Cutler, 2013). Although both lecture and questioning have their places in the college classroom, the best teaching practices have student-centered components, such as activities related to the lecture, and collaborative and cooperative elements like discussions and group activities (Prince, 2004). Tenure and other governance systems, though, protect professors' rights to organize instruction in the way they deem best. The federal and state governments who provide funding and the students who pay tuition have little power to effect change in higher education classrooms (Brewer & Tierney, 2010). However, as the growth in the percentage of nontraditional students entering college and increased competition among institutions of higher education continue to intensify, the need to have a satisfied customer (student) is prompting these organizations to review and update their instructional practices in order to take advantage of the enhanced technological tools available.

Problem Statement

Most faculty have little training in good pedagogical practices (Bonwell & Eison, 1991; Brownell & Tanner, 2012; Dancy & Henderson, 2010; Post, 2011; You, 2010). Although much is known about how to stimulate retention and transfer of learning, few professors employ research-based teaching methods in their classrooms (Cutler, 2013; Halpern & Hakel, 2003). Many universities have responded by creating faculty development centers. The establishment of these centers shows some potential for improving practice, but they are under-budgeted and usually led either by faculty who enjoy teaching, but have little experience or training in optimal

teaching methods themselves, or by faculty developers who may lack credibility with faculty (Lee, 2010).

Professors are rewarded for their research efforts, not their teaching efforts. In fact, a 2005 study surveying over 700 Chief Academic Officers (CAOs) in postsecondary institutions of learning showed that this trend is growing. The CAOs reported that a faculty member's publication record carried more weight in his/her performance evaluation now than it did 10 years ago (O'Meara, 2005). It is almost impossible for college professors to excel at both teaching and research—each is a full-time job (Felder & Brent, 1999). Prince, Felder, and Brent (2007) note that it was once argued that a strong research background was integral to good teaching, but found in their study that there is no relationship between exemplary research skills and good teaching. Because of the reward system, limited time, and lack of support in colleges and universities, it is difficult to motivate faculty members to improve their teaching (Allgood & Walstad, 2013; Brownell & Tanner, 2012; Finelli, Richardson, & Daly, 2013).

The result of limited time for teaching preparation and lack of training is that professors do not always act in the students' best interests. Many engage in unfocused lecture-style teaching: they can also demonstrate what students perceive as neglectful or intentional misbehavior in the classroom. Negative behaviors associated with poor teaching can have a deleterious effect on struggling students. As a result, faculty who do not plan or communicate adequately or who treat students condescendingly can cause students to perform poorly academically (Braxton, Bayer, & Noseworthy, 2002; Braxton, Bayer, & Noseworthy, 2004).

Some efforts to improve teaching have been made at the state level, where full-time college instructors have been required to increase their teaching loads at state-sponsored public colleges, although that focus is on quantity, not quality of teaching (Hillman, 2015). Calls for

action at the national level have been rare. The American Association of Higher Education Forum on Faculty Roles and Rewards has recommended that universities consider offering rewards to faculty for improved teaching (Fairweather, 2002). Others have called for funders such as the National Science Foundation and universities themselves to insist on a reporting structure for proposals, tenure and rank decisions, and merit raises that requires professors to show how research and teaching practices are integrated, rather than listing those activities in separate sections in reports (Prince et al., 2007).

The number of online courses universities offer has increased dramatically in the last decade. In a sample of more than 2,800 Chief Academic Officers surveyed, 69.1 percent reported that online education was "critical to their long-term strategy" (Allen & Seaman, 2013, p. 4). More than 13,000 instructional designers currently work in higher education settings (Intentional Futures, 2016). Converting a face-to-face course for distance education usually involves collaboration between instructional designers (IDs), who are well-trained in adult pedagogical methods, and faculty Subject Matter Experts (SMEs), who provide expertise on the content to be delivered through the online course. Holsombach-Ebner (2013) posits that in this setting, instructional designers can act as change agents, ensuring that learning objectives, learning outcomes, universal design elements, and appropriate application and assessment activities are incorporated into the course. It would seem also, then, that instructional designers have an opportunity during the process of course conversion to emphasize to the SME the instructional strategies that comprise successful student-centered teaching methods and techniques. Although some studies have examined attitudes of instructional designers or professors toward the process of working together in higher education (e.g., Intentional Futures, 2016; Tabata & Johnsrud, 2008), no documented study has been found that examines successful

interactions between professors and instructional designers that lead to improved teaching practice on the part of the professor and identified features in those interactions that led to this success.

Purpose of the Study

The purpose of this exploratory research study is to understand how working with an instructional designer to convert a face-to-face course to an online format influences a professor's pedagogical practice. Professors who self-report improvements in their teaching, both online and face-to face, following the process of working with an instructional designer to convert a course from face-to-face to an online format were identified. They, along with the instructional designers who worked with them, were interviewed.

Research Questions

The central guiding research question of the study is: how do the experiences of professors and instructional designers who collaborate together to develop an online course positively influence the pedagogical practice of the professors?

Sub questions:

a) What are professor perceptions regarding improvements to their pedagogy specific to the guidance and input from the instructional designer?
b) How are improved pedagogical practices described and are there clear references to instructional design principles and student-centered pedagogical practices (Merrill, 2002)?
c) How do professors and instructional designers explain how emotions and threats were handled throughout the process considering the threat management model (Williams, 2007)?

Assumptions and Limitations

The most important assumption of this study was that interactions with instructional designers can help improve the pedagogical practices of professors they work with during the course conversion process. This study also assumed that professors would be able to explain how their own pedagogical practices changed following the conversion process and also be able attribute some of those changes in pedagogy to the experience of working with an instructional designer. A further assumption was that the instructional designers interviewed possessed the knowledge and skills specific to student-centered teaching.

This was an exploratory study and involved a small sample size. The findings provided insights into the collaborative process between professors and instructional designers. It was delimited to professors who self-report an improvement in their pedagogical practices and the instructional designer who worked with them through the course conversion process.

Importance of the Study

At a time when traditional institutions in the higher education field are faced with increasing competition, the majority of instructors in the college classroom use lecture-style teaching methods or the Socratic method of teaching, which they learned by observing faculty during their own coursework in college (Cutler, 2013). Few professors employ research-based teaching methods in their classrooms (Cutler, 2013; Fink, 2013; Halpern & Hakel, 2003). There is a growing sense among stakeholders in higher education (students, parents, employers and the government) that professors will have to be held more accountable for the learning outcomes of their students (Austin & Sorcinelli, 2013). Convincing professors to implement student-centered teaching methods in their classes holds promise as a solution.

At the same time, universities have turned to online learning to attract nontraditional students who need flexible scheduling and an on demand learning format to access coursework (Fink, 2013; Newman et al., 2010). More and more professors are converting courses designed for classroom instruction to an online format. Fortunately, although they may be apprehensive about teaching online, most faculty characterize the experience afterwards as a positive one (Crawley, Fewell, & Sugar, 2009; Kearns, 2015; Pennington, 2005; Scagnoli, Buki, & Johnson, 2009).

Instructional designers in colleges and universities are widely used to support faculty in the development of online courses through training and consultations (You, 2010). Instructional design professionals have the necessary training to introduce these professors to learning theory and make suggestions about pedagogical processes and activities that may be more student-centered than those the professors use in their classrooms (Akella, 2015). Instructional designers can act as change agents in the context of their work with faculty by helping faculty reassess their notions about teaching and learning if the interactions between them are successful (O'Reilly, 2008; Pan, Deets, Phillips, & Cornell, 2003).

This study will examined whether trust-building threat management strategies on the part of both the instructional designer and professor through interaction during the course conversion process played a role in improved pedagogical practice on the part of the professor. Confirming or eliminating the use of these threat management strategies by instructional designers and professors as well as identifying the application of instructional design models in the face-to-face classroom on the part of the professor signaled that this course conversion process could be a ripe and unexpected opportunity for providing faculty development training in the area of student-centered classroom pedagogical practices. Instructional designers are in a unique

position, working with faculty, to assist them through the process of "personal and professional transformation that has the potential to transform the institution" (Campbell, Schwier, & Kenny, 2005, p. 8).

Conceptual/Theoretical Focus

This study relied on two conceptual frameworks to guide inquiry and analysis. Merrill's (2013) First Principles of Instruction provided a guide to the mental models instructional designers use when they approach a learning project. Merrill examined several of the most widely-used instructional design models and determined that the models advocated several common principals: learners learn by solving real-world problems, existing knowledge must be activated so new knowledge can be integrated into it, new knowledge must be demonstrated to the learner, learners must apply the new knowledge as an activity in the instruction, and new knowledge must be integrated into their lives to ensure its lasting use.

The second framework involved understanding how collaboration between instructional designers and professors occurs considering the emotional management needed by both throughout the process of course conversion. A threat regulation model (Williams, 2007) originally derived from a study on interorganizational collaboration was considered through the data gathering and analysis processes. The potential threats present in the collaborative work of converting a course to an online format include opportunism, neglect of another person's interests, and identity damage. Williams (2007) argued that a person who is considered a boundary-spanner, defined as those who are successful at building trust across organizational boundaries, use three major threat regulation strategies: perspective-taking, threat-reducing behavior, and reflection.

Definitions of Terms

Online course: a course which is accessed by students through a learning management system rather than in a classroom, also known as a distance learning course.

Onground course: a course which is taught in a classroom, synonymous with a face-to-face course or a classroom course.

Instructional design: "systematic design procedures" (Richey, Fields, & Foxon, 2001, p. 30) aimed at optimizing the transfer to and construction of knowledge by a learner (Richey et al., 2001).

Instructional designer: higher education staff who advise faculty on learning theory and instructional strategies, learner needs, learning interventions, access and environments, information technologies, academic resources, and policy development (Campbell et al., 2005; Cox, 2003).

Faculty: college teachers, used interchangeably with professors and instructors.

Student-centered pedagogical practices: teaching practices that focus on the needs of students rather than the needs of teachers to organize instructional activities.

First Principles of Instruction: A theory by Merrill that posits that most instructional design models adhere to the common principles of real-world problem solving, activation of existing knowledge, demonstration of new knowledge, learner application of new knowledge, and learner integration of new knowledge (Merrill, 2002).

Threat regulation: emotional management strategies used by individuals who successfully manage coordination across organizational boundaries (Williams, 2007).

Boundary spanner: an individual who is skilled at building effective relationships, managing, negotiating, brokering, and solving problems in non-hierarchical settings with colleagues from various organizations and communities of practice (Williams, 2002).

Summary

This qualitative research explored the interaction between instructional designers and professors that led to improved teaching on the part of the professor. Because so many professors work with instructional designers to create their online courses, they are in a good position to be exposed, some for the first time, to principles of good college teaching practice. The findings of this research can help universities to better prepare their instructional designers and faculty with insights that will add value to these interactions when they occur.

Chapter Two: Literature Review

Long prioritizing research over teaching, administrators and faculty at many colleges and universities find themselves competing in the higher education market with new types of institutions that offer flexible, on demand, student-centered learning. The challenges facing traditional institutions of higher education in the United States will have to be met with adjustments in the way colleges deliver instruction to their students. This literature review begins with a broad overview of these challenges.

A discussion outlining current pedagogical practices versus more effective student-centered approaches follows. The research literature shows that university administrators have created some institutional structures and processes to help faculty implement active learning strategies in their classrooms. College professors have not fully embraced these efforts, though, primarily due to lack of time, motivation and incentive to rethink and rework courses they have taught in a particular manner for years.

Online learning holds the promise of helping universities survive this volatile phase in the history of American higher education. The affordances of online instruction permit students to access their coursework at a time and place that is convenient for them and enable faculty to personalize feedback and target particular students who may need support or require intervention. Faculty creating online courses may work, possibly for the first time, with a colleague trained in the science of human learning in order to structure their courses for delivery in a learning management system. In their interactions with learning professionals, many faculty will learn that the traditional method of delivering instruction through a lecture format is not the most effective way to reach students and improve learning outcomes. They will presumably be exposed to practitioners trained in the principles of instructional design explained in this review.

These interactions, then, may hold the key to an opportunity for learning professionals to advocate for a more student-centered approach to teaching among the professoriate.

Changing Expectations in Higher Education

Fink (2013) argues that the volatility the world of higher education is experiencing is akin to other times when universities were challenged to transform themselves, such as the establishment of land grant universities and the departmentalization of academic disciplines in the nineteenth century and the call for access by nontraditional students in the mid-twentieth century. Dolence and Norris (1995) lay out the expected differences in demands on 21st century higher education institutions today compared to their nineteenth-century counterparts. Most of these demands will result from a shift to a more student-centered approach to learning and delivery of educational services. Students will come to expect a personalized learning experience geared towards their academic and social needs. Faculty will be expected to use and incorporate technology in their classrooms. Accountability for learning outcomes will be shared by faculty and students. See Figure 1 for a comparison chart predicting the impending changes in higher education in the 21st century:

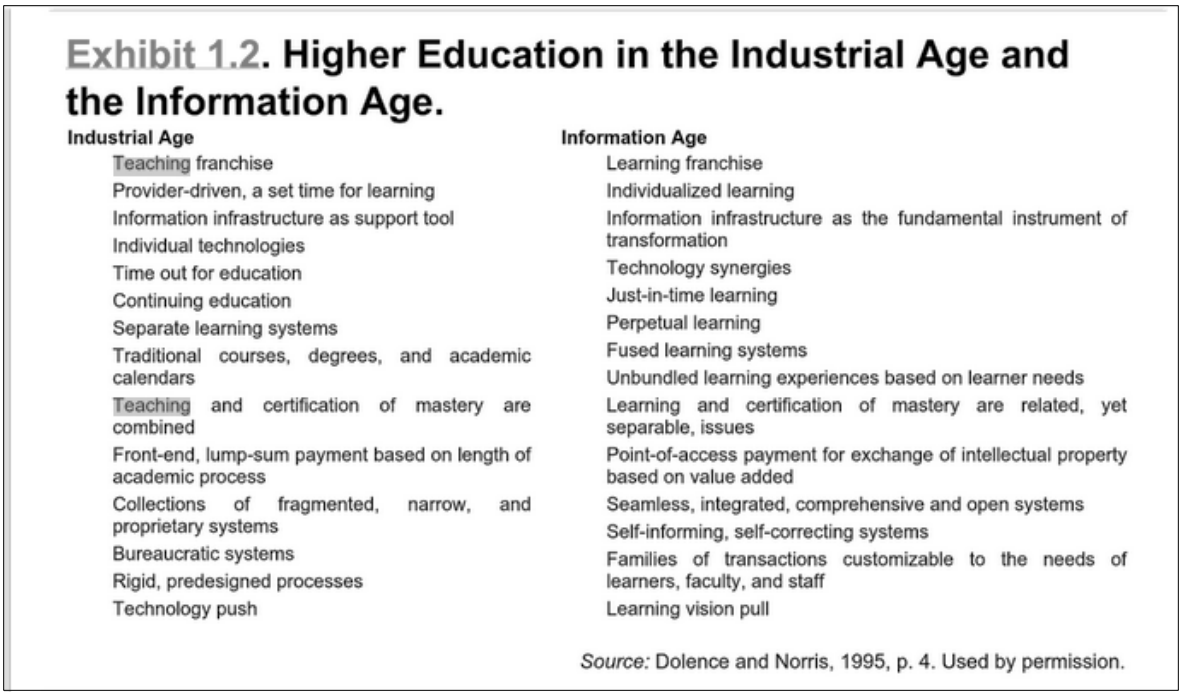


Exhibit 1.2. Higher Education in the Industrial Age and the Information Age.

Industrial Age	Information Age
Teaching franchise	Learning franchise
Provider-driven, a set time for learning	Individualized learning
Information infrastructure as support tool	Information infrastructure as the fundamental instrument of transformation
Individual technologies	Technology synergies
Time out for education	Just-in-time learning
Continuing education	Perpetual learning
Separate learning systems	Fused learning systems
Traditional courses, degrees, and academic calendars	Unbundled learning experiences based on learner needs
Teaching and certification of mastery are combined	Learning and certification of mastery are related, yet separable, issues
Front-end, lump-sum payment based on length of academic process	Point-of-access payment for exchange of intellectual property based on value added
Collections of fragmented, narrow, and proprietary systems	Seamless, integrated, comprehensive and open systems
Bureaucratic systems	Self-informing, self-correcting systems
Rigid, predesigned processes	Families of transactions customizable to the needs of learners, faculty, and staff
Technology push	Learning vision pull

Source: Dolence and Norris, 1995, p. 4. Used by permission.

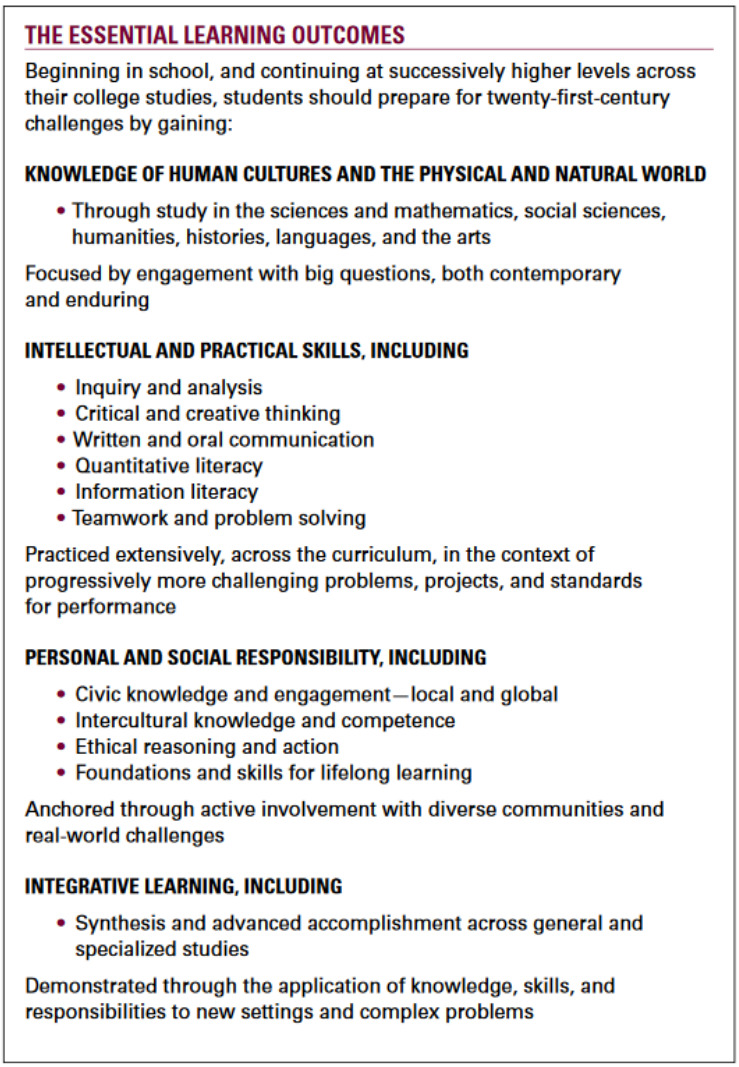
Figure 1. Reprinted with permission of publisher, Society for College and University Planning : Higher education in the industrial age and the information age (Dolence & Norris, 1995). This figure compares the properties of higher education institutions in the industrial age to those of the information age.

The singular force driving change in higher education today is competition (Newman et al., 2010). Newman et al. (2010) identify many features of the nature of competition leading this sea change. Four of these features relate directly to what goes on in the college classroom: the rise of for-profit colleges and universities; the growing numbers of students from diverse backgrounds and life stages; the willingness of the government to let market forces regulate education; and the introduction of technology to create new delivery systems.

The rise of for-profit education. The rise of the number of for-profit colleges and universities in the United States in the last three decades has caused many traditional nonprofit university leaders to rethink what is happening on their campuses and in their classrooms. A study by the Education Commission of the states (Kelly, 2001) calculates that in the 1990s, the number of two-year and four-year for-profit colleges increased by 78% and 266% respectively.

The number of students served by these institutions increased by 59% in the same decade. One for-profit institution, the University of Phoenix, reported an enrollment of 400,000 in 2009 (Bennett et al., 2010). For-profit schools have been successful at attracting students who cannot access a local nonprofit university: only 12% of students in for-profit certificate programs had access to a similar program nearby (Josuweit, 2016).

For-profit colleges typically orient their course and program offerings toward student and employer demands, rather than the interests of faculty with research agendas (Kelly, 2001). The federal government, in fact, measures the success of for-profit institutions by the percentage of job placements of their graduates, and ties access to federal financial aid of students enrolled at these schools to these outcomes (Bennett et al., 2010). Contrast this orientation toward career preparation in these institutions with the learning outcomes promoted by the Association of American Colleges and Universities (AACU), an organization led by experts in the field of higher education, seen in Figure 2 (AACU, 2007).



THE ESSENTIAL LEARNING OUTCOMES

Beginning in school, and continuing at successively higher levels across their college studies, students should prepare for twenty-first-century challenges by gaining:

KNOWLEDGE OF HUMAN CULTURES AND THE PHYSICAL AND NATURAL WORLD

- Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts

Focused by engagement with big questions, both contemporary and enduring

INTELLECTUAL AND PRACTICAL SKILLS, INCLUDING

- Inquiry and analysis
- Critical and creative thinking
- Written and oral communication
- Quantitative literacy
- Information literacy
- Teamwork and problem solving

Practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance

PERSONAL AND SOCIAL RESPONSIBILITY, INCLUDING

- Civic knowledge and engagement—local and global
- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning

Anchored through active involvement with diverse communities and real-world challenges

INTEGRATIVE LEARNING, INCLUDING

- Synthesis and advanced accomplishment across general and specialized studies

Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems

Figure 2. Reprinted with permission from *College Learning for the New Global Century: A Report from the National Leadership Council for Liberal Education & America's Promise.* Copyright 2007 by Association of American Colleges and Universities.: The essential learning outcomes (AACU, 2007). This figure describes optimal twenty-first century learning outcomes for college students.

These outcomes include a focus on “big questions,” oral and written communication and problem-solving skills, ethics and civic responsibility, and cross-disciplinary synthesis of learning. To survive as student enrollments shrink, traditional colleges and universities will need to attract students who now seek the advantages of attending a for-profit university. That nonprofit institutions already feel the pressure of competition with the career-focused curriculum

model employed by for-profit institutions is borne out by a curious note at the end of AACU's (2007) report on college learning outcomes chiding for-profits for the level of federal loan aid their students use. The note appears without reference to either their curricular approaches (the theme of the study) or the fact that public and private non-profit colleges and universities are heavily subsidized by government and charitable aid.

Regulation by market. The regulation of higher education has undergone a paradigm shift. In the last 50 years, public higher education institutions have, for the most part, been regulated by states, whose officials have given administrators a fairly wide berth to organize instruction as they see fit (Newman et al., 2010). Higher education experienced a period of further deregulation during the Bush administration and the early years of Barack Obama's presidency, following the trend in other areas of government such as air travel, telecommunications and health care (Newman et al., 2010). There was a renewed interest in higher education in regulating for-profit colleges in the last three years of Obama administration, but those efforts were primarily focused on punitive actions against those institutions that misrepresent job placement claims during the admissions process, do not meet gainful employment minimums, or those who have high numbers of students defaulting on government loans (CAPSEE, 2013). President Trump's Secretary of Education, Betsy DeVos, however, has halted some of the regulations issued by Trump's predecessor, citing them as " 'overly burdensome and confusing' for colleges and universities" (Camera, 2017). The outside agencies that most significantly impact what goes on in college classrooms are regional and national accrediting organizations (Fink, 2013). Although these organizations purport to ensure quality in their member colleges, they have been slow to sanction colleges that do not meet their requirements. The website of WASC Senior College and University Commission

(https://www.wascsenior.org), the accrediting body for western states in the U.S., shows that since 1983 only six member colleges were terminated for cause. Two of those institutions continue to operate: one has been reaccredited under new ownership and the other has applied for reaccreditation.

Although universities have competed with each other for the best students for some time, they are increasingly subject to market forces that put their ability to attract students at risk (Becker & Toutkoushian, 2013). Where high school students once had to rely on a high school guidance counselor for college recommendations, all prospective college students now have access to a variety of online resources that will help them choose a college: College Navigator (http://nces.ed.gov/collegenavigator/) from the National Center for Education Statistics, bigfuture (https://bigfuture.collegeboard.org/college-search?) by the College Board, and Cappex (https://www.cappex.com/), to name a few. Most of these tools also rank colleges by academic rigor as well as extracurricular offerings and other indicators of quality of student life on campus. As a result, universities have had to increase expenditures to assure their positions in these ranking mechanisms (McCormick, Kinzie, & Gonyea, 2013). With a rise in the number of students who possess demographic characteristics that put them at risk of dropping out of college (Bound, Lovenheim, & Turner, 2010), universities have been forced to consider implementing practices that increase student engagement (McCormick et al., 2013). These include collaborative learning with peers, sufficient academic challenge, a supportive campus environment, quality faculty-student interaction, and effective teaching practices (National Survey of Student Engagement, 2015).

Changing student characteristics. Students entering college in the last decade are less well-prepared than their counterparts who attended college a quarter-century before (Bound et

al., 2010). Minority student enrollment in college has increased dramatically in that time, with Latino students replacing African American students as the largest minority in college (Flores & Park, 2013). Many of these students are expected to work while attending college (Bachmeier & Bean, 2011). They typically need developmental or remedial education before they are sufficiently prepared to perform college level work (Flores & Drake, 2014). Over the past 30 years, a growing number of nontraditional students have also enrolled in college. Nontraditional students, loosely defined as those over the age of 25 (Bell, 2003), possess two major demographic characteristics that can affect their success in college: they have children and they work. In a five-year longitudinal study of 5,000 community college students in Los Angeles, Hagedorn (2005) found that nontraditional students, who perform better and complete college at higher rates than their traditional counterparts, have greater levels of job and family responsibilities, and other pressures on their available time. Many of these students enroll in for-profit institutions, where schedules are more flexible and career-focused (Kelly, 2001).

As the median age of Americans rises, Hagedorn (2005) counsels traditional nonprofit colleges to appeal to these nontraditional students to shore up the financial drain as the numbers of traditional students decline, recommending traditional institutions of higher learning offer more flexible and career-focused programming to attract these students away from for-profit institutions. At any rate, a boost in the number of students entering college seems inevitable, as a majority of Americans believe holding a college degree is the minimum qualification for leading a successful life (Matthews, 2012). The research on income differentiation between college graduates vs. high school graduates bears out the necessity for most Americans to complete college in order to earn a living wage (Pascarella & Terenzini, 2005). To attract students from

these demographics, nonprofit institutions will need to change their *modus operandi* in order to compete.

Technology in education. The introduction of technology in the college classroom has profoundly changed the way many professors deliver instruction (Newman et al., 2010). A model active learning classroom might have laptop connectors, liquid crystal display (LCD) screens for individual groups of students, microphones and large projection screens the entire class can view (Cotner, Loper, Walker, & Brooks, 2013). In large lecture halls, students sometimes use personal response systems ("clickers") to interact with professors delivering lectures (Trees & Jackson, 2007). Simulation technology is widely used in medical education settings, and shows promise in laboratory science courses and complex representations of real-world settings (Ahalt & Fech, 2015). Much of the work once performed by professors with typewriter, paper, and pencil has been replaced by computer software supported platforms to create and deliver syllabi, exams, and assignments (Newman et al., 2010)

The number of online courses universities offer has increased dramatically in the last decade. In a sample of more than 2,800 Chief Academic Officers surveyed, 69.1% reported that online education was "critical to their long-term strategy" (Allen & Seaman, 2013, p. 4). There are many reasons for college administrators to shift more of their resources to online education; the need to quickly absorb the growing number of Americans that will seek a college education between now and 2025 (Matthews, 2012), the promise of personalization of the educational experience through use of technology (Sandeen, 2013), the ease with which administrators can track participation and outcomes (Milliron, Malcolm, & Kil, 2014), the existence of an online delivery system at most colleges and universities that can be inexpensively scaled up (Sener, 2010), and, most importantly, the appeal of flexible scheduling and 24/7 on demand learning to

students who could not access a college education in a traditional format and setting (Fink, 2013). Two main models for online course delivery are used in higher education institutions today: ad hoc course design, in which a single faculty member creates a course in or converts an existing onground course into an online format; and a master course format in which an instructional designer works with a subject matter expert to design a course that will likely be taught by adjunct faculty (Hill, 2012). This dissertation study focused on the experiences of participants utilizing both of these models.

Teaching at the College Level

Historically college faculty have enjoyed a great deal of autonomy in delivering instruction and managing their classrooms (Martin, 2009). Most instructors in the college classroom use lecture-style teaching methods or the Socratic method of teaching, which they learned by observing faculty during their own coursework in college (Cutler, 2013). Research on pedagogical practices, though, shows that teaching is more effective when student-centered elements such as activities related to the lecture, discussions, and group activities are incorporated into instruction (Prince, 2004).

Few professors, however, employ research-based teaching methods in their classrooms (Cutler, 2013; Fink, 2013; Halpern & Hakel, 2003). Faculty development centers have been created in many universities to help faculty improve their teaching, but these centers typically lack the resources and the kind of skilled and respected practitioners-leaders needed to make an important impact in their institutions (Lee, 2010). In addition, the stresses faculty face form a barrier to motivation to improve teaching: research skills are more highly valued and good teaching is seldom rewarded in many institutions of higher learning (Allgood & Walstad, 2013; Brownell & Tanner, 2012; Finelli et al., 2013).

Good Pedagogical Practices

What does good college teaching look like in the twenty-first century? There is no national framework in the United States for excellence in college teaching. This is not the case in other countries. Colleges and universities in the United Kingdom (U.K.), for example, have responded to the call for higher expectations for teaching practice by developing the UK Professional Standards Framework. An independent organization supported by leading higher education institutions in the U.K, the Higher Education Academy, has certified 75,000 college teaching professionals who have demonstrated successful implementation of the framework descriptors (https://www.heacademy.ac.uk/).

Other means must be used, then, to identify best teaching practices in use in the United States. One well-regarded book (Forsyth, 2016) published by the American Psychological Association uses Hattie's (2008) meta-study examining 50,000 analyses of student achievement in K-12 settings as a basis for its recommendations (Marek & Williamson, 2016). Forsyth (2016) encourages faculty to identify and align learning activities and assessments with learning goals, use student-centered teaching methods, provide feedback, provide an orderly learning environment, implement technology in effective ways, self-evaluate, and document their success at helping students achieve.

A look at the teaching and learning center websites of top universities in the United States (Times Higher Education Supplement, 2016) reveals that a consensus on effective teaching practices has yet to be reached. Harvard University's Derek Bok Center for Teaching and Learning (http://bokcenter.harvard.edu/) and Stanford University's Teaching Commons (https://teachingcommons.stanford.edu) promote a teaching approach known as active learning. An early seminal book introducing active learning (Bonwell & Eison, 1991) laid out the

strategies for active learning in teaching practice: modification of lectures to include time for student reflection activities interspersed between lecture segments; incorporation of a supportive environment for discussion; targeted use of media in instruction; in-class writing; problem-solving activities such as case studies and guided design; and inclusion of other activity types such as cooperative learning, debates, drama, role playing, simulation, and peer teaching. The authors noted that many of the studies promoting these principles of active learning did not prove that they were particularly effective tools for learning, but that students enjoyed them and reported greater engagement in courses where they were employed.

Ten years later, though, in a review of the research on active learning in the college engineering classroom, Prince (2004) divided active learning found in particular to engineering courses into three types: collaborative learning (students work in groups and there is an emphasis on group dynamics and interaction); cooperative learning (emphasis on individuals and their roles and interactions as part of a non-competitive team); and problem-based learning (where students solve problems posed to them, usually cooperatively or collaboratively). He also outlines the difficulty of measuring the success of active learning, citing the interpretive nature of defining success in working through a problem, the impact on a student's ability to sustain life-long learning, the lack of measurements for retention and transfer of knowledge and skills, and the level of significance of a particular result.

Those issues in mind, Prince (2004) found there were significant benefits to promoting active learning. Introducing activities into the lecture likely aligns the lecture to the optimal attention span for students, and results in better short-term and long-term recall and retention, and lead to improved student engagement, which is also shown to improve learning outcomes. Prince (2004) also argued that 90 years of research supports that learning outcomes in

collaborative work are superior to those activities that are carried out by individuals. Cooperative work, likewise, has proven that cooperation leads to greater learning outcomes than competition in the college classroom. Finally, although definitions of what exactly constitutes problem-based learning as well as how to measure success may vary, but in general this approach has proven to lead more positive student attitudes, a deeper approach to learning, and longer retention of knowledge.

Subsequent studies on active learning focus mainly on its role in fostering student engagement. In a journal devoted to active learning in the college classroom established in 2000, for example, a review of the abstracts of articles published over its 16-year history show few studies that examined learning outcomes – rather, most articles described attempts at improving the students' learning experience and cite student satisfaction outcomes (Baldwin, 2016). Efforts to track student learning outcomes in active learning classrooms, for those professors who have successfully implemented them, have shown them to be modestly, but significantly, superior to classrooms where a traditional lecture format is employed (Code, Piccolo, Kohler, & MacLean, 2014; Prince, 2004). Michael (2006) provides an excellent overview of studies that suggest active learning, which he defines as student-centered learning, improves outcomes in college science classrooms.

The California Institute of Technology's teacher training course (Horii, 2013) uses a seminal work on college teaching published in 2010 (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010) that organizes research on the cognitive science of learning into seven principles: students' prior knowledge impacts learning; organizing knowledge in meaningful ways allows students to better retrieve and apply it; student motivation plays a critical role in learning; students must integrate and apply new material to master it; new skills must be practiced against

performance criteria with sufficient feedback to aid students in attaining the criteria; positive classroom climate leads to optimal student learning; and students must use metacognitive processes to coordinate their learning activities. Although some of the principles mirror those of active learning, the seven principles approach adds the activation of prior student knowledge and the development of metacognitive skills to the mix of learning activities required for effective learning outcomes. In addition, the practical and authentic application of new skills is emphasized. Subsequent studies of classroom practices utilizing these seven principles reported findings showing improved learning outcomes among students when compared to a traditional lecture format approach. Persky's (2012) study focused on immediate authentic application, Touchton (2015) examined immediate feedback and assistance in a flipped classroom, and Fernando and Mellalieu (2011) and Becker (2013) reported increased learning outcomes with students who improved metacognitive skills.

Improving Pedagogical Practices

In the absence of consensus or guidance for identifying good teaching approaches, it is not surprising that professors lack the incentive to change their classroom practices. Higher education administrators and faculty have been aware of this issue for some time (Gillespie & Robertson, 2010). Sorcinelli, Austin, Eddy, and Beach (2006) note that faculty development initiatives in universities began in the 1960s and 1970s in response to student demand that their needs and perceptions about learning be considered in preparing content and delivery for the college classroom. Workshops and courses were developed to guide professors in reorganizing their instruction to make it more engaging for students. In the 1980s, formal faculty development centers were established in response to the dearth of information and support for improving teaching practices (Sorcinelli et al., 2006). These centers also helped faculty improve

research skills (Erickson, 1986). Sorcinelli et al. (2006) call the 1990s the Age of the Learner. During this period institutions of higher education dramatically ramped up their efforts to guide faculty away from traditional "sage on the stage" instruction to promote a "guide on the side" approach to classroom teaching. This paradigm of faculty development has given way to a new stage in the evolution of pedagogical support that Sorcinelli et al. (2006) call the Age of the Networker. Responsibility for improving instruction has spread throughout organizations, beyond the purview of faculty development centers tasked with training and supporting individual instructors. Administrators now work with faculty developers to implement broad expectations for teaching standards (Sorcinelli et al., 2006). At the community college level, professors are increasingly held responsible for learning outcomes of students in their classrooms (Gillespie & Robertson, 2010). Increased focus on quality and accountability in higher education demanded by employers, students, parents and the government suggests that the pressure to improve teaching practices will only continue to grow through the early 21st century (Austin & Sorcinelli, 2013).

Challenges to Implementing Good Pedagogical Practices

Because of the significant changes in higher education, college professors must reconsider their role in the classroom. There are major impediments, however, to implementing student-centered practices in the college classroom. Bonwell and Eison (1991) outlined four significant barriers: the adherence to tradition of teacher-centered teaching methods, faculty members' own perceptions of their roles and identity, anxiety surrounding change, and the lack of rewards for change.

Adherence to teacher-centered teaching methods. As adult learners themselves, college instructors bring considerable experience to their roles as teachers (Post, 2011). Their

classroom learning as college students came in the form of a lecture-based format, and they carry this tradition into their own classrooms as teachers (Dancy & Henderson, 2010). Although "traditional teaching" is discipline specific, in general it involves a lecture explaining the framework and principles of the content presented, some examples describing the principles, and application of the knowledge through assignments and assessments (Felder & Silverman, 1988). Faculty teach in this way because they are comfortable with it and believe teaching is a skill that can be learned on the job (Bonwell & Eison, 1991). Often there is a disconnect between what faculty think they are teaching and what students are actually learning (Angelo & Cross, 1993). Still, there are faculty members who exalt lecture-centered teaching because they feel it gives their students an opportunity to observe intellectual mastery in action. Burgan (2006) describes the excitement of attending an engaging lecture this way:

> …the fact that undergraduates seek not only performance but also a shared appreciation of it can be gauged by their willingness both to enroll in lecture courses and to hand over fantastic admission fees for mass concerts of popular music. Even though the star may be a distant speck bathed in a spotlight and visible chiefly as an image on a screen, she is there, in person, and that makes it all worthwhile. The academy, too, offers students the thrill of being together at an extraordinary event, the public display of daring and dazzling intellectual expertise. (p. 5)

Engaging lecturing has its place in the college classroom: lecturing can be made more interactive through intermittent questioning to ensure student attention and comprehension (Stacy, 2009). Good teaching, though, requires more than deep content knowledge and an entertaining delivery approach (Ambrose et al., 2010).

Faculty perceptions of identity. Because most faculty members are hired by their colleges based on research prowess, their identity as teachers takes second place behind the demands of ongoing research (Bonwell & Eison, 1991). Trained as specialists in their academic fields, the majority of faculty enter their jobs as assistant professors with little to no training and possibly a few years of experience as graduate teaching assistants (Brownell & Tanner, 2012). The first years in their roles as course developers and teachers are overshadowed by the onerous requirements for research to achieve tenure. Faculty may resist an approach that devalues their status as the holders of knowledge in the classroom (Haas & Keeley, 1998). Academic professionals tend to be skilled self-directed learners and often resist institutional recommendations that they participate in structured training to improve their pedagogy (Post, 2011). The quality of their institutions is measured by the university's ranking in any number of indexes upon which the most accomplished high school students base their admissions decisions: prestigious spots in the ranking bear little, if any, connection to the quality of teaching that is displayed by faculty (Newman et al., 2010). Perhaps for this reason, tenured professors may be even less likely than untenured faculty to use student-centered teaching methods (You, 2010).

Risk of change. Many faculty experience anxiety when asked to move out of their comfort zone to access faculty development offerings (Ahmed, 2013). Active learning and other student-centered teaching methodologies create classroom environments in which the unexpected may happen – disagreement may arise among students or between a student and a professor (Breunig, 2005). Faculty also must take risks to implement these methods: students may not respond well or learn enough material and professors may lack the skills or confidence to try them out (Bonwell & Eison, 1991). Students may also resist change – preferring methods

where grades are more clearly assigned through solo work and traditional forms of assessment, causing conflict and the prospect of a negative student evaluation (Knight & Wood, 2005).

Lack of support for change. The most significant barrier to fostering change in teaching methodologies today is the lack of institutional support for professors who seek to improve their pedagogy. Universities have traditionally had insufficient oversight in measuring learning outcomes (Blumenstyk, 2016). Brownell and Tanner (2012) identify three major ways universities can support efforts among their faculty to improve teaching: provide training in strong pedagogical approaches, allow sufficient release time for instructional pilots and pedagogical training, and create incentives for faculty to develop their teaching skills and revise their courses to conform with student-centered models of teaching.

Training. There are a number of different training formats that have been shown to serve faculty well in moving toward student-centered teaching methods: teaching and learning centers, a faculty member assigned to help others improve their teaching, a committee tasked with improving pedagogy at the institution, a clearinghouse for faculty development resources, or systemwide faculty development centers (usually found in large public state university systems) (Lee, 2010). Fink (2013) recommends experts and resources be located in teaching and learning centers on campus that would educate faculty about the science of learning, provide assistance in course redesign and promote learner-centered activities as integral to the institution's mission. Faculty in Lowenthal, Wray, Bates, Switzer, and Stevens' (2012) study, though, are reported preferring one-hour workshops or books and videos that can be accessed as needed. Unfortunately, shorter training periods have been shown to result in more teacher-centered implementation after the training (Postareff, Lindblom-Ylänne, & Nevgi, 2007). Faculty who do try to implement research-based teaching methods often abandon them after one attempt because

of lack of support through the implementation process. (Henderson, Dancy, & Niewiadomska-Bugaj, 2012).

Time. That faculty prefer low intensity professional development activities is primarily due to lack of time and competing priorities for the attention (Lowenthal et al., 2012). Professors also lack the time away from research to engage in the kind of reflective practice that leads to better teaching (McAlpine & Weston, 2000; Post, 2011). Assistant professors working toward tenure face a difficult balancing act as they create new courses and learn to teach while prioritizing research activities that will be the primary basis for achieving tenure (Austin, 2010). Horne (2013) vividly describes the demands of project work, teaching, administrative responsibilities, service work, undertaking and disseminating research, and family life on mid-career academics. Implementation of training also takes time: Bonwell and Eison (1991) note that active learning methods are difficult to integrate in the classroom because it takes more time to cover the content using these methods, they are difficult to use in large classes, it takes more time to prepare them for the classroom, and many college classrooms lack sufficient resources to implement them.

Incentives. For faculty who have access to training, there are few incentives to commit to the effort needed to re-engineer their pedagogy and redesign their courses to promote student-centered teaching. Universities fail to commit the necessary resources to support pedagogical change in their institutions (Felder & Brent, 1999). There are few opportunities for recognition or reward for improved teaching (Fink, 2013). Universities offer teaching releases so that faculty can focus on research efforts, but there are no complementary research releases to allow professors to devote time for transformational pedagogical activities (Anderson et al., 2011). A cross-institutional study of 524 faculty members reports that most would prefer a financial

stipend over release time, recognition, or even credit toward promotion for faculty development activities (Lowenthal et al., 2012). Some colleges have answered this call and are now offering grants to professors who seek to redesign courses to improve learning outcomes (Wilson, 2010).

This dissertation study investigated the possibility of using an activity already underway, converting courses to an online setting, to promote student-centered teaching methodologies.

Online Teaching and Learning

If competition is the major force for creating change in higher education (Newman et al., 2010), it is the advent of online learning in this competitive atmosphere that, in particular, has driven professors to rethink their teaching practice. Online courses are delivered in a learning management system such as Blackboard, Canvas, Sakai, etc., that can be accessed by students and instructors from a computer anywhere that wireless internet is available (Chaney et al., 2009). Most online courses make use of announcements, communication features that allow professors to email students individually or as a group, assignment upload, a real-time communication platform, an asynchronous discussion forum, and a content repository (Li & Irby, 2008).

Unlike face-to face-pedagogy in universities, the distance learning field has generated some clear indicators of quality that put students at the center of instruction. Chaney et al.'s (2009) review of the research on quality indicators distills these findings into several principles of instructional support for both faculty and students (see Figure 3).

Table 1

Quality Indicators in Distance Education Gleaned from Research Literature

Quality Indicators in Distance Education		
Student-instructor interaction	Program evaluation and assessment	Technology plan

(continued)

Quality Indicators in Distance Education		
Respect for diverse ways of learning	Analysis of student population	Appropriate tools and media
Active learning techniques	Institutional support and resources	Reliable technology
Feedback from instructor	Rationale for distance education supported by mission	Faculty support
Student support	Course structure and development guidelines	Review of instructional materials

Note. Quality indicators in distance education is adapted from Chaney et al. (2009).

The two major collections of quality indicators used by most colleges today, The Online Learning Consortium's Scorecard (onlinelearningconsortum.org/scorecard) and the Quality Matters Rubric (https://www.qualitymatters.org/rubric) outline the features of course design and online teaching that must be implemented for students to have a successful learning experience.

There are many challenges to online teaching. Faculty may be reluctant to teach online because of their commitment to the dynamics of exchanging eye contact and body language and also leveraging an engaging personality to spark student interest (Crawley et al., 2009). Teaching online effectively requires a level of planning that is not usually required in a face-to-face course (McQuiggan, 2007). Even professors who are intrinsically drawn to online teaching expressed frustration with the extra workload online teaching often incurs (Wolcott & Betts, 1999). Course designs that do not employ the principles of instructional design may result in confusing students and miss opportunities to promote collaborative work among students, allow for practice and application of new learning, and teach what students are actually expected to learn (Vasser, 2010). Left without the oversight of an instructional designer, faculty can continue to see their role as deliverer of content and the opportunity is lost to develop their knowledge about the value of a student-centered approach (McQuiggan, 2007).

There are also many benefits to teaching online, however, for faculty and for students. Professors who teach online feel the benefits include the ease of accessing and updating course materials and increased motivation and better learning outcomes for students as a result of viewing each other's classwork and collaborating together (Scagnoli et al., 2009). The affordances of learning management systems allow for greater personalization of interaction between students and professors (Sandeen, 2013). Faculty who are concerned about losing the connection with students in their online teaching course may discover that they have more opportunities in the online setting to connect to their students one-on-one, and subsequently make a greater effort to connect more closely with students in their onground classes (Kearns, 2015). Because students have a greater opportunity to communicate in an online setting, the instructor is able to shift more easily to a student-centered approach to learning (McQuiggan, 2007). Faculty participating in online teaching for the first time report that student discussion is much better online because timid students have a chance to participate without competing for attention with other students (Pennington, 2005). In a study involving 255 online instructors, Shea, Pelz, Fredericksen, and Pickett (2002) find that 85% believed teaching online will improve their classroom teaching practice. Scagnoli et al. (2009) report that instructors who teach the same class in both an onground and online format are likely to incorporate new materials they and their students have identified or created in the online course back into the onground course; they are also likely to continue to use online discussions to augment their face-to-face courses. Faculty may find themselves developing new relationships with veteran online instructors at their institutions and form one-to-one relationships or small support groups for support (Russell, 2015).

Kampov-Polevoi's (2010) framework for analysis of online course design shows how student-centered learning approaches can be implemented in a distance learning course (see Figure 3).

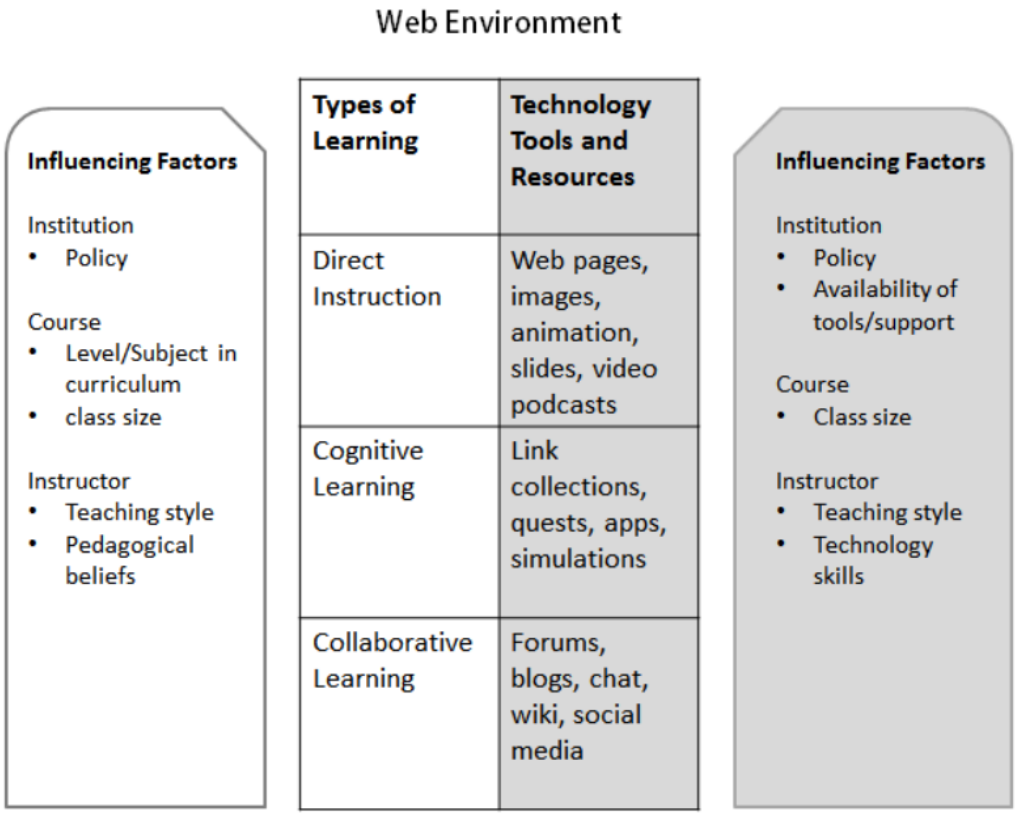


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Figure 3. Framework for analysis of online course design. (adapted from Kampov-Polevoi, 2010). This figure shows the relationship between student-centered learning components and technology affordances in online learning and some of the influencing factors.

Technological features such as simulations, drills, and quests promote the student-controlled activities that support active learning, while forums, wikis and blogs create an environment for collaborative learning. Instructional designers have familiarity with these features and can encourage and provide training for their use with instructors. IDs can represent

a mediating influence in this scheme to advocate for the appropriate mix and sequence of student-centered activities in the online course being developed.

Even modest use of instructional design experts in converting courses to an online format may cause professors to rethink the roles of teacher and student to maximize student learning (Khanova, 2012). Faculty accustomed to approaching their classroom courses with a view to covering the content and improvising well may find themselves, as they design an online course, shifting their focus to the learning objectives and activities to help students master those objectives (Russell, 2015). It is also important that the instructional designer not take over the course design. Online instructors who do not have a role in the course design process tend to adhere to existing beliefs about teaching and learning they bring to the online teaching experience (Lawrence & Lentle-Keenan, 2013)

Instructional Designers in Higher Education

Most faculty members seek to work with instructional designers, initially, for technical support (You, 2010). Many instructional designers are understood by faculty and administrators as technologists and learning management system specialists, when, in fact, they are experts in the area of student learning (Akella, 2015). Instructional design is, in fact, "a collection of theories and models helping to understand and apply instructional methods that favor learning" (Paquett, 2014, p. 661). Most instructional designers are trained in graduate certificate programs (Sims & Koszalka, 2008), where they study models of instructional design theory and processes and create instructional design learning objects on their own (Tracey & Boling, 2014). There is a lack of consensus in the field about what exactly should be offered in instructional design training programs (Sims & Koszalka, 2008), however, Pan et al. (2003) argue that instructional

designers in higher education are best served by training in curriculum/instructional materials development, sequencing and delivery.

A wide variety of instructional design models form the basis of training programs for designers (Sims & Koszalka, 2008). Theoretical models of instructional design are not derived from application, but, instead, from research based on how people learn. They are not, therefore, grounded in practice (Schwier, Campbell, & Kenny, 2007). Many instructional design models replicate and extend the concepts presented in analysis, design, development, implementation, and evaluation (ADDIE), a widely-used process model for developing instruction (Molenda, 2003) first implemented at Florida State University for the United States Army (Forest, 2014). ADDIE is best understood, however, as a conceptual framework for organizing the activities of instructional designers into categories that can be observed and analyzed (Bichelmeyer, 2005). Inexperienced instructional designers align more closely to ADDIE or another instructional design model as they work, while more experienced IDs describe their work in broader terms. (Schwier et al., 2007). Liu, Kishi, and Rhodes (2007) recommend a development model with four phases: a concept phase that includes needs, task and content analysis; a design phase involving identifying learning objectives and sequence of activities; a development phase devoted to building the course, creating additional content and writing assessments; and an implementation phase that observes learners as they work through the course and revising the course as necessary through feedback about problem areas.

IDs in colleges and universities are widely used to support faculty in the development of online courses through training and consultations (You, 2010). Online teaching faculty mainly fall into two types – experienced online instructors who need instructional design oversight and first-time online instructors who need this instructional design oversight as well as basic training

in delivering a course in a course management system (Barczyk, Buckenmeyer, & Feldman, 2010). Instructional designers in higher education are trained in theory and application of instructional design concepts, but lack experience in managing the types of ill-structured problems influenced by "a combinatorial explosion of factors" (Van Merriënboer, & De Bruin, 2014, p. 23) that present themselves as they work with subject matter experts (Tracey & Boling, 2014). The key elements of instructional design models in higher education include an analysis of learner needs, organization of content, identification of instructional strategies and development of evaluation processes (Zheng & Smaldino, 2003). Instructional designers in higher education settings, in particular, find it problematic to adhere strictly to models of instructional design such as ADDIE, as they lack complete control of the design process because subject matter experts are also the instructors of the courses they jointly design and develop (Kenny, Zhang, Schwier, & Campbell, 2005; Schwier et al., 2007).

In his meta-analysis of instructional design theories and models, Merrill (2013) clarifies and distills the commonalities among the myriad instructional design approaches and processes used in practice. The five First Principles of Instruction, then, are notable because of their ubiquity in the instructional design research literature (see Table 2):

Table 2

Merrill's First Principles of Instruction

Merrill's First Principles of Instruction	
Problem-Centered	Learning is promoted when learners acquire skills in the context of real-world problems

(continued)

Merrill's First Principles of Instruction	
Activation	Learning is promoted when learners activate existing knowledge and skill as a foundation for new skills
Demonstration	Learning is promoted when learners observe a demonstration of the skill to be learned
Application	Learning is promoted when learners apply their newly acquired skill to solve problems

Note. Merrill's First Principles is adapted from Merrill (2013).

Because these First Principles are present in all models and theories used in instructional design training programs, one feature of this study will examine whether these principles were transferred to the professors who interacted with instructional designers as they developed their online courses.

Instructional designers often cast themselves in the role of learner (Schwier et al., 2007). They face situations in university work where they must relinquish their own beliefs and understanding of their responsibilities to students, their institutions, or their profession and these situations cause internal conflicts (Schwier et al., 2007). Although they operate within a community of practice, e.g., shared beliefs and growth from peripheral membership to core membership (Wenger, 1999), an important function of their role is work within other communities of practice (Keppell, 2007). Indeed, they broker knowledge across many communities of practice that overlap in the process of online course design (Keppell, 2007; Schwier et al., 2007). Instructional designers should be comfortable with change and willing to act as agents for it (Pan et al., 2003), although they do not receive any training on the principles of change management in their preparation programs (Campbell et al., 2005).

Instructional Designer/Subject Matter Expert Interaction

Although a large number of books and articles have been published on the subject of technical, design and theoretical knowledge and skills instructional designers should possess in order to ply their trade well, few of these resources focus on the techniques and interpersonal skills required to manage interactions with subject matter experts effectively. The International Board of Standards for Training, Performance and Instruction (IBSTPI) sets instructional designer competency standards for a large number of training programs and organizations in the instructional design field (http://ibstpi.org). The standards have undergone several iterations since they were first introduced 30 years ago. The most recent update appeared in 2012. Many of the standards focus on knowledge of learning theories, models, and practices, but there are several that apply to interactions with Subject Matter Experts. The standards are divided into five domains: professional foundations, planning and analysis, design and development, evaluation, and management. In the area of professional foundations, IBSTPI standards recommend that exemplary instructional designers should demonstrate advanced competency in facilitating meetings and using effective collaboration, negotiation, and consensus-building skills. They should also possess managerial-level skills in promoting effective relationships between a design team and its stakeholders, as well as in managing cross-functional teams.

The research literature supports this view. Collaboration skills are important. Lin and Jacobs (2008) demonstrate that successful instructional designers are those who are skilled at collaborating with subject matter experts. Ingram, Heitz, Reid, Walsh, and Wells (1994) note that instructional designers must usually manage the interaction with subject matter experts, as SMEs are selected because of their knowledge of content, and not their collaborative skills. Eckel (2010) counsels instructional designers to adjust to the subject matter expert's communication

style, type and tempo so they know how to "pick [their] battles" (p. 77). Creating a balanced relationship is an important goal for an instructional designer. For that reason, Solomonson (2008) suggests instructional designers avoid treating SMEs as if they are patients in an ID's clinic, but also to avoid taking handwritten notes so they do not appear subservient. Yancey (1996) recommends instructional designers read Dale Carnegie's 1936 book *How to Win Friends and Influence People* to prepare themselves to work with subject matter experts.

Scattered studies speak to the issue of interpersonal qualities of the subject matter expert in industry training. Armstrong and Sherman (1988) urge SMEs to define their roles with instructional designers ahead of time to create an atmosphere of mutual respect. Mattoon (2005), recognizing that an integral part of a subject matter expert's job is to communicate with an instructional designer, recommends subject matter experts be observed in advance for signs of collegiality, humor, and collaborative skills.

Faculty and Instructional Designers Interact

There is a solid research literature around personal qualities instructional designers in higher education should hold. Personal traits such as "humor, humanity, patience, and empathy" are necessary for effective performance by the instructional designer (Pan et al., 2003). Strong interpersonal skills and a willingness to help others teach better are key characteristics for designers to be successful in working with faculty to design online courses. (Barczyk et al., 2010). Many professors value the relationships they build with instructional designers (Russell, 2015). Stevens' (2012) study of successful instructional designer/professor interaction reports that instructional designers overcame resistance and built rapport with faculty by demonstrating respect for the professor's teaching style and limiting the number of suggestions they recommended for improving it. Designers must communicate often enough to keep the course

design process moving forward, but not so much that the professor feels micromanaged and they should be careful to hold themselves out as experts on design, not content (Barczyk et al., 2010). The instructional designer must find a balance between presenting in a support role and leading in a design role (Pan et al., 2003). An instructional designer's interpersonal approach should combine a willingness to display mastery of instructional design principles and processes with a personal commitment to collaboration, proactive assertiveness, flexibility, and internal motivation (Pan & Thompson, 2009).

The value of successful interactions between the instructional designers and professors is inestimable. Instructional designers also grow as professionals through the course design process. They benefit from being exposed to the wide variation in disciplines and the issues that needed to be resolved that could be applied to future course design projects (Barczyk et al., 2010).

Instructional designers in universities understand that the move to online teaching affords a rare opportunity to engage faculty in reassessing their notions about teaching and learning (O'Reilly, 2008). The large majority of instructors who worked with instructional designers to develop courses felt they understood best practices in course design and delivery well enough to implement them in subsequent courses (You, 2010). Pennington (2005) found the 19 of 20 online instructors interviewed improved their face-to-face teaching after teaching online, even if they disliked the online teaching experience. At the very least, those professors-- and there are many,--who continue the practice of lecturing in the classroom after their experience teaching online, often augment the coursework with some features of their online courses (McShane, 2004). Instructional designers are in a unique position, working with faculty, to assist them through the process of "personal and professional transformation that has the potential to

transform the institution" (Campbell et al., 2005, p. 8). One strategy that has been found effective in working with faculty is to encourage them to view their faculty development training as an opportunity to engage in research in the scholarship of teaching and learning (Laird & Ribera, 2011). Since instructional designers with doctoral degrees of their own were treated with more respect by faculty (Stevens, 2012), engaging them as peers is one possible way to circumvent conflict.

Sometimes the interactions between the instructional designer and the faculty member can be problematic, particularly when the designer is emphasizing the necessity for structure and the professor is accustomed to controlling the flow of information through personality and on-the-spot decision-making (Russell, 2015). Faculty members' criticisms of instructional designers included that some needed to be more approachable and that they needed instructional designers to have a better understanding of their content areas (You, 2010). Academics may resist design efforts that reduce the amount of content students must cover in favor of focusing on those elements of content that speak directly to the learning objectives (Mason & Rennie, 2008). Experienced faculty who find themselves in the role of novice teacher may be anxious about the loss of their identity as experts and resist teaching online (McQuiggan, 2007).

The relationship between the instructional designer and faculty member is dependent on the strength of their trust in one another (Pan et al., 2003). This dissertation examined a threat regulation model of trust (Williams, 2007) to determine whether it offers help in understanding how instructional designers and professors successfully negotiate the overlap of boundaries of their communities of practice (Wenger, 1999) as they work through the course development and conversion process. The original model was built on the assumption that development of trust across organization boundaries is difficult because of threats of opportunism, neglect of the

interest of all parties, and loss of identity (Williams, 2007). These issues can arise in difficult interactions between instructional designers and faculty: faculty members have strong identities as experts in their content areas and in teaching, as well as much to lose when a course they teach is unsuccessful; and the instructional designer, trained in learning sciences, may feel threatened when their expertise in that area is challenged. If one or the other party in a difficult interaction can manage his/her emotional expression, the interaction has a much better chance of operating smoothly. The threat regulation model recommends three steps in managing one's own expression of emotion to alleviate these threats by empathizing with the other party's position and feelings in an interaction and responding appropriately.

The first step involves observing and anticipating possible threats that might arise in the interaction. Considering the interaction from the other person's point of view increases understanding and is likely to evoke empathy as well. Without this step, it is difficult to adjust communication and the way it is delivered appropriately. Step two is adjusting responses within the interaction in a way that will increase cooperation and promote collaboration. In this stage those who hope to successfully span boundaries must consciously use one of four strategies: alter a situation (eliminate elements that will provoke negative emotion); alter attention (distract or redirect attention away from a negative element); alter the meaning of a situation (reframing the elements to ameliorate negativity of certain elements); and/or modulate emotional response (managing self-expression or stimulating relaxation of the other party's emotional responses). Step three is employed by observing behavioral cues and analyzing them. This reflective stage helps the boundary spanner readjust and reapply additional threat reducing-behaviors (see Figure 4).

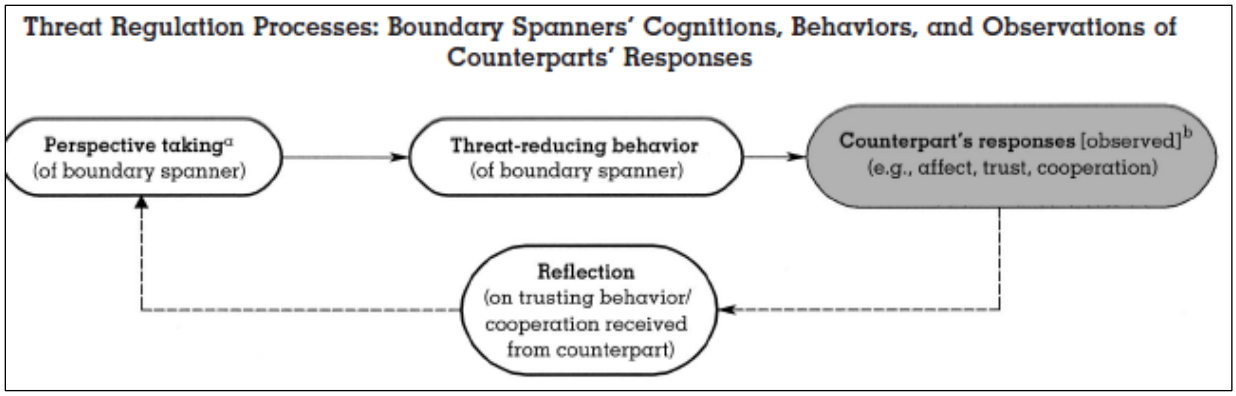

Figure 4. Reprinted with permission of author. Threat regulation processes: Boundary spanners' cognitions, behaviors and observations of counterparts' responses (Williams, 2007). This figure represents the components of Williams' (2007) threat regulation model and connections between those components.

Williams' (2007) threat regulation model is situated in the research literature on trust as an evolved approach, where the agency of at least one of the actors in an interaction requiring trust is emphasized (Smith & Lohrke, 2008). It is particularly effective in circumstances where there is emotional risk perceived by the participants (Fulmer & Gelfand, 2012) or the possibility of opportunistic behavior by the parties involved in the interaction ((Fink, Harms, & Kraus, 2008). Elements of this model have been tested in several studies subsequent to its dissemination, including research on consultant teams at a Dutch multinational firm (De Jong & Elfring, 2010), students working in groups on a class project (Barczyk et al., 2010), and entrepreneurs and their networks (Smith & Lohrke, 2008). Successful instructional designers in higher education report they must sometimes suppress their own egos in order to create smooth relationships with faculty (Pan et al., 2003). Exploring aspects of this model with interviewees gained some insight into the emotional regulation required by instructional designers and uncovered similar strategies employed by faculty to achieve a successful interaction.

Summary

The literature on the evolution of higher education suggests that the need for change in instructional practices by colleges and university faculty is clear and urgent. Traditional institutions that hope to survive in the volatile American higher education marketplace must shift their course offerings to more flexible student-centered pedagogical formats and approaches. Professionals with expertise in knowledge acquisition, instructional designers, are already at hand on most college campuses. This review described how they are trained and explores the research on the interpersonal qualities and practices that are most successful in working with faculty. No studies have explored how these interactions may result in improved classroom teaching on the part of faculty. A gap also exists in the literature around how faculty manage these interactions.

Chapter Three: Methods

The purpose of this exploratory research study was to understand how working with an instructional designer to convert a face-to-face course to an online format positively influenced a professor's pedagogical practice. Examining the interactions between professors whose pedagogy changed after working with instructional designers can provide insight into what approaches and techniques motivate faculty to improve their teaching. This study's findings seek to provide college administrators, faculty, and instructional designers a low cost, nonthreatening way to provide training in adult learning theory and methods to faculty who teach using traditional instructor centered pedagogy.

Research Questions

The central guiding research question of the study is: how do the experiences of professors and instructional designers who collaborate together to develop an online course positively influence the pedagogical practice of the professors?

Sub questions:

a) What are professor perceptions regarding improvements to their pedagogy specific to the guidance and input from the instructional designer?

b) How are improved pedagogical practices described and are there clear references to instructional design principles and student-centered pedagogical practices (Merrill, 2002)?

c) How do professors and instructional designers explain how emotions and threats were handled throughout the process considering the threat management model (Williams, 2007)?

Research Design

This exploratory study used a qualitative methodology. Qualitative research studies are often designed by researchers who possess a social constructivist worldview. They depend upon the participant to interpret the phenomena under investigation (Creswell, 2013). The questions they ask of participants are broad and general, to allow meaning and interpretation of an experience to emerge from those closest to it. Qualitative methods facilitate the understanding of interactions between others. This study explored the interactions between professors and instructional designers, making a qualitative approach ideal.

The qualitative tradition of phenomenology guided this study. As noted in Creswell (2013), phenomenological research, which stems from the field of philosophy, describes and examines the "lived experiences" of participants who have been exposed to the same phenomenon. Phenomenological studies attempt to distill and communicate the essence of that phenomenon to an audience in rich detail. Phenomenological research has several different models of inquiry. The study interpretation relied on Hermeneutics, which accepts that theories exist in the researcher's mind, and should be expressed as transparently as possible at the outset of a research study (Husserl, 2008; Lueger, Hoffmeyer-Zoltnick, Borg, & Mohler, 1994; Tavallaei & Talib, 2010). A hermeneutical approach was employed through the use of a generalized instructional design model (Merrill, 2002) and a threat regulation model (Williams, 2007). These frameworks served as guides to shape the interview protocol and analysis in an effort to confirm the presence of improved teaching practice on the part of professors, as well as to reveal insights about components of the interactions between professors and instructional designers as they converted an onground course to an online format course.

The Role of the Researcher

As Moustakas (1994) notes, for a researcher, "Something in a phenomenon may draw me, like a magnet, toward it" (p. 7). For this researcher, experiences as a student and a teacher led to the moment when there was an opportunity to delve deeply into the topic of improving pedagogy in college instruction. As noted by numerous qualitative methodologists, there is a danger in a phenomenological approach of the researcher imbuing meaning to an interpretation based on his or her own experience, obscuring or altering the meaning of the phenomenon held and expressed by participants in the study. Laverty (2003) provides an overview of research on one method of mitigating the possibility of bias in interviewing and interpretation, called bracketing. Bracketing involves a transparent description on biases and life experiences that may cause bias on the part of the researcher. To this end, the following is a description of experiences that led this researcher to this topic, as well as a discussion of possible biases.

All my life I have had the sense that I wanted to be a teacher. From the first moment I stepped into a classroom as a teaching assistant in a History survey course at Boston University, I was fascinated by the challenge of engagement. My first real training as a teacher came at the hands of a supervisor and colleague, Joann Wheeler, at an adult learning center where I taught English as a Second Language. From her I learned that good teaching was more than delivering entertaining lectures and asking probing questions, but involved planned sequences of varying activities designed with a proper pace and location in sequence. At the time it never occurred to me that this kind of teaching could be performed at a college level.

I worked in the Adult Basic Education world for 14 years, ending my career in that field directing an alternative high school. From students at that school I learned that the turning point for most of those who had dropped out of school was roughly seventh grade. I decided to

become a seventh-grade teacher to see if I could make a difference teaching at-risk students at this vulnerable age. It was then that I embarked on formal training as a teacher, obtaining my certification as an English as a Second Language (ESL) teacher. This training provided me a philosophical and practical foundation for what I had already come to believe – good teaching involved a variety of techniques and methods, sequenced and paced as perfectly as possible, delivered as flexibly, with as much personalized attention for each student as could be managed. My job as an ESL teacher was to deliver instruction to students in groups, as well as to assist mainstream classroom teachers with modifying their teaching to make the content more accessible to ESL students. I continued to take graduate courses in education departments from various institutions to increase my understanding of education theory, policies, and practice, most of which utilized a more student-centered approach to pedagogy than typical college courses in other departments. Although my training emphasized the need to meet students where they were at and take my cues from them in developing expectations of the pace of progress in the development of their language skills, there was a tremendous pressure on me from my high school counterparts in the district in which I taught to speed things along as quickly as possible so that students would be able to pass standardized testing, graduate, and be ready for college at age 18, where they would no longer have the support of a student-centered learning environment.

After 20 years, then, of theoretical and practical training in education, I returned to the college classroom. At the same time, I pursued a certificate in instructional design. Through the certificate program I was introduced to the concept of backward design, which I was able to apply to the online introductory American history course I co-designed, with an instructional designer, for the university where I teach and lead the Humanities department (Chittur, Hansen, & Fulkes, 2016). As an administrator there, I oversaw course design and revision of history,

philosophy and ethics courses taught in my department. Concurrently, I worked as a contract instructional designer with an academic subject matter expert to create a blended training for mainstream teachers seeking English as a Second Language certification in a graduate program at a state university. I delivered conference presentations about the latter experience, highlighting the dialogue between the subject matter expert and myself that led to creating a successful course (Chittur, 2014; Chittur, 2015). At the time I was most focused on the way in which use of a rapid authoring tool, *Articulate Storyline*, mediated the conversation between us. I was especially interested in Storyline's role as a cognitive tool in the process. But as I discussed my interaction experiences with other university instructional designers, I began to hear stories of their experiences with a common theme: many of the professors they worked with had told them that developing a course online with them had introduced them to the concepts of instructional design, and subsequently changed their thinking about teaching. Excited, I began thinking about ways the process could be leveraged to encourage the use of student-centered teaching methods outside the confines of departments of education. I drew upon my experience as both an instructional designer and college classroom teacher in a liberal arts field to develop a study that would explore how the interactions between those in the two roles might be managed in order to speed up the process of converting faculty from instructor-centered to student-centered approaches in teaching.

One of my biases, then, is that student-centered college teaching creates a bridge for students familiar with student-centered high school teaching that allows them to perform at a higher level immediately upon entering college. I also believe student-centered teaching helps students acquire and retain knowledge better than instructor-focused methods have done. I also made a judgement that knowledge of instructional design methods, when imparted to professors

open to improving their pedagogy, might give those faculty some tools to restructure the delivery of content in way that leads to better student learning. One of the goals of my study was to examine whether instructional design principles were employed in the professors' new pedagogical approaches. I also made an assumption, based on the literature (Bonwell & Eison, 1991), that some instructors might be reluctant to change teaching methods which seemed on the surface to be working well for them, because they were unaware of the success of student-centered methods, or because of considerations of time, lack of training, anxiety, and challenges to their identities as experienced, successful teachers.

To mitigate the effect of these biases and assumptions, the method of analysis selected involved the generation of an initial codebook based on two existing theoretical models. As interviews were conducted and interpreted, I experienced enhanced clarity for hearing the views of the participants regarding their experiences as opposed to my own assumptions. Multiple coding iterations and use of a peer-researcher enabled reflexivity and supports an accurate interpretation of the participants experiences with the process of course conversion.

Sources of Data

Phenomenological research usually involves interviews of 3-10 individuals (Creswell, 2013), which is deemed sufficient to expose the central features of the experience (Starks & Trinidad, 2007). In this study an individual participant was recast as a dyad of professor-instructional designer pairs. Dyadic analysis allows the researcher to explore interactions between two people from both sides and is particularly apt for a phenomenological study seeking to understand the mechanism of change occurring within the interaction (Eisikovits & Koren, 2010). Phenomenological interviews were conducted with a small group of professors and the instructional designers with whom they worked.

The phenomenon these dyads experienced was the conversion of an onground course to an online format that led to improved pedagogy in the classroom on the part of the professor because of interaction with the instructional designer during the conversion experience. A purposive sampling method (Gray, 2013) was used initially to identify potential professors. The professors had to acknowledge that their classroom pedagogical methods and strategies improved following the course conversion and also acknowledge that the improvement was influenced by the course conversion process and interaction with the instructional designer. The intention was to first identify the professors and then the instructional designers with whom they worked were invited to participate in the study.

Recruitment began by attempting to identify these dyads through both the researcher's personal network of colleagues and online networks of higher education professors. Recruitment posts were submitted to LinkedIn and other social media groups: The Teaching Professor; Adjunct Faculty Teaching for Success in Higher Education; Professors' Lives; The World History Association; Professors in Management Schools; MIS Professors; Professor Expert; and UNIRESEARCH. No responses from these posts were received. Requests for participation in online networks for instructional designers such as Innovative Learning and Education Innovators; Higher Education Teaching and Learning; Distance Learning Professionals; Quality Matters; and EDUCAUSE were also posted. Only one response was received, from an instructional designer who felt she qualified. She could not, however, locate any faculty to be co-interviewed.

The researcher found greater success leveraging professional connections with academic faculty colleagues and instructional designers. Many colleagues, professors and friends with an academic background reached out to their own networks to help find potential interviewees until

a few willing participants were identified. Snowball sampling was employed (Gray, 2013) by asking these participants to recommend other participants that they believed had experienced the phenomenon of improved teaching practice by the professor after the course conversion process. A professor known to the researcher through mutual volunteer work agreed to be interviewed with the instructional designer he worked with, and she, in turn, identified two other faculty members she had worked with, who agreed to participate. An instructional designer known by the researcher through her doctoral program found two professors she had worked with who were interviewed. Finally, an instructional designer and professor the researcher had worked with as a consultant also agreed to be interviewed. As expected in the proposed project, a single instructional designer was sometimes a member of more than one dyad.

The final sample of professors and instructional designers consisted of six professors from various locations in the United States who self-reported improvements in their teaching, both online and face-to face, following the process of working with an instructional designer to convert a course from face-to-face to an online format, were identified. They, along with the instructional designers who worked with them, were interviewed. Field notes kept by the researcher were used along with the interviews also generated data for the study.

Data Collection

Semi-structured interviews were held separately with each member of a participating dyad. There were six dyads. In two cases the instructional designers were involved with multiple professors who were part of this study. Separate interviews about each professor were held with the instructional designers, though the second one was abbreviated, eliminating questions about the instructional designers' backgrounds and general approaches, and focusing on the experience of working with a particular professor. Starks and Trinidad (2007) recommend interviews be

conducted in phenomenological inquiry to obtain a participant's story, including his or her own interpretation of the event in as much detail as possible. A semi-structured approach, where the interviewer develops a set of questions that can be loosely followed to guide the interview, has been shown to be particularly successful in phenomenological studies, where researchers need the guidance of interview questions to adhere to the purpose of the study, but also need the freedom to move away from specific questions, following the lead of the interviewees, or to elicit deeper responses to uncover the meaning of the participants' experiences (Gray, 2013)

Although the interviews in this study were semi-structured using Merrill's First Principles (Merrill, 2013) and a trust building model (Williams, 2007) to shape the broad questions, the focus of the conversations was on the detailed description of the interaction between the individuals of the dyad as they converted a course together. The researcher did not attempt to check the veracity of statements made by the individuals in the dyad against each other, nor did she share one member of the dyad's account of the phenomenon with the other member. Once dyads of instructional designers and professors were successfully identified for the study, virtual interviews were scheduled in *Zoom*, a synchronous web platform that allows recording, screen-sharing, and drawing/annotating as the interview is held. Interviews ran approximately 40-90 minutes and were recorded. A total of 12 interviews were held. The recordings were stored on a removable thumb drive for later analysis.

Interview Protocol. The interview questions were derived from instructional design process principles identified by Merrill (2013) through his examination of many instructional design methodologies in use today, as well as through the work of Williams (2007), who found several key strategies used by individuals who worked across organizational boundaries to build trust and overcome threats to collaboration. Many of the questions were the same for both the

professor and the instructional designer. They were asked to describe the step-by-step process of the interaction, any materials they created ahead of time to facilitate the interaction, their preconceptions about process, and any challenges that emerged.

There were a few questions, however, that focused on the differing roles of the professor and instructional designer and spoke to the purpose of this study. The instructional designer was asked questions about the instructional design methods they employed in the course conversion process and the professor was asked to describe changes in classroom practices as a result of the process. The questions can be found in Appendix A.

The original set of questions was circulated among several experienced professors and an instructional designer with experience in course conversion. Some items were added and/or revised as a result of this content validation process. Reliability and further validity of the interview schedule was established through a pilot of the interview protocol. One of the dyads served as the test interviewees to establish that the interview questions elicited responses that aligned with the purpose of the study. This also provided an opportunity for the researcher to practice tone and presentation of the questions as well as to time the interviews (Gray, 2013).

Human Subjects Considerations

This study posed minimal risks to the participants. These included possible embarrassment or concern for the reputations of themselves or their institution. To minimize these concerns several steps were taken, including: the interviewer took care to build rapport with the participants and use a neutral tone throughout the interviews; participants were provided with informed consent explaining how data would be collected and handled to ensure confidentiality; the consent form advised participants that they could withdraw from the study at

any time or choose not to answer a question; and the form also explained the purpose of the study.

The study met the criteria to be considered Exempt and was approved by the Pepperdine University's Graduate & Professional Institutional Review Board (see Appendix B). The research activities were classified under the Exempt category 2 of the research guidelines in the U.S. Code of Federal Regulations (Protection of Human Subjects, 2017). To ensure confidentiality, all data was stored electronically on a removable thumb drive with appropriate plans for eliminating the data following analysis. Only the researcher and a professional transcriber had access to the actual recorded interviews, and redacted names or identifying information of the transcripts.

Data Analysis

The objectives of this study were met through a rigorous interpretive analysis process guided by the methods of hermeneutics. Kuckartz (2104) recommends searching the data for themes consistent with assumptions that may be brought to it by the researcher, as well as for novel themes and ideas that are important to the subjects describing the phenomena under examination. Initial coding was based on two frameworks that resonated with researcher based on her own experience as an instructional designer and subject matter expert: (a) instructional design principles identified by Merrill (2013) and (b) strategies for working with individuals across organizational boundaries to build trust and overcome threats to collaboration identified by Williams (2007). An effort was made to uncover prominent themes in the experiences of both the professors and the instructional designers, with the intention of discovering ways those who find themselves in these roles can maximize the potential of impacting improvement of pedagogy during the course design process.

Data analysis was carried out closely following a thematic analysis model (Braun & Clarke, 2006) designed to organize the activities for interpretation and analysis. The first step involved the preparation of the data for analysis, becoming familiar with the data. The recorded interviews were transcribed by a professional transcription service and checked by the researcher to determine accuracy of the transcription, increase familiarity with the data, and allow for an additional coding iteration (Gray, 2013). Since the transcripts were de-identified, peer reviewing of the data was available without risking a breach of the participants' identities. Analysis of the interview data was concurrent with the on-going data gathering.

Once data was organized and transcripts were reviewed, an a priori coding scheme was developed considering the instructional design methodology (Merrill, 2013) as well as the trust building model for boundary-spanning collaborators (Williams, 2007). This scheme formed the basis of the original categories and codes. An initial codebook was developed within *HyperRESEARCH*, a software program that facilitates coding of the text. was used to identify and organize the topics and themes represented in the coding. *HyperRESEARCH* allows researchers to create and modify a codebook that ties directly to areas in transcripts related to individual codes. Data can be viewed by code, allowing for target analysis of a particular topic or category.

The preliminary identification of themes involved reading and rereading the codebook and code definitions. While interviews were being coded, additional topics were added as they emerged from the data, as is consistent with a phenomenological approach. These topics were clustered together within potential categories or themes in the codebook. Codes, topics and categories were named, and sometimes reclustered and renamed, as patterns began to appear. A

topic map was generated to organize all the codes into groups and help the researcher begin considering major themes and how they might be reported.

The interviews were read two final times and checked against the research question, the themes embedded in the interview questions, the guiding instructional design and trust models, and other significant and recurring topics that presented themselves in the interviews to be sure the most significant categories were represented with the arrangement of codes. Code reports generated by the software were analyzed in this study at a number of junctures through the coding an analysis phase to reconsider definitions and assignments of various codes.

As themes were reviewed, interrelationships among categories were noted and explored (Creswell, 2013). A peer reviewer participated in the review of coded data at this time point to ensure the researcher's coding process was reliable. Additional passes through the coded extracts continued and changes made as needed. The interview transcripts were also reread to ensure all manifestations of the themes were captured (Creswell, 2013). This last pass through the interviews allowed the researcher to examine the themes one more time against the raw data to ensure they matched with the intent of the participants' utterances in context.

A rich analysis of each theme was written to be incorporated into the findings section of the dissertation. Each theme was described in detail so the reader could clearly understand the parameters of the description. Connections between themes and the overall organization of the analysis was determined.

The final step was writing the findings report. The themes and extract examples identified and selected for this study were organized into a narrative arguing for the selection of themes, supported by the data extracts. Care was taken to structure the discussion in a way that

was compelling and highlighted those elements that supported or ignored aspects of the theoretical frameworks, directly spoke to the research questions, or emerged unexpectedly.

Study Internal Validity

This study involved several strategies to ensure its internal validity. First, to ensure that interviews would provide the data necessary to address the research questions, a content validation process of the interview protocol was conducted through review by several individuals with content expertise. The validated interview was then used in a pilot interview. Since specific aspects of the course conversion process were of primary interest, two theoretical models framed both the development of the interview questions and the initial coding scheme for interpretation and analysis, which further supports the internal validity of this study.

To ensure accuracy of interpretation, the researcher employed reflexive practices and conducted multiple reviews and coding of the data. *HyperRESEARCH*, a qualitative software tool, was employed to provide a means for thorough documentation of the coding process. A peer reviewer was also used to ensure the consistency and reliability of the process. The peer reviewer was given access to the electronic codebook and de-identified transcripts with assigned codes clearly visible on the transcript, as well as a printout of the codes with the utterances assigned to each topic clustered together. Conversations with the peer reviewer led to some modifications of the coded transcripts.

Presentation of Findings

The interpretation of data collected and analyzed through this research follows the qualitative tradition of communicating a rich, thick description of the topics and themes from the interviews. Direct quotes that support the themes are shared in the findings. The intent of using this approach to reporting the findings is to transport readers into the world of the participants as

they meet the challenges of working together to create an online course. Further, the application of some of this new knowledge on the part of the professors into their classroom practices is described. The complexity of description and apparent power of the interactions between the instructional designers and faculty will, hopefully, guide others preparing for these roles to take advantage of the course conversion process in their own university settings to make a positive impact on classroom practices.

Chapter Four: Results

This study explored the experiences of instructional designers and professors as they worked together to create an online course that led to improved pedagogy on the part of the professor. Data was gathered through 12 semi-structured interviews held in a webconferencing platform. The participants were asked about instructional design principles they may have followed, how trust was built between them, and, for the professors, how their pedagogy changed after this interaction. Field notes were recorded, and some artifacts were shared by participants in the form of syllabi, websites, and course materials, however these served only as sources to become familiar with the subjects participating in the interviews and the courses they described designing. Findings and interpretations are based entirely on data gathered through phenomenological interviews. The central guiding research question and its sub questions were:

The central guiding research question of the study is: how do the experiences of professors and instructional designers who collaborate together to develop an online course positively influence the pedagogical practice of the professors?

Sub questions:

a) What are professor perceptions regarding improvements to their pedagogy specific to the guidance and input from the instructional designer?
b) How are improved pedagogical practices described and are there clear references to instructional design principles and student-centered pedagogical practices (Merrill, 2002)?
c) How do professors and instructional designers explain how emotions and threats were handled throughout the process considering the threat management model (Williams, 2007)?

Three instructional designers and six professors from various disciplines and locations around the U.S. were interviewed. Of special interest was the degree to which professors acquired understanding of design principles, represented by Merrill's (2002) First Principles of Instructional Design, and absorbed them into their pedagogical beliefs and practices. Because the interaction was so key to the transfer of this knowledge from instructional designer to professor, some of the questions explored the nature and level of threats and trust between the participants identified in Williams' (2007) trust building model. This chapter describes the general experience of the participants as they worked through the course design process, considering two theoretical models used to guide the interpretation of the interview data. To protect the identity of individuals who participated, each was given a pseudo-name to enhance the discussion, along with a code for their role, faculty (FAC) and instructional designer (ID). Table 3 describes characteristics of the participants' experience and background.

Study Participants

There were a total of nine individuals who participated in the study: six were faculty and three were instructional designers. Multiple faculty worked with two of the designers .

Table 3

Characteristics of Participants (N = 9) Study

Professor Name	Discipline	Course Type	Instructional Design Partner
Fac Bill	Business	Undergraduate online	ID Marta
Fac Joseph	Accounting	Undergraduate online	ID Marta
Fac Joann	Nursing	Undergraduate online	ID Marta
Fac Scott	Mathematics Education	Undergraduate online	ID Betsy
Fac David	Educational Leadership	Graduate hybrid	ID Betsy
Fac Gilbert	Chemical Engineering	MOOC	ID Jane

(continued)

Instructional Designer Name	Credentials	Experience	Faculty Partners
ID Marta	Ed.D., Instructional Systems Technology	11 years university instructional designer	Fac Bill, Fac Joseph, Fac Joann
ID Betsy	Ed.D., Administration	20 years curriculum designer, online learning researcher, professor	Fac Scott, Fac David
ID Jane	Ph.D., Psychology	16 years university instructional design	Fac Gilbert

The three instructional designers in this study represent three very different backgrounds and roles that are currently seen in universities where online course design activities take place. ID Marta is a trained instructional designer who worked as a university employee until she left to form her own consulting business with a partner. She continues to work with universities nationwide building programs and courses. She holds both master's and doctoral degrees in instructional design fields. Three of the faculty members interviewed, Bill, Joseph, and Joann, worked with her. The second ID is ID Betsy, who is an online learning expert with a doctorate in education administration. She is a leader in the field of online learning community development and also teaches as an adjunct in graduate education programs. Two of the professors interviewed in this study, Scott and David, worked with her. ID Jane is a university instructional designer with a doctorate in psychology. She has over ten years experience managing distance learning programs at three universities. The participating faculty member she worked with was Gilbert.

Six faculty members participated in this study. Fac Bill is a retired business professor who taught marketing and other business subjects at an urban branch of a large midwestern U.S. university. He was paired with ID Marta when the university decided to create an online business administration program to replace the onground one in which students were already

enrolled. Fac Bill had used the Blackboard learning management system mainly as a repository for content in his onground classes and was excited to try to do more with it in developing an online course. Fac Joann is the director of an undergraduate nursing program that already had an online program at the same university where Fac Bill worked. She had taught the courses she was developing both onground and online. The online courses she developed herself were modeled after her onground courses – narrated powerpoint lectures, discussion forums and quizzes. ID Marta was hired to standardize and improve the quality of the courses in the program. Fac Joann was initially resistant to the changes ID Marta wanted to make, but eventually gained respect for the course's student-centered format and published research with ID Marta on the course design. Fac Joseph was hired by ID Marta's instructional design firm to develop an online accounting class that targeted underprepared students in a university located in a large midwestern city. Fac Joseph was eager to explore ways to make his subject more accessible to at-risk students through the course design process.

Fac Scott, who taught mathematics education at a private northeastern university, asked ID Betsy, a colleague in the Education department, to join a group of professors developing an online course specifically to consult on problems with the discussion forums, which were not generating the kind of discussions they had hoped for. Fac Scott was an expert at inquiry-based pedagogy, and was very interested in shaping and improving the mathematical thinking of students taking his online course. Fac David trained prospective school leaders in a graduate program situated in a U.S. western university. He learned that ID Betsy was working on a project in the university and met with her for help converting a workshop series he had created into a hybrid (mixed online/onground) course. He was keen to rethink the use of his powerpoint lectures when ID Betsy described the possibilities of student-centered learning to him.

Fac Gilbert was a chemical engineering professor in a southern U.S. university. He created a Massive Open Online Course (MOOC) designed to introduce high school seniors and college freshmen to the discipline of chemical engineering so that they could make a decision to pursue it early enough to take the prerequisites in mathematics, biology, chemistry and physics. ID Jane, the instructional designer assigned to the engineering department, worked with him to structure the course and build it into Canvas, the university's learning management system, which Fac Gilbert had never used. An iteration of the course was recently offered on canvas.net with over 500 students participating.

Findings

Data from the interviews of the nine participants were coded into 940 passages grouped into 97 topics. These topics were further organized into 12 categories. Final reorganization and analysis of the interview data resulted in five main themes: (a) instructional design support, (b) use of Merrill's (2002) principles of instructional design, (c) elements of Williams' (2007) trust building model, (d) impact of student outcomes, and (e) subsequent changes in teaching. The data within these themes was grouped into subthemes. There were a total of 16 subthemes distributed among the four main themes (see Table 4).

Table 4

Themes and Subthemes of Findings

Theme	Subthemes
Instructional Design Support	Setting the agenda for instructional design Modes of communication Technology support Pedagogy support

(continued)

Theme	Subthemes
Use of Merrill's (2002) Principles of Instructional Design	Real world problems Activate existing knowledge New knowledge demonstrated New knowledge applied New knowledge integrated
Elements of Williams' (2007) Trust Building Model	Barriers to trust Perspective taking Threat reducing behavior Reflection
Impact of Student Outcomes	Student reactions Student engagement Student outcomes
Subsequent Changes in Teaching	

Theme 1: Instructional design support. The types of support provided by instructional designers to faculty were refined into four subthemes: (a) setting the agenda for instructional design work, (b) modes of communication, (c) technology support, and (d) pedagogy support. This theme and its subthemes arose when participants were asked to describe to processes they used to create the online course.

***Setting the agenda for instructional design*.** Early conversations between faculty members and instructional designers were critical times for assessing the scope of the work ahead. Some faculty members brought course outlines or syllabi to these interactions. Others brought course content. Fac Joann brought a finished online course to her initial meetings with ID Marta, while Fac Scott had an online course in progress when he asked to ID Betsy to consult with him about the discussion forums.

ID Marta and ID Jane used a backward design approach with the faculty members they worked with. Both instructional designers asked the faculty to focus on the main objectives of their course and how they would assess competency of the material. They worked backward

with the professors to design activities that would prepare students for the assessment rubrics. ID Jane sat with Fac Gilbert and made a table on a piece of paper that tied the objectives and content to the assessments. ID Marta brought design templates to her meetings and started with identifying what Fac Joann called "enduring understandings," important concepts that Fac Joann wanted the students to remember after the course ended. She explained to Fac Joann that she wanted all the activities to lead to retention of the major concepts:

> What do I want them to know five years from now? To be able to remember from this course. And then she said in an undergraduate course, that's what you gotta teach. All these other details, we've got to get them to learning this and there are details that will get them to it, but multiple choice tests, seeing if they know the details- they're not going to remember the detail anyway. Even if they can pass it on a test- five years from now. So, at the undergraduate level, you want them to get to the concepts. That was a kind of an eye opener for me right there--is that we're gonna go broader and that's not to say we're cutting out a bunch of content, we're just gonna take them through the details to get to this broader concept. (Fac Joann)

With Fac Joseph, ID Marta emphasized the idea of storytelling to shape the structure and activities of the accounting course. ID Marta recalled asking him, "What is the story you're gonna build for your course? And then how are we going to really tie that to the competencies or the learning outcomes?" The next step, ID Marta explained, "is really outlining the course, and that usually takes a couple weeks where we break down each module into different themes that connect with the story."

ID Betsy joined Fac Scott in his team developing the mathematics investigation course after the course had been structured and outlined. The team used an inquiry approach, which Fac

Scott described as a "set of mathematical investigations." ID Betsy's role was to help the faculty designers reorganize the discussion forums, which were generating poor results. ID Betsy and Fac David worked from course outline derived from a workshop series Fac David had held for school leaders as a technical consultant.

Modes of communication. The participants in this study used many modes of communication to carry out their interactions: email, face to face meetings, phone, text, videoconferencing and a group Google document. ID Betsy felt strongly that the fact that she worked with her faculty counterparts in face to face meetings led to her success, and recommended instructional designers not try to work primarily by telephone. Fac Scott remembers of ID Betsy's emails, though, that "she responded very richly always." ID Marta worked almost entirely on the phone with Fac Bill, who she has never met. They talked on the phone at length as he traveled throughout the Pacific northwest, working on the course. Fac Gilbert felt that email was critical to the successful interaction he enjoyed with ID Jane, remarking, "I could not have done this without the email."

Technology support. ID Marta and ID Jane were responsible for technology support for faculty. They developed the courses in the learning management system and maintained the courses as they ran. Some of these tasks were mundane, such as embedding modules, arranging for close captioning of videos, and developing multiple choice assessments. Others were fairly complex, such as developing multimedia learning objects that allowed students to interact with content in a fairly sophisticated way. Fac Joann describes one of the objects ID Marta created:

> she would…go into her treasure trove, her magic bag and say, "Let's do it this way. Let's-… the multimedia ranges from nurse consultant to and again- those are the talking avatars to these multimedia flash which are these interactive boxes sometimes and you mouse

> over it and the box pops up or you click on a word and- where the student actually has to do something. Has to click on something. And it pops up." That's as interactive as it gets. But the students love it. (Fac Joann)

ID Jane developed and managed the first iteration of Fac Gilbert's MOOC. The last version appeared on *canvas.net*, a curated MOOC platform maintained by Instructure for worldwide access. Jane negotiated with an instructional designer at *canvas.net* to reconfigure the course so it would meet the requirements of its platform.

Pedagogy support. According to the faculty interviewed, it was the pedagogical support that the three instructional designers offered that changed thinking of faculty related to their teaching practices. Fac Bill compared ID Marta's work with him to his interactions with instructional technicians as he struggled with the learning management system he had used in the past:

> I mean they ... They tell you what button to press, and how to save something, and what function ... But they had no clue. Absolutely none. Nor, did they care what professors are trying to accomplish. I fully engaged, I learned more tools, and I learned everything and I want to be proficient at it. That's why I wore out my welcome with the techy people. And certainly could have used ... And I did ask the department head at the time, this was a number of years ago ... I said, "Well, why don't we have someone that ... Who understands instruction as well." And she said, "Well, that will never happen. You know, it's not in the budget." (Fac Bill)

Fac Bill's description of Marta's work with him on the pedagogical design of the course was overwhelmingly enthusiastic:

> She just wants to know what I want to teach, how I want to teach it, how I would like to engage the students, how I'd like to assess the students and how I'd like to communicate with the students ... And then she used her instructional design knowledge to help me do that. She really did know ... She did have a better understanding of what I wanted to do than I did…. when I was struggling with how to do certain things and how to present certain material ... And I'd say, "Here's what I'm trying to do," and she would say, "Why don't you do it this way?" She had answers to questions I didn't even ask. (Fac Bill)

ID Marta combined her technical skills with her understanding of course design to interpret faculty problems and create solutions. Fac Joann, for example, had a list of unrelated pieces of knowledge she wanted students know. ID Marta found this solution:

> She'd say okay, you know what I'm hearing? There's a bunch of frequently asked questions here. Let's create a nurse consultant. And this will be a multimedia, and in that first course we did it's an actual avatar, it's a little cartoon head. (Fac Joann)

ID Jane worked with Fac Gilbert to chunk the content into smaller segments, including his online lectures:

> One very, very important thing came up was I need to keep certain segments, for example, short. If I'm gonna describe something, explain an idea or whatever, to keep the video segments or the audio segments to four, five minutes at tops. I have to remember this is not a real, live class, but online. I have to be aware of the time I spend on each segment. But that is maybe the most important thing I heard to begin with. (Fac Gilbert).

ID Betsy helped Fac David navigate blended course design. She explained which activities were best delivered online and which would be more successful if carried out onground. Her work

with Fac Scott to redesign his discussion forums involved rewriting the prompts, managing the discussion, and creating a scoring guide. He valued her role as a learning expert:

> there was a theoretical thing about the pedagogy and there's also a lot of practical stuff about how the hell to survive in an online environment. And she offered both of those things. (Fac Scott)

Theme 2: Merrill's principles for instructional design (2002). One of the frameworks for this study, Merrill's First Principles, an instructional delivery meta-model, was included to verify the passage of instructional design principles from instructional designer to professors, and also to ensure that the new pedagogy reported by professors involved student-centered elements. Participants were asked to describe the restructuring of the course and those new elements of the course that corresponded with one of Merrill's (2002) Principles were coded into five subthemes corresponding with each of Merrill's instructional design principles: (a) real world problems, (b) activate existing knowledge, (c) new knowledge demonstrated, (d) new knowledge applied, and (e) new knowledge integrated.

In most cases the mention or inclusion of instructional design methodology on the part of the instructional designer was not explicit. In fact, two of the three instructional designers, ID Betsy and ID Jane, never mentioned the principles in their interviews, although their described practice includes elements of the model. ID Marta "ties[s] all [her] design documents to Merrill's Principles," but says that for the most part her faculty is unaware:

> … they don't realize, the instructional design models that they're going through, because in only one case where I ended up doing research with one of the faculty on, and they learned about the different design models. You know, we've done work on it, but Bill didn't know. (ID Marta)

Neither did Fac Joseph, according to ID Marta, "I provided the structure for Joseph and I didn't get into too many details. I probably never even talked to him about Merrill's Principles." Fac Joann was an exception to this rule. As the most resistant of all the faculty to student-centered teaching, once she was won over by ID Marta to it, she went on to carry out research with ID Marta using Merrill's Principles as a framework:

> Marta was doing it long before even Merrill become as published and as popular because I think she had him as an instructor or something. Or- courses that she took were based on Merrill's First Principles. So she knew about it, sort of before, even significant publication about Merrill. And then- she and I have and [name of researcher] have an article about implementing Merrill's first principles and we were able to show … at that time that his- I think his textbook came out. We were able to show already eight to ten usage of it. (Fac Joann)

Real world problems. The first of Merrill's First Principles, real world problems, recognizes that optimal engagement and knowledge retention takes place when students solve authentic problems and complete projects designed for use by a real world audience. Most of the faculty participants indicated they incorporated real world problems into their online courses – and many had done so before they worked with the instructional designers. Fac Gilbert came to design the MOOC with the idea of highlighting a particular product that represented the integration of each of the enabling sciences in chemical engineering (insulin in the case of biology, for example), and explored the role of the chemical engineer in developing those products. Fac David's courses involved challenging situations principals face in their jobs – coaching teachers and managing attendance. Still, ID Betsy was able to take him further on the path of replicating the work environment by encouraging him to

> turn something that he was telling them into a case study where they would have to put it together and they would actually be applying it because they're looking at what they might see as they were walking through somewhere. (ID Betsy)

Fac David devoted more in-class time to "simulating the activities they're going to do on the job, and learning from each other by working in small groups." (ID Betsy)

Fac Bill used PC simulations and videotaped students' sales presentations, excellent examples of bringing in real-world situations for students to examine. ID Marta encouraged him to steer away from online quizzes and toward more authentic types of assessments. They also came to the conclusion that business cases should be used as often as possible to relay content. ID Marta and Fac Joseph, faced with a population of underprepared students, developed a project that they thought "would be most relevant in the real world" for their students. Students were asked to create their own company and learn accounting practices as they managed the company with information given to them by Fac Joseph. Fac Joseph explains the power of this approach:

> My students now love it because they're taking past knowledge, adding new knowledge to it, and they're seeing their own product and education grow as opposed to... learning in a silo, and then at the end of the term have some type of cumulative exam? (Fac Joseph)

As she worked with Fac Joann, ID Marta emphasized again and again the importance of authenticity. At the outset she suggested, according to Fac Joann,

> a nurse training of some kind, in a course lecture of some kind, as a continuing education as- Just, it could be used as a presentation to the leadership at your hospital so that maybe they would make a change. This kind of thing. (Fac Joann)

ID Marta wanted the course to require students to create something that could actually be used by the student. The final course involved students creating an authentic product every week:

> …at the end of each week the team would have to create something like a memo to the board of directors where this organization on a smaller topic. Or, they would have to create a presentation on a cultural group. Health issues of a particular cultural group. And this would be a presentation that they could give at their work site or something like that, on this cultural group. And they had to write some papers where they really had to investigate a particular- recall a patient that you cared for and now redo that patient case under this lens. You know, thinking of it as patient management- management. Person management rather than illness management and that kind of thing. (Fac Joann)

Activate existing knowledge. The second of Merrill's First Principles, activating existing knowledge, was the least mentioned aspect of Merrill's Principles in the interviews conducted in this study. Fac Joann, who had the clearest understanding of the principles from her research with ID Marta, was able to describe this principle in the interview, "Merrill's first principles was you sort of present the problem, or in this case the challenge, and then you have to activate the thinking on it. What do they think already about it?" (Fac Joann) She asked her students in the first week of her course, for example, to write their personal definition of nursing, post it, and discuss it among themselves in the discussion forum. ID Marta intentionally integrated activation components throughout the courses she developed with Fac Joann, Fac Bill and Fac Joseph by looking for points of relevance for students they could include along the way. This was particularly important for students in the courses Fac Joseph taught, who came from the inner city and lacked the preparation a more rigorous high school curriculum might have given them. For this group, they purposely chose scenarios that would be more familiar to them than a typical college freshman at the university sponsoring the course. ID Marta's approach with all the faculty she worked with was to ask them to create a story:

> …what I do when I work with a faculty member is a lot of the times when they teach face-to-face, they naturally ... I talk with them in a sense like as if they're building a story about their course and they want to really focus on what do they want the students to remember if they come up to them five years after they take the course. (ID Marta)

This technique helps students build the mental model needed for knowledge to be understood, interpreted and retained.

To some extent, though, incorporating real world problems into the courses linked students to their prior knowledge. Fac Joseph asked students to create companies that sold products they enjoyed, such as candy or sneakers. Fac Gilbert began each module with a discussion of a familiar product or device students could examine. As the future school principals in Fac David's courses were former teachers, the scenarios he presented contained subject matter familiar to his them.

Those courses that built on each other from week to week also used recently-acquired knowledge to help build mental models of the content area. Fac David displayed this through his technique of providing scenarios of teacher interactions for his students to interpret

> where they applied that information to different kinds of scenarios that I gave them, again increasing from simple to complex. And then sharing that information among students and giving them feedback on it, and then giving them an assignment to go out and apply that to a school change process at their school and reporting back on that. (Fac David)

The continuity of this assignment through the weeks helped students create a model in their minds that increased in complexity as different scenarios and discussions with other students were analyzed. Fac David also asked students to contribute to a discussion forum before they

came to class to stimulate their thinking and to gauge their understanding of the content to be covered.

New knowledge demonstrated. The third of Merrill's First Principles, demonstrating the important features of content, was used successfully in many of the online courses developed by the participants in this study. But first, they had to undergo a shift away from lecture-style teaching. Both instructional designers and professors testified that reconsidering the lecture was a major difference between student-centered teaching and instructor-centered teaching. As Fac Gilbert said of himself and his colleagues, "in both engineering and science also, to them, content equals teaching." Fac Joann described that in a previous iteration of her course, **"**the faculty were basically told, put your course online by putting it on Blackboard. Posting your syllabus, posting your notes posting the assignments and then narrating a bunch of Power Point presentations." Fac David also relied on the lecture in an earlier version of his course, but allowed some question and answer time to try to make the course more engaging. Fac Joseph reported a similar approach to his early courses:

> ...so the way it would be set up is that there were PowerPoints and I would get on and I would speak. And they would see me, and there were PowerPoints or Excel Spreadsheets that I would talk to the students about. It was lecture. It was lecture based and if the students had any questions at any point in time, they hit the little hand button, and then they ask a question or type it in. And that would run for about an hour and a half and cover the content of the chapters that the students had to read. (Fac Joseph)

The professors also became more aware of the need to manage the cognitive load for students accessing the content for the first time. Fac Gilbert developed the ability to "keep it simple, so the students will be able to follow." Fac Bill found that in his first experience

working with a learning management system, before he worked with an instructional designer, he and the other professors uploaded too much content for the students in their excitement to make resources available. He said, "I looked at it and understood…I've got to go back through all those courses and trim my blackboard and my exercises…I put too much in there. I just overloaded the students." (Fac Bill) ID Marta and Fac Joseph's conversations often focused on the right amount of content for the underprepared students who would be taking their course. There were times when Fac Joseph was nervous about the content demand on students and ID Marta pushed him to ask the students to do more; other times she suggested resequencing the presentation of content to decrease the cognitive load as students built the mental models in their minds to support new material more easily. Their finalized course presented content in the form of reading one week and a project the following week, cycling through that pattern until the end.

Fac David and Fac Joann consciously used demonstrations in their finished courses. Fac Joann wrote scripts for avatars playing roles in the hospital to act out situations that her students could discuss. Fac David videotaped actual classroom scenarios for his students to analyze and process together. He gave them cues for noting issues in the scenarios that would need to be addressed by them in their roles as principals. The students then acted out with each other how they would meet with teachers and discuss these issues. The issues, then, were demonstrated through the use of multimedia captures of real world problems, and the solutions were demonstrated through multiple examples of peer roleplaying.

New knowledge applied. Applying new knowledge, the fourth of Merrill's First Principles, gives students a chance to practice new concepts and skills with instructor guidance, learning from errors they make in the process. Professors used a variety of different kinds of application activities to allow students to practice using new knowledge. Fac David's students

now used pair work to **"**actually [get] them to engage in the behavior I wanted them to learn, and then giving them feedback." Fac Joseph was so excited about these learning activities that he later replicated them in graduate courses he taught by, for example, asking students not just to read about the different types of depreciation, but to show when it was appropriate to use each one and then try the different methods out with the companies they created. Fac Joann's nursing students were required to integrate readings and content delivered in a multimedia format and apply them to create a presentation or memorandum that could be used on the job.

Some of the courses used the discussion forum to allow students to practice solving problems in a low-stakes environment that provided many examples. Fac Bill used his forums to to "engage students in discussion in applying the concepts…in their own time." He also used the forums to clarify any misunderstandings and extend thinking beyond the basic content. Fac Joann ensured her forums encouraged application of concepts by asking students to apply their comments: "…apply meant not just regurgitate but apply that to your work site." ID Betsy coached the professors she worked with to use the forums for opportunities to apply knowledge only with students who felt comfortable doing so in an open environment. Those students who were not participating got special attention:

> …they're the ones that I engage in behind the scenes conversations, with their participation, and what they're thinking and how the course is going. Not the ones who are, you know, posting four and five, and more times, and to a forum in thoughtful ways. (ID Betsy)

ID Betsy's commitment to social learning was what had drawn Fac Scott and Fac David to ask for her help. Fac Scott's experience with inquiry pedagogy told him that the forums in the online course he was teaching were building meaning in the way discussions that he had so

successfully led in the classroom had. By recasting, at ID Betsy's direction, his discussion questions into opportunities for students to roleplay, solve multi-step problems together, and respond to alternative examples and perspectives, Scott was able to provide a variety of opportunities for students to process "numeracy, and number sense, and mathematical concepts." ID Betsy helped Fac David move away entirely from his PowerPoint lecture approach to delivering content initially to using his classroom time to apply content they read before coming to class:

> [David's approach] definitely went from a rote presentation that he felt like he had to stand in front of them and produce a PowerPoint to something where the whole thing could be completely interactive, because before the class they would be prepared and then during the class they would be working in this case study, small group kind of context where more people are talking at the same time so it's not just one person talking the whole time. (ID Betsy)

Fac David was delighted to reorganize his instructional activities in this way: "…I think the magic in it was that it freed us up to use class time for simulating the activities that I wanted the students to do on the job." He also felt that practicing these activities in a group led to much richer learning: "…if you're a novice, you'll learn what the more experienced people have seen and how they would talk about it, and you learn a lot of nuance that way."

Fac Bill also restructured his teaching after developing his online course. He engaged in classroom-flipping, in which students are responsible for reading or viewing content on their own time and come to class to engage in other learning activities. Classroom-flipping allows students to access the expertise when they most need it. Fac Gilbert was so strongly influenced in the direction of student-centered learning by working with ID Jane that he eventually

established a learning repository of resources for his students to access on their own time, which freed him up to work with them on the most difficult or confusing problems in the classroom. For him, classroom-flipping brought about a profound change in his thinking about the role of a teacher:

> Content has almost nothing to do with teaching online. It's how the students can read it and understand what they're trying to do. So I've become a big proponent of open-source content, software, things like that, maybe even much more than I used to be. I truly believe that the human being's role is even more important now, with all kind of stuff available online. But we need to be the mentor, the teacher, to help people wade through all the stuff that is out there. (Fac Gilbert)

New knowledge integrated. The concept of applying new knowledge is closely tied to integrating it, which is the fifth of Merrill's First Principles. While the application phase focuses on practicing and understanding the skill, the integration phase assumes a mastery of the content as its end result. Some of the same activity types will be used for both concepts. For example, solving a series of problems allows for multiple applications of the same knowledge, but it also demonstrates integration of that knowledge. The integration phase is complete when students incorporate the learning into their daily lives outside the classroom. The participants I interviewed described discussion activities of various types: some, for example that result in students defending their newly-acquired knowledge, which would be more accurately associated with the integration phase, while others that, say, allow students to "try out" their ideas, belong in the application phase.

Merrill includes the practice of reflection in the integration phase because he views pairing it with synthesis to build the student's mental model of the new knowledge. ID Betsy

impressed on Fac Scott the importance of asking students to assess their own learning at various junctures during the course:

> …one of the ideas that she outlined was that you provide the students with the kind of rubric for what a good online discussion is like and all stuff like that. And then you have them begin to participate in discussions. And then at some point, you stop and you say, "Now we're gonna spend some time for you to look back at your posts and see if you can find evidence for your doing these things that are in the rubric, or in the guidelines." (Fac Scott)

These students were then required to write a report on their findings and create a plan for going forward with their learning.

Those courses that have a culminating project satisfy the requirement for integration most easily. ID Betsy highlighted the power of the integration phase with her comment that "the things you created by yourself are what you'll remember next year." Authentic assessment is one way of incorporating integration knowledge into a course. Fac David's students created a plan they could adapt to use in the schools in which they would become principals. Fac Joann's students developed a final presentation that could be delivered at hospitals where her nursing students work. Fac Joseph's goal for his students was to understand

> why you do the things that you do, and when you do the things that you do, and what the impact I not only on your business, but on the stakeholders that, that are affected by your business. (Fac Joseph)

ID Marta's practice, in working with faculty, of helping them "build a story" with the course activities greatly helped integrate the new knowledge into the student's developing mental model of the discipline being taught. She worked with Fac Joseph to structure his course so that

> they start with the story and just keep building the story and…I really am just taking the information from the new chapters but fitting into a puzzle so that the, the end result is just one big picture. And they see it from beginning to end. (Fac Joseph)

She helped Fac Joann convert a biology course from a collection of modules focused on content describing the various body systems to a course with a storyline that features a doctor trying to solve problems with the systems. With the use of the avatar "the perspectives go throughout so that at the end it's like they, they've looked at a whole body system versus everything being separate" (ID Marta).

Theme 3: Trust building. This study also employed a framework for analyzing the interactions between the instructional designers and faculty members. Williams (2007) argued that individuals can build trust with a team through interpersonal emotion management that predicts and responds to problems and conflict that arise as the team works. As the research literature shows that faculty members experience any number of barriers to improve teaching, this study examined whether instructional designers or, indeed, faculty members, used threat regulation strategies to create or maintain a productive work relationship as they developed a course that would change the professor's thinking about his/her pedagogy. Participants were asked several questions related to the kind of working relationship they enjoyed as well as possible areas of conflict. Responses to these questions were coded into four subthemes derived from Williams' trust building model: (a) barriers to trust, (b) perspective taking, (c) threat reducing behavior, and (d) reflection.

Barriers to trust. Williams' (2007) three types of potential threats, opportunism, neglect of another person's interests, and identity damage, were not explicitly mentioned as arising in any of the interactions between instructional designers and professors in this study. Identity

damage, though, was mentioned by some of the participants as a potential threat that specifically did not arise. Of Fac David, for example, ID Betsy said,

> He didn't have his ego in it, and he didn't know how to blend. He knew he didn't know how to blend. And he could immediately see that what I was doing in the redesign would just be fantastic. (ID Betsy)

ID Betsy recounted an experience she had with another professor not participating in this study, however. He asked her to review his course, which she redesigned extensively. She said,

> It was huge what I had done to his course, and he was done already…the thing was, he was like I'm such a great professor, there's not going to be anything wrong with my course. She's just gonna say, "Oh, this is cool!" And I totally didn't. He was completely like, oh my God. (ID Betsy)

This professor never incorporated any of ID Betsy's suggestions into the course. To reduce the possibility of conflict arising in the first place, ID Betsy accentuates the positive when working with professors and then mentions possible "tweaks" as ways to describe targets for revision or correction.

Other faculty admitted they would not have accepted an aggressive approach on that part of the instructional designer. Fac Bill noted, "Marta never crossed the line, she doesn't have the personality to cross the line and tell me what to teach and how to teach it." Fac Gilbert would not have been open to someone making suggestions about his classroom teaching, he admitted, but because he was teaching in a new environment, it was easier to consider other points of view:

> I didn't have a problem with being said, "You know, I think this video is too long, maybe the content is too dense...." I was prepared, because I knew this was not something I have done before. Some other class, if I'm teaching during the semester, and the emphasis,

> somebody would have come and tell me I'm doing something wrong, something I've done for 15 years; unless they have a very good reason and they can give me a good reason to tell me I'm wrong, then I'd be suspicious. (Fac Gilbert)

ID Jane, who worked with Fac Gilbert reported that this was a common occurrence in her work with faculty:

> What I have learned over time is in general, I feel like most faculty are a little resistant to being told that anything that they do is wrong (laughs). They don't like to hear critique, They do not like to hear that anything that they're doing is not a best practice. (ID Jane)

Fac Joann describes her own hesitation about being asked by ID Marta to dramatically alter the activities she was using in the classroom for the online course:

> I did not believe in online education. I couldn't imagine that it would be as good as the classroom experience had been. And I was not enthusiastic that the college of nursing had first made us do the Blackboard version and now was kind of even giving up the degree to the university. So I felt very forced and I think I've learned that faculty members often feel that. That they're being told they have to do this and then can't imagine that it will be as good as the classroom experience has been. (Fac Joann)

Perspective taking. The first step in Williams' (2007) threat regulation process, perspective taking, requires an individual to anticipate possible threats to building trust. ID Jane found that using the technical language of instructional design could close some faculty off to discussion, sharing, "…even with faculty who have more familiarity with educational methods, I still tend to use generic language because it tends to make them more open." She also found that presenting faculty with options rather than a "hard line" made them more open to making changes in their courses.

ID Marta felt that it was critical to listen to faculty before suggesting changes:

> …having a willingness to listen, to hear where the faculty member is coming from is very important. Especially if they have years of experience in teaching. It's very difficult to come in and tell someone this is how you should do your course, because that's not how you want to approach it with them. (ID Marta)

Through this strategy of listening carefully to faculty, ID Marta could tell, for example that Fac Joann "was a little bit resistant. You know, I could hear it in her voice." (ID Marta) Fac Bill and Fac Joseph recalled that ID Marta was always available, never rushed the conversation or tried to end it prematurely.

Williams (2007) found that well-constructed contracts could mitigate the need for anticipating many problems. In online learning many universities use quality frameworks to ensure courses are well-designed, which can serve as a sort of contract between the university and the course designers. ID Marta relied on those frameworks to "help with some of these discussions." She went on, "So it's not you against that person. It's kind of a neutral set of guidelines that you're trying to meet." She also cited department or program criteria as helpful in working with faculty who questioned the need for student-centered design elements. In developing the MOOC with Fac Gilbert, ID Jane followed the guidelines of *canvas.net*, the MOOC platform. Jane felt strongly that making the course accessible was a requirement: the fact that *canvas.net* required Fac Gilbert's videos to be close-captioned allowed her to insist on it.

The power dynamic between the professor and instructional designer could affect the ability of the instructional designer to impact the professor's work. In ID Betsy's case, she was invited to help the faculty she worked with because of her expertise in a particular feature of

online learning. ID Marta hired Fac Joseph as part of her contract with the university in which he was located, which may have made him more open to her guidance. But Fac Joann and ID Marta were assigned to work together, placing the onus on them to develop a workable power dynamic.

ID Betsy outlined the importance of the instructional designer's status as a professional equal in describing her own experience as a subject matter expert working with a novice instructional designer:

> I mean I was an associate professor. So I was not…just graduated with my Master's Degree in instructional design. I mean, …many people who are in instructional design, are ... from our perspective, just kids. (laughs) You can go fly with your new application that I'm not going to learn how to use. (ID Betsy)

All of the participants in this study demonstrated personality characteristics and attitudes that served them well through their interactions with each other, setting the stage for a smooth course design process. Faculty were described by the instructional designers as curious, excited, risk takers, open-minded, and possessing a passion for learning. Instructional designers were described by faculty as enthusiastic, patient, nice, intelligent, quick learners, and professional. Participants in both roles shared a concern for meeting the needs of students that mitigated the importance of difficult issues that might have arisen.

Threat reducing behavior. Some of the participants reported readiness to use threat-reducing behavior to reduce tension in threatening interactions. ID Betsy describes "behaving diminutively" this way:

> …as soon as I feel that there's ... Somebody's getting their back up, I go down. Like I get lower in my - even physically. I get lower in my chair, I lower my eyes. I trail off my

> sentence, I don't have any more to say at that point. I don't know how to describe it but I've-learned to really avoid conflict on it because if there is any conflict allowed I'm gonna be gone (chuckles). (ID Betsy)

ID Jane headed off conflict with Fac Gilbert over captioning his videos by offering to manage the process:

> I was very hesitant to put those online unless we did captioning for them and I kind of set a hard line with that and said, "I'm going to figure out a way to get these captioned for you, but I really don't want us to post them unless." (ID Jane)

According to Fac Gilbert, ID Jane approached issues that arose with an even temperament. He said, "I think there were times in which, I would say, I sometimes got more frustrated at the process than she ever did; she was never frustrated, it's amazing, she was never frustrated."

According to, ID Marta, she met Fac Joann's resistance to restructuring her online course with a technique she had used in the past to quell the fears of faculty over producing an unsuccessful course, improving her to "try it just this one time." ID Marta explains her strategy:

> …one approach I've used with some difficult faculty - I don't want to call them difficult - but maybe faculty that aren't as onboard with going through an instructional design process. It's like, we're a team on this. I want to help you and if we, if you just trust me this one time and we can get this course passed or meet these standards, let's just do it. (ID Marta)

Fac Joann had many questions based on her success as a classroom instructor using a more traditional pedagogy. ID Marta convinced her to rethink features of her teaching that were ingrained, such as the use of multiple choice assessments. Fac Joann recalls this conversation:

> How am I gonna do it then? How I will I know that they know that the metaparadigm of nursing is made up of person, health, environment and nursing, those four concepts, if I don't ask them that in a multiple choice question? She said, "Joann, do you want them to know that the metaparadigm of nursing has four concepts, person, environment, health and nursing? Or do you want them to know when we talk about the metaparadigm in nursing what does 'person' mean? Well you can't ask that on a multiple choice question, Joann. So you ask it in a discussion question." (Fac Joann)

Both ID Marta and ID Betsy shared research on best practices with the some of the faculty they worked with. Fac Scott cited ID Betsy's "rich experience" as well as her theoretical knowledge as "compelling." ID Marta combined the research articles with specific examples of courses she had built in the past that had strong outcomes.

ID Marta felt her experience and doctoral level training was key to her success as an instructional designer with faculty: "A lot of the time I think instructional designers may not have that level of education to kind of reference or just pull out different types of articles or examples" (ID Marta).

The faculty she worked with concurred. After working with ID Marta, Fac Bill recommended all instructional designers design courses they had to teach online, so that they would be able to assist him in the way Marta had. Fac Joseph was impressed by the depth and breadth of ID Marta's experience. He noted, "…she has done hundreds of these courses and she understands how to really impact this type of population of students that I really never work with."

Fac Gilbert leaned on ID Jane's experience in online teaching to help him navigate the unknown territory of distance learning. Reciprocally, ID Jane related that Fac Gilbert's understanding of educational theory was unusual among faculty members she had worked with.

The other instructional designers noted that faculty experience played a role in their openness to accept recommendations for change. ID Betsy remarked on the ease with which Fac David understood the value of adjusting his course activities, while ID Marta extolled Fac Joseph's "experiences that he's had, and his knowledge of the content area really helped him think about how we can simplify it for students" (ID Marta).

Reflection. Knowing when to engage in threat reducing behavior, according to Williams (2007), requires members of a team to assess the trust building process through direct inquiry or interpretation of behavioral cues. Fac Bill described a mutual process of assessing each other's knowledge and skills in the early days of his relationship with ID Marta, "We searched in the dark, kind of like, picking up. She was figuring out how much I knew and I was trying to figure out how much she knew." ID Marta was particularly challenged by working with Fac Joann, who was initially resistant to redesigning her course. She took heart, though, when she began to glean a sense of excitement from Fac Joann through "key words that she said to me that gave me encouragement that I could get her there" (ID Marta).

As the instructional designer/professor partnerships evolved, they deepened in many cases, making the reflective process more natural. ID Marta talked to Fac Bill and Fac Joann several times a week. The result, Fac Bill recalled, was that their relationship "…just got better because she understood me better and I understood her better…and my questions became better and her answers became better, and the course became better."

Theme 4: Impact of student outcomes. Although faculty members and instructional designers relied on many of the strategies outlined in Williams' (2007) model of emotion management to guide these successful interactions, one factor was cited, particularly by faculty, as a primary reason for adopting student-centered methods permanently: the improved outcomes

in student engagement and learning. Not surprisingly, faculty in this study made the switch from instructor-led to learner-centered methods because of their commitment to student learning. Professors participating in this study were asked to describe how the course building process created change in their pedagogy. From their responses, the importance of student outcomes emerged as a theme. Three subthemes emerged: (a) student reactions, (b) student engagement, and (c) student outcomes. ID Marta's characterization of Fac Joann's priorities echoes through interviews with instructional designers about the faculty who participated in this study. She said, "Joann is a really smart person and she really wants to learn and she ultimately wants the best learning experience for the students so she's going to do whatever she can to make someone a better nurse" (ID Marta).

Student reactions. Several faculty members reported more positive student feedback from using student-centered learning methods. Fac David reported that he "got some of the best feedback from students that I've received, including notes and thanks and appreciations."

Fac Joann's students told her that the new iteration of her course "change[d] their lives." She also stressed the importance of all instructors in a program using these methods committing to the model: "One instructor ID Marta could not bring around from Day 1 – students hated that course (Fac Joann)" Fac Joseph noted that asking students to take ownership of the company they created "gets [students] a little bit more excited about their education. It gives them a sense of accomplishment." Fac Joseph did encounter some criticism from fellow faculty because his conversion to adopting student-centered methods was so popular with his students:

> The problem is that the students are looking for other instructors to do this…I do get a little bit of kickback through that program chairs that some of the other professors think that my teaching methods aren't as strict as theirs. (Fac Joseph)

Student engagement. One striking aspect to online learning to faculty new to online teaching was the idea that students who were uncomfortable talking in a face to face classroom could be more active in an online setting. Fac Gilbert expressed his surprise that "there are some students who are more comfortable just doing electronic communications and web-conference stuff. I think I became more sensitive to that at the end of my process and the creation of stuff." Students who practiced learning using roleplaying techniques were also more engaged, according to Fac Joseph, who said students who were reluctant to participate in class would observe the activity being done by other students, "…other students wanna do it, it becomes kind of a competition. You know? Who can deliver the better on-screen presentation?" Similarly, Fac David felt that having his principals-in-training watch videos together and act out scenarios they might face was much more engaging than listening to him describe possible problems and their solutions. Fac David's practice was to debrief after the scenarios and provide "feedback about whether they were on track for the things that they can go into and basically shape their behavior in doing this process, which I feel is essential for managing effective instruction at the building level."

Student learning. ID Betsy noted that students who participated in these redesigned courses retained more of the knowledge they learned for a longer period of time than those who participated in instructor-led courses. ID Betsy reasoned, "the things that you created by yourself are what you'll remember next year." Fac Scott, who worked with ID Betsy, argued that the increased learning came from the fact that "it's a very powerful model that is based on students having to take responsibility and be generative in relation to themselves."

When students can externalize their thinking in these ways, professors can more easily evaluate the accuracy of their reasoning, according to Fac Bill. Fac David reported that these

kinds of activities allowed him to coach students toward better performances: "I view grading as a coaching process, it's not just you got it right or wrong, but here's how to make it stronger." Fac David also found novice students could learn more from observing experienced students attempt the same exercises.

Because ID Betsy was brought into the online course design process after the course had started, the faculty she worked with were able to immediately gauge growth in mathematical understanding resulting due to the changes she recommended:

> I was tweaking them before they were putting them online, and the discussion just kept getting better, and better. And so, all of them could see that the tweaks that I was making was completely changing the tenor of their course in real-time. And so because it wasn't just an academic debate, you know, planning something that's not going to be tested for a year ... But you know, like live this week ... "Wow! This week was better than last ... Wow! Last week was even better than the week before." That would be the beginning of each meeting, was they'd be like, "Oh my God!" (ID Betsy)

Fac Joseph observed that students using simulations had a deeper understanding of the content in his course:

> their questions are deeper, and their questions show that they understand a little bit more of the content and they really wanna know why the interaction is the way it is as opposed to just understanding what the content is. (Fac Joseph)

He said his course survey scores had improved: "I used to get good responses on surveys in the past, but I get great responses on surveys now because students are able to retain the knowledge" (Fac Joseph). Fac Joann compared her onground students to students in the online course, noting, "they didn't learn anywhere near what the online students learned." ID Marta carried out

research that involved contacting Fac Joann's students 2-3 years after taking the course. They told her that the program changed their lives and "changed how I think as a nurse." (Fac Joann) Fac Joann attributed increased student learning to the increase in rigor required in student-centered learning environments. In her online class, Fac Joann's students had to participate in every discussion and refer back to the readings to support their responses. Joann taught the first iteration of the course she and ID Marta redesigned at the same time she taught the course onground using traditional teacher-centered methods and recounted:

> …the online students outscored the fact to face students on the online exam. On the discussions they were better more informed discussion, you could just tell by reading them. And then of course they all became better writers too. (Fac Joann)

ID Marta's long experience redesigning courses led her to believe that those courses that are the most successful are those where faculty members work through the design process with an instructional designer, resulting in an experience that "really resonates with the students, and they end up remembering those courses the most" (ID Marta).

Theme 5: Subsequent changes in teaching. One of the requirements for faculty participating in this study was a belief that working with an instructional designer to design an online course resulted in changes in teaching practices. Faculty were asked to describe the changes in classroom practice they had implemented as a result of that interaction. The final theme of subsequent changes arose mainly from responses to that question.

The faculty who worked with ID Marta, Fac Joann, Fac Bill, and Fac Joseph, redesigned subsequent courses based on the models they learned from her. Fac Bill flipped his subsequent courses and created Youtube videos for students to view before they came to class. Fac Joann worked with ID Marta to complete courses for the nursing program using the same model. Fac

Joseph applied the model he used with ID Marta to graduate courses he taught. In his live sessions he now pulls up an Excel spreadsheet and turns control of the session over to the students. As Fac Joseph did as an instructor with his undergraduate at-risk students, his graduate students now operate as teachers with each other, creating their own storylines and content.

The faculty who worked with ID Betsy also changed their teaching. Fac David has implemented the framework ID Betsy brought to the interaction with three subsequent courses and reports improved outcomes in them. Fac Scott has taken his discussion forums a step further and asks students to pose questions to each other after he has modeled them. He has also consulted with other faculty to help they improve their online discussions. ID Betsy's discussion guidelines continue to be used at the college where Fac Scott works for faculty who are designing online courses. Fac Gilbert, who worked with ID Jane, brought his new pedagogical knowledge to his onground classes. He says,

> …much more now than I used to be before, I don't stand in front of the class and drone, imagining the students are gonna pick up my every word; because they don't. So I put a lot of content online, in the learning management system we have; I have put links to videos and other things I think will be helpful to students and tell them about it; sometimes play such videos or display such content in the classroom and have them ask me questions. (Fac Gilbert)

Chapter Summary

This chapter described the results of six interviews of faculty who changed their pedagogy after working with instructional designers to develop an online course and three interviews with instructional designers. Five main themes emerged from analysis of these interviews: (a) instructional design support, (b) use of Merrill's (2002) principles of instructional

design, (c) elements of Williams' (2007) trust building model, (d) impact of student outcomes, and (e) subsequent changes in teaching. Chapter 5 will discuss conclusions, interpretations and recommendations drawn from these themes.

Chapter Five: Conclusions, Implications and Recommendations

Due to a growth in the non-traditional student population and increased competition among themselves, colleges and universities find themselves under pressure to improve both learning outcomes and the student classroom experience in their institutions (Dolence & Norris, 1995). The rise of for-profit colleges, the changing characteristics of the student population, the weakening of government regulation, and the promise of online education have led traditional universities to rethink the way they are delivering education to students (Newman et al., 2010). Most professors have little training in pedagogy and use lecture-style methods or the Socratic method of teaching, which is instructor directed. (Bonwell & Eison, 1991; Brownell & Tanner, 2012; Cutler, 2013; Dancy & Henderson, 2010; Post, 2011; You, 2010). College teaching is more engaging and effective, however, when it incorporates student-centered methods (Prince, 2004). Faculty have little incentive to change their pedagogical methods because of stresses on time and the focus on publishing research in faculty tenure and promotion decisions (Allgood & Walstad, 2013; Brownell & Tanner, 2012; Finelli et al., 2013). Universities must find ways, then, to help faculty get the time and training they need to revise the courses they teach and integrate modern, student-centered methods.

There are professionals in the academic world with the training to assist professors in rethinking their pedagogical approaches. Instructional designers can work with faculty to redesign their courses using student-centered models and are already located in the university structure in faculty development centers and distance learning programs. This study explored the interaction experiences described by professors and instructional designers that led to a shift in the professor's pedagogy after they developed an online course together. The central guiding research question was "How do the experiences of professors and instructional designers who

collaborate together to develop an online course positively influence the pedagogical practice of the professors?" Analysis of interviews of the participants was also shaped by three sub questions that asked about (a) professor perceptions of the ways that interactions with the instructional designer helped improve the professor participants' teaching approach, (b) whether the improved teaching approach was related to the types of delivery models which instructional designers are typically trained in, and (c) how the participants handled emotions and threats in the co-course design interactions. This chapter summarizes the background and significance of the study, the methodology, the key results, and conclusions. Recommendations for future study as well as implications for practice follow.

Background and Importance of the Study

Many postsecondary educational institutions are turning to online learning to meet the needs and demands of students, to better control what goes on in classrooms, and to take advantage of the possibility that it can be offered at lower expense (Allen & Seaman, 2013; Matthews, 2012; Milliron et al., 2014; Sandeen, 2013; Sener, 2010). Although it is commonplace for professors to use instructor-centered methods in their onground classrooms with little training in pedagogical methods or oversight, developing distance learning courses offers some promise for helping professors understand better ways to help their students learn and retain knowledge and skills (Cutler, 2013; Lawrence & Lentle-Kennan, 2013; Russell, 2015). Frequently universities employ instructional designers, who have training in learner-centered teaching methods, to guide online course design (Akella, 2015; Paquett, 2014; You, 2010). Unlike onground teaching in college classrooms, online course development and delivery in universities is often shaped by quality frameworks such as those developed by Quality Matters and the Online Learning Consortium (Blumenstyk, 2016). Working with an instructional

designer to create a course for online delivery, then, can offer an opportunity for faculty members to be exposed to the methods of learning-centered instruction as they interact with a trained professional to help guide understanding of these methods.

Building trust is critical to a successful interaction between instructional designer and professor (Pan et al., 2003). In general, the onus is on the instructional designer to shape a successful collaboration with a subject matter expert (Ingram et al., 1994). Researchers have isolated some of the personal characteristics instructional designers should possess to lead to successful interactions with professors as well as some techniques for building rapport (Barczyk et al., 2010; Pan et al., 2003; Pan & Thompson, 2009). This study examines interactions with instructional designers that are so successful that faculty change their thinking about pedagogy and, subsequently, their teaching practices. The study also highlights the importance of stronger learning outcomes on the part of students participating in newly designed student centered courses in facilitating a major shift in a professor's pedagogy.

Conceptual framework. Two conceptual models framed the study and were specifically used to guide the interpretation of findings. The first model was Merrill's First Principles of instructional design (Merrill, 2013). This framework, a meta-model derived from a large number of instructional design models, was used to verify the transfer of knowledge about best teaching practices from the instructional designers to the professors and to ensure the course designs that were described were truly learner-centered. The model emphasizes using real-world problems as the basis for instruction and promotes activities designed to help students acquire knowledge efficiently and cement learning for later recall. According to Merrill (2013), high quality learning experiences involve (a) helping students acquire skills in the context of real-world problems, (b) activating existing knowledge as a foundation for building new skills, (c)

demonstrating new skills for learners, (d) providing opportunities for learners to apply newly-acquired skills, and (e) facilitating the integration of new skills into learners' everyday lives.

Williams' (2007) model of trust building through threat regulation was examined in this study to see if its steps for successful collaboration might prove useful in understanding the successful interactions between these instructional designers and professors. This model emphasizes the role of those who manage collaboration across organizational boundaries as active agents for building trust. The process for trust building involves three components: preparing for possible threats, regulating responses to conflict, and reflecting on the process intermittently to determine the need for threat regulation. This model has been tested in several studies examining collaboration in consultant teams, classroom projects, and entrepreneurial networks (Barczyk et al., 2010; De Jong & Elfring, 2010).

Methods. This qualitative study employed hermeneutics phenomenology to explore the interactions between professors and instructional designers as they developed an online course. This approach allowed the meaning of the interaction to flow from the participants' descriptions of their experiences. The use of Merrill's First Principles (Merrill, 2002) and Williams'(2007) threat regulations model served as frameworks to help the researcher understand the phenomena described by the participants. Professors who believed their pedagogy had been impacted by interacting with an instructional designer while developing an online course were recruited, mainly through snowball sampling, along with the instructional designers who worked with them. Nine participants were interviewed as members of dyads of instructional designer/professor teams. The six professors and three instructional designers were all interviewed separately. Of the professors, three worked with one instructional designer. That instructional designer was interviewed about her general approach and then separately about

each of her interactions with the three professors. Another instructional designer worked with two professors and was interviewed similarly.

Semi-structured interviews using the *Zoom* web conferencing platform were held using the questions in Appendix A as a guide. Several professors and an instructional designer reviewed the interview protocol to establish content validity. One of the participant pairs piloted the questions to further ensure the validity and reliability of the interview process and questions. As the pilot did not result in substantive changes to the protocol, those interviews were included in the results. The data was transcribed and analyzed using a hermeneutics approach through a sequence of steps based on Braun and Clarke's (2006) thematic analysis model. A peer reviewer was utilized to ensure accuracy and consistency of the coding.

Key Findings

Analysis of the nine interviews resulted in 940 coded passages grouped into five major themes: (a) instructional design support, (b) use of Merrill's (2002) principles of instructional design, (c) elements of Williams' (2007) trust building model, (d) impact of student outcomes, and (e) subsequent changes in teaching. All but one theme included two or more subthemes. Key findings are related to the central research question and subquestions, which explore the interaction between instructional designers and professors.

Instructional design support. Initial conversations between the study participants were useful for gauging the scope of work ahead. The participants used many modes of communication successfully, including email, face to face meetings, phone, text, videoconferencing, and a group Google document. Professors appreciated both technological and pedagogical support by instructional designers: it was the pedagogical support that had the greatest impact on the professor's subsequent teaching practices. One of the professors who had

worked with instructional technologists in the past was thrilled at the level of knowledge a trained and experienced instructional designer could bring to the course design process. The instructional designers' understanding of the learner experience helped them anticipate problems and provide possible solutions before the course was offered, as well as make suggestions for pedagogical improvements such as breaking lectures into small pieces with support activities as the course was being taught. A deep understanding of technology allowed instructional designers to fashion solutions to learning and course design problems that arose. They could create learning objects that allowed students more control over the pace and sequence of learning, as well as allow for unlimited practice and access to content. They could also liaise with other technical staff to handle technical issues. Knowledge of pedagogy and practical skills related to course design, development and management made the instructional designers invaluable to the professors and influenced their thinking about teaching.

Merrill's first principles. All five of Merrill's (2002) First Principles were transmitted to professors by instructional designers and were present in professors' descriptions of their improved teaching approaches. The most commonly mentioned feature of the model was the use of real-world problems to guide learning experiences. Some of the faculty members already used real-world problems, such as products a chemical engineer might produce or coaching a new teacher, as a basis for their courses: instructional designers were able to introduce more student-centered elements into the courses of those faculty. For other faculty, this focus on authenticity as a framework and guide for developing content was new. A commitment to real-world situations and learning products led to more authentic activities and assessments in both online and subsequent classroom courses. The least mentioned principle, activation of existing knowledge, was already embedded into the use of the real-world problem principle: students

could draw on their real-world experiences to activate existing knowledge on their own. Students could also lean on prior knowledge learned in previous modules in courses when the course activities were sequenced to build on each other toward solving a real-world problem.

Particularly important, according to instructors interviewed, was the move away from lecture-style introduction of content, and toward the principle of demonstrating new knowledge. The course design teams used such techniques as creating avatars to play roles and presenting videotaped classroom scenarios to show students how real-world applications of new knowledge appear. For the professors, one of the challenges of considering these new approaches to demonstrating knowledge was understanding the idea of limited cognitive load to ensure students were presented with information in increments that could be easily assimilated into their existing mental models. The instructional designers these faculty worked with were instrumental in helping gauge the amount of new material a student could absorb through any given activity.

New knowledge was often applied through the use of real-world presentation formats on the part of students. In the courses developed by the faculty and instructional designers participating in this study, students completed facsimiles of on-the-job products such as accounting spreadsheets, formal presentations and roleplays of coaching conversations. Professors also used discussion forums to have students describe potential or real applications of knowledge they acquired through the course. Many professors flipped their classrooms to allow students to practice and demonstrate new knowledge to each other. Through these kinds of activities, professors were able to prepare students to integrate the knowledge into their jobs, future coursework, and everyday lives.

Trust building through emotion management. There is evidence of use of all three of Williams' (2007) trust building steps for collaborators on the part of instructional designers: less

use, however, on the part of the professors was described. Instructional designers in this study specifically mentioned that one of the strongest threats to trust building, identity damage, did not become an issue because these faculty did not approach the experience defensively, as a threat to their egos. Several professors, for their part, expressed an admiration that the instructional designers never appeared as threats to their egos, and that if they had, a conflict might have arisen.

The three instructional designers appear to have implemented perspective-taking, the first step, in their approach to working with faculty. The use of quality frameworks and other outside accountability measures commonly found in distance learning programs gave the instructional designers the ability to reference standards when working with faculty new to the idea of student-centered learning. Instructional designers described using techniques in early stages of the interactions that had worked for them in the past to reduce the possibility of conflict, such as limiting the use of technical language, actively listening to faculty for cues, and leveraging power dynamics when they were in the dominant position of supervising the professors or holding final approval of the course. Both instructional designers and professors described each other as possessing personality and behavioral characteristics conducive to positive communication.

Although few conflicts arose in the interactions explored in this study, instructional designers were prepared to manage conflict through adopting a neutral or submissive posture in communicating with professors. One instructional designer implemented a previously successful technique with a doubtful professor, asking for a temporary suspension of suspicion until they were further along in the course development process. Professors who worked with these instructional designers were especially taken with their knowledge of best practices and

experience both teaching and developing online courses, which instructional designers referenced often to support changes they were asking professors to make. The instructional designers, on the other hand, noted that these particular professors were very experienced at teaching, and believed that played a part in their openness to adjusting their thinking.

Both faculty and instructional designers describe incorporating the technique of reflection in their interactions. Continuous and frequent communication provided many opportunities for assessing the smoothness of interactions and adjusting behavior accordingly. The relationships between instructional designers deepened until trust was built.

Student outcomes. For the professors in this study the ultimate test of student-centered teaching methods was the student outcomes resulting from the courses they co-developed with instructional designers. Compared with instructor-led course designs, the instruction resulting from these student-centered courses led to stronger student engagement. Faculty noted that online courses that incorporate discussion forums give every student a chance to participate in a conversation about course content at a pace with which he/she is comfortable. Demonstrations through presentations or multimedia seemed to hold students' attention better than long lectures. Students also participated in more hands-on activities that resembled those that might be required of them in their future careers. The faculty in this study reported feedback from students in these courses was overwhelmingly more positive than what they had received in the past.

Learning outcomes in these redesigned courses were stronger than those taught by faculty in the past. One instructional designer/professor team was able to watch growth in learning in real time, since the instructional designer's intervention came after the course was underway. Another professor taught the newly designed course alongside an onground course using the older format, and was able to compare parallel outcomes. One of the instructional designers

carried out research on the students several years after they had taken the course and documented the impact students said the course had on their lives. One of the professors felt the reason this kind of learning was so successful is that they had more interaction with students that allowed them to evaluate and give feedback on the students' thought processes as they were learning. Another believed that it was the way students took control over their learning that helped them retain knowledge.

Subsequent changes in teaching. Changes in teaching after the course development process was complete bear out the success of instructional design models in impacting thinking about pedagogy. Professors in this study redesigned other courses and developed new ones using student centered methods such as flipping the classroom, incorporating more peer teaching, and encouraging student control over activities. Some of the faculty have gone on the become experts at student-centered learning in their departments, guiding other professors to use these techniques.

Conclusions

After a comprehensive analysis of the findings of this research, four conclusions were reached. The conclusions are discussed below. Following that discussion, the implications for practice and future research are presented.

Conclusion one: Merrill's First Principles (2002) is a useful model for explaining student-centered practices in higher education. The utility of the principle of using real-world problems in course design was most obvious**.** The success of instructional design models in informing student-centered teaching practice in higher education was supported in this study by evidence that professors understood and implemented many of their features in their redesigned courses and subsequent teaching. In particular, Merrill's First Principles (2002) serves as an

exemplary representation of many of these models. Real-world problems were integrated into the curriculum of all the courses, and served as an actual basis of some of them.

Professors in this study abandoned the unbroken lecture many of them used in the past, breaking with typical behavior noted by Cutler, (2013) and Halpern and Hakel (2003). In its place, new knowledge was presented in the form of roleplays, demonstrations, and multimedia presentations. Student work was more active and collaborative as they were asked to complete projects, participate in discussions and group work, and create real-world products that demonstrated their learning. These activities align with the concept of active learning, which promotes lecture-related activities, group activities and authentic assessments (Bonwell & Eison, 1991; Prince, 2004).

Conclusion two: Williams's (2007) trust building model explains some of the success of the professor/instructional designer interactions. Williams' trust building model focuses on the agency of at least one member in a team collaboration to create the conditions for building trust (Smith & Lohrke, 2008). In this study it was mainly the instructional designers who reported using emotion management strategies in the instructional designer/professor interactions, which supports research by Ingram et al. (1994) on instructional designer–subject matter interaction. The research literature that suggests instructional designers should suppress their egos, adjust to the professor's communication style and behavioral cues and "pick their battles" is borne out by interviews with the instructional designers (Eckel 2010; Pan et al., 2003).

The instructional designers in this study prepared themselves for these interactions using previous knowledge and experience working with faculty. They gauged faculty behavior and speech for clues to possible areas of conflict, ready to adjust and respond as necessary. Recognizing that faculty valued most their status of knowledge-holders (Haas & Keeley, 1998),

the instructional designers approached interactions with these professors with considerations for possible damage to their egos. They were ready to invoke accepted standards of quality sanctioned by the university in the event of any areas of disagreement that arose (Chaney et al., 2009).

The positive behavioral characteristics demonstrated by both the instructional designers and professors served them well in creating a smooth atmosphere in the course development process. The instructional designers conveyed the optimal balance between assertiveness and nonthreatening behavior (Lin & Jacobs, 2008; Solomonson, 2008; Yancey, 1996). The professors were collegial and eager to collaborate, as recommended by Mattoon (2005).

In one of the few examples of conflict reported by these participants, the approach one of the instructional designers took was to ask faculty members she worked with for a temporary show of trust. The faculty member, for her part, withheld her reservations to demonstrate respect to the instructional designer. Because there was so little conflict described in these interactions, the process appears to have worked smoothly for most of the participants.

The reflection step of William's (2007) model seems to have been an important feature of the process of building trust between course development team members. Communication was frequent, but was never characterized as too frequent, supporting Barczyk et al.'s (2010) and Stevens' (2012) arguments that the balance and pace of communication should be carefully modulated to provide enough interaction for successful relay of information without being too demanding for either of the team members. Positive interactions built on positive interactions deepened understanding and trust between instructional designers and professors (Pan et al., 2003), leading to an atmosphere of mutual respect (Armstrong et al., 1988) and avoiding some of the possible pitfalls on that part of instructional designers reported by professors in the research

literature, such as rigidity (Russell, 2015), misunderstanding of content (Mason & Rennie, 2008; You, 2010), and not treating professors as experts in their own fields (McQuiggan, 2007).

Conclusion three: Professors valued pedagogical support from experienced instructional designers, facilitating changes in thinking about pedagogy. Professors interviewed in this study expected to rely on the instructional designers to provide technical support on converting their content to an online format (You, 2010). They were pleasantly surprised to find the instructional designers had knowledge of pedagogy that could help them deliver the course content in a way that served both professors and students well (Akella, 2015; Khanova, 2012). The instructional designers' expertise in creating a student-centered learning experience (Akella, 2015) was demonstrated through such things as helping them reduce the cognitive load on the presentation of new content and rewriting discussion prompts to create deeper learning experiences for students. Many of the quality indicators for distance education identified by Chaney et al. (2009) were introduced to faculty through these interactions, including active learning techniques, faculty support, appropriate tools and media, and guidelines for course development and review of instructional materials. As Scagnoli et al. (2009) predicted, these quality features were reported by professors to become part of their permanent teaching repertoire.

Conclusion four: Professors were more likely to make changes in pedagogy when improvement in learning outcomes could be anticipated. The incorporation of active learning methods (Bonwell & Eison, 1991) led to better student outcomes (Prince, 2004), which, in turn, led the professors in this study to incorporate student-centered methods into their pedagogy as they taught later classes. Professors in this study echoed Pennington's (2005) conclusion that discussions conducted in an online format offered more opportunities for students to participate

in a response to each question. As expected (Baldwin, 2016; Bonwell & Eison, 1991), student engagement was noted through observation and formal and informal student feedback.

But what was even more remarkable was the improvement in student learning, predicted by Michael (2006). The faculty in this study reported an increase in students' control over their own learning (Becker, 2013; Fernando & Mellalieu, 2011) and immediate, personalized feedback (Kearns, 2015; Sandeen, 2013; Touchton, 2015), among other factors, as prominent reasons for better learning products and exam scores.

Pennington (2005) found the 19 of 20 online instructors interviewed improved their face-to-face teaching after teaching online, even if they disliked the online teaching experience. At the very least, those professors-- and there are many,--who continue the practice of lecturing in the classroom after their experience teaching online, often augment the coursework with some features of their online courses.

As Khanova (2012) found, instructors in this study, through working with instructional designers, rethought their roles as teachers. They incorporated new features and materials they found in the online environment into their subsequent teaching (Scagnoli et al., 2009). Changes in pedagogy among this group of faculty included incorporating backward design of learning activities, classroom flipping, authentic assessment, and a focus on real world problems.

Implications for Practice

These findings lead to several recommendations for practice in universities. Professors who seek out information and training in instructional design theory, methods and techniques will be able to design courses with better student engagement and learning outcomes. Administrators can help ensure stronger student outcomes by providing ample release time to professors for redesign of existing courses to conform with student-centered instruction.

Together they can advocate that teaching performance by department members play a larger in tenure and promotion decisions.

Instructional designers have a unique opportunity to influence pedagogy on the part of professors they work with if they use instructional design models to shape courses they co-design. If faculty members resist the use of best practices in instructional design, instructional designers will have more success if they step back and seek effect incremental change at the pace a professor can manage. Use of existing frameworks of quality can ensure courses are student-centered. When they interact with faculty, instructional designers will be more successful if they carefully modulate their emotional responses to avoid areas of conflict. Supporting professors technologically will free faculty up to focus on pedagogical issues. By being aware of their status as change agents in the university and optimizing interactions with faculty to promote training in adult learning theory and pedagogy, instructional designers can make a great deal of difference in teaching practices in the university.

Universities would be well-advised to take advantage of the training opportunities created when they ask faculty to design or convert courses for distance education programs. Administrators will be best served by hiring instructional designers with online teaching experience and a doctoral level education so that they can interact with professors at a deep level of understanding. Institutional subscriptions to organizations that promote quality learning experiences, such as Quality Matters and the Online Learning Consortium, will provide frameworks that can be use by instructional designers to insist on student centered coursework. Instructional design workloads need to be sufficiently staffed so that instructional designers can be available for ongoing support and additional training as they build relationships with faculty.

Implications for Research

Further examination of how faculty manage interactions, especially those with more conflict, is needed. Followup studies should be conducted to observe how faculty incorporate new knowledge acquired as a result of interacting with an instructional designer in their classrooms, particularly those that measure student learning outcomes.

This study begins to explore the relationship between active learning methods and instructional design methodology. More research is needed on the incorporation of those features of instructional design that are not reflected in active learning methods, particularly the use of backward design to create connections between learning activities. In addition, studies should be designed and conducted that focus on training of instructional designers who work in higher education with attention to the special problems of working with subject matter experts who will go on to provide instruction, and therefore take over the instructional designer's training role in other sectors where they typically work.

Internal Study Validity and Limitations

Because of experience as an instructional designer, subject matter expert, online instructor, and college administrator, the researcher brought a knowledge of the roles and responsibilities of each of these roles to the various stages of this study, including its design, development of research questions, the interviewing process, and the study analysis. The study was conducted in an attempt to uncover a little-utilized opportunity for faculty training in student centered methods in post-secondary education environments. Reflexivity was used by the researcher to consider the possibility of bias and ensure the accuracy of findings. The interview questions were reviewed by three faculty members and an instructional designer. The interview

transcripts were reviewed several times and coded using HyperRESEARCH software and were reviewed by a peer holding a doctoral degree with experience as researcher.

The study assumed from the outset, based on anecdotal evidence, that interactions with instructional designers could improve the pedagogical practices of professors they work as the designed courses for delivery in an online format. Only professors who believed their pedagogy had changed as a result of these interactions were interviewed. It was assumed that the instructional designers interviewed possessed the knowledge and skills specific to student-centered teaching. As is consistent with a phenomenological approach, findings and conclusions are limited to the experiences of the participants who were interviewed.

Closing Comments

The impetus for this study arose when the researcher returned to college teaching after a long hiatus and discovered that, despite significant changes toward student-centered practices in K-12 education, college teaching had not changed much in the last 100 years. Through work with K-12 at-risk students, the researcher knew they would struggle in instructor-focused college classrooms. Growing up in an academic family and married to an academic, the researcher was well aware of the some of the barriers to training professors in better pedagogical methods, especially the heavy commitment to research productivity. The explosive growth in online programs at universities in the last few years seemed to offer an opportunity to retrain professors teaching methods that would lead to better student outcomes.

Involving instructional designers in the online course design process would offer one way to introduce professors to student-centered teaching methods. But how to be sure the exposure to these methods would have a lasting effect on professors' teaching? The answers seemed to lay

with professors who had made the leap from instructor- to student-centered teaching after working with an instructional designer.

Data collected from these instructional designer-professor dyads did not disappoint. The instructional designers interviewed in this study used a number of strategies to ensure high course quality and successful interactions with professors, which the professors were able to describe in their own interviews. It is the researcher's hope that other instructional designers will gain insight from this study to refine their interactions with faculty in order to create and enduring change in pedagogy on the part of faculty members they work with. The promise of this effect is to increase student learning and improve faculty satisfaction with their own teaching.

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Appendix A: Interview Questions

Instructional Designer Interview Questions

1. Describe the processes you used to help this faculty member convert his/her course to an online format.
   - What were the steps?
   - What challenges did you experience, if any?
   - What worked well?
   - How long did the interaction between you and the faculty member last?

2. Tell me about your general approach for instructional design.
   - What instructional design framework do you use?

3. How do you set expectations about the instructional design process with each faculty member?
   - Describe any tools you have created or used with the faculty member to explain your process?
   - Are these available for others to use?

4. Let's talk about communication…
   - What modes of communication did you use?

5. How would you describe the working relationship you had with the faculty member?
   - How did you prepare for the initial conversations about the course development?
   - What were the initial conversations like?
   - How would you describe the tone of the conversations?
   - Describe any variations to the tone of the initial conversations?
   - Describe any other changes in the relationship over time?
   - How were any differences in opinion handled?
   - How were you prepared, if you were, to handle differences of opinion that came up during these interactions with the faculty member?
   - Please share any additional details you feel may be of interest to understand the interaction between you and the faculty member.

6. What methods did you use to familiarize yourself with the course content and the faculty member's current classroom practices?
   - (if observed class) What did you observe before you implemented the new course?
   - (if viewed course materials) How were the original course materials different from those in the course you developed?

7. As a result of your discussions and interactions during the instructional design process, what things, if any, did the faculty member say he/she might change about his/her classroom practices?
   - Describe any discussion about further changes or modifications to actual teaching practices or activities?
     a) Any mention of the learner experience?
   - What discussions were there about further ongoing support, if any?

Faculty Interview Questions

1. Please describe the processes you used to convert your course to an online format
   - What were the steps?
   - Were there particular challenges?
   - What worked well?
   - How long did this interaction between you and the instructional designer last?

2. What written materials (syllabus, etc.) did you share with the instructional designer to help guide this process? Would you share them post-interview?
   - Have those written materials changed since you converted the course to an online format? If so, would you share them post-interview?

3. Let's talk about communication…
   - What modes of communication did you use?

4. How did the instructional designer suggest restructuring the course for online delivery, if he/she did?
   - What was your initial reaction to this suggestion?
   - How did your feelings about these changes develop over time, if they did?

5. How would you describe the working relationship you had with the instructional designer
   - How did you prepare for the initial conversations about the course development?
   - What were the initial conversations like?
   - How would you describe the tone of the conversations?
   - Describe any variations to the tone of the initial conversations?
   - Describe any other changes in the relationship over time?
   - How were any differences in opinion handled?
   - How were you prepared, if you were, to handle differences of opinion that came up during these interactions with the instructional designer?
   - Please share any additional details you feel may be of interest to understand the interaction between you and the instructional designer.

6. Please describe the changes in classroom practices you have implemented as a result of this conversion process.

- How did the course conversion process impact these changes?

Appendix B: Graduate School of Education and Psychology IRB Letter of Approval

PEPPERDINE

Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: February 16, 2017

Protocol Investigator Name: Debra Chittur

Protocol #: 16-12-465

Project Title: GOLDEN OPPORTUNITIES TO IMPROVE CLASSROOM INSTRUCTION? A PHENOMENOLOGICAL STUDY OF THE INTERACTION EXPERIENCES OF PROFESSORS AND INSTRUCTIONAL DESIGNERS DURING ONLINE COURSE DESIGN AND DEVELOPMENT

School: Graduate School of Education and Psychology

Dear Debra Chittur:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair