THE IMPACT OF ONLINE TEACHING ON HIGHER EDUCATION FACULTY'S PROFESSIONAL IDENTITY AND THE ROLE OF TECHNOLOGY: THE COMING OF AGE OF THE VIRTUAL TEACHER:

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The Impact of Online Teaching on Higher Education Faculty's Professional Identity and the Role of Technology: The Coming of Age of the Virtual Teacher

Thesis directed by John Bennett, Archuleta Professor of Computer Science

This dissertation employs a mixed method approach to investigate the impact of online teaching on higher education faculty's professional identity, and the role played by technology in this process. Previous work on faculty preparation to teach online does not recognize that before changing practices, it is necessary to examine the values and belief systems that underlie those practices. I examine the results of two qualitative studies that compare different groups of teachers. The first group was comprised of teachers who teach both online and face-to-face, but who expressed a clear preference for the face-to-face classroom, and who reportedly experienced difficulty enacting their professional identity in the online classroom. The second group was comprised of online teachers with a record of online teaching excellence, and who reportedly enjoyed both modalities equally. I then examine the results of a survey of 223 higher education faculty that considers the degree to which findings from the first two studies can be generalized. This research helps identify how online learning is changing both teachers and the teaching profession within higher education, why many faculty remain ambivalent about online teaching, and suggests ways to address these challenges.

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CHAPTER I

INTRODUCTION

I. Background

Over the last decade, the deployment of online education has grown exponentially. Online learning in academia has gone from an experimental novelty to a nearly ubiquitous teaching tool. Today, over three-quarters of college presidents (77%) report that their institution now offers online courses (Taylor, Parker, Lenhart & Moore, 2011), online learning enrollments are growing ten times faster than traditional enrollments, and thirty-one percent of all higher education students now take at least one course (Allen & Seaman, 2010). Given the growth of online learning, it is likely that both current and future faculty will be engaged in some form of online learning at some point in their career. In 2009, one third of the faculty surveyed by Sloan-C had taught at least one online course, and one in four was teaching online at the time of the survey (Seaman, 2009).

Although the overall impact of online learning on the academy has yet to be assessed, it is increasingly apparent that this impact is transformative. Given the current economics of higher education, it is likely that higher education institutions (and students) will continue to take advantage of the many benefits of studying online. From an institutional standpoint, online learning is an affordable way to increase student enrollment and revenues without having to make corresponding investments in infrastructure. In addition, by removing the need for physical presence in the classroom, online learning has the potential to make education accessible to a much larger population, while accommodating the demands of a fast-paced and global society.

Students benefit from the flexibility of online and hybrid degree programs that allow them to integrate their professional and personal lives, while remaining competitive in rapidly evolving professional landscapes.

II. Prior Research

Unfortunately, the significant increase in the number of students studying online has not been associated with corresponding advances in the preparation of educators to teach online, in pedagogy for online learning, or in other efforts directed toward improved learning outcomes and the overall quality of the online educational experience (Duffy & Kirkley, 2001; Garrisson & Anderson, 2003). Research efforts in this area to date have concentrated on students and instructional strategies. As a result, we now have a better understanding of the way that online learning changes learners and learning, as well as teaching practices. What is lacking, however, is an understanding of the way that online education and its attendant technologies, are changing teachers.

III. Research Goals

The central objective of this research is to explore how online learning is changing both teachers and the teaching profession in higher education. As part of this research, I investigated the impact of online teaching on the professional identity of nineteen teachers who have transitioned to the online classroom. I also considered the role played by technology in this process. Prior research has shown that developing a stable teaching identity is a key element in teacher retention (Danielewizc, 2001), as well as a critical contributor to success and effectiveness in the classroom (Alsup, 2005; Day et al., 2006). I contend that a stable teaching identity is equally important for online teachers.

Alsup argues that, when confronted with circumstances at odds with important aspects of their beliefs about teaching and learning, teachers initiate a process of professional identity renegotiation in order to resolve the conflict caused by the dissonant circumstances at hand (Alsup, 2005). This is likely to be particularly true for online teachers. A teaching and learning experience deprived of face-to-face interactions is a major source of dissonance. In order to successfully adjust to the unique conditions of the online classroom, teachers need to reevaluate fundamental beliefs and values about what it means to be a teacher, both practically and theoretically.

IV. Methods

To explore the impact of this dissonance, I investigated the way in which two groups of teachers handled the transition to the online classroom, using the lens of Communities of Practice (Wenger, 1999). This framework allowed the examination of the way teachers experience challenges to their identity from within the socio-cultural context in which they are embedded. Findings from these case studies were then tested on a larger scale through the administration of an online survey to 223 online educators.

The first group of participants considered ten higher education teachers who, for the most part, were not able to fully enact their teaching identity in the online classroom. These teachers encountered significant pedagogical and interpersonal constraints that limited their professional satisfaction as online educators. The second group of participants consisted of nine higher education teachers who had overcome most of the issues first encountered when teaching online, and reported finding this modality professionally fulfilling. Each group provided relevant information on the various ways in which online teaching impacts teachers' identity, as well as insight into the role played by current and emerging technologies in this process.

Findings from the case studies revealed that positive beliefs about online education, the adoption of pedagogical practices adapted to the online classroom, strong levels of technological engagement (although not necessarily strong levels of technical proficiency) as well as a supportive institutional environment all appeared to positively impact faculty transition to the online classroom. Findings from a broader survey confirmed the impact of these factors on online faculty's teaching identity.

This dissertation first presents a detailed account of the relevant literature, then the conceptual framework underlying this research. I then present and discuss the methods and findings for each of the two case studies, and the survey. The dissertation concludes with a discussion of the research contributions of the work, and explores opportunities for further work in this area.

CHAPTER II

RELATED WORK

This investigation of the impact of online teaching on higher education faculty's teaching identity builds upon prior work in three main areas: 1) the state of online learning in higher education and teacher preparation to teach online; 2) research on identity and its instantiation both in the physical and the virtual classroom; and 3) the technologies of distance learning and their affordances for identity mediation. This section reviews the most relevant prior work in each of these three areas.

I. Online Teaching and Learning

1. Definitions

We begin with some of the key definitions that will help frame this discussion of prior work.

1.1 Distance Education

> "Distance education includes the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless benefit from the planning, guidance and tuition of a tutorial organization" (Holmberg, 1986, p26, quoted in Larreamendy-Joerns & Leinhardt, 2006, p568).

There are many competing definitions for distance learning, e-learning, web-based learning, network-based learning and online learning. The Sloan-Consortium [1] (Sloan-C) developed the definitions presented below for the purpose of the large-scale quantitative data collection they conduct every year.

[1] "An institutional and professional leadership organization dedicated to integrating online education into the mainstream of higher education" (http://www.sloan-c.org.)

1.2 Face-to-Face Learning

"Course with no online technology used" (Allen & Seaman, 2003, p6). Zero percent of the course is delivered online in traditional learning environments.

1.3 Web Facilitated

"Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments" (Allen & Seaman, 2003, p6). One to twenty-nine percent of the course is delivered online in web-facilitated environments.

1.4 Blended/Hybrid Learning

"Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings" (Allen & Seaman, 2003, p6). Between thirty and seventy-nine percent of the course is delivered online in blended learning environments.

1.5 Online Learning

"A course where most or all of the content is delivered online. Typically have no face-to-face meetings" (Allen & Seaman, 2003, p6). At least eighty percent of the course is delivered online.

2. Brief History of the Field

There are many competing and overlapping terminologies in the field of distance education. My research focuses on teacher-led online learning, as opposed to self-paced computer-based training (that is generally delivered on CD-ROM or similar media).

In comparison to its parent field of distance education, which traces back to the late 1800's, online learning is a relatively young field. Because it "lies at the junction of distance education, human-computer interaction, instructional technology and cognitive science" (Larreamendy-Joerns & Leinhardt, 2006, p568) the field of online learning is appropriately considered as multidisciplinary.

Beginning in the 1990's, following the advent of the Internet in North America, online learning experienced significant growth as both educational institutions and corporations began to leverage the affordances of the Web to deliver training, courses and degree programs (Gunawardena & McIsaac, 2004). In 2000, Congress established the Web-Based Education Commission in order to investigate the impact and potential of the Internet on education, from Kindergarten to higher education, and encompassing the corporate sector and local communities. The Commission concluded its 168-page report with a strong call to action and urged the nation to "embrace an "e-learning" agenda as a centerpiece of its federal policy. This e-learning agenda was to be aimed at assisting local communities, state education agencies, institutions of higher educatsion, and the private sector to maximize the power of the Internet for learning" (Kerrey et al., p129).

The Commission explicitly recommended the repeal of those laws that prevented the American school system from taking full advantage of the educational possibilities of the

Internet, especially the "50%" rule enacted by congress in 1992. This rule required that students take at least 50% of their courses face-to-face to qualify for federal loans.

The Internet Equity and Education Act of 2001 was a first attempt to repeal this rule, but the Act never became law. A few years later, the Higher Education Reconciliation Act of 2005 succeeded in repealing the 50% rule, therefore greatly facilitating enrollment in online degree programs. In 2010 however, new rules were implemented in order to limit the amount of federal funding that for-profit schools receive based on the level of its former students' indebtedness (Burnsed, 2010). Today, online learning occupies a central position in the higher education landscape:

> "Over the past 10 years, distance learning and teaching have moved from the periphery to the center of university life (Feenberg, 1999) and are no longer bound to the university extension. In recent years, distance learning has become a ubiquitous practice as a result of the spread of the Internet" (Larreamendy-Joerns & Leinhardt, 2006, p570).

However, despite its growth, online learning still occupies a minor role in higher education institutions strategic planning (Blake, 2007; Allen & Seaman, 2011), suggesting that American universities are not yet planning appropriately for the integration of online learning in higher education (Anderson, 2003).

3. Online Learning in 2012

3.1 Significant Growth

Over the past decade, the use of online learning has continued to expand, particularly in higher education. In 2009, 30% of higher education students took at least one online course, an increase of 21% over 2008 enrollments, the largest year-to-year increase to date. In the same year, traditional enrollments grew by less than 2% (Allen & Seaman, 2010). In 2008, the

majority of the Chief Academic Officers surveyed at the request of Sloan-C in 2008 reported significant growth in demands for both online and face-to-face courses. Online learning is clearly leading this demand, as “In all cases, the proportion reporting an increase in demand for online offerings is larger than for the corresponding face-to-face offerings” (Allen & Seaman, 2009, p7).

The state of the economy has impacted significantly the expansion of online learning in the last three years. Historically, in challenging economical times, students tend to postpone their entry into the job market, while professionals return to school to maximize their chances of retaining their current position or to increase the likelihood of finding another occupation should they get laid off.

3.2 The Main Actors of Online Learning

Public non-profit higher education institutions and private for-profit online universities such as Kaplan and Phoenix University are competing to offer online courses and programs. From an institutional standpoint, large universities are leading the way in offering online courses and programs. In 2010, very few universities were still debuting online programs. The most recent Sloan-C survey commented that “The majority of the recent growth in online enrollments has come from the schools that are larger and more established, and in a better position to 'scale up' their online offerings” (Allen & Seaman, 2009, p6).

With respect to student enrollments, over 80% of students taking online courses are doing so at the undergraduate level. The courses offered cover a wide range of disciplines, with engineering lagging behind other disciplines (Allen & Seaman, 2007).

On the faculty side, in 2009, over one third of the faculty surveyed at the request of Sloan-C had taught online at least once, and one in four was teaching online at the time of the survey.

These findings prompted the author of the report to note that "Teaching online is no longer a niche activity for only a few selected faculty at a particular institution" (Seaman, 2009, p12). In addition, the report revealed that the difference between tenure-track, non-tenure track and tenured faculty was not a significant factor, thus refuting a common perception that adjunct faculty carry the majority of the load of online teaching. Similarly, neither age nor teaching experience were found to be significant determinators of online teaching (Seaman, 2009).

3.3 Learning Outcomes

Comparing online and face-to-face courses is a complex and potentially deceptive endeavor. Online learning outcomes are influenced by a variety of factors including students' motivation and demographics, instructional design and strategies, as well as technology choices. These factors can influence online courses in unique ways, thus potentially compromising the validity and reliability of comparative approaches. However, the straightforward approach of comparative studies is compelling. Since online courses initially replicated face-to-face courses, the temptation to compare the two environments is hard to resist. In the last decade, two major studies have attempted to investigate the value of online learning by conducting meta-analyses. The first meta-analysis was conducted in 1999. It compiled the findings of nineteen carefully selected K-12 studies and concluded that:

> "distance education can be expected to result in achievement at least comparable to traditional instruction in most academic circumstances. Educators planning implementations of distance education programs should expect no difference in academic performance as a result of the use of distance education" (Cavanaugh, p84).

A second meta-analysis was published in 2009 by the U.S. Department of Education. It compiled the findings from fifty-one rigorously selected studies that compared face-to-face and

online courses. Findings showed that, "on average, students in online learning conditions performed better than those receiving face-to-face instruction" (Means et al., 2009, p11).

The high profile nature of this study (it was ordered by the U.S. Department of Education) gave it significant visibility outside of academic circles, prompting the New York Times to reach a sweeping conclusion in an article entitled "Study Finds That Online Education Beats the Classroom."[2]

Although both studies appeared rigorously conducted, statements proclaiming the superiority of one format over the other are perhaps overstated. Regardless of the modality, carefully designed courses tend to deliver high learning outcomes, while carelessly designed courses tend to yield mediocre learning outcomes. As Cavanaugh concluded "More importantly, when implemented *with the same care* as effective face-to face instruction, distance education programs can be used to complement, enhance, and expand education options for students, at least at intermediate, middle, and upper grades levels" (Cavanaugh, p84). In other words, the determinator of learning outcomes is not the modality, rather the quality of the instructional design.

Within the field of distance education itself, prior research has focused on students and instructional approaches. Issues related to teachers' experiences are generally under-researched, although the shift in roles and responsibilities experienced by online teachers does not decrease their importance in the online classroom, just as "the virtual presence of an instructor does not diminish the central role of teaching" (Garrisson & Anderson, 2001, p89). In addition, existing research on teachers' experiences has mainly focused on the identification of practical barriers. Many of these are discussed below.

[2] http://bits.blogs.nytimes.com/2009/08/19/study-finds-that-online-education-beats-the-classroom/; accessed November 12th, 2010.

4. Practical Barriers to Online Teaching

4.1 Pedagogy and Technology

Acquiring adequate pedagogical and technical skills are two elements crucial to a successful transition to the online classroom. The educational community generally agrees that the success of online courses and curricula depends largely on the use of student-centered pedagogical practices (Duffy & Kirkley, 2004; Grabinger, 2004; Polin, 2004). Thus, the role of the online teacher is to design, create and facilitate rich interactions among learners in order to keep them motivated. In well-designed online courses, students are frequently asked to take on additional responsibilities, some of which used to be the prerogative of teachers. This is the reason why the shift has often been described as a shift from being "the sage on the stage to the guide on the side" (King, 1993, p30).

In addition to the pedagogical challenge of adjusting to online learning environments, and regardless of the technical assistance they may receive from their institutions, teachers need to be proficient in the technologies of distance education in order to be able to select the tools that will allow them to carry out their instructional goals. This requirement may represent a significant challenge for teachers who entered the profession at a time when technological expertise was not required.

4.2 Student Readiness

While the acquisition of adequate teaching and technical skills is essential, it is not a guarantee of success. Online learning is often as new to students as it is to teachers. Students need to make adjustments to their studying habits in order for them to be successful online learners. Faculty have reported the lack of student discipline as a main barrier to online learning

(Seaman, 2009; Wasilik & Bolliger, 2009). As teachers relinquish some of their control over instructional events, students must be willing to accept some of the responsibilities traditionally assumed by teachers. Many students are not prepared for this challenge, which may partially account for high attrition levels online (Henke & Russum, 2000). As Dawley noted,

> " Often, they have been educated through years of skills and drill where an emphasis was placed on memorization and testing of knowledge. After many years of working with this transmission model of teaching, students, become comfortable with the process. They understand what is expected of them as passive learners, and they developed skills for effectively mastering the content. Cognitive psychologists refer to this process as the automation of procedural knowledge" (Dawley, 2007, p5).

Thus online learning challenges not only the traditional view of what it means to be a teacher, but also what it means to be a student.

4.3 Time Commitment and Compensation

Teaching online presents many potential benefits. Faculty cite incentives such as professional and personal growth, reaching out to more diverse student populations, more flexible learning and teaching opportunities, and increased income (Seaman, 2009). However, teaching online is a time-consuming endeavor, especially given that the majority of online courses remain predominantly text-based (Gudea & Ryan, 2008; Garrison & Anderson, 2003).

Nearly 64 % of faculty surveyed by Sloan-C in 2009 reported that teaching online demands more effort than teaching face-to-face (Seaman, 2009). The results for online course development are even more striking: over 85 % of the faculty with online course development experience reported that building online courses required more effort than building face-to-face courses (Seaman, 2009). In many instances, the compensation received was considered inadequate in the light of the effort required (Seaman, 2009).

4.4 Perceptions of Online Learning

One of the most persistent challenges that faculty need to overcome before agreeing to teach online is the still wide-spread perception, both inside and outside academic circles, that online learning is a less worthy form of education (Seaman, 2009; Adams & Defleur, 2005). The prejudice in favor of face-to-face instruction over distance education has its roots in the early days of the field:

> "Correspondence study, which was designed to provide educational opportunities for those who were not among the elite and who could not afford full time residence at an educational institution, was looked down on as inferior education" (Gunawardena & McIssaac, 2004, p357).

This negative perception has remained attached to the field of distance learning:

> "Distance education has always been known for its departure from the conditions in which teaching and learning naturally take place. To some extent, distance education is a pedagogical oddity, often requiring further justification, such as the extension of educational opportunities or the encouragement of online learning" (Larreamendy & Leinhardt, p570, 2006).

Recent quantitative data substantiate the persistence of such perceptions today as "Less than one-third of chief academic officers believe that their faculty accept the value and legitimacy of online education" (Allen & Seaman, 2009, p3). This Sloan Consortium report goes on to note that the situation has not changed significantly since 2002, although online learning enrollments and offerings have grown substantially.

Perhaps more significantly, in 2009, 80% of U.S higher education faculty with no online teaching or online course design experience believed that the outcomes of online learning were inferior to those of face-to-face courses. In contrast, the majority of faculty with experience in online teaching and course design believed that the outcomes were either equivalent or better (Seaman, 2009). Despite evidence that carefully designed online courses yield excellent learning

outcomes (Means et al., 2009), the stigma attached to this teaching modality remains an important hurdle to overcome for those who have never taught online.

The existing literature on faculty preparation to teach online mainly identifies practical barriers to a successful transition to the virtual classroom. However, very little attention has been paid to the internal changes that teachers need to experience before changing their teaching practice, and little attention has been paid to the impact of such changes on teachers' professional identity. The existing literature on faculty preparation to teach online mainly identifies practical barriers to a successful transition to the virtual classroom. However, very little attention has been paid to the internal changes that teachers need to experience before changing their teaching practice, and little attention has been paid to the impact of such changes on teachers' professional identity. This research focuses on the interplay between teachers' beliefs and their teaching practice, but also considers the influence of the socio-cultural contexts in which teachers are embedded. By considering not only internal and external factors influencing the transition online, but also the ways in which these factors interconnect, this systematic approach offers a more comprehensive picture of the impact of online teaching on the teaching profession and teachers' identity.

The following section presents the relevant previous research on identity and teaching identity.

II. Identity, Teaching Identity and Online Identity

1. Identity

Identity has been the object of intellectual exploration since at least the beginning of the 20th century. It is a complex concept to discuss, in part because it is shared across a variety of academic disciplines –sociology, anthropology, philosophy, psychology and education. Scholars in each field, and even within a given field, appropriate, define and use this concept at times in

very different ways, which complicates agreement on a single definition (Vryan, Adler, & Adler, 2003).

This review focuses on treatments of identity in the fields of education and sociology, as these are most directly related to my research. I begin with an overview of the main attributes of identity, followed by a review of teaching identity and its significance. I end this discussion by considering the particular case of online identity.

2. Identity Attributes

Identity is generally construed as socially constructed, multiple and dynamic.

2.1 The Social Construction of Identity

The idea that identities are socially constructed is not new. Both Mead (1934), and later Goffman (1959), explained the "self" as the product of interactions with others (Goffman, 1959). The field of symbolic interactionism, a "sociological theory that emphasizes the centrality of meaning, interaction, and human agency in social life" defines identity as follows:

> "Almost all writers using the term imply that identity establishes *what* and *where* the person is in social terms. It is not a substitute word for "self." Instead, when one has identity, he is *situated* - that is, cast in the shape of a social object by the acknowledgement of his participation or membership in social relations. One's identity is established when others *place* him as social object by assigning him the same words of identity that he appropriates for himself or *announces*." (Stone, 1962, p93, quoted in Vryan et al, 2003, p368).

This is the definition of identity used in this study as it emphases the situated nature of identity and the importance of the audience's validation of the proposed identity for it to gain legitimacy.

The social construction of identity is at the core of social learning theory, also referred to as situated perspective. This constitutes a major theoretical framework in education and for the

present study. Lave and Wenger formulated the original theory in 1991, and in 1999, Wenger further developed its practical implications in a book devoted to an in-depth explanation and illustration of the concept of communities of practice. This book allowed him to demonstrate the relevance of the situated perspective to all areas of personal, social and professional life.

Consistent with the framework of community engagement, Wenger defines members' identities as fundamentally social constructs, in constant evolution as a consequence of interactions with others: "Our practices, our languages, our artifacts, and our world views all reflect our social relations. Even our most private thoughts make use of concepts, images, and perspectives that we understand through our participation in social communities" (Wenger, 1999, p146). Wenger also argues that identities cannot be studied in isolation of the communities they belong to and that instead, the focus of any study should be "the process of their mutual constitution" (Wenger, 1999, p146).

2.2 Multiple Identities

Social psychologists generally support the idea that people hold multiple identities (Vryan et al. 2003). Goffman's study of identity enactment proposes that individuals enact their most relevant identity based on the social situation at hand. When stepping into the classroom, a teacher chooses to enact her teacher identity, but this identity might be irrelevant in other social settings.

Goffman distinguishes between personal and social identities, arguing that a personal identity is comprised of what makes a person unique, including one's personal history and the way it is understood by the individual (Goffman, 1963). A social identity is generally defined in

terms of membership in a given community (religion, political affiliation, professional occupation, etc.)

Wenger's framework also encompasses the multiplicity of identities. Since individuals often belong to multiple CoP's, an individual may simultaneously hold identities as mother, teacher, French, Catholic, etc.

Far from existing in isolation, an individual's various identities are intricately connected and influenced by each other. According to the situated perspective, "Our membership in any community of practice is only part of our identity" (Wenger, p158). The overlap between identities is inevitable and even desirable for the successful construction of a holistic self: "Our various forms of participation delineate pieces of a puzzle we put together rather than sharp boundaries between disconnected parts of ourselves" (Wenger, p159). Wenger notes, however, that different communities may require contradictory practices from their members: "Different practices can make competing demands that are difficult to combine into an experience that corresponds to a single identity" (Wenger, 1999, p159).

When experiencing dissonance or tensions between various aspects of their identities, individuals need to engage in a work of reconciliation that allows the coalescing of their various identities (Wenger, 1999).

2.3 Changing Identities

The question of whether identities are stable, or whether they change over time is the object of controversy. It is generally acknowledged that some identities are more stable and enduring than other: "Some social identities, such as those attached to race, gender, or nationality,

tend to be lifelong" (Vryan et al. 2003, p381). New experiences and events often lead to the taking on of new social identities that may change the structure of one's personal identity.

According to the situated perspective, identity construction and negotiation is a life-long process: "Identity is a becoming; the work of identity is ongoing and pervasive. It is not confined to specific periods of life, like adolescence, or to specific settings like the family" (Wenger, p163). In this respect, Wenger's treatment of identity stands in sharp contrast with Erikson's theory of psychosocial development that identity development occurred in distinct phases (Erikson, 1950).

Wenger's treatment of identity provides a useful framework for understanding complex patterns of social participation, multiple memberships in at times competing communities, and associated identities. The following section looks at the particular case of teacher identity and its treatment in the field of education.

3. Teaching Identity

3.1 Definition

Janet Alsup, who conducted extensive research on teacher identity construction (Alsup, 2005), views a teaching identity as the coalescing of one's social and personal identity:

> "Success as a teacher is attached to a sense of professional identity that integrates the intellectual, emotional and the physical aspects of a teacher's life as well as taking on the subjectivities of a "teacher". It means being able to combine what I call the core identity or personal beliefs and sense of self with a professional identity that is in our culture narrowly and rigidly defined" (Alsup, 2005, p36).

Alsup further defines a teaching identity as "holistic - inclusive of the intellectual, the corporeal, and the affective aspects of human selfhood" (Alsup, 2005, p6). She reminds us that teaching identity is not synonymous with "role", a distinction equally emphasized by

Danielewicz in her treatment of teacher identity: “What makes someone a good teacher is not methodology, or even ideology. It requires engagement with identity, the way individuals conceive of themselves so that teaching is a state of being, not merely ways of acting or behaving” (Danielewicz, 2001, p3). Another important aspect of teacher identity highlighted in the literature is the social nature of its construction: “The newly arrived teacher learns early that whereas roles can be assigned, the taking up of an identity is a constant and tricky social negotiation” (Britzman, 1994, p63).

A teacher’s professional identity does not exist in isolation of this teacher’s other identities: “Identity is the way we make sense of ourselves and the image of ourselves we present to others. It is culturally embedded. There is an unavoidable interrelationship, also, between the professional and the personal” (Day et al., 2006, p9).

A final aspect of teaching identity is its temporal and changing nature. Internal and external factors cause teaching identities to constantly evolve and experience phases of stability and fragmentation (Alsup, 2005; Day et al., 2006).

A teaching identity is a type of social identity developed and negotiated over time by teachers as they move through their careers. As it integrates elements of the personal and professional self, it is unique and complex. As new personal and professional experiences arise, teachers engage in reconciliation work in order to integrate these experiences. The subsequent alterations to one’s teaching identity that this process causes depend upon the significance of the reconciliation work that triggered this renegotiation in the first place.

3.2 Importance of Teaching Identity

Alsup asserts that "only the teacher who has developed a rich, well-rounded identity, or sense of self, is truly successful in the classroom" (Alsup, 2005). This assertion is further corroborated by the findings of a large-scale longitudinal study, conducted by Day et al. which established a correlation between teachers effectiveness and stable teaching identities (Day et al., 2006). These findings, which suggest that to become a teacher, an individual must develop a holistic teacher identity, helped frame this research. Understanding this development, and how to effectively scaffold, may help improve the quality of teacher education programs, and in turn, help create better teachers, increase levels of professional satisfaction and improve teacher retention on the job (Danielewizc, 2001).

3.3 Academic Identity

Within higher education, research on academic identities is scarce; the majority of existing studies come from England (Henkel, 2000) and Australia (McShane, 2006). These findings are deeply embedded in the socio-political context of their respective country and do not readily carry over to the American higher education context.

Most of the teacher identity research in North America is conducted at the secondary level. Although informative, the significant differences between secondary and higher education teachers, in terms of preparation and labor division, limits the applicability of findings to the collegiate context. Secondary teachers receive extensive teacher preparation, while most higher education faculty do not (Laurillard, 2001). Secondary teachers generally receive more help and scaffolding to become teachers than college faculty, and therefore are more likely to successfully develop a teaching identity. In addition, secondary teachers' primary occupation is teaching,

while depending on rank, higher education faculty may have to divide their time between research, teaching and other duties. Research and teaching typically constitute significantly different communities of practice in which academics follow unique and different trajectories. Full-time instructors who do not hold research responsibilities are much more likely to develop professional identities dominated by teaching aspects of their work than tenured academics employed at research universities. The latter maybe reluctant to develop strong teaching identities for fear that it might distract from their discipline-based identity and scholarship (D'Andrea & Gosling, 2005).

The differences between the secondary and higher education context are too significant for findings to carry over directly from one context to the other. Therefore, this research does not borrow findings from secondary studies. It does however, borrow methodologies of identity investigation and the underlying belief that the holistic development of a teaching identity is an important element of teaching effectiveness and teacher self-efficacy.

4. From Classroom to Online Identity

4.1 Embodied and Disembodied Identities

The perception that remote teaching does not measure up to face-to-face teaching is a significant obstacle to the transition to the online classroom. Indeed, many teachers hold culturally scripted, and at times narrowly defined, ideas of the teaching profession (Weber & Mitchell, 1995).

Such enduring perceptions hinder the realization that teaching can be conducted effectively in the absence of cultural artifacts such as blackboards, or face-to-face interactions. Any significant changes in professional practices require that teachers first "uncover and face the

pervasive images that might be curtailing our ability to truly integrate new views of teaching into personal philosophies and practice" (Weber et al., 1995, p32).

The disembodied nature of online education is a counter-intuitive concept that disturbs teachers' conception of what a teaching and learning experience should be like. Having to teach in such different circumstances can have a destabilizing effect on their professional identity:

> "Thus it is not surprising that, because of their emotional investments, teachers can experience vulnerabilities when control of long-held principles and practices is challenged by policy changes or new expectations for standards, when their moral integrity is questioned, or when trust and respect from parents, the public and their students is eroded (Kelchtermans, 1996)" (Day & Kington, 2008, p8).

4.2 Online Teaching Selves

Having made the decision to teach online, teachers are faced, often alone and unprepared, with the challenge of functioning in an entirely technology-mediated environment, where rules and behaviors are radically different:

> "There is no prior history or tradition for this strange half-real, half-fantasy learning space. There are no routines governing virtual interaction that students have absorbed as they've made their way through years of schooling. There are no norms for their behavior in these classrooms " (Polin, 2001, p43).

Polin goes on to claim that "In this new realm, we are cultural workers, crafting interactional space, tools and objects of meaning; roles and identities for participants; and norms for behaving (Polin, 2001, p44).

There is very little research on the way teachers manage their identity in online courses. Research on impression management and identity in online communities suggests that today's users of technology mostly attempt to relay what they perceive as they real selves: "Although online contexts provide unique opportunities to manage impressions, for the most part these

impressions were based on socially desirable aspects of offline personality and a desire to present an authentic impression" (Chester & Bretherton, 2007, p233).

It is important to note that this research of Chester & Bretherton was not conducted with teachers in an educational context, but rather with undergraduate students in a social context. In contrast, a goal of my research is to explore whether teachers' online identities follow this pattern, or whether teachers, pressed to adopt new pedagogical practices more adapted to the mediated nature of the online classroom, end up creating alternative professional selves.

4.3 Identity Enactment Online

According to Garrisson and Anderson's community of inquiry framework (Garrisson & Anderson, 2003), in order to teach successfully online, teachers must establish adequate amounts of teaching and social presence. Social presence is defined as "the ability of participants in a community of inquiry to project themselves socially and emotionally, as real people (i.e., their full personality), through the medium of communication being used" (Garrisson, Anderson, & Archer, 2000, p28-29). Teaching presence is defined as "the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Garrisson & Anderson, p29, 2003). Successful online teachers need to be able to project who they are as educators and who they are as individuals. The following section explores the affordances of technologies that facilitate this process.

III. Technologies of Distance Learning

1. History of Distance Learning Technologies History

The two main historical classifications of distance learning technologies are Garrisson and

Anderson's model (Garrison & Anderson, 2003), and Taylor's model (Taylor, 1995, 2001).

1.1 Garrisson and Anderson's Model

Garrisson and Anderson argue that the classification of technologies in generations allows for a better understanding of their impact on the field as long as the organizing scheme connects the technologies to the pedagogical practices they were meant to serve. They further argue that strictly chronological classifications might lead to the erroneous assumption that new technologies systematically replace older ones, while they often complement them. Indeed, print materials are still an important element of e-learning today, although they are now delivered electronically. The necessity to contextualize technology use is justified by the fact that "It is not the tool but the way the tool is used and the system that defines the input and outputs to the tool use, that more accurately describes distance education systems" (Garrisson & Anderson, 2003, p34). Therefore, Garrisson and Anderson's four generations model connects generations of technology to major uptakes in educational psychology.

First Generation: Behaviorism and Correspondence Courses

The first generation of distance learning technologies was influenced by behaviorist principles according to which learning is the outcome of experience. Learners must be assisted in acquiring and adjusting proper connections (Greeno, Collins, & Resnick, 1996). Since this model does not consider social interactions among learners as necessary for learning, early forms of distance learning were mostly self-paced and closely resembled independent studies at a distance (Garrisson & Anderson, 2003).

Correspondence programs generally used post mail to deliver lessons packets to students who would read the material, prepare a set of answers to questions, write a paper, or possibly attend a proctored exam. Later on, the addition of voice and e-mail communication facilitated exchanges between students and teacher. When the Internet became mainstream, many correspondence courses were simply ported to the web as is, with the computer replacing the postman. This is not surprising, given that new technologies are often used to replicate old ways of doing things (Garrisson & Anderson, 2003; McLuhan, 1995).

Today, the Course Management System (CMS) is the primary tool used to distribute online educational content. Although most CMS's offer a large range of communication features, they still are used predominantly to distribute content (Carmean & Brown, in Gee, Carmean & Jafari, 2005).

Second Generation: The Cognitive Tradition, Early CBT and Telecourses

The second generation of distance learning technologies attempted to leverage cognitive explanations for learning mechanisms, in which the brain functions as an information-processing machine. Learners are not empty vessels waiting to be filled with information, but have pre-established conceptual understandings of many phenomena and concepts. It is therefore important to expose these conceptions and use them as a springboard for further learning (Greeno et al., 1996). The main purpose of teaching, according to the cognitive tradition is to arrange content in such a way that learners can assimilate and organize it easily.

In terms of technology, these were the early years of Computer Assisted Language Learning, drilling programs, Computer-Based Training (CBT), self-paced tutorials and expensive telecourses (Garrisson & Anderson, 2003). This led to the development of learning objects,

which can be found in repositories such as MERLOT[3]. Learning objects remain an important component of distance learning today. Until recently, the learning object was regarded as the base unit of distance education, although Downe now argues that the move towards Open Learning is about to allow the online course to become the unit of e-learning (Downe, 2006).

Third Generation: Constructivism

The third generation of distance learning technology took advantage of tools such as e-mail, discussion forums, and chat rooms to develop learning environments grounded in constructivist learning theory[4]. According to the constructivist theory, learning is a fundamentally social phenomenon and learners need to be provided with rich opportunities to interact socially to resolve complex and ill-structured real world problems (Bransford, Brown & Cocking., 2000). Both synchronous and asynchronous discussion tools are used to facilitate dialogue among learners and with the teacher. Constructivism initiated the shift in teachers' role from the center of the stage to the periphery.

Fourth Generation: Integrated Systems

The fourth generation integrates the features of the three previous generations by allowing students to access web-based content through learning objects, conduct individual reflections using tools like blogs, and interact to construct knowledge through the social negotiation of meaning by using social networks. As Garrison notes, the Internet "subsumes" the

[3] http://www.merlot.org
[4] There is dissension on the classification of constructivism as a learning theory. Garrison and Anderson believe it is a learning theory while Greeno et al. see it as an outgrowth of cognitive theory.

power of all previous technologies (Garrisson & Anderson, 2003, p39) while bringing down the costs of development and distribution.

In summary, Garrisson and Anderson's four-generation model (2003) provides a useful framework to understand the connection between learning theories, technological progress and the history of the field of distance education. However, the model begins to lose coherence with the fourth generation, when the connection to learning theories disappears. Social media as a platform to support socio-cultural oriented pedagogies and virtual environments to support immersive educational experiences are likely candidates for a fifth generation of distance learning technologies, but little work has been to this end.

1.2 Taylor's Model

Another widely-recognized classification is the one initiated by Nipper (Nipper, 1989), extended by Taylor (Taylor, 1995; Taylor 2001) and continued by Caladine (Caladine, 2008). This model organizes the technologies of distance education in six major clusters based upon the model of instructional delivery. The first five clusters are respectively the Correspondence Model (print), the Multimedia Model (audio and video tapes and Computer Assisted Learning programs), the Telelearning Model (audio and video conferencing; audiographics), the Flexible Learning Model (Internet tools) and the Intelligent Flexible Model (artificial intelligence). Caladine added a sixth generation to include social media.

2. Technology Packages

Today, most distance education programs use Course Management Systems (CMS) to deliver their courses. However, the growing popularity, flexibility and versatility of social media platforms make them plausible alternatives to CMS, as discussed below.

2.1 The Course Management System

A Course Management System (CMS) or Learning Management System (LMS) is "a software application that automates the administration, tracking, and reporting of training events" (Ellis, 2009, p1). In the past ten years, CMS have become close to ubiquitous in higher education. There are many competing corporate products (e.g., Blackboard[5] and Desire2Learn[6]), as well as open-source alternatives (e.g., Moddle[7] and Sakai[8]).

Most CMS used in higher education provide teachers and students with communications tools: e-mail, chat, discussion board, virtual white board and an instant messaging application; a file sharing system to allow teachers and students to exchange documents in a secure environment; a student tracking system, rosters and a grade book.

The CMS market is complex and constantly evolving. Features, prices and platforms change frequently as a result of corporate acquisition and mergers. For example, Blackboard acquired WebCT in 2005[9] and Angel Learning in 2009[10]. Key obstacles to the usefulness and adoption of CMS in educational settings are the lack of inter-operability among products (although mergers have helped solve this problem); lack of usability and user-friendliness

[5] http://www.blackboard.com/
[6] http://www.desire2learn.com/
[7] http://moodle.org/
[8] http://sakaiproject.org/
[9] http://www.elearnity.com/EKCLoad.htm?load=ByKey/DWIN6H6CTB; accessed July 12th, 2009.
[10] http://www.blackboard.com/Company/Media-Center/Press-Releases.aspx?releaseid=1285265; accessed June 2nd, 2009.

(McGee et al., 2005); and lack of flexibility, as they tend to constrain teachers to use teacher-centered pedagogies. Such pedagogies are inconsistent with recent educational practices that have shifted toward student-centered practices. As Lane noted:

> "In addition to a counterintuitive organizational scheme, integrated commercial systems have a built-in pedagogy, evident in the easiest-to-use, most accessible features. The focus on presentation (written documents to read), complemented by basic "discussion" input from students, is based on traditional lecture, review, and test pedagogy. This orientation is very different from the development of knowledge through a constructivist, learner-centered, or inquiry-based approach, which a number of faculty use successfully in the classroom" (Lane, 2005, p5).

CMS present many advantages to administrators and faculty alike, because they centralize faculty course management efforts into a single central password-protected location. However, this service comes at the expenses of flexibility and design freedom: "By virtue of their intent and design, course management systems impose limitations on instructional creativity and approach" (Lane, 2008, p5).

When the CMS is used in support of classroom instruction, its lack of flexibility can be ameliorated during face-to-face meetings where the instructor has full agency over the design and delivery of her courses. However, when the course is offered entirely online, the lack of transparency and flexibility of the CMS hinders teachers' ability to project their teaching identity in the online environment. As Chisholm notes:

> "Faculty who use commercial course-management software become almost invisible, which is exactly the point. This invisibility contributes to the illusion that the twenty-first century instructor is a generic, easily replaceable part in a larger Automated Education Machine" (Chisholm, 2006).

In an attempt to align their products with the needs of "millennial learners"[11] (Oblinger & Oblinger, 2005; Veen & Vrakking, 2006), emerging products such as Epsilen's E-portfolio and

[11] http://www.blackboard.com/Mobile/Mobile-Platform.aspx

Global Networking Platform[12] have began to integrate Web 2.0 features into their design, and many have embraced the mobile learning trend. Whether these changes will actually increase the flexibility and versatility of CMS tools remains an open question.

2.2 Social Media

Social media refers to the second generation of web-based user-centered social networking tools that have become mainstream in the past five years (Web 2.0). They include blogs (e.g., Blogger[13]), wikis (e.g., PBworks[14]), photosharing (e.g., Flickr[15]), social bookmarking (e.g., de.li.cious[16]), video and instant messaging (e.g., Gmail and Skype) and other platforms such as Facebook,[17] Youtube[18], Ning[19] and Chatter.

Social media have the potential to support pedagogical practices grounded in socio-cultural theory of learning (Lave and Wenger, 1991). They tend to be student-centered and allow educators to develop learning spaces where students are creatively engaged in the creation of content as opposed to passively receiving it (Mason & Rennie, 2008).

The adoption of informal learning tools in lieu of university-sponsored course management products creates almost as many problems as it solves. Many students use social media for social and entertainment purposes; using those same tools in an educational context may create privacy and boundary issues between teachers and students. In addition, IT services do not necessarily have the resources, training or experience to assist faculty in their effort to redirect the purpose of tools initially developed for an audience other than teachers and students.

[12] http://www.epsilen.com/LandingSite/Home.aspx
[13] https://www.blogger.com
[14] http://pbworks.com/
[15] http://www.flickr.com/
[16] http://delicious.com/
[17] http://www.facebook.com
[18] http://www.youtube.com
[19] http://www.ning.com

Redirecting the purpose of a technology may also have unanticipated consequences, and is likely to require a level of technical expertise that faculty may not possess. Finally, the newly created learning ecologies require a redefinition of teacher roles and mastery of supporting teaching practices (Mason & Rennie, 2008). These issues might soon find resolution with a new type of CMS that combines the features of mainstream social media and commercial CMS. In late 2011, Google and Pearson announced the launch of a new and free Learning Management System. The system currently being piloted at various higher education institutions (Fishman, 2011).

3. From Text to Virtual Reality

This section takes a closer examination at both mainstream and emerging technologies for distance education. The technologies are organized by modality: text, audio, video and virtual worlds. This organization of schemes was selected because of its alignment with widely held perceptions about the levels of identity mediation afforded by each modality: "To simplify matters slightly, it is generally agreed that various communication options can be ranked on an axis, in order of decreasing social presence, as face-to-face, audio/video communication, audio only, and written correspondence/email" (Hollan & Stornetta, 1992, p120).

Each section provides an overview of the modality at hand and reviews its affordances for identity mediation. The focus on social presence reflects the preference of the literature for researching this aspect of identity in mediated environments.

3.1 Text-Based Technologies

Print was the first technology of distance education. It allowed the large-scale distribution of educational content at a relatively affordable price (Nipper, 1989). By their nature,

correspondence courses, which are still in use today, present limited opportunities for teachers to share their professional identity with remote students. This limitation is not a product of the nature of text-based communication, but rather of the absence of interaction between teacher and students in these environments.

Computer Mediated Communication tools (CMC) drastically changed the situation by offering a large variety of text-based applications that allowed two-way communication between teacher and students. E-mail, discussion forums, wikis and blogs facilitate asynchronous conversations and collaborations, while chat clients allow for real time exchanges.

Fifteen years ago, Turkle conducted an in-depth study of the impact of the Internet on identity. Her findings suggested that Internet users generally employed this predominantly text-based medium in order to explore inhibited or repressed aspects of their personality. Such behaviors were not motivated by a desire to cheat or deceive, but rather by an interest for self-exploration in an environment isolated from their everyday lives (Turkle, 1997).

Recent studies of identity projection suggest that Internet practices have evolved significantly since then. Today, the identities projected online are often a reflection of the way users perceive themselves (Herring et al, 2004; Chester and Bretherton, 2007). Although users may alter or emphasize certain attributes, the identities projected rarely depart significantly from their "real" life persona: "Impressions constructed in online social contexts are primarily accurate reflections of how self is perceived offline, but with a positive spin" (Chester & Bretherton, 2007, p230).

Two-way text-based environments present mixed opportunities for identity mediation. On the one hand, their entirely verbal nature prevents users from relying on valuable non-verbal cues to communicate with others; on the other hand, they allow users to very explicitly list the

personality attribute they wish to claim. While this opportunity may be advantageous, as long as the user possesses adequate writing skills, it can also present the drawback that users may be prevented from sharing aspects of their personality that they may wish to convey:

> "Describing oneself to others as caring or intelligent creates a paradox for the actor. Any form of self-promotion runs the risk of alienating others. That is likeability decreases with increase in presented competence" (Chester & Bretherton, 2007, p229). Chester and Bretherton refer to this as the "impression management dilemma" (2007, p229).

3.2 Audio-Based Technology

Audiocassettes and telephones were important technologies of distance education in the 1980's (Garrison & Anderson, 2003). In the past 10 years, digital technologies have largely replaced analog devices. Digital sound files are high-quality, multi-platform and portable. When combined with streaming technology, which allows the distribution of large recordings, they are superior to analog technology.

Many universities leverage the affordances of digital sound technology by streaming recordings from lectures presentations for students to download on their computer or portable devices. Some institutions make this material available free of charge to the public at large (e.g., MIT[20]).

Audio has been used as a two-way modality since the invention of the telephone in the 1870's. Today, audio conferencing technologies support point-to-point (between two locations) and multiple-point conferencing (between multiple locations) and are either web-based (Internet telephony) or use digital lines (ISDN). The web-based technology allowing users to communicate through voice is called Voice over IP (VoIP). Internet telephony (e.g., Skype[21]) is a

[20] http://ocw.mit.edu/
[21] http://www.skype.com

cheap, simple and often high-quality alternative to regular phone communication, as long as the Internet connection is sufficiently robust (Mc Greal & Elliot, 2008, in Anderson, Ed., 2008).

Even when used as a one-way modality, voice allows the projection of important elements of social identity not relayed by text alone. While text may accurately represent spoken words, vocal cues are inevitably lost in transcription. Voice may provide information about one's gender and ethnic origin (presence of an accent), contain cues to personality (Knapp & Hall, 2006), as well as relay intention (e.g., humor and sarcasm) and mood. The use of voice in online learning environments has been positively correlated with higher levels of social presence compared to text-only environments (Lightner, 2007).

3.3 Video-Based Technology: Exploring Telepresence

Video conferencing products include Real Time Communication (RTC) technologies. Although video conferencing tools have been used sporadically in educational settings for about fifteen years, the increase in available bandwidth is likely to allow distance-learning programs to more fully integrate this technology into their courses (Caladine, 2008).

Video conferencing allows two-way video and audio communication between remote parties. It may be web-based or use other digital communication technology, and can facilitate both point-to-point and multi-point conferencing.

In the past five years, web-based video chat applications have flooded the video conferencing market. Products such as Skype[22], Google Talk[23] and iChat[24] used to be limited to providing point-to-point communication, but many companies now offer multi-point-enabling

[22] http://www.skype.com
[23] http://www.google.com/talk/
[24] http://www.apple.com/macosx/what-is-macosx/ichat.html

products (e.g., Sightspeed[25] and iChatAV[26]). Web-based applications offer affordable and portable options, however, these applications may not emphasize reliability and quality.

In an attempt to compete with free web-based solutions, traditional video conferencing companies now offer high-definition video conferencing products that attempt to replicate real life presence (telepresence). Replicating real-life feelings of presence requires high bandwidth, as it relies on high definition and, in some cases 3-dimensional representations of participants (Kauff & Schreer, 2002). The goal of products such as 3-D immersive video conferencing is to give the participant "the impression of sitting at one table", thus enabling a higher degree of natural interaction and effective collaboration" (Kauff & Schreer, 2002, p106).

Companies such as Cisco[27], Polycom[28], Tanberg[29], and DVE[30] (Digital Video Enterprises) now offer telepresence-enabling products. Proponents of this costly technology rely on psychology studies of human interaction. One of the major pitfalls of video conferencing is the inability for participants to make eye contact. New products now offer this feature, as well as crisp audio synchronized with the video, high definition and life-size images, and a minimum amount of hardware intrusion so that participants can forget that the encounter is not real.

The ultimate goal of telepresence is to create an invisible technology that makes distance disappear. Critics of telecommunciation technology based on imitation warn against a vain pursuit:

> "It is tempting to think that with perhaps a little more screen resolution, a little more fidelity in the audio channel, a little more tweaking to bring the machinery in conformance with subtle and long-established social mechanisms such as eye contact, telecommunications systems will achieve a level of information richness

[25] http://www.sightspeed.com/
[26] http://download.cnet.com/iChat-AV/3000-2150_4-10279494.html
[27] http://www.cisco.com/
[28] http://www.polycom.com
[29] http://www.tandberg.com/
[30] http://www.dvetelepresence.com/

> so close to face-to-face that for most needs it will be indistinguishable. But will they ever be close enough?" (Hollan & Stornetta, 1992, p120).

These critics argue that the product will never be as good as what it is trying to replicate, a problem inherent to the nature of imitation:

> "Those distant will always remain at a disadvantage to those present. It is not really even a question of the quality of the device. It is what it is trying to achieve. It could be 3-D holographic with surround-sound, but if people use an imitation to talk to some people but the "real thing" to those physically proximate, a fundamental difference will always remain" (Hollan & Stornetta, 1992, p120).

In 2007, Cisco demonstrated its holographic telepresence technology in front of 250 spectators.[31] It may take a few years before this technology becomes mainstream in business and a few more before it finds it way to broad use in higher education. Three-dimensional holographic conferencing represents the most literal form of technology mediated identity projection. However, telepresence systems require dedicated spaces, hardware and software. Furthermore, the current cost of this technology may be prohibitive for general use in higher education. The rapid expansion of online learning might increase the pace of adoption, especially when the nature of the instructional content requires high quality audio and video. These technologies might increase the variety of academic subjects that can be taught online to include the medicine, engineering, music, and the arts.

3.4 Virtual Reality: Exploring Identity Construction

Virtual worlds are computer-generated graphic environments in which users' identities are embodied in virtual characters called "avatars". Virtual reality is heavily used as a platform for online role-playing games (e.g., World of Warcraft[32]), or simply to provide users with access

[31] http://www.youtube.com/watch?v=rcfNC_x0VvE; accessed November, 14th, 2010.d
[32] http://www.worldofwarcraft.com/

to a virtual environment to host their interactions with others (Second Life). Although not designed for educational purposes, virtual worlds present fascinating educational opportunities.

Second Life[33], the largest and most popular virtual world in general use, has been hosting a variety of educational efforts for several years. Second Life is a "virtual world created by computer programmers; an online version of the known world, then, which attempts to replicate many of the basic elements of your first Life" (Carr & Pond, 2007). Second Life has its own currency (the Linden dollar) and users can purchase items, interact socially with others, get educated and even receive degrees.

The educational potential of games has also been the object of extensive research and is well-documented today (Prensky, 2001; Johnson, 2005; Gee, 2007). The highly engaging nature of games combined with the immersive attributes of virtual worlds make massive multiplayer online games (MMOs) excellent candidates to host rich educational experiences.

Most virtual world and gaming platforms provide various degrees of avatar customization, allowing users to choose physical and personality attributes that may or may not resemble their real life persona. Vasalou and Joinson note that "Avatars present a creative platform for identity construction in computer-mediated communication" (Vasalou & Joinson, p510, 2009). They conducted a study in which participants were asked to create avatars for the purpose of gaming, dating and blogging. Findings suggested that although users may emphasize certain characteristics based on the context at hand, the avatars created rarely departed drastically from the way they perceived themselves. Interestingly, this finding is consistent with Chester and Bretherton's study of identity projection in text-based environments (Chester and Bretherton, 2007). The affordances of virtual environments for identity projection are likely to increase with quality and usability.

[33] http://secondlife.com/whatis/

4. Limitations of Previous Work

In order to teach online effectively and in a professionally fulfilling fashion, teachers need to make several adjustments to the way in which they conceive of the teaching and learning transaction. For example, before embracing online teaching, teachers need to truly believe that it can be an effective learning modality. A teacher who is skeptical of the inherent quality of online education is unlikely to be successful.

In addition, the socio-cultural context in which online teachers are embedded has a significant influence on the way in which they experience online teaching. For example, even if a teacher becomes convinced that online education is an effective learning modality, she will still need to face the skepticism of colleagues in the teaching community he belongs to. In other words, in order to successfully transition to the online classroom, teachers not only need to re-examine their own conflicting beliefs, they also need to face the fact that their newly acquired beliefs might be at odds with the ones of the community to which they belong.

The communities of practice framework provides a useful lens through which to explore the nature of this tension. Wenger (1998) argues that various communities of practice may have conflicting modes of belonging. Mechanisms and practices for being an online teacher may be at odds with mechanisms and practices of being a classroom teacher. In order to recover a sense of stability, teachers need to make the necessary adjustments to align their beliefs with their practices, as well as to align their beliefs and practices with those of the communities of practice to which they belong. Teachers' beliefs and values about teaching, their teaching practices and the place that they occupy within their teaching community of practice represent the foundation of their professional identity. In order to successfully teach online, this professional identity must adapt to new technologies, new modalities of instruction, and a new division of responsibilities

between teacher and student. This adaptation, as seen through the lens created by the socio-cultural framework of the teachers' communities of practice, represents the central focus of this research.

CHAPTER III

CONCEPTUAL FRAMEWORK

This research draws primarily upon two frameworks: 1) the educational framework of communities of practice (Wenger, 1999), also called socio-cultural framework and, 2) the treatment of teaching identity and identity construction developed by Alsup, Britzman, Danielwicz, and Day.

Wenger's framework devotes significant attention to the mutual influence between a community of practice (CoP) and the identity of its members, but his treatment of identity is not specific to a particular profession. There is however, a significant body of research on teaching identity congruent with Wenger's approach. Both Wenger and Alsup treat identity as multiple, socially constructed and dynamic. In addition, both frameworks build upon an underlying assumption that individuals strive to form holistic identities and that whenever they encounter situations that cause identity fragmentation, they engage in reconciliation work in order to recover a holistic identity. This common foundation allows for the integration of the frameworks proposed here.

I. Teaching Identity and Communities of Practice

1. Why Look at Teacher Identity?

Understanding teacher identity is central to understanding the mechanisms of teacher change because it encourages the observer to understand not only who the teacher is as a professional, but also who the teacher is as a person in relation to what the teacher does in the classroom.

The concept of teaching identity recognizes that teachers are not just actors; their professional identity is strongly tied to their personal identity. This is a view shared by many educational researchers who use teaching identity as a lens for professional development: "What makes someone a good teacher is not methodology, or even ideology. It requires engagement with identity, the way individuals conceive of themselves so that teaching is a state of being, not merely ways of acting or behaving" (Danielewicz, 2001, p3).

Therefore, when teachers are required to make disruptive changes to the way they teach (for example to teach without a classroom), these changes are likely to prompt them to reevaluate some of their views on what constitutes good teaching, such as the belief that a physical classroom is actually needed.

It is important to understand how change affects teachers internally, because the synergy between their professional values and their external activities is a key element in the formation of a holistic professional identity. Asking teachers to modify their teaching practices with no regard for the impact of these practices on their professional values may lead to a state of identity fragmentation, which requires resolution (since having a holistic identity is a key element of teacher success).

Developing a stable teaching identity is also a key element of teacher retention (Danielewizc, 2001) as well as critical to success and effectiveness in the classroom (Alsup, 2005; Day et al., 2006). According to Alsup, "only the teacher who has developed a rich, well-rounded identity, or sense of self, is truly successful in the classroom" (Alsup, 2005). This assertion is supported by the findings of a large-scale longitudinal study that established a correlation between teachers' effectiveness and stable teaching identities (Day et al., 2006). According to this study, which is based on the assumption that identity is "a key influencing

factor on teachers' sense of purpose, self-efficacy, motivation, commitment, job satisfaction and effectiveness" (Day et al., 2006, abstract), it is essential to identify factors that impact teachers' identity, as well as the influence of these factors on teacher's professional practices.

Teachers generally attempt to preserve the alignment between their beliefs about teaching and learning and their classroom practices; however, this alignment is affected by the socio-cultural context in which teachers are embedded professionally (Alsup, 2005). For example, a teacher entering a new school might be asked to adopt the teaching practices of the school. The Communities of Practice (CoP) theory (Wenger, 1999) provides a useful explanation for the relationship between people and the various communities in which they participate. CoP theory allows viewing the transition to the virtual classroom as an entrance into a new community of practice, where modes of belonging might not be aligned with the ones of a traditional teaching community.

2. Identities within Communities of Practice

Community of Practice theory views society as composed of a myriad of communities in which people's participation might range from peripheral to central. Virtual communities (e.g., bloggers and gamers), religious groups (e.g., pro-life activists and church goers), families (e.g., mothers and fathers) and professional occupations such as university teachers, all are potential communities of practice.

The characteristics that distinguish a CoP from other social entities are the mutual engagement of the CoP members towards a joint enterprise, and the sharing of a common repertoire (Wenger, 1999).

The teaching CoP has established modes of belonging that include commonly agreed upon understandings of what it means to be a good teacher, what constitute good teaching, and even, what a teacher should look like (Weber & Mitchell, 1995).

The modes of belonging to a particular CoP have a defining influence on the identity of its members: new members entering a CoP begin to act and talk like other members. This influence is mutual. The identity of individual members also influences the identity of the group. This is especially true of central members. For example, older and more experienced teachers tend to have more influence within an institution, and with new teachers, than their younger colleagues. This mutual influence is one reason why identities cannot be studied in isolation of the communities of practice to which they belong. Instead, the focus of any study must be "the process of their mutual constitution" (Wenger, 1999, p146). Teachers entering the online CoP are being asked to adopt modes of belonging that may conflict with their own teaching values, as well as the values of the traditional teaching CoP to which they currently belong. The following section discusses the nature of this conflict.

II. Identity Challenges of the Transition to the Online Classroom

1. Draw a Teacher

By offering a way of being a teacher that potentially conflicts with traditional views of what a teacher is, online learning challenges teachers' identity. Teachers are more likely to be portrayed standing in front of a classroom than sitting behind a computer. This stereotype is a reflection of the culturally scripted, and at times narrowly defined, idea that people, including teachers, may have about the teaching profession (Weber & Mitchell, 1995).

While investigating the popular ideas and stereotypes associated with teachers, Weber and Mitchell found that "Both children and adults used almost identical symbols to depict a

teacher, systematically including "markers" such as blackboards, desks, apples, pointers, math, and homework" (Weber & Mitchell, 1995, p18). In the course of their investigation, they "began to realize that these markers are part of a western visual vocabulary that is widely used by several generations to portray a teacher" (Weber & Mitchell, 1995, p18). Such enduring perceptions may prevent online teachers from seeing themselves truly as teachers, and may prevent online teachers from being recognized as real teachers by members of the teaching CoP, when cultural artifacts such as blackboard, classroom, and face-to-face meetings with students are not present.

2. Challenges to Cores Values and Beliefs

Online learning challenges deeply seated beliefs about the nature of good teaching. There is a strong sense among teachers and within the teaching community that truly effective teaching and learning transactions are necessarily embodied. Janet Emig, a well-regarded teacher education scholar pleaded against disembodied learning experiences, and argued in favor of "making the case for what embodied learning represents and achieves over cyber-learning" (Emig, 2005, p2). According to Emig, "There remains a bond between physical presence and engagement with learning that may now be part of our genetic being – necessary, inescapable, to be ignored at our peril" (Emig, 2005, p5). Finally, Emig argues in favor of face-to-face interactions to support rich student learning experiences: "the embodied classroom invites students to know themselves in ways only interaction with others provide" (Emig, 2005, p5). This assertion is representative of the wide-spread belief that face-to-face contact and teacher-student interaction are mutually dependent, despite evidence that well-designed online courses provide ample opportunities for synchronous and asynchronous interactions between teacher and

students, and among students (Duffy & Kirkley, 2004).

3. Challenges to Traditional Modes of Enactments

In order to successfully teach online, teachers need to confront potentially conflicting beliefs and find ways to re-align these beliefs with their teaching practices. This need is challenged by the requirement for online teachers to adopt new modes of identity enactments. Goffman uses the metaphor of the theatrical performance to explain how identities are made visible to others (Goffman, 1959). His work is especially useful for explaining the challenges of teaching identity enactment in online learning environments.

The three main elements of a performance are the (1) setting, (2) the appearance and (3) the manner (Goffman, 1959). The setting is the physical environment where the performance takes place, which includes:

> "furniture, décor, physical layout, and other background items which supply the scenery and stage props for the spate of human action played out before, within and upon it. A setting tends to stay put, geographically speaking so that those who would use a particular setting as part of their performance cannot begin their act until they have brought themselves to the appropriate place and must terminate their performance when they leave it*"* (Goffman, 1959, p22).

The physical setting of the teacher is the classroom. This is where teachers and students congregate to enact their respective identities. Roles and functions in the university classroom are deeply internalized by years of schooling experience. Students and teachers know where to stand, how to address each other and generally what constitutes appropriate behavior. The teacher cannot deliver her performance without student cooperation. They function as a team, defined as "any set of individuals who co-operate in staging a single routine" (Goffman, 1959, p79). These ritualized aspects of the schooling experience are absent from the online classroom,

therefore requiring the teacher to adopt alternative, technology mediated modes of self-enactment.

The “appearance” refers to the way the performer looks. It “may be taken to refer to those stimuli which function at the time to tell us of the performer's social status" (Goffman, 1959, p24). The “manner’ refers to the way the performer behaves, or “acts.” It

> “may be taken to refer to those stimuli which function at the time to warn us of the interaction role the performer will expect to play in the oncoming situation. Thus, a haughty, aggressive manner may give the impression that the performer expects to be the one who will initiate the verbal interaction and direct its course” (Goffman, 1959, p24).

In this instance as well, the predominantly text-based nature of most distance learning courses limits teachers’ ability to convey their appearance and manners, and requires that they resort to mediated forms of enactment.

Goffman’s framework is especially relevant to this study because teachers moving to the online classroom lose access to traditional versions of setting, appearance and manner. Teaching online calls for the identification of and familiarization with new mediating tools to establish teaching and social presence, two important elements of teacher’s professional identity.

4. Challenges to Professional Fulfillment

Online teaching further threatens teachers’ identity by challenging some of the very reasons why they become teachers in the first place. Many teachers entered the profession because they especially enjoyed classroom teaching. They might even agree that online education is a valid and effective learning modality, but it is not the modality they embraced when they decided to become teachers. In this respect, online teaching threatens an important source of professional fulfillment. Transitioning to the online classroom can thus be potentially

disrupting for teachers, especially those who are active members of their community of practice and who, over the years, have developed stable and well-rounded professional identities. The following section discusses how teachers generally handle realities that conflict with their teaching identity and their modes of belonging to the teaching CoP.

III. Dealing with Dissonance

Wenger and other teaching identity scholars (Alsup, Britzman, Danielwizc) assert that human beings strive to create holistic identities. As disruptive personal and professional experiences arise, teachers engage in reconciliation work in order to resolve the conflict thus created and recover a stable teaching identity (Alsup, 2005). This reconciliation work causes teaching identities to evolve and to experience phases of stability and fragmentation (Alsup, 2005; Day et al., 2006). It is important for teachers to go through this process of reconciliation as "unresolved tension between discordant subjectivities and associated ideologies lessened the chance of the participants developing a satisfying professional identity, or a sense of fulfillment as a teacher" (Alsup, p55).

Even minor changes in the mode of belonging to a community of practice are likely to have an impact on the identities of the participants of this community. Online learning creates major disruption, which, when confronted directly, may significantly change teachers' view of their profession. A goal of this research is to understand how teachers react to this disruption of their professional identity, and whether they successfully regain a stable teaching identity.

CHAPTER IV

RESEARCH QUESTIONS AND PILOT STUDY

I. Research Questions

This research investigates the impact of online learning on teachers' identity and the role played by current and emerging technologies in this process. As part of this research, I sought answers to the following research questions:

1. What is the impact of online teaching on higher education faculty's teaching identities?
    a. How do faculty handle the disruption caused by online teaching conditions?
    b. How (if at all) does it impact teaching practices, beliefs, persona and sense of professional fulfillment?
2. What is the role of technology in this process?
    a. What tools do online teachers use?
    b. How satisfied are they with these tools?
    c. Are today's technologies adequate?

A pilot study consisting of five participants who were trained in the theories and practices of online course design was conducted in spring of 2008. Findings revealed that being involved in online course design and online teaching did indeed have an impact on their teacher identity, thus validating the premise of this research. This pilot study is described below.

II. Pilot Study

The pilot study consisted of two related efforts. In spring 2008, I investigated ways to prepare future faculty to teach online. From January to July 2008, I followed five teaching assistants enrolled in a graduate course teaching the theory and practice of online course design. I designed and taught this course. As a capstone project, the teaching assistants designed and developed a three-week non-credit online course in their area of expertise, which they taught the following summer[34]. This study revealed the importance of addressing teachers' perceptions of online learning and teaching, and providing in-depth pedagogical and technological training to teachers prior to assigning them online teaching duties. In addition, I used the data collected from this study to develop a second study focused on two participants who adopted very polarized stances on online learning and technology. My goal was to explore the impact of teachers' professional identity on their online course design decisions and choice of technology. The following section summarizes important elements of this study, which helped frame the primary research questions of my thesis.

1. Framework

Following recommendations to adopt an approach that "attempts to understand teacher adoption of technology from the inside" (Zhao, 2001) and direct research efforts towards "the processes through which student teachers adopt and adapt technology when teaching in schools" (Ottesen, p276) this study employed a socio-cultural framework (Lave & Wenger, 1995; Wenger, 1999) to investigate the internal mechanisms underpinning technology adoption. This framework provided a powerful lens with which to examine teachers' decisions, as it placed the locus of attention on internal elements such as teacher identity, agency and empowerment. As such,

[34] One course was cancelled at the request of its instructor.

socio-cultural theory constituted "a fruitful approach in the research on developing teaching practices with ICT" (Ottesen, 2006, p275).

2. Methods

Qualitative data was collected throughout the semester, including transcripts from chat sessions and asynchronous online discussions; transcripts from the audio recording of the first class; transcript of the video recording of one in-class presentation; two private interviews; a paper about their particular course design process; a course log kept by the TAs during the first three weeks; and the courses they designed.

In order to explore the connection between the participants' positioning towards technology (which constitutes a subset of their professional identity) and their instructional design decisions, I first explored the corpus of data to identify themes and establish three sets of markers (teaching positioning, technology positioning, and instructional technology positioning). I then used these markers to code the data.

3. Findings

The teaching assistant who positioned herself strongly in favor of technology integration in the classroom throughout the semester designed a course that employed a wide range of technological tools. She also invested significant amounts of time developing her own materials. The teaching assistant who expressed reservations with regards to instructional technology relied on a smaller number of technologies and used primarily pre-existing web-based sources. The two participants' attitudes towards technology were clearly also reflected in the process they adopted to design their courses. The technology-oriented participant first explored various course

platforms and then began to think of content, while the techno-skeptic student first set out to develop her content before choosing a platform. Although equally sound from a pedagogical standpoint, both participants developed very different courses, thus suggesting that a teacher's professional identity indeed influences her course design decisions.

4. Significance

This pilot study confirmed the existence of a connection between course design decisions and teacher identity and highlights the importance of allowing teachers to develop courses that reflect or are compatible with their professional identity. Doing so might help preserve the richness of the teaching and learning transaction in distance learning courses, allow teachers to take ownership of their courses, and therefore remain fully invested in the act of teaching. This issue is especially relevant as online learning introduces new models and processes for course design, where content and technological decisions tend to be made in isolation of each other.

5. A Reciprocal Impact

This pilot study also revealed that online teaching appeared to have an impact on both teacher identity and classroom practices. As a direct result of their participation in this course, the TAs reported (1) changed attitudes towards online learning and instructional technology and (2) intentions to change their classroom practices. For example, one teaching assistant noted that the course had made her "*more comfortable using technology*"; Another one noted that after taking the course and teaching her own online course, she no longer saw technology and teaching as "*incompatible*", adding "*maybe I was just thinking I had to compete with the technology instead of actually making it work.*" All teaching assistants expressed their intention to use their

newly acquired technology skills in the face-to-face course that they would be teaching in the future.

These findings from a small-scale case study suggested that online teaching had the potential to transform teachers' identity in constructive ways. Investigating this impact with teachers who teach for-credit courses fully online and became the focus of thesis research.

CHAPTER V

METHODS

This research employed a mixed methods approach to investigate the impact of online teaching on teachers' professional identity and the role played by technology in this process. This was a three-part study. The first part focused on ten teachers using mainstream technologies to teach online in largely traditional ways. The second part focused on nine purposefully selected teachers who use both current and emerging technologies to teach online in innovative and successful ways. The third part was a quantitative study meant to explore the degree to which findings from the first two case studies could be generalized to a larger population. This section provides further details on the choice of methods for each of these studies.

I. The Choice of Mixed Methods

The mixed method framework combines both qualitative and quantitative methods of data collection. This research uses a "sequential exploratory strategy," where qualitative data are collected and analyzed first and then used to inform the content of a subsequent quantitative study. The goal of this approach is to attempt to generalize qualitative findings to larger populations as described by Crewsell (2003). Figure one depicts as summary of sequential exploratory strategy.

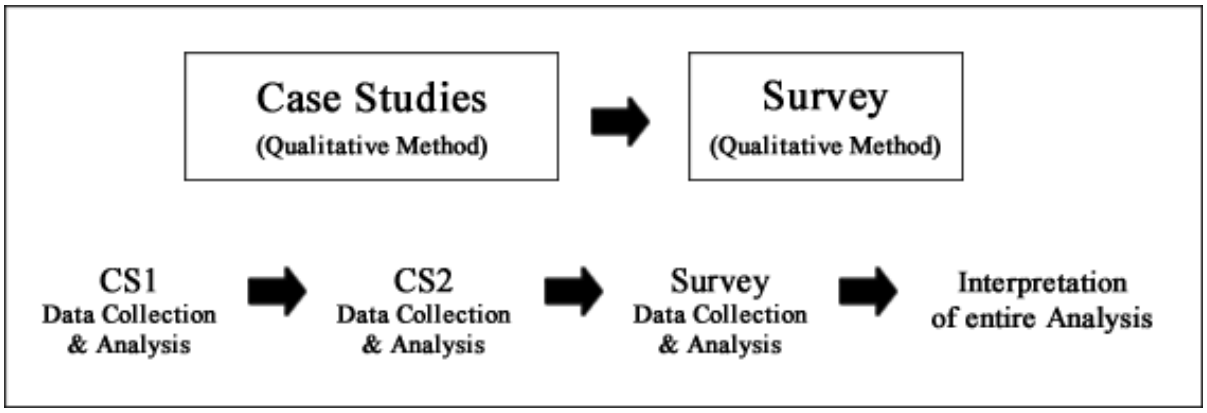


Figure 1: Sequential Exploratory Design, adapted from Creswell, 2008, p213

II. Qualitative Methods

The first two case studies employed qualitative methods of data collection. The choice of framework was guided by the nature of the research questions, as well as by the knowledge claims brought upon the study by the researcher (Creswell, 2003). The main goal of these studies was to investigate the nature of the impact of online teaching on the professional identity of teachers who teach online successfully and the role played by technology in this process. These studies thus were designed to inform how to prepare teachers to teach online.

The process of identity construction is not generally understood as an objective reality that can be studied empirically, but rather, as a subjective and unique process through which individuals make sense of their own experiences (Alsup, 2005). This view of identity is grounded in a social constructivist worldview according to which:

> "individuals seek understanding of the world in which they live and work. They develop subjective meanings of their experiences – meanings oriented towards certain objects or things. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas. The goal of the research, then, is to rely as much as possible on the participants views of the situation being studied " (Creswell, 2003, p8).

Therefore, one way to investigate teachers' identity is to prompt teachers to talk about the way they make sense of their own teaching identity using semi-structured interview questions, and then to use additional methods of data collection such as observations and document analysis to validate earlier findings. One aspect of a teacher' identity are the teaching practices used. A teacher might describe herself as particularly teacher-centered. This assertion can be easily verified through teaching observations.

The social constructivist worldview framing these studies, as well as the open-ended nature of the primary research questions, both called for qualitative methods of inquiry: "Qualitative research is exploratory and is useful when the researcher does not know the important variables to examine" (Creswell, 2003, p22).

In the context of these study, I hypothesized that online teaching would have a transformative impact on teachers, but the true nature of this impact would require research and analysis to discern.

1. Research Strategy: Collective and Instrumental Case Studies

The strategy of inquiry most appropriate to the central research questions is the case study. As Stake observes:

> "Case studies, in which the researcher explores in depths a program, an event, an activity, a process, or one or more individuals. The cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995)." (Creswell, 2003)

In order to obtain information about the various ways in which online teaching affects teachers, I conducted two case studies with ten and nine collegiate educators respectively. The

case studies were both collective (a collection of multiple cases) and instrumental (Stake, 1995). Instrumental case studies are used to understand something other than just the cases at hand, such as a predefined research question. While this research was interested in the many ways in which online teaching changes teachers, it placed special emphasis on the role played by current and emerging technologies.

2. Participants

2.1 Characteristics and Selection

Case Study One

I enrolled ten participants in this study. Selection criteria were as follows:

- Participants are higher education teachers at an R1 (large research) higher education institution
- Participants possess at least two years of classroom teaching experience
- Participants taught both online and in the classroom in the spring of 2010

An open invitation listing the required participant characteristics, as well as the goals of the study, was sent by a staff member of the office administering online courses. Of the many answers received, the ten participants who met the selection criteria listed above were retained. Participants in the first case study ranged in age from mid 20's to mid 60's and held teaching assistant, instructor and tenured appointments (although the majority were instructors). Subjects taught varied widely and included geology (1), communication (2), political science (2), English (1), philosophy (1), journalism (1) and writing (2). Participants were informed of the research goals of the study, of the potential risks involved and were offered anonymity through an IRB-

approved consent form that they were asked to sign prior to beginning the data collection (see Appendix A).

Case Study Two

The goal of the second case study was to investigate the impact of online learning on the professional identity of teachers who were using both current and emerging technologies to teach online in innovative and successful ways. A total of nine purposefully selected higher education teachers were chosen to participate in this second study. Selection criteria for Case Study Two were as follows:

- Participants possess classroom teaching experience
- Participants possess at least two years of online teaching experience
- Participants are currently teaching fully online courses
- Participants are highly successful online teachers: they have received outstanding evaluations, teaching awards or come highly recommended by their peers; they are conducting action research on their classes, and presenting their work at national conferences.
- Participants reportedly enjoy teaching online
- Participants use both current and emerging technologies. Participants using gaming, virtual worlds and telepresence systems were of special interest to this study in order to provide contrast to Case Study One (which focused on teachers who used more traditional distance learning technologies).

2.2 Recruiting Method

The following methods were used to identify potential participants:

- Open e-mail invitation to participate or recommend potential candidates through listservs and Special Interest Groups announcements (Virtual Worlds, Gaming, Telepresence, Merlot and Sloan-C).
- Scanning of conferences programs and scholarly journals to identify potential candidates who can be contacted directly.
- Identification of higher education faculty who received online teaching awards since 2005.

Once potential participants were identified, each was contacted via e-mail, phone or in-person, and invited to participate in the study. Prospective participants were informed of the research goals of the study, of the potential risks involved, and were offered anonymity through an IRB-approved consent form that they were asked to sign prior to the beginning of the data collection (see Appendix A).

3. Data Collection and Recording

Following Creswell, three types of qualitative data were collected in this study 1) interviews, 2) face-to-face and virtual class observations, 3) document and audio-visual material (Crewsell, 2003). The same type of data were collected in both case studies, although there were variations in the second study, depending on the nature and modality of the online teaching practices of the participants. The data that were collected and recorded are described below.

3.1 Interviews

Case Study One

Each of the ten participants was interviewed on two occasions, for about one hour each time. Whenever possible, the interview immediately followed a classroom observation. The IRB-approved interview protocols are reproduced in Appendix B and C.

The first Case Study One interview protocol contained twenty-six semi-structured questions, which were intended to prompt each participant to reflect upon their face-to face teaching practices, their online teaching practices, perceived difference between the two environments, and their use of and experience with technology. The second interview protocol contained thirteen semi-structured questions designed to encourage teachers to elaborate on findings from the first interview, and on practices observed both in the online and face-to-face classrooms. Participants were asked to:

- Reflect on the challenges they encountered when they began teaching online
- Share adjustments they made to their teaching practices, and whether these changes impacted their face-to-face teaching in any way
- Identify their preferred teaching modality (online or face-to-face)
- Reflect on their level of satisfaction with the online teaching modality and the technologies they employed
- Provide their opinion on the overall impact of online teaching on the teaching profession

Each interview was recorded and transcribed. Personal identifying information was removed from the transcriptions. The recordings were stored in a secure location. Upon completion of this research, the recordings will be destroyed.

Case Study Two

The participants in Case Study Two were interviewed over the phone or the Internet using the same interview protocol as the one used for Case Study One. The interviews were audio-recorded (with participants' permission) and subsequently transcribed for data analysis. I employed the same methods for data recording as Case Study One.

3.2 Observations

Case Study One

Each Case Study One participant was observed teaching in the classroom on two separate occasions. The goal of these observations was to compare teachers' face-to-face and online practices, and to verify whether their classroom practices were consistent with the way they described these practices during the interview.

An IRB-approved observation protocol was used to take notes on the teachers and the setting, as well as to record the activities that took place during the observed class (see Appendix D).

The researcher was not able to conduct virtual observations of the online courses because these were predominantly asynchronous courses. For this reason, the online course materials were treated as teaching artifacts. The method used to analyze these artifacts is detailed in Section 3.3.

Case Study Two

Case Study Two participants were not observed teaching face-to-face because most of them were either no longer teaching face-to-face or were not teaching face-to-face at the time of the

study. Although previous face-to-face teaching experience was a required characteristic, teaching in the classroom at the time of the study was not.

3.3 Document Analysis

Case Study One

I was granted full access to all ten online courses taught by Case Study One participants. I analyzed the content of these online courses using the IRB-approved online course review form (Appendix E). This form allowed collecting information on elements such as:

- Teacher presence (biography, pictures, participation in online discussions)
- Teaching style/practices (syllabus & course policy)
- CMS featured used (learning modules, discussion board, etc.)
- Use of supplemental technologies and media (video clips, audio clips, animations)
- Nature and amount of interactions between the teacher and the students

Case Study Two

When access to the participants' online course was granted, I used the previously described protocol to study these courses. When full access to a participant's online course was not available, I collected and studied the various teaching artifacts that the faculty shared (sample lesson plans, syllabi, sample feedback on student assignments, sample course announcements, scholarly publications, conference proceedings on online teaching related projects, etc.) A complete list of the artifacts collected from each participant can be found in Appendix F.

3.4 Audio-Visual Material

The use of multimedia materials in which the teacher is present either physically or aurally provides useful information on the way the teacher sought to project his/her professional identity. Such artifacts were collected and analyzed as well.

Case Study One

Only one out of ten teachers used self-made instructional videos. I watched the videos and recorded notes within the IRB-approved online course review form.

Case Study Two

Participants used a variety of video and other audiovisual material, which were also analyzed using the IRB-approved audio-visual observation protocol. I took screenshots and captured brief portions of the audio-visual material to use as illustrative examples during the data analysis.

4. Data Analysis and Interpretation

Once all the data was collected, I prepared it for analysis and interpretation, as described below. I followed accepted relevant qualitative (Creswell, 2003, Patton, 1995) and case study research methods (Stake, 1995).

5. Organization and Preparation of the Data

I organized and prepared the data for analysis as follows. All interviews were transcribed; all field notes from face-to-face and online observations as well as notes from document analysis were digitized either by typing or scanning. The same organization and preparation procedure was used for both case studies.

6. Data Coding

Once the data was ready for analysis, I studied the corpus of data, keeping the main research questions in mind, and identified recurrent elements. For example, in Case Study One, the theme of "classroom replication concerns" or "unsatisfactory interactions with and among students" was observed in nearly every interview.

After completing this review, I organized the themes under a small number of main headings. Each heading received a name and contained a list of sub-headings. For example, the heading "professional fulfillment " had the subheadings "positive" and "negative." This method is called emergent coding because I did not impose my own coding categories onto the data. Instead, the categories emerged naturally from the body of data (Lincoln & Guba, 1985). Once I established a coding log, the transcriptions and coding logs were loaded to a qualitative analysis package (Nvivo). I then tested the coding log on at least three documents and made necessary adjustments before processing the entire body of data.

7. Findings and Discussion

Both case-by-case and across-case findings are presented in this study, together with the coding logs (Appendix G and H), illustrative quotes and a discussion of their meaning and significance for the study.

The results of this research identify the nature of the impact of online teaching on the identity of the two groups of teachers that participated in the case studies; compares and contrasts findings within and across the two groups; presents the significance of the findings and their relevance for future online teacher professional development efforts.

8. Strategies for Findings Validation

8.1 Role of the Researcher

I acknowledge fully the influence of my personal experiences and worldviews on this study (Creswell, 2003), and below identify past experiences, personal beliefs and any connections with the participants in the study (Creswell, 2003). As far as my past experiences are concerned, I have taken and taught a variety of online courses. This experience has had a strong positive impact on my beliefs about online education. I believe that when deployed carefully, online courses can have an educational value equal to, or perhaps superior to face-to-face courses. In the context of the present research, I refrained from conducting research with people with whom I had significant prior personal or professional connections. In addition, I obtained necessary approval from the University of Colorado Institutional Review Board in order to protect the rights of the participants in each one of the three studies (IRB protocol 0310.6).

8.2 Triangulation of Sources

Qualitative research is "emergent" (Creswell, 2003, p181) and "fundamentally interpretative" (Creswell, 2003, p182). In other words, "the researcher filters the data through a personal lens that is situated in a specific sociopolitical and historical moment." (Creswell, 2003, p182). While qualitative research methods are indeed subjective in nature, it is possible for the researcher to employ a variety of methods in order to mitigate this subjectivity and help ensure that the findings are reliable and valid. Those methods are described more fully below.

I have collected information from a wide variety of sources including document analysis, observations and interviews. This allowed me to triangulate findings and help establish the

validity and reliability of these findings. I have endeavored to ensure that findings did not originate from a single source, and that conclusions were supported by other sources. For example, any assertion that a teacher made during the interviews about her teaching was compared to the notes from the online and face-to-face course observation forms.

8.3 Presentation of Negative Findings

When relevant, negative and discrepant findings are presented and rival explanations are explored (Patton, 1995).

III. Quantitative Research Methods

1. Choice and Purpose of the Survey

The quantitative research study sought to generalize findings from the qualitative studies to the larger population of online higher education faculty. The instrument of this analysis was a survey that provided "quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell, 2003, p153). Using a survey presented the advantage of providing data from a larger sample of the population in a relative short period of time. It allowed me to determine whether findings from smaller samples (the case studies) could be generalized to larger groups.

2. Survey Characteristics

The survey administered was web-based and cross-sectional (the data was collected at one moment in time)(Creswell, 2003). Using a web-based survey was the most practical way to collect responses from a large number of respondents distributed over multiple geographic locations.

3. Population and Sample

Survey respondents were limited to those teaching at least one fully online course in a U.S. higher education institution who had prior face-to-face teaching experience. According to Bureau of Labor Statistics' 2010-2011 Occupational Outlook Handbook, postsecondary teachers held nearly 1.7 million jobs in 2008[35]. Since, according to the 2008 Sloan-C report[36] (which surveyed 2500 higher education institutions), over one third of the faculty surveyed had taught online at least once, we can estimate that the total population size of higher education faculty who has online teaching experience is 561, 000 (33% of 1.7 million).

Thirty-one separate collectors were sent to twenty-six institutions with significant online offerings and four organizations involved in online learning efforts. Each institution or organization was assigned a unique data collector, which allowed determining the number of respondent from each institution.

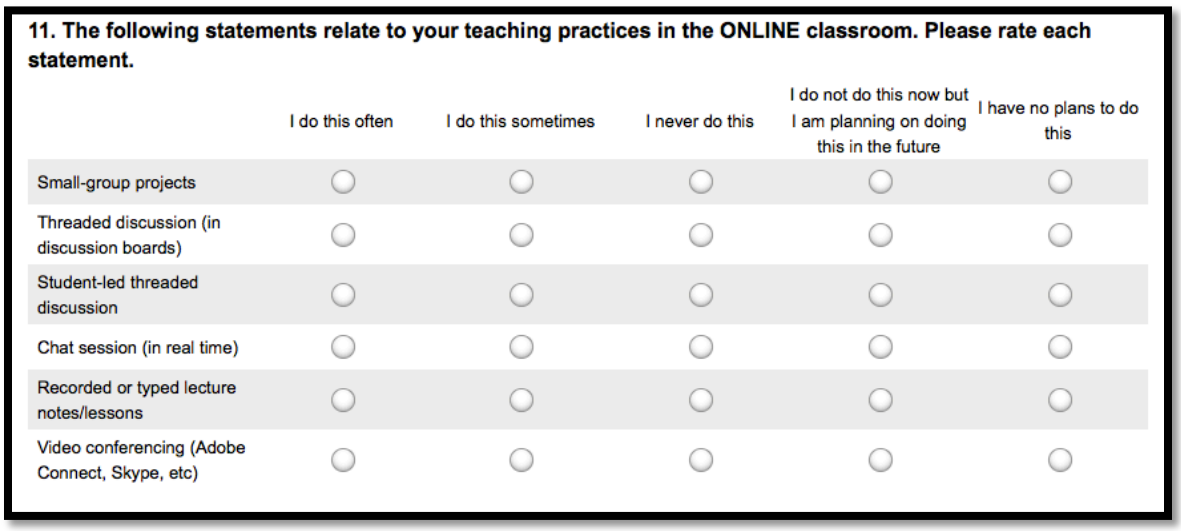
The institutions were identified through the cross listing of the US News and World Report of top online education programs published in January 2012[37], and institutions that had participated in the Sloan-C International Conference on Online Learning in 2010 and 2011. A unique collector was sent to the relevant authority at each institution (Online Learning Director, Associate Director, Instructional Designer, etc.) requesting that they distribute the survey link to their online faculty. Institutions that did not respond within a week were contacted a second time. Unique collectors were also distributed through the listservs of four online learning organizations.

[35] http://www.bls.gov/oco/ocos066.htm#emply
[36] The statistics listed in this section were found on the Sloan-C website, which surveys over 2500 colleges and universities in the U.S. every year.
[37] http://www.usnews.com/education/online-education

Fourteen collectors (four organizations, one liberal arts college, and nine non-profit public universities) produced 223 respondents (N=223).

4. Instrumentation

The survey (see Appendix J) was designed specifically for this research. The title of the survey was "Face-to-Face vs. Online Teaching" and included 22 items (see Figure 2 below). The complete survey is reproduced in Appendix J.



11. The following statements relate to your teaching practices in the ONLINE classroom. Please rate each statement.

	I do this often	I do this sometimes	I never do this	I do not do this now but I am planning on doing this in the future	I have no plans to do this
Small-group projects	○	○	○	○	○
Threaded discussion (in discussion boards)	○	○	○	○	○
Student-led threaded discussion	○	○	○	○	○
Chat session (in real time)	○	○	○	○	○
Recorded or typed lecture notes/lessons	○	○	○	○	○
Video conferencing (Adobe Connect, Skype, etc)	○	○	○	○	○

Figure 2: Example Item from the Survey

In the survey, I used a combination of items, rating scales, multiple choice and continuous scales (Strongly Agree, Agree…) to collect three types of information:

- Attitudinal: beliefs and perceptions about various aspects of face-to-face and online teaching.
- Behavioral: practices in the face-to-face and online classroom (types of activities, technologies used).
- Factual: years of experience, job title, etc.

Two respondents tested the survey and provided feedback, which was used to modify and adjust the items. The survey introduction as follows:

> "You received this survey because you teach fully online courses. Results will inform research on the impact of online teaching on faculty teaching identity. It will take about ten minutes to complete. It is anonymous, entirely voluntary and you may exit this survey at anytime.
>
> To enter the drawing for one of four $25 Starbucks gift cards, you will be prompted to enter your email address in a separate window at the end of the survey.
>
> If you have questions about this research or this survey, please contact Edwige.Simon@colorado.edu.
> If you agree to participate in this study please check the box below the consent form. Thank you very much!
>
> Edwige."

The survey conclusion was as follows:

> "If you wish to participate in a drawing for one of the four $25 Starbucks gift cards, please copy and paste this link in a new browser window and enter your email address (doing this will ensure anonymity of your answers): https://www.surveymonkey.com/s/xxxxxx.
>
> Thank you very much for completing this survey!
>
> Edwige Simon"

5. Data Analysis

I report the total number of respondents and their distribution across the various locators using a table with numbers and percentages. Factual data, means and standard deviation are provided. Results from the attitudinal and behavioral items are provided in graphical format. Finally, the interpretation of the data is provided in the discussion section of Cshapter VIII.

CHAPTER VI

CASE STUDY ONE

This first case study was exploratory. The purpose was to investigate ways in which the ten participants experienced online teaching and compare and contrast this experience with the way they experienced face-to-face teaching. Two one-hour interviews, two face-to-face class observations and one online course observation were conducted with each one of the ten participants, over the course of a semester. Findings for Case Study One are reported below.

I. Case Study One Findings

1. Finding 1: Participants' Professional Identities are Dominated by Teaching Identities

The majority of the participants were experienced, engaged, and dedicated classroom teachers whose teaching identity, as opposed to their identity as scholars, dominated their professional identity.

1.1 Participants are Professionally Fulfilled Classroom Teachers

Nine of the ten participants had over ten years of classroom teaching experience. When asked whether they enjoyed teaching, nine reported enjoying it very much, offering answers such as "*It's my favorite part of the job*", "*I adore it*", "*I thoroughly love teaching.*"

A few teachers reported minor concerns about particular aspects of teaching, such as the unpredictable nature of classroom teaching:

> *"From day to day it varies so much(…)when things go very well in the classroom, it's absolutely an uplifting experience, it makes you feel just absolutely wonderful.*

When things don't go well in the classroom, I would like to go do something completely different!"

and the draining aspect of the teaching performance: "*I have mixed feelings about teaching. For many years I absolutely loved teaching, but as I've gotten older, my energy levels have dropped off."*

However, at the time of the study, only one participant was questioning whether or not teaching would be professionally rewarding enough for him in the long run: *"I think I've got to around the place where I'm wondering, you know, I like teaching, I like the advising, but particularly with the instructor role, I'm wondering, okay, well what's now?"*

As a whole however, the participants appeared to very much enjoy teaching.

1.2 Participants' Sources of Professional Fulfillment are Tied to the Face-to Face Nature of Classroom Teaching

When asked about what they liked and disliked about classroom teaching, five of ten teachers reported disliking the assessment part of their job (grading, discussing grades, and assigning grades) and two were uncomfortable with the performance aspect of teaching, which they found draining and stress inducing. One noted that what she liked least was *"actually performing in front of the class. Again, partly because of age and just some physical issues that I have to deal with, but I think it's just that I'm tired. Just tired."* Another participant in the study reported similar feeling as she explained that *"the most difficult thing for me is the public-ness of it. So having to talk in front of the classroom still makes me nervous."* Two other teachers also reported disliking having to deal with unmotivated students.

When prompted to talk about aspects of teaching they enjoyed, participants mentioned that they liked sharing their field and subject matter (4 of 10), in part because it kept them abreast of their own discipline. Four participants also reported liking the face-to-face and synchronous

aspects of classroom teaching: *"I like being in the classroom. You get a much better feeling for what the students are doing and what they're like when you see them two and three times a week."*

Participants also reported enjoying interacting with students (3), seeing student progress (2), designing lessons, being on campus (1), and being the focus of the attention (1).

Enjoyment of teaching is not necessarily a given for higher education faculty. Graduate students often do not have college teaching as their ultimate career goal. Instead, they may be motivated by their research agenda. However, teaching is often a part of the professional responsibilities of graduate students and tenured/tenure track professors. One of the participants in Case Study One was a doctoral student at the time of the study. She reported feeling relieved when she realized she enjoyed teaching because she knew she would have to teach as a professor. However, her primary goal was to become a researcher.

> *"But actually I really enjoy teaching, which is good. But it's really a relief because, I mean, wherever I plan on getting a job in a university somewhere, and I would have to teach, so it would be really a shame if that aspect of the job was horrible to me. But it turns out I really do enjoy it. I think it's really important."*

1.3 Participants Have Mostly Stable Classroom Identities

A teacher's identity can be located anywhere on a spectrum that ranges from highly fragmented to highly stable. In order to assess the state of participants' teaching identity, I asked them about their level of satisfaction with face-to-face teaching at that specific point in time. All but one participant reported being at least relatively satisfied with their face-to-face teaching and they offered answers such as "*But for the most part, I'm pretty happy with the way that my classes go*", or "*I'm pretty happy with it, yeah. Yeah, I am.*" This finding is consistent with the fact that nine of the teachers had over ten years of classroom teaching experience. Unless a

teacher encounters a disrupting professional experience, her teaching identity tends to stabilize over time.

Being happy or satisfied with one's teaching does not mean that the teaching itself does not undergo change. In fact, several teachers reported working continuously to improve their courses, and appeared to be particularly self-reflective of their practices, which constitutes another sign of engagement with face-to-face teaching:

> *"So I feel that the process of improving is very important to me, whether the improvements are substantial or small increments, it doesn't matter but the process of making an attempt to improve is key. And I think that's what teaching does."*

> *"I constantly reflect upon what I was doing and how things actually went, what actually occurred (...) but I think that being hypercritical, being a hypercritical observer does actually help you as a teacher. It helps you more critically assess what you're doing and to constantly be thinking about it."*

> *"I'm probably my worst critic."*

> *"This semester I kinda went with 'ok, it's going fine, but it's a little plateaued for me, so let's just kinda break it up and help me think differently about what I teach, the way I teach,' that kinda thing."*

Teachers have to constantly make small adjustments to adapt to new courses and changing student bodies, but such minor changes are not disruptive to their overall identity. Out of the ten teachers in the study, seven appeared to have stable teaching identities, be mostly satisfied with their skills, while aware that constant work and readjustments was necessary in order to maintain this stability.

However, three participants appeared to be going through significant changes. One of them, the one with the least experience, reported being in the process of making significant changes to her teaching from semester to semester as she tried to find a certain level of comfort with the performance aspects of the classroom, and the right balance between giving too much or too little

attention to her students. She reported feeling like she was on the right path. One participant reported having major issues with classroom teaching, which were mostly anxiety-related. Finally, one participant questioned whether he would remain a teacher in the long run.

1.4 Discussion

Prior to investigating the impact of online teaching on the participants' teaching identity, it was important to establish that the participants indeed had strong teaching identities. I found that teaching does indeed represent a significant aspect of the professional identity of every participant in the study. Understanding the relevance of this finding for this research requires some background information related to the multifaceted nature of higher education faculty's professional identity. While K-12 teachers' professional identities are usually entirely dominated by their teaching identity, the professional identities of higher education faculty may be defined by other aspects of their work responsibilities, such as who they are as scholars and researchers, and their discipline-specific identities (as a biology researcher, a political science scholar, etc.). These other facets of their identities rarely are equally developed, and the predominant one depends on the faculty's specific duties within the academy. Tenure-track faculty have research and publication requirements and must therefore devote a large amount of their time to this aspect of the job in order to be promoted. The nature of their home institution may also influence their dedication to the teaching aspect of their job. Research-oriented universities, for example, tend to place significant emphasis on scholarship, which at times comes at the expense of teaching duties (Becher & Trowler, 2001; D'Andrea & Gosling, 2005): "Membership of the academic profession in elite departments is defined in terms of excellence in scholarship and

originality in research, and not to any significant degree in terms of teaching capability" (Becher & Trowler, 2001, p28).

As a result, some research faculty may resist devoting more time to improving their teaching and therefore developing strong teaching identities, for fear that that such efforts might distract from other aspects of their professional selves:

> "There are a number of reasons why academics have reservations about the professionalization of teaching in higher education. In the first place, as we have seen, the majority of academics have a strong discipline based professional identity that, it is feared, could be diluted or threatened by any attempt to impose a generic professional category of "teacher" (D'Andrea & Gosling, 2005, p65).

The majority of the participants in this study described themselves as devoted teachers. Eight of the ten participants were instructors (or lecturers) whose duties were primarily teaching-related. The fact that they volunteered to participate in this study also suggests a general interest in teaching-related endeavors.

2. Finding 2: Participants' Teaching Identities are Dominated by Classroom Teaching

In order to determine the participants' level of engagement with face-to-face and online teaching, they were asked whether they preferred teaching face-to-face or online, and which modality they would choose, should they have to make a choice. Eight of the ten participants expressed a preference for the face-to-face classroom, suggesting that this aspect of their identity was dominant.

2.1 Most Participants Prefer Face-to-Face Teaching

Despite reportedly enjoying certain aspects of online teaching, such as flexibility in time and location, five of ten participants expressed a clear-cut preference for the face-to-face classroom:

"Right now I think I still prefer teaching[38] in the classroom, teaching on site."

"I think I would probably choose just face-to-face, because I think the students learn more, I think it's more rewarding for me to develop the relationship with the students and I think it's not necessarily less time-consuming."

"So anyways, all things being equal, I would say I would prefer teaching in a small classroom."

Three teachers were ambivalent about which modality they would choose, should they have to make a choice. Although they appeared to believe that face-to-face teaching was a better learning venue, they appeared to value very much other, non-learning related characteristics of online teaching, such as the absence of performance:

"I mean, in many ways I do like the online class because I tend to be a little more nervous in front of classrooms" (...) But I feel like there's so much missing [online]. I mean I don't really get any kind of, I can't, I don't know who these people are visually, they don't know who I am, it's sort of strange."

or the flexible schedule that online teaching affords:

"I really like having a mix, and the reasons are probably more personal than academic. I like the flexibility of my time that online teaching allows me. I can do my teaching when my daughter is in school (...) But I really love being in the classroom. It's so energizing."

2.2 Few Participants Prefer Online or Report No Preference

One participant reported liking online teaching better, but again, her reasons were personal rather pedagogical:

"- What do you prefer? Online or face-to-face?
- Well at this point I can't say for sure. I'm suspecting online, just because of the anxiety issue, cause I deal so well with that!" [Sarcasm]

[38] I underlined portions of the participants' quote to emphasize important aspects of these quotes.

Only one participant expressed no preference for one modality over the other, would agree to move entirely online, and believed the two modalities were equally effective from both learning and a teaching satisfaction standpoint:

> *"Well, it's just as fun. It's just as fun, I really enjoy it. Sometimes I feel like I don't want to sit in front of the computer, so you know, just physically I have to get up and walk away. So that could be a little bit challenging and stressful. I enjoy the students, I enjoy the writing, I enjoy it the same amount, really."*

This last participant stood apart from the rest of the group throughout the study. She is the only one who appeared equally devoted to online and face-to-face teaching and who used student-centered pedagogies both online and face-to-face, such as requiring students to conduct peer-reviews of each others' writing. This difference can most likely be explained by the fact that she had the most online teaching experience of all participants, and was an experienced instructional designer.

2.3 Participants Find Online Teaching Time Consuming

Time commitment is a frequent topic of discussion and research in online learning and, prior research is ambivalent about whether or not teaching online is more or less consuming (DiBiase, 2000; Bender, Wood & Vredevoogd, 2004). On the one hand, uninformed teachers or teachers who have not been trained to teach online often assume that online teaching takes less time than face-to-face teaching. On the other hand, teachers with online teaching experience often comment on the fact that online teaching takes more time than face-to-face teaching (Seaman, 2009). Studying the way teachers talk about time management is thus a way to assess their level of engagement with this modality. Two participants reported always being present for their online students:

> *"I think one of the things they're realizing is that I'm always there, you know, that I respond to their emails almost immediately. I mean I'm constantly checking and dealing with that. And I think that makes them feel confident, that whatever issue they have, I'll be there for them."*

> *"So you basically, you've got one physical and four electronic ways to get a hold of me.' And that's one of the nice parts. I've had students who are like, in the middle of writing exam papers and asking questions, and they're able to IM me in the middle of it."*

These two participants also noted the challenge of time management when teaching online courses, a challenge reported by six participants in the group. However, these two were the only participants to see this challenge as inherent to online teaching.

2.4 Participants Report No Significant Difference Between their Classroom and Online Evaluations

Participants were asked whether they saw significant differences between their face-to-face and their online evaluations. Six teachers reported no significant difference other than a lower response rate from students in their online courses. However, three participants reported paying less attention to their online course evaluations than to their face-to-face ones:

> *"I'll confess, I have not actually looked at my online FCQ's."*

> *"Maybe this is simply an interesting observation, one that I'm not particularly proud of, but maybe I pay more attention to the on-campus FCQ's than the other ones, because on-campus FCQ's, I do like to see what students say, 'I liked this,' 'I wish we would have done this."*

> *"Yeah, I don't know. And to be honest, I don't really pay any attention to them. I always feel a little anxious when I'm getting my on-campus FCQ's, but I don't really pay any attention to the online ones, mostly 'cause I feel like there's, you know, without a serious commitment to revamp the course…"*

Two teachers expressed concerns about the significant amount of initial work that goes into building online courses, a phenomenon often described as "front loading." This explains their

reluctance to make significant changes to the course once it is built, even if students' evaluations indicated that such changes were necessary. It is typically less time consuming to make adjustments to classroom-based courses than it is to modify online courses.

2.5 Discussion

Case Study One participants appeared more devoted to the face-to-face classroom than the online classroom. This finding is supported by the fact that when asked what they liked about face-to-face teaching, participants primarily invoked professional and pedagogical motivations, while when asked about what they liked about online teaching, the majority of the participants invoked personal reasons, such as flexibility, or additional income.

This finding is not surprising, given that participants' online course responsibilities do not count towards their general course load, and that their online course evaluations do not count toward tenure, review or promotion. In addition, the majority of Case Study One participants were rather new to online teaching, compared to face-to-face teaching. Nine out of ten teachers had over ten years of face-to-face teaching experience, while only two had over ten years of online teaching experience.

To summarize, participants appeared to be active members in the face-to-face teaching community of practice but only peripheral members in the online teaching community of practice.

3. Finding 3: Participants Teach Online for Practical Reasons

Participants were asked about their motivations for teaching online. They mentioned primarily practical and personal reasons, such as the flexible schedule afforded by this modality, being a part of a new phenomena, or the incentive of additional income.

3.1 Participants Enjoy the Flexible Teaching Schedule

When asked about what they liked about online teaching, the most frequently cited aspect was the schedule flexibility it afforded (8):

> *"I like being able to sit around in shorts and the sun on my back deck. That's kinda nice, that's a nice part of the online part."*
>
> *"The flexibility of online teaching is fabulous, really fabulous. And it's not all bad. I mean the actual teaching part of it. I mean, the flexibility's great."*
>
> *"Right now I'm teaching three online classes and just one on campus. And that's actually a really nice mix because I am a full-time mom and I don't live right here in Boulder, so not having to be here as much, or as many hours of the day, is really helpful. I couldn't teach 4 classes if they were all on campus, it would be too overwhelming."*
>
> *"I like it in different ways. I mean I guess probably the thing that's rewarding is that once the class is built, it actually requires either minimal effort on my part, or the effort it requires is super flexible about when and where it occurs. So I think the flexibility is really what I most enjoy about it."*
>
> *"I love it. I love it, I feel like I'm not tied to it. I mean I'm not chained to it. I like the freedom of it and all of that."*

3.2 Participants Enjoy Being a Part of Something New

The second most frequently invoked motivation was the professional development benefits they derived from being involved in what they considered a new and emerging phenomena in higher education (7):

> *"I think it definitely adds to my skills. It is something that I think is going to be important."*
>
> *" I think I, yeah. I'm proud of the fact that I can do it."*
>
> *"But since I have the ability to put new things in there, that's kind of fun, and something that I'm looking to as professional development on my own, is doing more geology teaching through adventurous video materials."*
>
> *"Yeah, I mean I think it is nice to be a part of something that is on-going and changing and you know, I'm not just thinking about online education, I'm actually*

experiencing what works and what doesn't work, and I want to be a part of continuing to move that in a constructive direction."

3.3 Participants Enjoy the Financial Incentives

The third most frequently mentioned motivation to teach online were the financial incentives:

"One of the things I like is in July and part of August I'm teaching two online courses, which as a non-tenured faculty member means I have an income source."

"I mean, I do tend to think of my online classes as merely a cash register, you know, a very efficient one."

"The financial aspect was a positive, it was a nice easy way to make some extra cash."

"I definitely had to make extra money, I had a new baby at home. So that was a great thing for me to do."

"Yeah, I started doing it actually because I was quite honestly looking for a way to pick up a little bit of you know, extra money."

It is important to note that the majority of Case Study One participants were either instructors or graduate students who did not receive any compensation in the summer, unless they taught additional classes during that period.

3.4 Participants Enjoy Creating Access

Several Case Study One participants mentioned that they were proud of creating access to education for students who, for various personal reasons, would not otherwise be able to take classes:

"When I am reading through students introductions in online courses and I see that one third of them are actually taking a course and they live in another state, they're actually in another state or in another country, that makes me feel very happy, that they're actually getting to take part in the class in their own way."

"but I'll say it again, there are certain groups of students who it would just be a tragedy not to have online learning available. So in that sense, I'm very proud

> *that we can get to students. One of these amazing students who got a perfect score on the exam is a medical doctor in Iraq. I mean it's so cool that I had this great interaction with him, or what if the person is a stay at home mom in Arkansas or whatever it is, that they're trying to get an education."*
>
> *"But I've had students who were in the process of going through pretty excruciating chemotherapy, (…) I've had handicapped or disable students who have been able to do classes online, it's much more difficult for them to get around campus. I've had women on bed rest in the later months of their pregnancies (..) I've had students who are on study abroad programs elsewhere who are fitting in another course this way. (…) I had this one student this past year who was a rancher in Mexico and he would like ride into town, that's my image of him, he'd show up every couple of months and he'd do a couple more assignments and then he'd disappear for a couple months."*

3.5 Other Motivators

One participant reported that she starting teaching online in order to stay active in the profession after retirement. Two participants reported teaching online because it allowed them to focus on the course design aspects of the job (an aspect they enjoyed very much), without having to perform in front of the classroom (an aspect they did not enjoy as much).

Coincidently, online teaching might represent a unique opportunity for people who suffer from social anxiety to nonetheless embrace a teaching career that they might not have otherwise considered. Traditionally, performing and teaching tend to be very closely related but online teaching dissociates these two aspects.

Finally, one participant reported enjoying the pace of online learning, where the bulk of the work takes place during the course building stage, while the actual teaching of the course tended to be less time-consuming (at least in her experience): "*Part of the reason I'm teaching online is 'cause I don't want to pay as much attention to it, you know, but I have to invest that time early on to hopefully get something going."*

3.6 Discussion

Interestingly, the reasons why the majority of the teachers interviewed began teaching online were primarily practical (to gain additional income while benefiting from a flexible work schedule), whereas their motivations for teaching face-to-face were mostly professional and pedagogical. This finding is consistent with the previous finding: most of the participants in this study reserved their full professional participation for the face-to-face classroom, and were only peripheral participants in the online teaching community of practice.

Only three participants mentioned being motivated by creating access to education, although this is often regarded as one of the most significant benefits of online teaching. This finding is not consistent with findings from the 2009 Sloan-C survey that reported on faculty's perception of and motivation for online teaching. That survey reported that "A large majority of survey participants cite student needs as a primary motivator for teaching online, most commonly citing "meet student needs for flexible access" or the "best way to reach particular students" as the reason they choose to teach online courses." Flexibility for the teacher was not on the list of choices in this survey (See Figure 3).

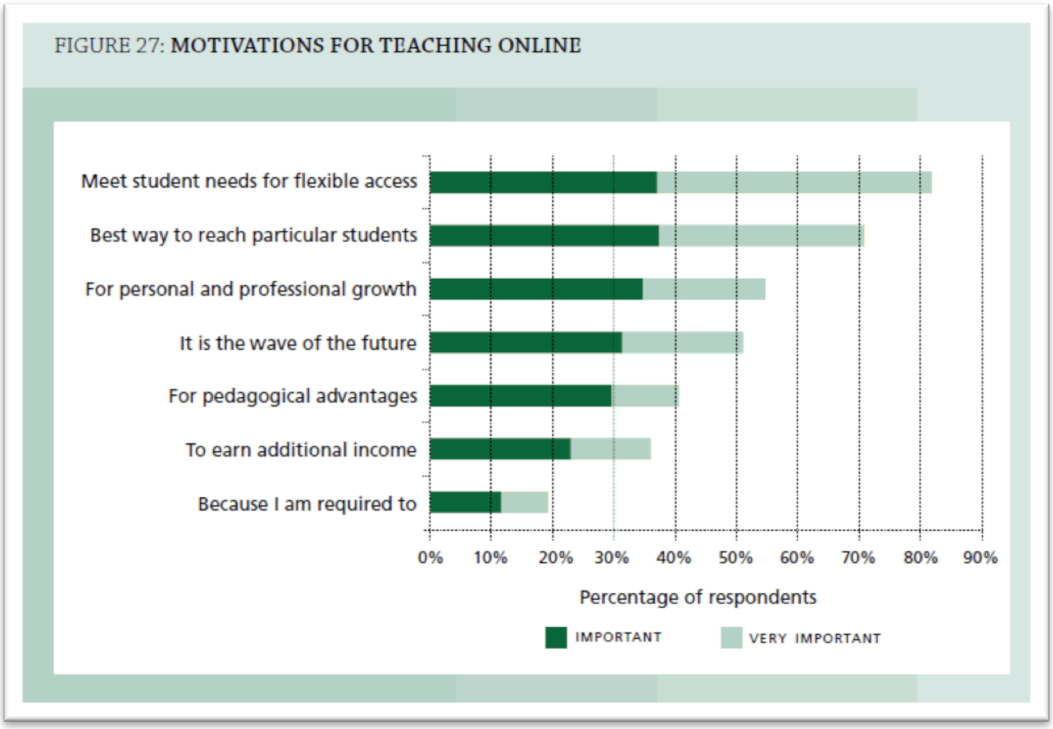


Figure 3: Motivations for Teaching Online, (Allen & Seaman, 2009)

4. Finding 4: Participants Encountered Significant Challenges but Made Minimal Adjustments to Their Online Teaching

A primary focus of this research was the impact of online teaching on teachers' professional identity. This focus is premised on the assumption that online teaching is a disrupting professional experience that causes teachers to develop new teaching practices and beliefs, or to adjust existing ones in order to adapt to the particular needs of the online classroom. This finding reports on the nature of the disruptions that teachers experienced, and how they adjusted to these challenges.

4.1 Participants Struggled with Many Asynchronous and Non-Face-to-Face Aspects of Online Teaching

When asked about the initial challenges encountered when they first began to teach online, four participants reported struggling with re-creating the lively, spontaneous kind of discussions and informal lectures that develop organically in the classroom:

> *"It was "how do I get that so that students would actually participate on the discussions as opposed to just taking exams."*
>
> *"The main thing, when I was designing the lessons, I had to figure out how to present the kind of information that would normally develop organically in the discussion in a classroom."*

Three participants reported experiencing time management issues, especially with regard to finding ways to prevent the online course from entering their everyday lives, and finding the right balance between time, effort and financial compensation:

> *"But just this business of how much time and energy to put into communicating with students. So the answer to your question is, initially and still, I find it challenging to sort of decide how much time and energy to put into different aspects of the course."*
>
> *"And then I guess another adjustment for me was figuring out where to draw the boundaries of when to communicate with students."*

The rhythm of online teaching is different from the rhythm of face-to-face teaching. A face-to-face teacher's schedule must conform to the days the class actually meets, whereas online courses are on going:

> *"and the energy. I mean it's an energy thing, it's an adrenaline thing, and I definitely feel it at the end, sometimes teaching one class, I walk out of the class about an hour later, I can just feel my whole body just relaxing and exhaustion kicks in, and I don't ever have that experience with online teaching, 'cause there's never those highs and lows, it's just much more steady."*

Two participants reported feeling constrained to revert back to teacher-centered practices when moving online, and struggling with communicating with students in the absence of verbal cues:

> *"I think one of the things that I struggled with-and I'm not sure if it's an adjustment - but trying to get the online class to have some sense of personality. There are things I can do in the classroom- tone of voice, a raised eyebrow, you know, there are things I can do where people can read my body language, that I'm joking or that I'm pushing them, but intentionally, that I'm not some jackass! That is more difficult to translate into an online class,"*

Other reported issues included plagiarism, having difficulty providing thorough feedback on assignments within reasonable time limits, struggling with technical problems and feeling like they were not in control of their students.

The challenges the participants reported are similar to the barriers to online teaching reported in the literature. Reported barriers include the acquisition of adequate pedagogical and technical skills (Polin, 2004; Grabinger, 2004; Duffy & Kirkley, 2004), lack of students' readiness (Seaman, 2009; Wasilik & Bolliger, 2009), and time and compensation issues (Seaman, 2009; Gudea & Ryan, 2008; Garrison & Anderson, 2003). Online teaching thus creates dissonant circumstances that disrupt the stability of teachers' identity with regard to their online teaching duties. The next section presents findings on how the participants coped with these dissonant circumstances, and on the steps they took to address these issues.

4.2 Participants Changed their Assessment Methods but Ported their Classroom Practices Online

Interestingly, although the participants reported facing significant challenges when they first began to teach online, the adjustments they reported making to their courses and their teaching practices appeared minor, and were not necessarily connected to the challenges

experienced. The most frequently reported change was modifying their assessment approach, such as breaking larger tests into several smaller, time-limited quizzes in order to prevent plagiarism and to maintain students' engagement throughout the course:

> *"Tests? I spread them out instead of giving two major exams, I turn them into multiple quizzes throughout the semester, because I thought it would be easier for them to deal with a small amount of material each time and keep them engaged more than waiting for a big exam and then maybe getting negative feedback and then, you know, things fall apart.*
>
> *"Well let me think. So, first of all, I definitely had to make directions more explicit, and so any kind of direction that students were getting had to be very explicit because they didn't have the opportunity to ask follow-up questions as quickly, and it seemed that they were more likely to just go ahead and do it the way they thought it was instead of asking by email or something like that."*

Three participants transformed their class notes into detailed and (hopefully) engaging written lecture notes:

> *"Also, well just coming up with a new style of presenting the material, because usually when I, I don't, I just use written notes for their key points for every week, and in a classroom, I just kind of have a brief outline and then I know what I'm going to say, but I had to write out everything that I would say. And I found out that that had to be done in a much more orderly fashion than I would necessarily otherwise do, and so it had to be very well organized and I ended up going with outlines, and so with multiple levels of points of outlines for every week."*
>
> *"and so in the notes that I write- first of all, I have to convert ideas into actual narrative kinds of notes- even in the notes, it's trying to put a little bit of the language in there that's a little looser, more conversational, so it's not just dry information."*

Two participants reported becoming more explicit and directive in their teaching styles:

> *"When I first started teaching online, (...) I began to recognize that there was an actual need to spend, or rather to devote a little bit more effort to giving students instructions, and that the instructions not only had to be more clear, they had to be more precise. And in an on-site class, in a face-to-face class, you can leave a lot open for discussion, because of course, the students are right there in front of you."*

When asked about how they approached the design of their online courses, several teachers explained that they based their online courses either on an existing face-to-face course, or on classroom-based and generally teacher-centered course design. This strategy is generally referred to in the literature as "porting the classroom to the web" (Bransford et al., 2008). The course observations confirmed that, for the most part, the participants employed teacher-centered course design and teaching practices both for face-to-face and online classes, a teaching approach that generally favors lectures, direct instruction and individual student-work. This remains the prevalent model of instruction in higher education in the U.S. (Bransford, et al., 2000; Laurillard, 2001).

> *"But the rest of it, the discussions, the way in which things are framed translated immediately. So like, today we're doing chapter 5 in this one textbook. The lead question, exactly the lead question, the learning goals are exactly the learning goals, because it's essentially the same course. In today's class, I'm going to be talking to them and we'll be having the conversation here. In my classes we do the conversations on blogs. So I try to keep the two teaching methodologies as close to the same as possible."*
>
> *"You know I would say that a lot of the teacher I am in the on campus environment is the same teacher that I am in the online format in the sense that I'm big on sharing myself, sharing my enthusiasm, sharing my adventures, sharing my perception of what science is. That's what I do in the lecture course and I really think I try to do that in the online course also."*
>
> *"And if they work through the questions as they're reading the text, it somewhat simulates the kind of things that I would point their attention to in a discussion, 'cause they're based on my discussion questions that I design in the classroom."*

Thus, instead of making changes to their professional identities to fit an online course format, the majority of the teachers made the online course format fit within the constraints of their existing classroom identities.

4.3 Online Teaching Had an Impact on Participants' Classroom Teaching Identities

The participants were asked about the potential retroactive impact of their online experience on their face-to-face practices. Several reported a number of influences: Three participants reported feeling more comfortable using technology to enhance their face-to-face classroom:

> *"I'm more comfortable with technology now than I was, so I do use discussion posts more in the classroom than I used to, 'cause I know how to do it, how to set them up. I can't imagine having a class on campus anymore and not having a website where I can feed them information."*

> *"I definitely have started to use some other things and so for example, I've use online discussions, which I found to be really useful."*

The participants also reported that teaching online made them more organized in the classroom, and more precise when conveying policies and expectations. Online course design often requires teachers to plan out the entire course at the beginning of the semester, as opposed to distributing a syllabus on the first day of classes and preparing lesson plans the day before class throughout the semester. Thus, the level of organization that online course design requires appeared to influence the teachers' face-to-face practices.

Other reported influences of online teaching on face-to-face practices included feeling more comfortable using computer mediated communication to handle issues traditionally tackled through face-to-face meetings and being more selective about the material presented in class and less inclined to bring in distracting material.

4.4 Discussion

Generally, online teaching did not appear to have any kind of transformative impact on the participants' professional identity at that point in the study. It is important to note that this study represents a picture of a particular moment in time, and that as those teachers acquire more

experience, or participate in professional development efforts, they might reach a very different place with regards to online teaching (See Case Study Two). However, at that particular point in time, the majority of the participants' approach to online teaching was to port their essentially teacher-centered face-to-face practices online.

This is not a surprise, given that most of the participants received a minimal amount of training before beginning to teach online, and that they were not provided with examples or reasons to change their approach to teaching when moving online. Teacher-centered practices are usually defined by a strong teacher presence; a heavy reliance on lectures, (and less on small group discussions); and a sequential approach to instructional design where students are presented with the course content (often through a lecture), are given some opportunity to practice (through exercises), and are then tested on the content. Although such practice have come under criticism over the past fifteen years (Bransford et al., 2000; Laurillard, 2001), when well-designed, this approach has been shown to be effective and to offer the significant benefit of being familiar to students. Studies on best practices however, advocate the use of student-centered practices, which are defined by a more understated teacher presence and the strong encouragement of students to lead discussions, engage in authentic and project-based activities such as problem-based learning (Duffy & Jonassen, 1992), collaborative learning, cognitive apprenticeship (Brown, Collins & Duguid, 1989) and other constructivist-based learning activities that offer students an opportunity to engage in meaningful activities, while collaboratively solving authentic problems. In modern practice, teacher practices are rarely entirely teacher or student-centered, but are often located somewhere on a continuum between the two.

Although perhaps effective in the classroom, teacher-centered practices do not translate well when directly ported to the online classroom. The isolated nature of online learning calls for practices that engage students strongly, and that help them to remain motivated throughout the duration of the course (Duffy et al., 2001). As described below, porting classroom practices directly to the web prevented several participants from being fully satisfied personally and professionally by online teaching. Many participants reported facing significant challenges pertaining to the enactment of their teaching practices, as well as their personal and teaching personas. This challenge is in part explained by the absence of training. Without examples of alternative practices that would work better online, they simply used the practices with which they were most familiar. For others, however, the teaching practices called for online actually conflicted with their teaching identity. One participant, for example, expressed a strong attachment to his teacher-centered approaches and skepticism with regard to other more student-oriented practices:

> *"If I was a big fan of breaking into groups and having students teach themselves and interact, I'd be doing more of that online but I don't. And I think that might work better in some respects in the Humanities where it's about learning how to express your ideas and learning how to do both oral and written argument. But I'm concerned that if they don't understand something, I'd rather not ask student X why Y doesn't understand, ask me! So I don't feel bad about playing down that aspect, I'm not anti having students interact. I feel like a lot of my on campus is reflected in the online class."*

The fact that the majority of the participants ported their face-to-face practices online appears consistent with other patterns of technology adoption. Garrisson & Anderson explained that "the content of a new medium is initially always an older medium. Thus, the first use of cinema was to record plays, and the first use of the Internet was mail. Likewise, the first educational application of the Net was to disseminate lectures and replace paper syllabi (Garrisson & Anderson, 2003, p8). They further argue that to make optimal use of the educational potential of

the web, teachers must transcend old teaching practices. However, this process is hindered by the lack of teacher training in higher education, but also, by the lack of sufficiently flexible technologies. The technologies available today to support online teaching and learning (e.g., CMS and LMS) generally constrain teachers into using teacher-centered practices (Lane, 2005). It is open to question how long, in the absence of a professional development intervention, before ineffective online teaching practices become ingrained in teachers' approaches to online teaching? Some of the participants in this study had been teaching online for three to five years when they were interviewed; convincing these teachers to change their approach may represent a challenging professional development endeavor.

5. Finding 5: Participants Have Fragmented Online identities

Participants were asked a number of questions meant to determine whether they were able to teach online in the way that they would wish. Their answers revealed that most participants had difficulty applying the face-to-face teaching approaches with which they were familiar, which prevented them from being fully satisfied with their online teaching.

5.1 Participants Have Fragmented Online identities at the Pedagogical Level

Several teachers reported feeling that the online classroom constrained their teaching practices, as described further below.

Teaching Approaches

The participants were asked whether they successfully implemented their teaching practices in the online classroom, and whether they were able to be "the teachers they wished

to be". Nine participants reported that online courses were pedagogically limiting:

> *"There are a number of in-class role-playing games that I use depending on the size of my class that helps to reinforce some lessons. And that I have yet to figure out how to do well in an online environment."*

> *"Well, definitely. I mean, as you've seen in my on-campus course, I really like to teach socratically, but as opposed to Socrates, who might just interact with one student, I try and get everyone to sort of play in the discussion and that's, you know, I haven't been able to do that."*

> *"A Socratic teaching style does not work well in an online class so you have to take a little bit more directive, platonic approach, which I'm not terribly comfortable with doing."*

This last participant felt that the online classroom compelled him to revert to a more teacher-centered style of teaching, although the most frequent recommendation made to teachers new to online teaching is to adopt student-centered approaches.

Spontaneous Teaching

Another constraint (reported by five participants) was the inability to offer spontaneous explanations or "just-in-time teaching":

> *"It's never gonna be exactly the same because it's not me saying suddenly, 'oh let me tell you about this and how that affects queen Elizabeth and why Shakespeare might be writing this and making this comment now, because the queen is…"*

> *"It's face-to-face yeah, the combination of face-to-face and real time is really significant, because then you can sort of pose a question and you can see how one student reacts to it, and you can also see, even how other students may not be speaking up, what they're making of it. If somebody's been teaching for a long time, you see a lot through their body language and it's fun to be able to see that."*

> *"But one of the things that I have found is, you know, it's hard to give up the idea of a cohesive class like you have when you are on campus. I mean, you meet together at the same time, they're all hearing the same thing at the same time, you might have to repeat it once more, but then pretty much end of story, you might have a few people you know emailing you and asking a question."*

Another participant believed that the online environment tends to be scripted and predictable, while classroom teaching tends to be more organic and spontaneous in its development:

> *"Where online, you kind of just have to plop it all down, like here's the information, and then there's the discussion. And so on the one hand, I don't like that fact, that those things are so separate online, that there's the presentation of information, and then there's the engagement with what you've learned."*

Create Robust Discussions

Some of the participants reported struggling with creating strong discussions:

> *"I introduced more questions. I'm not really thrilled with those yet because-and it may be the way I'm framing them- they're really not discussions, they're just postings, basically. So a few people, some of the non-traditional students again, are interacting with the discussion questions, but not very many are doing that. So it's not...I wouldn't really call it a discussion, I'd just call it people posting their answers, right? So I have more of those than I do in my normal class."*

> *"I do think it lacks something though, and mostly it comes down to those discussions. I can have much more robust discussions in a class of 35 students face-to-face than I can have in an online class of ten students. 'Cause they're just not checking in at the same times."*

It is noteworthy that several participants observed that online students tended to produce better answers in the discussion forum that their face-to-face counterparts did in the classroom, a finding supported by prior research (Garrisson et al., 2000). The asynchronous nature of the online classroom gives student and teachers more time to think, research and craft their answers to discussion questions. They have time to proofread their answers, verify references, and carefully craft written response. Their contributions can therefore be better than the answers provided spontaneously by students in the classroom. As a practical matter, both types of discussion are valuable. Classroom discussions are excellent for brainstorming a large array of topics, while asynchronous fora lend themselves well to-in depth explorations of these topics.

Give Feedback

Another often reported constraint was the difficulty associated with finding ways to provide students with rigorous feedback on their work:

> *"But there should be an opportunity for the class to be richer in more than that, and it's been hard for-at least for these lower division courses I'm doing, (...), that's one I don't know quite how to give adequate feedback, or interaction."*

> *"If I were to tell them that in person, they would be picking up all other kinds of signals from me that would soften the message. Cause non-verbals can be used to harden a message, soften a message, exaggerate a message, you know, under-exaggerate a message. So you don't have that, it's just all flat there."*

Frame Assignments, Give Clear Directions

Some participants reported experiencing difficulty providing clear directions on assignments. This obstacle is directly connected to their inability to give spontaneous directions on assignments, which would allow confused students to correct their work before submitting it:

> *"It's really hard to measure how much information I need give in an assignment. Cause if I'm front of the class and there's an assignment that I've written out, and I've forgotten something and I want to elaborate, I just do it orally, right? Or I'll give them some extra instruction orally and that might not happen online."*

> *"And it's such a different kind of thing, you're not really framing any of the assignments, you know all of that is being done through the system, and so you have a lot less sort of control over how people take things and where they're going with it, which in a way is cool 'cause you see kind of where they take it, and they take it in very interesting ways sometimes, but it can also be sort of like, well, hard to negotiate the expectations. What they turn in, it will sometimes look very different than I would've expected."*

5.2 Participants Have Fragmented Online Identities at the Persona Level

Eight participants reported experiencing difficulty conveying their teaching persona online. By teaching persona, I am referring to elements of both their personal and professional

personality such as their sense of humor, their strictness or flexibility as teachers, and their overall tone and manner when teaching. Online courses taught by the participants were hosted in primarily text-based environments, which lack non-verbal cues such as body language, facial expressions and tone of voice.

Being Accurately Perceived

Two participants were concerned about how their feedback and comments were perceived by students. One of them explained that she was having difficulty conveying how sympathetic she was when writing feedback on unsatisfactory assignments, noting that in person, students "*would be picking up all other kinds of signals from me that would soften the message.*" Her concern was that students would only see the feedback but that her sympathetic attitude about it would be concealed:

> *"So, you know, when you use language alone, there's no nuance to it. You know, there's no…they can't hear the sympathy in my voice, or the concern in my voice, and so like I wrote good feedback on a couple papers that were just horrible. And it was tricky for me to communicate to them."*

Another participant was concerned that students would misinterpret her comments:

> *"I think the biggest challenge actually was figuring out how to communicate with students when you don't have the face-to-face interaction and so avoiding students, well just the tone tends to get lost when you're communicating via email or online message, and so the sort of wording things in a way that there's no way that they could infer the wrong tone, and making allowances for the students that they may not have intended the tone that comes across, that was a big adjustment."*

Several other participants found it difficult to control how students perceived them:

> *"I'd like them to see me as an energetic and friendly and encouraging kind of person, and if that's part of the classroom presence, then yeah, I'd like them to sense that. And understanding and kind of inviting of their thoughts, questions, etcetera, that's really important. And I think that's something that is so much easier done in the classroom than in the online format."*

One participant observed that "*the personality of the professor is so much more palpable*" in the classroom and another one noted that his online students "*know the knowledge side of me, they don't know the quirks type things*."

Humor

Four participants believed their sense of humor and personality did not translate well online:

> *"You know, they don't, and the big thing that's different is the humor. And so you know, there are jokes and things that are funny that come up in the regular classroom, and occasionally something humorous comes up in the online class, but it's pretty hard to do that."*

> *"Some of my other students who have been in one or two of my classes, they know more of my quirks and that gives them a better sense of my personality. You know, where I might throw an offhand joke, you know, so they'll get the idea 'this is a guy that makes a lot of jokes about himself, this guy makes jokes that relate to country western' there's a lot of allusions out of country western that I won't do online. You know, so that's where they get a little more sense of my personality, but in terms of what I'm talking about, they're roughly the same."*

> *"I think I like being able to be a little looser, and I mean again, sarcasm doesn't carry online. It can be misread so easily. So, some of the things, again, that I can do in a classroom that I enjoy and that I think work, don't translate online."*

Reluctance to Share Personal Information

Interestingly, while several participants appeared to struggle with the anonymous nature of the online classroom, few of them felt comfortable sharing information that would allow them to establish a more authentic social presence online.

> *"- I have a very small little blurb about myself, I think about four sentences long. And I've not shared photos yet. I have been considering some kind of photographic element being used.*
> *- Is it important to you?*
> *- Not very."*

> *"That doesn't matter to me as much unless it impacts how they learn. I mean, as long as they're learning the stuff, whether they think I'm, you know, funny or personable or goofy or intimidating, as one person said. That kind of doesn't matter to me as much, but it matters to me if it's affecting how they learn, and I can't tell that."*

> *"I do encourage students, student-to-student interaction to be social, and I like that. (...) So I think there's a really healthy student social presence. I try to keep my distance from that."*

It appears that, although they found the online classroom anonymous, Case Study One participants were generally unwilling to take active steps in order to make their social presence more palpable online.

5.3 Discussion

The majority of the participants attempted to port their primarily teacher-centered classroom practices to the web; most were not satisfied with the results. This dissatisfaction with the online classroom is partially explained by the absence of those elements that are strongly associated with what is considered good teaching and learning, such as a dedicated location and in-person lecture led by an outstanding orator. Such culturally-engrained perceptions of what constitutes good teaching are difficult to abandon, especially since, in the absence of training on how to teach online, most teachers do not have any alternatives with which to replace these perceptions. Providing teacher training opportunities, inviting successful online teachers to share their experience and offering examples of exemplary online teaching practices represent possible ways in teachers can begin to alter their online teaching practices and revise their beliefs about the inherent shortcomings of the online modality.

Another significant barrier to the successful enactment of teachers' identities online is the shortcomings of the technologies available to teach online today. Course/Learning Management Systems are the technology of choice for online course delivery but they tend to lack usability,

user-friendliness and flexibility as they constrain teachers to use teacher-centered pedagogies and often lead to the creation of sterile and anonymous online course environments (Lane, 2005; McGee et al., 2005). For example, very few CMS offer students an opportunity to build an online profile, or choose the tools and features they wish to use. The teacher is the one in control of the both the appearance and content of the course shell.

6. Finding 6: The Issues Experienced in the Online Classroom Have Negative Repercussions

This section reports ways in which the struggles the participants reported having with the online modality affect their behaviors and beliefs related to the online classroom.

6.1 Participants are Not Able to Use Familiar Teaching Practices Online

Nine of ten participants in Case Study One reported that the online environment constrained their teaching practices to some degree, and that, as a result, they sometime felt that their online students were at a disadvantage compared to their face-to-face students:

> *"I don't know if they have- I don't know that it's an awful experience, but I don't know that they have the same experience that they would if they saw me in person."*

> *"The only caveat to that is that I think it's impossible for me to not recognize sort of a certain level of disadvantage that the online students have. I feel like even though I'm an email away, I'm less accessible."*

6.2 Participants are Not Able to Enact their Persona Online

As a result of the lack of control over the way in which students perceived them, several participants reported holding back on how much they shared about themselves, on how much humor they used and even on how strict they were with their online students:

> *"But I think I'm a less private person in person, because there's a-for me at least-there's a…some sort of unwritten social contract, you know, that doesn't mean I lord out my private life necessarily, but it's like ok, if I can see you and I can see how you're reacting to some of the small things"*

> *"And I think that's another reason why I don't feel like I can be as strict online, because my in-person students on the one hand know not to cross me, but on the other hand, they think that I'm generally nice and approachable, and that if they have a real problem, that I will deal with it. But online, that balance is gone in both directions I think."*

One participant reported "*I don't feel as engaged or as engaging, and I don't feel like my sense of humor really gets expressed*." Another participant mentioned that she felt she "*should do more"* but also noted that it required a level of self-disclosure she felt uncomfortable with:

> *"So I don't know that they have much of a sense about who I am. That's probably something I should work on, but it pushes my comfort zone in terms of again, the privacy of my information."*

In this particular case, online teaching practices required behaviors that conflicted with her personal identity. In a text-based classroom, teachers receive very little feedback on the way students interpret their comments, contributions or feedback on assignments. If the teacher wishes to be perceived in a certain way (funny, smart, kind…) she needs to somehow describe herself that way. However, students can interpret this form of self-promotion negatively or erroneously, and should this be the case, the teacher cannot rely on students' body language or other non-verbal cues to become aware of this misinterpretation. This is referred to as the "impression management dilemma" in the literature (Chester & Bretherton, 2007, p229).

6.3 The Constraints of the Online Classroom Have a Negative Impact on Students Expectations

When asked whether they had the same expectations of their online students, five participants answered that they tended to be more lenient. One acknowledged her lack of experience:

> *"No, I don't think I do. I think I should, and I think I will, but because I'm so new at it, it's really hard to measure how much information I need give in an assignment."*

Two participants felt they could not be as demanding because online students had less of a chance to interact with each other and with the teacher:

> *"I'm not quite as demanding with the online students as I am for the face-to-face students (...)But the other reason behind it actually is that it is an online class and the degree to which we can actually get into exchanges that help develop their work is somewhat limited by the fact that it's online."*
>
> *"I just feel like the online students are at more of a disadvantage and because of that I think I tend to kind of offer more overall points for them. So do I make the cutoff for a B- at 79.5? absolutely, but is it easier in my online class to accrue those points to get the B-(...) But I'm making it easier for my students to reach whatever bar there might be."*
>
> *"I think I am less demanding in terms of the quality of the writing for the online students. In part because as much as I try to explain what I'm looking for, I don't have the opportunity to really hit home."*

One participant answered that she felt accountable, as a teacher, to have the same expectations for her face-to-face and online students. The other participants did not address directly the question of expectations in terms of quality, but rather work load. Two participants commented that online students were doing more work, and one felt that the quality of the online students' writing tended to be better:

> *"I would say roughly the same, yeah. I find that often, the students who submit things, papers to me, online, their work looks better to me. And I don't know if it's because they have more time to work on it as their own pace, or because they're sort of chose to take the class in a different kind of way, where they're more motivated or something. But I tend to be more impressed with their work."*

Finally, one participant felt he was doing the same amount of work, which seems to be due to the fact that he was trying to make the two modalities as similar as possible:

> *"You know, so their work is the exact same, and I expect them to participate too. Again, I try and keep them as paralleled as possible. Again, taking into account the amount of time you have."*

6.4 Discussion

Eight of ten Case Study One participants were not fully satisfied with their online teaching. They expressed the view that the online classroom lacked the flexibility required for them to enact their teaching practices and their personal identities. As a result, they considered their online presence to be less palpable than their face-to-face presence, and that they could not exhibit their teacher practices and persona, thus placing online students at a disadvantage. As we will see in the following section, many of the participants believed that this state of affairs was a function of the online modality, and did not entertain the possibility that it might also be due to the shortcomings of the pedagogies that they had implemented online.

7. Finding 7: Participants Hold Negative Beliefs about Online Education

7.1 Participants Believe Face-to-Face Teaching is Better

A teacher's identity encompasses teaching practices and persona, as well as beliefs about teaching and learning. Eight Case Study One participants expressed the view (to varying degrees) that online learning did not measure up to face-to-face teaching.

Several participants explained that face-to-face teaching simply was better for students' learning:

> *"I think it still works a little better [face-to-face teaching]. I frankly think that people can learn more in those settings."*

> *"I'd still rather teach face-to-face. I think it's better for the students."*

> *"(...) They're very committed, and it's probably important that that option exists for them, or they wouldn't be using it, but I feel like they probably could get more*

> *out of not just face-to-face interactions with me, but face-to-face interactions with the other students."*

Other participants referred to the fact that face-to-face teaching was a richer and more rewarding teaching experience:

> *"I think it's more rewarding for me to develop the relationship with the students."*

> *"I still think I'd tilt towards face-to-face. I think it's, for me, I get to know my students better and that's one of the things I really like about the job."*

Another reason invoked was that face-to-face teaching offers more pedagogical freedom:

> *"There's also a little more flexibility in how you can present. Example: in my intro to IR classes, when I taught those, there are times when I can break the class up into small discussion groups, and that's a lot harder to do in an online phase."*

In several participants' experience, face-to-face teaching affords a richer and deeper experience beyond the mere learning goals:

> *"It's not as rich of an experience for me (…) But in a small classroom, I have a seminar class right now that has six students in it and they're doctoral students, and so I'm pretty open with them, not so much about my personal life, but certainly about like, academic life, and things like that, and I kind of you know, shut the door and say ok, what gets said in the room stays in the room, but here it goes. Here's what you need to know about this career you're thinking about going into."*

> *"I feel like I can do a better job and I can directly influence the students in the aspects of the discipline that I think really are important, and for me those influence sort of the picture (…)I do absolutely feel that if you can provide a sense of your own association with the field, then you're better off and you can do that better on campus. So to me, that's a negative aspect of online learning, which is not going away."*

Participants also expressed the view that online courses afford fewer opportunities to provide clear expectations:

> *"And it's such a different kind of thing, you're not really framing any of the assignments, you know all of that is being done through the system, and so you have a lot less sort of control over how people take things and where they're going with it."*

Finally, two participants explained that being on campus offered irreplaceable qualitative attributes:

> *"I think there are downsides where there is a benefit, like a culture that you get from being on-campus, and seeing yourself as a student as opposed to, 'well, I got my degree at the same time I was doing this, and that, and this and, you know, I just sort of fit it in between dinner and something else.' And I think people can get the information, but you know, college for me wasn't really about the information that I learned, you know, discovering philosophy as a field was a transformational experience, and a lot of it had to do with sort of being stuck in a place that was cold and windy and you know, having these conversations with other people. And because you're maybe not forced into that, you can acquire the same information, but it may not have the same cultural effect or transformational effect."*

> *"but then I really love being able to go and teach on campus, be on campus. It feels, there's something about being on campus that's great. I mean, I grew up as a kid who had a professor as a Dad, my mother was a microbiology professor in a little college in Oregon called Reed College and then what do I do? I go to college, then I go to grad school, I mean it's like I spent my life at a university and I've come to really like the environment. A lot of students think that universities are places of learning and they are, absolutely. But what most college students do not get is that a university is a place where knowledge is being created and kind of critically evaluated by people. It's not just a place where there are people standing in front of podiums, talking about disseminating knowledge, it's a place where it's being created, and evaluated, and that's one of the things I think students go through this developmental thing, and I think by the time they're wrapping it up, they're starting to get that. And certainly by the time they go to grad school. And so I love that environment where things are happening like that. And even being able to participate a little bit ...I think the online environment isn't that as well."*

> *"From my own perspective, just like I said earlier, I love the University because it is this cauldron of creation."*

For a few participants, the college experience could not possibly be as rewarding for students who are not physically present on campus, and who do not have a chance to fully experience the socialization aspects of campus life.

7.2 Participants Hold Negative Beliefs About Students' Motivation to Study Online

Throughout the interviews, Case Study One participants expressed beliefs about the way students experience online teaching. Four participants appeared to believe that online students were not always motivated by learning goals, which affects their own motivation when teaching online courses. Some participants apparently believed that students take online classes because they perceive them as an easier path to degree or course completion:

> *"Yeah, well see that part I really, that's a hot spot with me, I just feel that a lot of students see the online format as a way to circumvent time put into a class."*

> *"Or you've got, you know, most of my students in Environmental Ethics, well they need to graduate, they need some upper division core credit class, and well, you know, here's an easy way to do this from wherever."*

> *"I mean, I think ultimately students take online classes because of the convenience. I don't think that they're really think 'we have great online faculty, and I'm gonna experience a new, better kind of learning.' Although it would be nice if that was the situation, but honestly I don't think it is. I think it's really a convenience, which for higher education, a lot of people are getting their degrees and completing their education and doing, because of the convenience, so that's wonderful."*

Only one participant considered online courses as more challenging for the students:

> *"There's more student motivation require to do an online course. The other part is, you're gonna get out of it what you want, the same as anything else."*

7.3 Participants See Some Benefits in Online Teaching

Seven of ten participants held some positive beliefs about online education. Many were appreciative of the fact that online courses created access to education for a broader population. In addition, four participants characterized online students' work as better than the work of face-to-face students:

> *"On the other hand though, in some ways I think the engagement online is actually better because the students have time to think about it before they talk*

> *about it. I mean they're writing instead of talking, and so they are considering their ideas more."*
>
> *"That's different. Now, a good part is students in the classroom may not give as considerate and as organized an answer as they will online because they're gonna do it when they have the time to do it."*
>
> *"One of the advantages that I think students have as opposed to the classroom situation is they can think about what they want to write as opposed to an off the cuff remark. So the quality of some of the input from students is actually a little bit better. It's more thought out. They give better examples to support their arguments."*

One participant observed that an online writing course allowed her to focus strictly on the students' writing:

> *"and when I see students in class every week, I get to know who they are, we get to be more personable, you know, chatting during class, after, and stuff. But online, it's a different tone. And like I said, we still have a warm community, but I feel like I'm more focused on the writing a little bit more."*

7.4 Discussion

Most Case Study One participants appeared to hold significant negative views of online teaching. The commonly held view was that the affordances of face-to-face teaching were superior to those of online teaching. For many participants, these beliefs were reinforced by their personal experience with online teaching. This finding helps explain why this group of participants identified primarily as classroom teachers and participated only marginally in the online teaching community of practice. Beliefs and teaching practices do not exist in isolation within a teacher's identity. One cannot successfully attempt to change one without considering the influence of the other. Interestingly, teachers might not always be fully aware of the beliefs they hold with regard to teaching and learning. Thus, simply encouraging reflective practices

through semi-structured interviews might help uncover, and possibly challenge, some of those beliefs. As one participant observed upon completion of the final interview:

> *"Fascinating. You have opened my eyes through these interviews and I think that's something that should be recognized in the work that you're doing, is that simply interviewing and talking to people gets them thinking about it, and even to some extent, it gets me fired up."*

8. Finding 8: Online Teaching Presents Affordances Aligned with Participants' Professional Identity

Four Case Study One participants leveraged the unique opportunities afforded by online courses, mainly their relative anonymity, to accommodate particular aspects of their professional identities. For example, two teachers reported disliking the public and performance-oriented nature of face-to-face to teaching. Interestingly, these two teachers were among the few who reported enjoying online more, and who would agree to teach online entirely:

> *"I mean the part for me that's so good is that I don't have to lecture to a bunch of faces."*

> *"I mean, in many ways I do like the online class because I tend to be a little more nervous in front of classrooms."*

One of those participants believed online teaching was a better fit for because of her strengths:

> *I've been told that I have a good online persona, and certainly I am more of a writer than a speaker, so I feel like even in my face-to-face classroom, I send a lot of emails because oftentimes I'll forget things, or I'll phrase something in a funny way and I'm thinking about it later and I'm like 'that was probably confusing for people.' And I'll do it online because it's easier for me to think things out.*

Another participant also believed that online teaching was a good match for his teaching identity:

> *"I'm a reader. I'm less of a visual learner, even though as someone who's trained as an engineer, I tend to think visually. I am also someone that prefers to read. Example: I'm more likely to read something than I am to go online and watch a lecture, 'cause my mind drifts. It's my learning style."*

This individual also felt that online teaching was a good modality for him because he had an especially strong classroom presence, which was confirmed by classroom observation. He reported leveraging the anonymity of the online classroom to mitigate his own presence and encourage students' participation:

> *"like I said, when I post, very rarely do students say 'oh this is what the professor said,' 'cause all they see is my name. Sometimes they don't make that link. Which I think is nice, because I do know, and I've had students tell me this, particularly students who got to know me after a while, that I'm very intimidating, which I never really think about, but I did have one said that it is a function of not me as much as the other professors. I'm used to speaking in public. I'm rather loud, and I'm more physical than a lot of them. And that tends to be seen as more intimidating, not unfriendly intimidating, just kind of command of the presence. And I think a lot of that is from having been in command, where that's part of your persona, even if you're normally an introvert or a quite person, when you're in front of your platoon, your company, your battalion, you have to be in charge, and the same thing in a classroom. I have to be in charge."*

> *"So I think one of the things the online course does is it does allow me to reduce the presence that I have as a professor."*

This same participant reported that his answers were more accurate online:

> *"So when I'm at home I can go 'I think it's this author' and I can go back and say 'ok, it was in this book' or I can go 'I remember this incident, or I remember this author, I remember this theory' and I can quickly open up a search engine and track it down and go 'oh yeah' and then provide the link, and say 'oh by the way, if you want to look at this, if you want to talk about this, go here.' So you can do a little more specific directions online than you can when you're in a classroom, which is kind of nice."*

One participant reported using the anonymity of the online classroom to focus strictly on

the students writing, without being distracted by who they are. In her case, she leveraged this anonymity to be a more objective teacher:

> *"But there's still a sense of anonymity in the writing, and I intentionally I don't look at students photographs, and I don't try to get to know them too well so that when I look at their writing online, I focus I think more on the writing."*

This participant was also the one who appeared to enjoy teaching online the most. Interestingly, she was the only teacher who reported wanting to be seen as "as a facilitator and coach." The online course really allowed her to fully implement her teaching beliefs (that a teacher should be a guide on the side and not a sage on the stage). Her student-centered teaching practices ensured that the teacher presence was not dominating:

> *"You know, one thing that stands out to me teaching online is that we establish, again, a community of writers that work together, they get to know each other, and we talk and discuss and we have a really nice community up front that get's started in the first week."*

8.1 Discussion

The four participants who best leveraged online teaching are the same teachers who reported enjoying teaching online the most, who had the least amount of concerns with online teaching and the quality of the learning experience it affords. It appeared that their professional identities had certain characteristics that were especially compatible with the online classroom. This suggests that when a teacher's identity is well aligned with online teaching conditions, the teacher is more likely to enjoy online teaching and to recognize the online class as a valid teaching and learning venue.

9. Finding 9: Participants Derive Limited Professional Fulfillment from Teaching Online

The semi-structured interviews made it possible to get a sense of how professionally fulfilling online teaching was for the participants, and what aspects of online teaching were especially satisfying to them. Findings reveal that they found the anonymity of the online classroom constraining but that they did derive some levels of fulfillment out of the quality of students work.

9.1 The Anonymity of the Online Classroom Hides Participants' Identity

Seven participants commented on the anonymous nature of online courses. Two of them used this anonymity to focus more objectively on the students writing, or to mitigate a potentially overpowering teacher presence. However, the other five participants found this anonymity constraining:

> *"And you just don't have that online. You know I have their pictures, but not hearing their voices, not having any of those non-verbals, and of course I teach a course on communication, so you know, I do rely on those quite a bit, and I feel like I'm a very empathic person. And so I can't, it's harder for me to empathize with my online students."*

> *"You can look at their photo roster and so you can get a sense of what they look like, but you can't recognize them when they walk by on campus. So it's kind of like this anonymous entity that's really just reflected in what you're reading, whereas with face-to-face course, you get to not only see that person every day, you can exchange conversation with them about the weather, about skiing last weekend."*

> *"I like being in the classroom. You get a much better feeling for what the students are doing and what they're like when you see them two and three times a week."*

> *"In the classroom, we talk about our lives a lot. See what people are doing, and where they're from, and stuff like that. And that's not the kind of information I tend to get from the online people."*

Six participants reported other aspects of online teaching that prevented them from being professionally satisfied with this modality. Reasons for this dissatisfaction included views that

online teaching lacks faculty flavor, is not rewarding, is qualitatively inferior to face-to-face teaching, and that online courses become outdated quickly and require significant work to update.

9.2 Participants Derive Some Satisfaction from Online Courses

Although the majority of the participants had some issues with online teaching, all derived some level of satisfaction and enjoyment out of certain aspects of this modality. However, the sources of fulfillment derived from online teaching appeared very different from those of face-to-face teaching. Participants derived satisfaction from the flexible online teaching schedule, which allowed them to pursue other interests and to care for their family. Seven participants were proud that online teaching increased access to education. Participants also reported experiencing good interactions with students, and derived satisfaction from successfully creating active online discussions. These teachers appeared proud of being a part of something new, proud of being capable of teaching online, enjoyed the course design process and finally, felt satisfied when students expressed gratitude or appreciation for their teaching:

> *"And so, you know, I have a lot of opportunities for students to write informally in reflective kind of writing on their thinking and learning and discussions and they're for the most part, telling me that they're enjoying the classes, they're getting a lot out of it and learning, which means everything to me."*

> *"I've had a lot of positive feedback from students who really, some of my best students, who are really good thinkers, who really- and I love giving this, I'm not trying to brag, but they appreciate the way I've asked questions, and the kinds of assignments that I crafted, because it gives them a lot of room for their own thinking, and yet it pulls out stuff that they might not have noticed."*

Only one participant indicated that he was not proud of teaching online, although he later revisited his answer:

> *"That's a great question and for me the answer is no, but I tell people that all the time. And I tell them about it just because for me, it really dovetails with being able to do other stuff."*

And few minutes later:

> *"It all comes back to your original question which is "Am I proud of being an online teacher?" and I mean I'm proud of what we've done with the online class, I think it's a good class",*

Three participants reported feeling proud of teaching online because of the professional opportunities it represented for them as teachers:

> *"Oh, yeah. I mean I love it. I mean and I tell people about it and that it's a great thing and I feel like it's been an awesome opportunity for me."*

> *"Oh, absolutely, yeah. Yeah, I mean, I'm hoping I'll be able to continue, and if for some reason I can't continue here, then I might explore doing it, you know, Northwestern University hires people all over the country to do online teaching. So I think it's a great experience. And I mean, I just can't imagine never teaching again. I just can't."*

Finally, three participants reported feeling proud, although some of their answers showed a certain ambivalence vis-à-vis the question:

> *"In terms of whether I'm proud to do it or not, some days I am, and some days I'm not. When I am reading through students introductions in online courses and I see that one third of them are actually taking a course and they live in another state, they're actually in another state or in another country, that makes me feel very happy, that they're actually getting to take part in the class in their own way. Yet there are some other days when I just think, 'is this really education, or is this web development?' and I don't know. I think those are the days when it doesn't take me very long to skim over everybody's posts and I'm spending like, maybe 20 minutes doing my responses or something like this and then I log out and I feel like something of a slacker. I think that those are the days when I wonder about it."*

> *"I don't know. I wouldn't say that I'm not proud of it, but I mean some people might think it's embarrassing to teach online, I don't think that."*

> *"yeah, I mean, I am. I'm probably prouder, but now that I have a better sense of it, the first semester, first couple of semesters, things felt much more monotone. And I was kind of like ok. 'cause I knew it wasn't working, and I'm not proud of things that don't work well. I think it works better now, particularly when I can*

really fully invest in it. Again, this semester hasn't been my best semester, but it's not been bad."

9.3 Discussion

The findings considered in aggregate reveal that the majority of the participants in Case Study One did not find online teaching as professionally fulfilling as face-to-face teaching. This finding is not especially surprising, given that several participants reported not being able to be the teachers that they wish to be online, because they found the online classroom pedagogically and inter-personally constraining. The sources of satisfaction derived from face-to-face teaching were tied primarily to student learning and to teacher interactions with students as a group in a physical space. The sources of satisfaction online were tied primarily to the scheduling flexibility and creating broader access to education. Although we would not expect the sources of satisfaction and professional fulfillment to be the same online and face-to-face, we would expect both to be tied to students' learning outcomes. Findings ways to allow online teachers to derive similar levels of self-efficacy in face-to-face and online settings could help increase their overall satisfaction with this modality, and their willingness to fully invest themselves in online teaching, rather than remaining peripheral participants in this community of practice, while reserving their full participation for classroom teaching.

10. Finding 10: Participants are Moderately Engaged with Technology

10.1 Participants Use Traditionnal Technology in Class and the CMS Online

Participants were asked about the technologies that they use to teach online and face-to-face. In the classroom, only one participant reported not using any technology at all. The remaining participants were frequent users of "traditional technologies" such as projector, laptop, the

Internet to show video clips, and PowerPoint slides. One participant reported using a blog as an additional tool to communicate with students. Another one reported having prior experience with Classroom Response Systems (e.g., "Clickers"). The class observations conducted during the course of this study confirmed these observations. It was also confirmed that the technologies that participants used tended to support primarily teacher-centered teaching practices, such as projecting a presentation or playing video clips. Only one participant reported occasionally using computers to facilitate group work in the classroom.

Participants all used Blackboard to facilitate their online course. It is the most widely used Learning Management System in the US, and the platform of choice for many universities offering online courses and programs. Teachers do not generally have a choice of platform because online courses are usually designed to allow any teacher to take over the course. Therefore, it is impractical to have other technologies (Facebook page, blog, etc.) added to a course.

Within Blackboard itself, participants used the most popular tools: announcement tool, learning module, discussion, gradebook, weblinks and quiz tool.

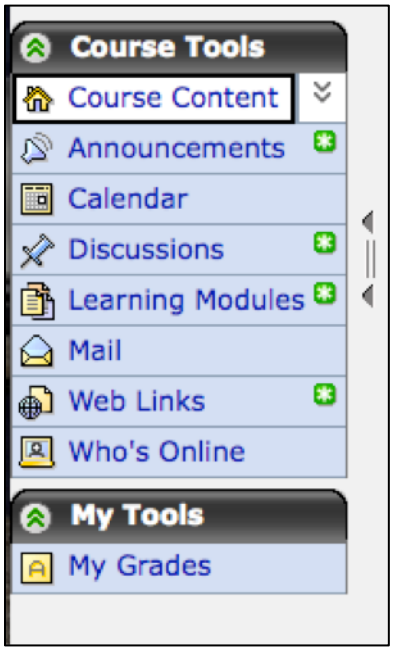


Figure 4: Common Course Tools in Blackboard

Analysis of the online courses revealed that all but one course were teacher-centered in their format, and followed a predominantly "presentation-practice-assessment" format.

10.2 Participants Report Average Levels of Technological Self-Efficacy

Participants were all asked whether they considered themselves to be technologically savvy. Nine reported having what they considered average skills, and one reported being a complete novice: "*I'm actually horrible with technology, which is one of the really, I think, funny parts of me teaching online*."

One participant repeatedly positioned himself as strongly technology-oriented:

> *"My family's nickname is they have an in-house IT, and actually I'm a little bit of an in-house IT here. When people have like basic problems, they'll say 'hey, can you look at this?' and I'll say 'ok, real quick, do this rather than having to bring bug busters in."'*

Only one participant reported technology as the greatest challenge she encountered when she transitioned online.

10.3 Participants are Moderately Engaged with Technology

Participants were asked a variety of questions to assess their level of engagement with both technology in general, and with educational technology. Since mainstream technologies such as Facebook, Google Doc, iPads, mobile learning, etc. have been finding their ways into classrooms, it is interesting to collect participants' attitudes towards technology in general. Findings revealed moderate levels of engagement:

> *"I do not have a cell phone. I hate cell phones. I do not text message, therefore! I don't use a day planner."*
>
> *"Do you like technology? Is that something that interests you?" "I don't really have any serious interest in it."*
>
> *"The chat room I've never used, I've never even been in a chat room on a computer."*
>
> *"I mean we have people here who are tech savvy and just love it, and just, you know,' here's this new application you can use', and I'm like,'but I don't need it.' But I'm not intimidated by it typically."*

One participant stood out as a strongly technology-oriented person in his everyday life:

> *"I have tons of mp3 players, they're all over the house. I have numerous generations of mp3 players. I personally use a small 4 gigabyte one because I only use it when I'm working out. My wife's got a 2 megabyte one, 'cause she doesn't work out as long as I do. She has one of those small little like, tiny squares."*

Participants were asked questions about their engagement in and interest with educational technologies. One participant, the same one who reported high levels of engagement with mainstream technologies, also showed a strong engagement with educational technologies:

> *"(…) So I've used iClicker, I've used Blackboard from back in the WebCT days. I use various, well I've used various types of, like I've used presentations. Actually even before that I'd go back to Harvard Graphics days. Harvard Graphics is the first graphics program available for presentations and it was developed in Harvard University. It was 1990 and then they were bought out. So I've done presentation graphics for a very long time. I use something called Mind Mapping, and so I have a software that I can- not doing this semester, I did it last semester. So as the class talks about subjects, I build the Mind Map, and then I can post the Mind Map for them. I did that in my lecture course last year too. You know, so if there's a technology, I'll use it."*

This participant was the only to identify himself as a strongly technology-oriented teacher. Thus it appears that technology use has always been a significant part of his personal identity, as opposed to originating from his online teaching experience. One participant who reported not being technologically savvy, also reported having developed a lot of multimedia material for his online course:

> *"But I've tried to embellish that, add the flesh so to speak, to that backbone, with video materials, with email interactions, with animations, with even interactive computer simulations where they can look at a glacier and change the temperature of the climate and see what happens to the glacier if more snowfall comes in or if the overall mean annual temperature changes. But a lot of these simulations exist, you combine them with exciting video where I take the students rock climbing, so to speak in a virtual sense or flying an airplane, I think it's great and it's fun to have built all that stuff."*

This participants' engagement with technology did not stem directly from his online teaching experience, but rather preceded it and he leverages the online classes to increase his expertise:

> *"That's the professional development; I can test some of these things out in the online class."*

One participant reported taking tutorials and attending an on-campus conference on educational technology. However, the majority of the participants showed only a moderate level of interest in advancing their educational technology expertise.

10.4 Participants Display Ambivalent Attitudes Towards Technology

When asked whether they were satisfied with the technology they used (mainly Blackboard), six participants reported feeling that it was an adequate tool:

> *"Overall, I would say so, yeah. I'm satisfied with it."*

> *"Yeah. I've been on Blackboard and its predecessor for 12 years now, 13 years, something like that. I mean I was one of the early adopters, so as it's progressed, I've said 'ok this is good, this is good, this is good.' So yeah, I mean it's gotten more and more capable over the years."*

> *"Yeah, it's fine for what I'm used to. And like I said, I was a designer for E-college when it was first getting off the ground, which was pretty exciting. And all the same, I mean, the trends even in the last 10 years are very consistent, I think."*

One participant reported enjoying the fact that materials developed for the online class could be used back in the face-to-face classroom:

> *"I like the way the technology in one can actually contribute to technology in the other.(…)Well, you know, say if I'm recording podcasts for an online class, those could become available podcasts for the on-campus course."*

In contrast, seven participants reported having issues with their Course Management System. These participants believed the CMS lacked usability, and was non-intuitive, unreliable and generally complicated:

> *"There are some things I'd like to change, like, you know where it's whenever you go like to the grade book, and you can look at part of the class or the whole class, if you want to look at the whole class you have to scroll down to the bottom and do that. I wish that icon was at the top of the screen, so you can make that change right away and not have to keep scrolling up and down."*

> *"And I use the blog style one, which I don't even know, I think that one should be the default, I don't know why the one that is the default is very hard to use."*

> *"And I also like the –it's a little cumbersome- we have this really big folder for my class under this thing called 'Media Files,' and I've re-labeled it 'Media files' capital REQ required. And the reason is, 'Oh, media files! Oh whatever!' and then my assignments and the exams are pulling from material in there. So then I have to send emails out to students saying 'you gotta look at that stuff' I mean that's part of the class."*

> *"This semester was the first time I attempted to set up some of my threads on the discussion board as a blog instead of a thread, I guess. And I was having a hard time even figuring out how to find the responses."*
>
> *"[Blackboard] is really clunky."*

Participants also reported negative past experiences with technology. This is important because negative prior experiences are likely to influence attitudes towards technology going forward. For example:

> *"Well, I thought I was making adjustments until I opened up the chat opportunity, which didn't fly. I thought that was going to be something really cool and fun, and you know, interact with the students that way and it didn't happen. So when that went away, we were back to email.*

Because this teacher's initial experience did not go well, she abandoned the use of chat rooms altogether. Participants were also discouraged by the amount of work that goes into developing and maintaining up-to-date online courses:

> *"On the one hand that would require more of me to go ahead and do that, but I guess I feel like the few times that I have tried to use it, it was kind of a big effort for me to get everything up and then too many students weren't able to use it."[About using video]*

Several reported feeling disempowered by technology when it failed them:

> *"And then some problems with the student who says 'it's deleting my answers. What's happening?' I mean she used words like 'I'm terrified to take the next test.' And you know, it's just a different kind of, you know, when you go into class with a paper and a pencil, the paper doesn't like, disappear on you!"*

10.5 Discussion

The majority of the participants appeared to have only moderate interest in technology or educational technology, and did not appear motivated to try out alternative tools. In addition, most participants used the technologies readily available to them to support teacher-centered

practices. This finding is consistent with the fact that these were the classroom practices with which they were the most familiar, and that the technologies available today do not easily allow for alternative approaches.

Until very recently, being technology proficient was not a requirement to pursue a career in higher education. However, especially in the last decade, various technologies, led by the advent and dissemination of the Web, have begun to find their ways in classrooms. This, some argue, is changing the way students learn, and in turn, requires that teachers adjust the way they teach (Oblinger & Oblinger, 2005). While it is still possible, although increasingly challenging, to teach face-to-face without technology, it is necessary to acquire a certain level of technological proficiency in order to teach online effectively. Whether to troubleshoot simple problems, or to uncover and realize the educational potential of various tools, technological proficiency is likely to become an essential skill for higher education faculty teaching online, regardless of the subject taught.

11. Finding 11: Participants are Reluctant to Experiment with Technological Solutions

On several occasions during the interviews, participants began to share ways in which they could improve their online courses and their online teaching. The majority of these ideas were tied to the technologies of online learning. Interestingly, the teachers also frequently offered justification for not having implemented these ideas. For example, one participant suggested "*And there are times when I think to myself 'what if I did some sort of podcast of what's going on in the classroom, how would that work*?" However, very quickly in the conversation, the idea was rejected as potentially ineffective and too time consuming:

> *"And inevitably I think it still wouldn't feel the same for the students that are taking part in it. It would take an awful lot of technology in order to make it really*

> *feel the same. And one, I'm not sure I have access to that technology and two, if I did have access to that technology, I don't know how to use it!"*

Interestingly, the quote above illustrates the participant's need to recreate online what happens in the classroom, as oppose to attempting to create a new and different environment that leverages the unique affordances of the online classroom.

The same teacher later noted that it was possible to have students design and present scientific posters in online courses, since the necessary technologies were available:

> *"Cause it could be done. In fact, my remaining online students are actually going to be designing scientific posters, which of course is visual in a large way. And there are some other technological options out there that enable you to do oral presentations, or to do like podcasts, things along those lines."*

However, yet again, the idea was discarded on account of time pressure:

> *"They're just not very accessible, and they're not terribly easy to work with. So there's some potential there, but maybe a few years down the road, when things get easier to use."*

Another participant wished for more user-friendly podcasting tools: "*I wish it were a little bit easier to do podcasts. I would like to be able to incorporate more visual and more multi-modal elements into the whole course structure.*" He also rejected the idea for the same reasons as the participant above: "*the technology just is not that widely available*." One other participant thought of "*doing my actual lectures online*", even saying that she had "*talked to people who have and apparently it's worked okay for them*." She soon rejected the idea because "*It's too hard…But in my experience just trying to put a few videos up is so bad that I haven't gone in that direction*."

Another participant envisioned a type of interactive text annotation "*I guess one way of doing it would be if they were reading an online version of the text, I'd have little links at moments when they got to a certain parts of the plays that said 'oh'- it would be like having footnotes*

that popped up at you, that would be my footnotes." She also rejected the idea arguing that "*But I don't think that would make them want to read a Shakespeare play online.*" The same participant did not follow up on online synchronous office hours because of time constrains: "*I could try to do a chat room kind of thing or something, but I'm not sure I have the time to devote to that right now.*"

Other participants simply postponed the implementation of new ideas to improve their courses to a later, unspecified point in time. One participant offered an extensive explanation of how she could integrate a Twitter account:

> *"You know, in addition to Blackboard, if I could have like a Twitter -feed for the class and just be able to Tweet everybody and say 'okay, you know, this just broke(...)Again, it might make it a little more lively."*

However, when asked why she had not implemented her idea, she explained that "*I think if I saw a real teaching value in it, I probably would pursue it a bit more. So far I haven't found anything Tweet-worthy that I just really want to put out there to the world.*" The same participant had considered organizing chat room discussions but had not yet done so because "*I'm not sure exactly how to set it up and how to require it. So I have to ponder that a little bit more before I figure out how I want to do it and whether I want to do it*."

11.1 Discussion

Of the ten participants interviewed, all but one reported having issues with the technology associated with online teaching. Many participants reported having given thoughts to ways in which they could improve their online courses. However, many of these ideas were tied to technology, and were systematically rejected due to time constrains, lack of technological knowledge, lack of available and usable technologies, perceived lack of support, and doubts

about resulting educational benefits. In the absence of incentive to experiment with new technologies, exemplary practices and active support, teachers are not likely to take the risk to incorporate new technologies or pedagogies in their online courses. They are more likely to stick to familiar practices, even when these practices are not fully satisfactory. This is unfortunate, because many of the tools the participants wished for are actually readily available. For example, it is possible to embed audio comments in Adobe PDF files; podcasting programs are also readily available, and there are examples of successful integration of Twitter feeds into online courses. However, without assistance and appropriate incentives, teachers are unlikely to embrace these new technologies.

II. Case Study One Summary

A total of ten teachers who taught higher education classes both online and in the classroom agreed to participate in this case study. The data collection included two interviews, two face-to-face class observations and one online course evaluation. Once coded, the data was analyzed. Taken in aggregate, these data lead to the following conclusions.

The ten teachers are for the most part experienced and dedicated classroom teachers who truly enjoy sharing their subject matter and interacting with students in the classroom. Although a few also had other professional duties, they appeared dedicated to their teaching responsibilities. When prompted to discuss their online teaching experience however, it appeared that the majority of the participants interviewed (at least eight of them) had issues with this teaching modality and overall preferred teaching in the classroom. They reported that the online classroom was both inter-personally and pedagogically constraining and that it prevented them from being as effective online as they were in the classroom. This situation fed a number of

negative beliefs about online learning such as being less effective and less fulfilling professionally than classroom teaching, although it presented valuable personal benefits (flexible schedule, extra income). Two participants however, did not appear to share the concerns of their colleagues and seemed equally happy with face-to-face and online teaching.

The interview and online course observations also revealed that the majority of the teachers interviewed had moderate levels of engagement with technology in general. Only one participant self-identified as particularly technophilic. All ten participants used the course management system chosen by their institutions to teach their online courses, and did not supplement the CMS with other tools. With one exception, all participants used teacher-centered practices online. Throughout the interviews, the participants brainstormed ways in which they could use technology to solve many of the pedagogical and inter-personal issues they reported having online. However, participants appeared reticent to implement these solutions at that point in time.

The goal of this study was to examine the impact of online teaching on teachers' teaching identity and the role played by technology in this process. Findings revealed that online teaching does have a disrupting impact on teachers' identities: the teachers interviewed experienced difficulties enacting their teaching practices and their teaching persona, which had a negative impact on their overall professional fulfillment online. However, teaching online did have a small but positive impact on their face-to face teaching practices, as it allowed several of them to become better-organized teachers. Technology also appeared to have a minimal role, as the teachers limited their use of technology to the university sponsored course management system. Interestingly, technology also appeared to have a potential enabling role in the process of

professional identity growth, as the majority of the solutions suggested to improve their online teaching experiences were tied to the use of technological tools.

The lack of training received prior to beginning to teach online, the fact that some of their online courses were self-paced (online independent studies) and that their online courses did not count towards tenure and promotion can be held partly responsible for some of the participants' lack of engagement with online teaching. In the absence of strong institutional and community support, teachers are unlikely to take significant steps to change their online teaching practices. This state of affairs is unfortunate. Although for many of the participants, online courses do not count towards tenure and promotion, and do not appear to receive the same credit as their face-to-face courses, students who take these courses receive the same type of credit they would for a face-to-face course. Although training is an important element to consider, institutional and community support are also necessary as faculty are unlikely to invest time and effort into professional development efforts, unless the institution for whom they work signals that it values such investment. Increased institutional support such as counting online courses as regular courses and holding them to the same standards as face-to-face courses would help increase faculty engagement and possibly increase the level of professional fulfillment they derive out of teaching these courses.

Findings from this study helped uncover why some teachers who teach online remain strongly attached to face-to-face teaching and maintain at times strong reservations about the educational potential of the online classroom. These findings motivated the design of a second and contrasting study that focused on teachers who did not share such reservations and appeared to enjoy and value online teaching as much as face-to face teaching.

CHAPTER VII

CASE STUDY TWO

I. Study Design

1. Participant Selection

The goal of the second case study was to investigate the impact of online teaching on the professional identity of teachers who (1) teach online successfully and, (2) derive high levels of professional fulfillment from this teaching modality. Participants for the second study were recruited selectively. All participants:

- had prior face-to-face teaching experience,
- enjoyed teaching online, and
- demonstrated evidence of online teaching excellence: teaching awards, peer recommendations, and/or a record of publication in teaching practices.

Nine participants were recruited for this study. The table below outlines their job titles, field of expertise, home institution and credentials for being recruited for this study.

Job Title	Area of Expertise	Institution Type	Evidence of Online Teaching Excellence
Full time /non-tenure, ABD.	Graphic Design	Private university (GA)	Best Practices Award for Excellence in Distance Learning Teaching (Bronze) by the United States Distance Learning Association.
Part-time, Ph.D.	Technical Communication/Writing and Rhetoric	Public research university (FL)	Best-in-Track Presentation Selection, Faculty Development: Annual Sloan-C Conference. Several articles and book

			chapters related to online learning and technology.
Part-time, Ph.D.	Instructional Design	Public university (CO) and (ID)[39]	Came highly recommended by his department and peers; dissertation on online teaching presence (2011); 16 refereed publications related to online learning.
Full professor, Ph.D.	Mass Media and Communication	Public university, (IL)	Sloan-C award for Excellence in Online Teaching (also received awards for face-to-face teaching).
Clinical professor/non - tenure/part time, Ph.D.	Instructional Design (Education)	Public university, (CO)	Came highly recommended by her department; over 13 refereed articles and book chapters on online learning.
Professor, Ph.D.	Motor Learning/Motor Behavior	Public research university, (TX)	Self-identified; co-recipient of a $24 000 grant to develop a health related educational island world in Second Life; authored one article on his work in immersive environments.
Associate professor, Ph.D.	Associate Professor of Classical Languages and Literature	Public research university, (ME)	Self-identified; early adopter of online learning with 20 years of experience; coordinator of a multi-faculty courses partially taught in Second Life.
Adjunct faculty.	Computer Science	Private university, (MA)	Founded his own sub-field in distance education; founded the journal and summit for his field; Campus Technology Innovator's Award.
Associate professor, Ph.D.	English/Linguistics	Public research university (FL)	WebCT Exemplary Course; Tales From the Winner's Circle: Award-winning Online Faculty Discuss the Secrets of Their Success (Sloan-C panel).

[39] This participant took other employment during the study.

2. Purpose of the Study

Case Study One offered an opportunity to investigate a population of teachers who, for the most part, were still having issues enacting their teaching identities in the online classroom. The purpose of the second study was to offer both complimentary and contrasting information to Case Study One by studying a population that had largely overcome those issues. Similar data were collected in both case studies, although classroom observations were not conducted in Case Study Two because most of the participants were either no longer teaching face-to-face or were not teaching face-to-face at the time of the data collection. Both Case Study One and Case Study Two participants were interviewed twice using the same interview protocols. Online course observations were conducted whenever the institution granted me access to the course. When access to the online course was not available, documents and other information was obtained from the participant in order to recreate an accurate picture for the course structure and its pedagogical approach (see Appendix F for a list of the data collected for each participant in Case Study Two).

The coding of the data collected in Case Study Two was largely based on the book used to code data from Case Study One, although some modifications and additions were required to accommodate findings unique to the second study (see Appendix H).

II. Case Study Two Findings

The nine Case Study Two participants are for the most part experienced and dedicated classroom and online teachers. They truly enjoy each modality for the unique affordances that they present. For example, they enjoy interacting with students face-to-face, but also derive satisfaction out of designing learning journeys for their online students. Although they encountered various pedagogical and interpersonal challenges when they first began to teach

online, over the years, participants found ways to overcome these challenges. All reported being satisfied with their online teaching practices at the time of the study. Despite the well-documented prejudice inside and outside higher education against online learning, none of the participants held the view that online teaching was inferior to face-to-face teaching. Instead, many shared the belief that, regardless of the modality, it is the instructional design of a course that determines its quality. The interviews and online course observations also revealed that the majority of the participants were strongly engaged with technology in general and that they supplemented their online courses with other tools. Throughout the interviews, Case Study Two participants shared ways in which they were able to use technology to solve many of the pedagogical and inter-personal issues they reported experiencing online. Findings for the second case study are presented below.

1. Finding 1: Participants Had Well-Developed Face-to-Face Teaching Identities

Although the nine participants were recruited based upon their record of online teaching excellence, analysis of the data showed that eight of them also had well-developed face-to-face teaching identities.

1.1 Participants Are Dedicated Classroom Teachers

All nine participants had prior face-to-face teaching experience. Five of them had over ten years of classroom experience, three had between three and ten years of experience and one had less than three years of classroom experience. Interestingly, six out of the nine participants either no longer taught face-to-face or were not teaching face-to-face at the time of the study. All but one reported enjoying teaching face-to-face very much:

> *"I love [teaching face-to-face]- I won a teaching award at [name of participant's institution] for teaching face-to-face, and I was the second youngest person to*

> *ever win the award. I love teaching face-to-face, I'm sort of a natural, and I like it."*[40]

One teacher did not answer directly most of the questions pertaining to face-to-face teaching, apparently because his teaching identity is now dominated by online teaching, and he systematically redirected the interview questions towards "Immersive Education", a virtual world-based educational environment that he has pioneered at his institution and elsewhere. He believed strongly that "immersive learning" was superior to any other modality and had no interest in discussing classroom teaching.

1.2 Participants' Sources of Fulfillment Are Tied to the Nature of Classroom Teaching

When asked about what they specifically enjoyed about face-to-face teaching, all but one offered answers similar to Case Study One participants. Their sources of enjoyment were strongly tied to both the synchronous and face-to-face nature of classroom teaching: Five of them emphasized the visual cues to which they have access in the face-to-face classroom, which provide them with immediate feedback on students' learning as well as their own teaching performance:

> *"And you know in the classroom you can look around and see the engagement of the students and you can make on the spot kind of tweaks to how you are delivering the message."*
>
> *"They realize I like to be there, I enjoy it, and I love to see them learn from what we were talking about, discussing."*
>
> *"I particularly like seeing how students take what we're learning, and take it 2,3,4 steps further. You know. I just, just love watching what they come up with."*

[40] I have underlined portions of the quotes to emphasize important aspects.

> *"But specifically teaching in the classroom what I like is simply being able to see the students, um, build relationships with the students."*
>
> *"I also like seeing them come alive and when they come to understand either an issue around language acquisition or an issue around critical thinking and analysis."*

Another frequently expressed source of enjoyment reported by five out of nine participants is the interaction with and between students that is afforded, not only by classroom teaching but also by the campus environment itself:

> *"You have the ability to talk to them before the official class starts and you get to interact with the students, and there are just different types of contexts that you get to interact with them as well as your colleagues."*
>
> *"I enjoy the interaction with students, I like the way we can build on things."*
>
> *"I like to work with students, I like the before and after sort of chit-chat…"*

Four of the teachers emphasized the energy that characterizes face-to face teaching:

> *"I not only like to be able to be with the students themselves but also in a campus environment as you see the energy and the excitement of the students as they are leaving your classroom or entering your classroom."*
>
> *"And so I like the energy that comes from face-to-face."*
>
> *"And student loved that class, came in, we talked about the whole range of things they brought in, It's just a lot of an energy, I like a face-to-face classroom that has energy."*

Generally, participants in this case study, just like the participants in Case Study One, very much enjoyed classroom teaching for the unique affordances offered by its synchronous and face-to-face nature.

1.3 Participants' Dissatisfaction Are Also Tied to the Nature of Classroom Teaching

Case Study One participants were primarily unhappy with grading and assessing student work. In contrast, all elements of dissatisfaction reported by six of nine Case Study Two participants were tied to the face-to-face and synchronous nature of classroom teaching. For example, they reported disliking the fixed schedule that constrains face-to-face teaching (4 of 9), especially when the teacher had professional duties or responsibilities in addition to teaching:

> *"I gave up my evenings to teach the other class so for the same reasons why nontraditional students take online classes is why nontraditional teachers like teaching them."*

> *"That's one of the things I don't like about the face-to-face, just you know, that you need to confine your lesson to, you know, one hour, three days a week or whatever it is."*

One participant noted that students are so accustomed to this strict schedule that they at times resist when teachers try to extend learning beyond those blocks of time:

> *"The other thing that happens sometimes with face-to-face that I don't like is students have this attitude that the learning that has to take place has to take place in the classroom. So if you wanted to let students use a discussion board in a face-to-face course sometimes you get students pushing back saying well no, that's not what we're here for."*

Three participants reported that classroom teaching tended to be more formal than online teaching and that "*There seems to be more of a barrier between students and faculty when teaching face-to-face.*" One participant (who suffers from multiple disabilities) found classroom teaching draining. As another participant noted:

> *"In a face-to-face class you have to think on your feet a little more. (…) So in a face-to-face class, I'm more likely to have the experience where two hours after class I think, 'Oh, I should have said it this way!' But in an online class, I have*

> *the space to think about it ahead of time and research it a little sometimes before I answer."*

This response suggests one way in which online teaching can create unique affordances not available to them in the face-to-face classroom.

1.4 Participants Have Stable Face-to-Face Teaching Identities

Other than their overall enjoyment of face-to-face teaching, further analysis confirmed that the participants generally had stable face-to-face teaching identities. Five of nine participants reported being satisfied with their face-to-face teaching, and only making minor adjustments to their online teaching practices:

> *"At the grad level, I'm pretty happy. I mean, I say we're at the point where we've got good students who are motivated and help carry discussions and ask good questions, and so I could always do more things but I'm pretty satisfied with the grad level, yeah."*

> *"Definitely. I mean I generally get good feedback. I'm like a really good teacher. Yeah, so I'm happy with my face-to-face teaching, yeah."*

> *"I think overall I'm a good teacher, but I think like every good teacher, every time we teach we think of how we're going to do it better next time. So I'm satisfied with my teaching face-to-face and I'm satisfied with it online, but that doesn't mean I'm not trying to always improve."*

Three participants expressed ambivalent feelings about their face-to-face teaching:

> *"I think so, but like I said I haven't taught in a couple of years, I don't know if I did it enough to really get good at it, at least good in my own mind. I think so."*

> *"I wish that I physically had better energy. I feel like I do not do as much as I could with the students in the classroom because of those limitations and I find that very frustrating because I truly love teaching."*

> *"I feel that I've been teaching online so much that my discussion leading abilities have kind of withered away a little. I think it's harder for me to lead discussions,*

or maybe I have higher standards for my discussions now than when I started teaching."

This last response suggests that online teaching might negatively impact face-to-face practices at times.

1.5 Discussion

Although they were recruited for their online teaching excellence, all but one Case Study Two participant reported enjoying classroom teaching very much. Similarly to Case Study One participants, these teachers' sources of professional fulfillment in the classroom were directly tied to the same place and same time nature of face-to-face teaching (interaction with students, access to visual clues, energy, etc.) However, unlike Case Study One participants, their sources of discontent, although generally minor, were also tied to the same place and same time nature of teaching (constrained time blocks). This seems to suggest (as subsequent findings will confirm) that they derive enjoyment from the unique affordances that each modality has to offer.

2. Finding 2: Participants Are Professionally Fulfilled by the Affordances of the Online Classroom

Most Case Study One participants found the online classroom to be pedagogically and interpersonally constraining. Only a few of them exploited the unique affordances of the online classroom. In contrast, the majority of Case Study Two participants found professional fulfillment in the unique affordances offered by the online classroom. The fact that all nine teachers appeared professionally fulfilled by the online modality is not surprising, given that they were recruited based on their record of online teaching excellence. However it is interesting to investigate the aspects of online teaching that they found especially enjoyable, and how these

differed from their reported sources of fulfillment in the face-to-face classroom. Additionally, contrasting the answers from the two groups of participants provides additional insights as described below.

2.1 Participants' Sources of Professional Fulfillment Tied to Unique Affordances of the Online Classroom

When asked whether they like teaching online, all nine participants reported enjoying this modality very much. As one of them put it: "*I've been doing this for many many many years, and if I didn't like it I would have gotten out a long time ago*." All nine teachers reported that this teaching modality was definitely professionally fulfilling for them. When asked what they especially liked about online teaching, convenience and the flexible nature of the virtual classroom was only a factor for two participants. As noted by one participant:

> *"If you would have asked me five six years ago when I first started teaching, immediately I would have just said the convenience of it, at that time I was 7.5 hours away from the main campus so it was just the convenience of it as well. And that has kind of taken a backseat of why I love teaching online."*

This statement clearly signals that this teacher's perceptions of the benefits of online teaching have changed over time, evolving from practical reasons (similar to those reported by Case Study One participants), to teaching and learning-related benefits. The most prominent source of enjoyment that emerged from the data was the creative aspects of the online course design (6 of 9), followed by the affordances offered by various technologies (5 of 9) and the richness of the interaction with students (5 of 9). Each of these is discussed below.

Creative and Challenging Aspects of the Online Course Design

When asked to elaborate on what they especially liked about teaching online, six Case

Study Two participants pointed to the creativity and challenge of the online instructional design. Online course design, more than face-to-face course design, requires a fair amount of work prior to the start of the semester (front loading). At least six participants appeared to enjoy the course construction part of the process:

> *"You know that first official time you start teaching a course and you don't have those visual cues in terms of how people are sensing the information and really having to rely on the written word. To be able to gain an understanding of where the students are became sort of a challenge, but it became almost addicting to try and figure it all out. And I love it."*

> *"A long time ago, people used to say 'What is teaching?' Is it an art, is it a science. I think good teaching is more art than science and I don't say that I as a teacher, I am an artist, but I see that when I teach I'm trying to bring together much like an artist might bring together a number of different elements to create a product or a painting or a performance piece."*

> *"I mean developing these online courses has an element of creativity and the material goes well beyond the textbook. So everyone might use the same textbook across the country, but I guess there's some individuality that's built into your course."*

> *"And what I like about it from the design standpoint is the fact that I have to find a way to fulfill my student learning objectives translated through an online medium. And so I truly love the intellectual challenge of putting together a course design that is coherent, makes sense, is both fun and challenging for the students, has a great deal of interaction built in, and meets the student learning objectives. So I love the challenge, I love the intellectual stimulation of both designing and teaching an online course."*

The exacting detail required by online instructional design is unique. None of the teachers reported actually enjoying preparing for a face-to-face class. Their sources of enjoyment came from actually teaching the class, and interacting with the students in the same place and at the same time. Interestingly, for at least five participants, technology played an important enabling role, and was often mentioned in relation to the course construction process.

Technology Enhanced Teaching And Learning Transaction

Although participants did not self-identify as technophiles, they did express excitement about the educational potential of current and emerging technologies, and their own opportunities to exploit this potential and put it at the service of their educational goals.

As one participant put it:

> *"Because I am most interested in what's gonna be some of the new technologies that come along, we get to integrate them into making the online education experience in higher education meaningful."*

This participant apparently derived satisfaction out of seeing students associate certain learning experiences with the virtual site they were visiting at that time:

> *"So students will often say, 'Oh yeah, I learned about x, y, or z when we were on top of Pikes Peak,' or 'Oh yes, I remember we talked about this particular issue when we were in the space capsule."*

Two other participants enjoyed searching for various multimedia resources to improve and enrich their online courses:

> *"And I really like that. I really like the way that the online environment lets me bring in materials from outside really easily. So if someone asks a question, I can find a good link and share it, or a YouTube video and I can enrich the course that way with the whole internet (...) And I like the way that some of the tools make some kinds of grading a lot less labor-intensive."*

> *"Well, what I like is that you can actually create an environment where those who want to learn more, you're creating opportunities for them to do that by linking your material to different websites and now with the advent of YouTube, basically there's always a demo that they can see whatever the topic is, 'cause most of the topics we touch on, I'm gonna be able to find a video or a supplemental website or video that is available that I can have linked out from my notes. So you can create… 'okay here's the basic info.' (...) So in that sense, using the technology is satisfying and I'm trying to create the best online course that I can, that's essentially what it comes down to."*

Although they were not prompted to compare their face-to-face and online use of technology, several participants pointed to the fact that technology brought affordances unique to the online classroom. For example, one participant mentioned the technology-mediated "side" conversations that can occur at the same time as a virtual lecture, which increases opportunities for learning:

> *"and a lot of back channel conversations that you just don't get in a normal classroom. By back channel I mean I can be giving a conditional lecture, talking to my students in the virtual world, and all the while I'm watching them text-chat to each other and to me, on the side seeing these conversations happen..."*

Another participant commented on his ability to use web-based resources to create customized experiences for students. In a physical classroom, all students usually receive the same content at the same time (such as watching a video clip). In contrast, the asynchronous nature of a well-designed online classroom allows students more flexibility in the types of media, the order in which media is explored, and how much time is spend where. As one participant put it:

> *"There are so many things that you can do with the technology and all, that's made me make it good for people to learn. Because you can use the whole world of the Internet to create learning experiences that you can't really get in the classroom…I mean, I guess I can work those in with overhead projectors and other things to use the internet in class but one of the things I like is that the students have the flexibility to learn at both their own pace and their own time."*

The Richness of Interactions with Students

At least five participants indicated that the quality of their interactions with students was richer online. The reasons varied greatly but all were directly connected to the technologies employed, and were unique to the online classroom. Again, although they were not prompted to do so, participants spontaneously made comparisons with the face-to-face classroom. A few

participants indicated that they could reach out to more students because the students felt more comfortable online:

> *"I do enjoy the ability to engage everybody in the class online in a way that sometimes can be hard in a classroom, especially if it's big where you can just end up having a couple people dominate the discussion or the conversation. Some people might be more of wall-flowers in the back of the class (that might be their natural role), but you can ensure that their voices are heard in the online environment."*

> *"In the traditional physical classroom, you're lucky if you get one or two students a semester who really want to engage and are comfortable engaging and not embarrassed or awkward. That, it changes radically when you get into the virtual environment because the students are in some ways more comfortable."*

Some participants indicated that they got to know their students better because the relative anonymity of the online classroom made them comfortable enough to open up about personal matters:

> *"Yeah, I'm not going to have some of the interaction that gets lost in the face-to-face classroom, but there's also, I mean if you stay with technology there's also the element of anonymity that I think causes people to open up a little bit more. (...)I have like questions on discussion boards about things and it's interesting. I mean even things such as 'Why did you choose this field' and people will start, 'Well, I was in a car wreck and I got physical therapy,' I mean they'll start revealing personal things that gives you insights that you're never going to get in the classroom. And I don't think, they're not gonna say that in front of other people, but I mean even though you can see their name there, I guess people feel like in some ways they're anonymous. "*

Another participant valued the freedom that online courses afforded for students to reveal as much or as little about themselves, as desired:

> *"I feel that I know my online students as they choose to reveal themselves, and there's less self-revelation in an online course. The students have far more control over what they reveal than a student in a classroom because of course, in a classroom, you have all of the sensory data of age, class, race, gender, etcetera,*

> *and in an online course, whatever a student chooses to divulge about himself or herself is exactly what we know. So the student has a lot more control over disclosure. I don't know whether that student is 80 years old, I don't know whether that student is wheelchair-bound, I don't know whether that student is using an assistive learning device. It levels the playing field."*

The potential for anonymity in the online classroom can thus help remedy some of the inequality of the traditional classroom, which necessarily forces students to disclose a lot of information about themselves.

Other Sources of Professional Fulfillment

Some participants reported enjoying the asynchronous nature of the online classroom because it allowed them (and the students) to take their time when providing answers or revisiting elements of the course, which again is a unique affordance of the online modality:

> *"I think one of the advantages of the asynchronous nature, and the textual nature, is that people can always go back and review, they can always go back and 'I didn't catch that' or 'I didn't understand that' or 'I better review that' or whatever. I think that's an advantage."*

Two participants reported liking the cutting-edge nature of online teaching:

> *"And I don't know whether it's because it's relatively new and so there's a feeling of newness and excitement about this pedagogy. I've always loved science and science-fiction, so I always kind of pretend I'm way in the future sometimes when I teach these courses."*

Finally, two teachers pointed that the online environment tended to more efficient:

> *"And then I also like the online format because for those students that are engaged, I can spend a lot more of my time I think coaching them through the material than in a face-to-face class where I have to spend a lot of time handing things out and collecting things and then handing them back out again."*

This observation exposes a fundamental difference between the face-to-face and the online classroom. The online classroom is stripped of much of the activity present in the

face-to-face classroom: students coming in and out, papers being passed around, taking attendance, taking care of what is often called "business items" all are absent from the online classroom. In contrast, the online classroom is focused on the learning. The absence of the "social" aspects of the classroom causes some teachers and students to find the online classroom impersonal. However, some teachers, like the one quoted above, find it more effective.

Finally, one participant noted that the social element of the face-to-face courses caused students to at times be more forgiving of their face-to-face courses:

> *"And I think that perhaps one of the reasons that students in a face-to-face course are not as critical is that if you have a good time in a face-to-face class, and you have good relationships with students, and you tell good stories, and you have fun assignments, that translates into a positive affect."*

Stable Online Teaching Identities

Participants were asked whether they had any issues with online teaching. Four of them reported issues, including the time consuming nature of online teaching, the absence of non-verbal cues, being able to "see" students (although this teacher did not think it hindered the learning processes but rather the social aspect of the experience), the lack of student readiness and "*feeling that we are teaching students state-of-the-art strategies with an antiquated tool, i.e., eCollege*."

All participants interviewed appeared to have stable online teaching identities, as evidenced by the short list of issues they reported having with the modality, their self-reported high levels of professional fulfillment and their level of satisfaction with their online teaching

skills. All nine participants reported being satisfied with their online teaching skills, although several viewed these identities as evolving:

> *"Ah, I would say that currently I'm very satisfied but there's quite a bit more that can be done. Technologies have been improved so that I'm very happy with what we're doing right now, with the technology to date as it is capable, but we're also adding new capabilities to the technology and more modes of interaction and richness so I'm actually very optimistic about the next five years."*

> *"I think so for the most part but I think I can always get better. I am always tweaking my course, and at the end I always ask my students for a final reflection and I ask them what they liked about the course, things they can use in their careers and what can be improved in the course and I am not fishing for compliments here; I generally want to know what needs to work better. Sometimes I have been reading them this week, and I will be like "ouch" that is a really good criticism I should work on that. So while I do good and get the best evaluations in the department, I still think I can do better. "*

> *"To answer your question, I'm satisfied with--heck, I'm proud of--what I do. But every semester, I do tweak things, add things, subtract things . . . I try hard to keep improving."*

2.2 Discussion

The nine participants appeared to enjoy teaching online because of its unique teaching and learning affordances, rather than the flexibility, or the opportunity to supplement their income. This finding is different from the views expressed by Case Study One participants, who reported having multiple issues with online teaching as a modality, and who did not consider it a particularly fulfilling professional experience (although they did enjoy the convenience and the accessibility of online education). It is worth noting that Case Study Two participants generally had more teaching experience than Case Study One participants and that they were working in institutions and/or departments supportive of their online teaching endeavors.

Case Study Two participants appeared to have a found a comfortable location at the

intersection of face-to-face and online teaching and to have found ways to enjoy each modality in its own way. The only exception was the virtual immersion teacher who appeared to have completely left the face-to-face teaching community of practice, and gravitated instead towards the virtual education community of practice.

3. Finding 3: Participants Have Difficulty Reporting a Preference for One Modality

In order to further assess their location within the face-to-face and online communities of practice, participants were asked whether they had a preference for one modality over the other and which modality they would choose, should they have to make a choice. Case Study One participants generally preferred face-to-face teaching and only one teacher would have agreed to move completely online.

3.1 Participants Report Ambivalent Preferences

Three Case Study Two participants reported preferring the online classroom:

> *The immersive environments, I absolutely love and enjoy and I prefer it over in person."*
>
> *"I tend to find myself really enjoying online. I think it is because I am a writer and I think I enjoy writing and communicating via writing as opposed to some of my colleagues that are maybe better on their feet."*

The remaining six participants could not bring themselves to choose one modality over the other:

> *"I love teaching both ways."*
>
> *"I can't imagine not doing both."*

Several made a distinction between large classes and small seminars, or the level of the students taught:

> *"I prefer online teaching for larger classes and the reason for that is that I feel like I can do a better job reaching a larger number of students online due to the fact that I don't have a lot of energy in the classroom. However (...)if I have a seminar of four or five students in advanced Latin, I would prefer to teach them face-to-face."*

> *"I think it depends on what I'm teaching. If I'm teaching a freshman composition class, I would much rather meet them face-to-face just because they're freshmen, they're new to the university. (...) my favorite kind of class are the mixed mode classes."*

3.2 Discussion

All but one Case Study Two participant appeared to enjoy both face-to-face and online teaching. Any preference appeared to be a function of course contents, size or level, rather than modality. During the interviews, participants often appeared to have difficulty talking about their face-to-face and online teaching in isolation. They often brought in examples of their online teaching into our conversation about their face-to-face teaching for example (and vice versa). As one teacher put it at the end of our second interview:

> *"I'm proud teaching wherever I teach. Online, on ground, to my kids, to my girlfriend, wherever I can teach. I love to teach how microbes work in a lake to a group of third graders, I love to teach and I'll teach almost anything and everything."*

Thus, for most of Case Study Two participants, their love of teaching transcended the modality. In fact, the modality itself appears to have become part of their toolkit as teachers. Based on the instructional need at hand, they will choose the most appropriate format.

4. Finding 4: Participants Overcame the Challenges of the Online Classroom

Case Study One participants made minimal changes to their teaching practices, and generally found the online classroom constraining. In contrast, Case Study Two participants appeared to have successfully addressed these challenges, leading to teaching identity growth through the addition of new teaching practices and beliefs more suited to the online format. However, Case Study Two participants were not always satisfied with online teaching. When asked about the challenges they encountered initially, all raised issues similar to the ones encountered by Case Study One participants. The tables below summarize the challenges reported by the nine participants when they first transitioned to the online classroom, and the ways in which they addressed these challenges. A sample quote provides an example for each table. In order of frequency, these included: the challenge of putting a course online and developing adequate teaching practices (Table 1); adjusting to the time commitment issues (Table 2); adjusting to a primarily text-based environment (Table 3); dealing with technical problems (Table 4); establishing community and having quality interpersonal interactions with students (Table 5); dealing with academic dishonesty (Table 6) and dealing with the professional stigma often associated with online education (Table 7).

4.1 Participants Transferred Their Content Online and Adjusted Their Teaching Practices

The principal challenge reported was putting the course content online, and identifying effective practices to actually teach the course. Most of the teachers in Case Study Two quickly realized that porting their face-to-face courses, practices and expectations online was not an effective way of proceeding; thus they identified alternatives.

TRANSFER CONTENT ONLINE / ADJUST PRACTICES	
Challenge	Resolution
Putting a course online.	Change in perception: see it as an instructional design challenge to overcome. Engage in professional development and adjust pedagogies.
Give adequate feedback on papers.	Print, grade and scan papers.
Find the adequate workload for students.	Take out assignments when new ones are added.
Create discussions and practice opportunities.	Reintroduce face-to-face elements when possible.
Give feedback on multimedia projects.	Use multimedia applications (Jing, Captivate…).
Encourage active participation.	Make it mandatory.
Identify effective online teaching practices.	Trials and errors: come up with customized practices for the immersive environment.
Figure out the right amount and type of assignments.	Trial and error.
Establish presence.	Trial and error, use multiple modalities (text, audio, video…)
Sample quote: Challenge: *"When I think back (…) one of the biggest things (…) was how do I establish my immediacy, my presence. In a face-to-face class students feel my, feel the energy from me. You know, 'cause I'm real, I'm upbeat, I'm energetic. (…) And when I got online I didn't know how, in an asynchronous environment, and one that relies highly on text, how they would perceive that, and then benefit from it."* Resolution: *"I tried to start over time working on different strategies to establish my presence. Sometimes with text. But sometimes with frequency of, you know, being in the course. Sometimes with specific instructional strategies. Sometimes with media, with video."*	

Table 1: Challenge of Putting the Course Online and Identifying Teaching Practices

4.2 Participants Adjusted to the Time Commitment and Pace of Online Teaching

Several participants reported experiencing difficulty finding the right time balance for their online courses. While the face-to-face class follows the rhythm of its meeting times, the online class is continuous.

TIME COMMITMENT AND PACE OF ONLINE COURSES	
Challenge	Resolution
Prevent online teaching from dominating my time.	Realize it is unhealthy and set realistic expectations with students from the beginning. Develop a schedule and use features of the technology to get alerts and notifications.
Adjust to a new rhythm.	Abandon the expectation that it will resemble the pace of a face-to-face classroom and adjust teaching practices.
Receiving bad advice on time management.	Come up with own standards of time commitment.

Table 2: Challenges of Time Commitment and Pace of Online Courses

4.3 Participants Moved Beyond Text

The text-based nature of the online classroom can lead to "dry" learning environments that do not necessarily engage students or exploit the affordances of other modalities. Several teachers enriched their courses over time by introducing modalities other than text.

TEXT-BASED ENVIRONEMENT	
Challenge	Resolution
Online course are mostly text-based.	Supplement the course with other resources.
Online is text-based mostly.	Introduce modalities other than text.
First courses were "dry."	Developed a technique to address all learning styles throughout the course.
Sample quote: Challenge: *"The first time I put it together on Blackboard, it was largely focused on, if you will, very text oriented."* Resolution: *"And we need to find other ways of reaching students. So I basically would identify and put little stickers on the modules and say 'this has to be done in this style, this style, this style. And that was the challenge. How can I remake this to make this more audio, or video, or more kind of a podcast or whatever the version might be.' And so I try to do that regularly."*	

Table 3: The Challenge of Moving Beyond Text

4.4 Participants Overcame Technical Challenges

Another frequently-reported challenge was technological failures and inadequacies. Several participants had been involved in online learning efforts since the 1990's and they reported experiencing and overcoming many technical challenges.

TECHNOLOGICAL ISSUES	
Challenge	Resolution
Technological failures.	Adopt a "pioneer" spirit (if the wagon breaks fix it).
Technology is not satisfying.	Find ways to "trick" the technology to make it work.
Technologies are unstable.	Work with what you cannot change until it gets better and create your own tools when possible.
Sample quote: Challenge: *"Well, the technology had to become more stable. That was the number one issue. The technology back in the '90's wasn't stable enough to teach completely immersively, it crashed a lot and the computers back in the '90's, a lot of them didn't have the power to really run everything smoothly. So you have a lot of students who weren't having optimal experiences."* Resolution: *"That was just a matter of time, two things happened in the past decade – computers got multitudes, or orders of magnitude faster and more powerful, the networks became faster. So we no longer did dial-up modems, everybody today basically in the United States who is using these classes and overseas are on high-speed networks – DSL and Cable modems. So the network and the computers became faster and the technology itself became more robust and stable."*	

Table 4: The Challenge of Technical Problems

4.5 Participants Were Able to Create Community

Online classes are often perceived as lacking the socialization opportunities that contribute to enjoyable teaching and learning experiences. The participants found various ways to build community in their courses.

COMMUNITY AND INTERPERSONAL ISSUES	
Challenge	Resolution
Give the class personality, create community.	Add ice-breaking activities and synchronous events.
Online courses can be lonely.	Create community through social networks.
Overcome the absence of non-verbal communication.	Change in perception, make it an instructional design challenge and build in live sessions.
Sample quote: Challenge: *"I think the other thing I learned is, I had to figure out how to have a personality online. You know, in class, people see you and you can joke with them and laugh with them and have a good social experience, but you have to learn how to do that online."* Resolution: *"Well we have a fun activity in every unit and that's a very interesting activity, I mean it's obviously optional, it always has something to do with online, and like I was telling you on Friday, for example is one of the cartoon sites. Another one is a site called Free Rice…"*	

Table 5: The Challenge of Creating Community

4.6 Participants Resolved Academic Dishonesty Issues

Only one participant reported having issues with academic dishonesty; he identified a simple way to remedy this problem by restoring proctored exams.

CHEATING/ACADEMIC DISHONESTY	
Challenge	Resolution
Cheating, academic dishonesty.	Onsite/proctored exams.
Sample quote: Challenge/resolution: *"I do make them come to campus to take a face-to-face final because I did realize that there were, it didn't take me too long to figure out that there was a whole bunch of cheating going on."*	

Table 6: The Challenge of Academic Dishonesty

4.7 Participants Overcame Negative Perception of Online Courses

One teacher reported having had difficulty with her institution not valuing online courses as much as face-to-face courses.

STIGMA	
Challenge	Resolution
Stigma against online teaching.	Negotiate own teaching conditions so that online courses count as much as face-to-face courses.
Sample quote: Challenge: *"Online teaching was pretty much ghetto-ized as being in the realm of Adult Ed and continuing studies and the faculty who were the early adopters of online teaching were looked upon with suspicion and curiosity."* Resolution: *"Mine does. I negotiated that very early. I was the first and for a long time the only faculty member who had online teaching as part of the regular teaching load."*	

Table 7: The Challenge of the Prejudice Against Online Teaching

4.8 Participants Still Face Unresolved Challenges

Eight participants reported that they still experienced challenges similar to those reported by the participants of Case Study One, although their number and frequency was much smaller. For example, four participants missed opportunities for socialization:

> *"You can still have fun projects, but it loses something when you're not all in the room laughing about it at the same time. Even if you're all laughing about it, but you're laughing about it asynchronously, I think it loses some of its power."*

This teacher also reported that she did not think it affected the students' learning, although it

might decrease how much they enjoyed the course. Three participants appeared to be struggling with the lack of students readiness for the demands of online learning, particularly the misconception that online courses are easier than face-to-face courses:

> *"There's this myth, I think, that has been perpetuated that online learning is, can be easy. And that you can do it in your jammies. And it doesn't have to get in the way of your real life. And you can do it on your own terms, and when it's convenient for you. And the reality is, online learning is tough."*

> *"I think that's what surprised a lot of students who see my class and think ok this is going to be a pleasure cruise, I'm taking it for fun and I won't have to do much. And that's exactly the opposite."*

Students who have had limited or poor experiences with online learning might bring erroneous expectations to the online classroom. A recent survey by the Pew Foundation revealed that six of ten respondents believed online courses did not offer the same value as classes taken in person, which could feed the perception that online courses demand less work and effort from the students (Parker et al., 2011).

Three participants were still dissatisfied with the technologies they were given to teach online:

> *"However, there are times when I think, "Oh, please!" you know. Is it really possible for instructors to meet all of the expectations? And some of that gets back to the tools that we were talking about on Friday, the E-College, Blackboard, Desire to Learn tools."*

Some expressed the view that existing technologies were not exploited to their full potential:

> *"And for me probably one of the biggest issues is so much of what we do in terms of online and higher education is based on having you sit in front of a desktop computer or a laptop computer, be stationary. We don't think about ways that people who now are going increasingly mobile and there's all these articles about "you never need a laptop again and you can do it all on an iPad", how that shift, moving to a more mobile and smaller platform, how that can be properly*

integrated into online teaching, which is one of the reasons that I don't believe in discussion boards."

Finally, two participants reported struggling (at times) with the absence of non-verbal communication, the inability to offer on-the-fly explanations and time management issues.

4.9 Discussion

The adjustments made by Case Study Two participants are two-fold. First, they made important adjustments to their perception of online teaching. They adjusted their beliefs and freed themselves from imposing or transferring face-to-face expectations onto the online classroom. Second, they adjusted their pedagogies and teaching practices, mostly through trial and error, until they found a satisfying resolution to the challenges encountered. It is important to remember that this group of teachers generally had more online teaching experience than Case Study One participants, and that they were part of professional communities that valued high-quality online teaching. Several Case Study Two participants frequently attended online learning conferences and reported being involved in a variety of professional development efforts. Thus, Case Study Two participants were more likely to find ways to overcome challenges encountered in the online classroom.

5. Finding 5: Face-To-Face and Online Teaching Are Similar at the Macro Level but Different at the Micro Level

Throughout the interviews, Case Study Two participants frequently compared the face-to-face and online modalities, noting differences and underlining similarities, frequently noting that it was "similar, but at the same time very different." This section examines the nature of this apparent contradiction.

5.1 Participants Are the Same Teachers at the Macro level

At a high level, Case Study Two participants believed that online and face-to-face teaching did not differ substantially. They believed they were "the same teachers" both online and face-to-face; they had the same expectations for their students and for themselves, and according to them, what drove the quality of a course was its design, not its modality. Each of these beliefs is explored below.

Same Expectations

When asked whether they had the same academic standards for their face-to-face and their online students as well as for themselves, seven Case Study Two participants answered that they absolutely had the same standards, and two answered that their expectations were higher in the online classroom:

> *"In terms of say, the goals that I'm expecting (or learning outcomes), those didn't really change at all."*
>
> *"Oh I think I almost have more expectations [for myself] with an online. Anyone can come and watch, it's archived the whole time."*
>
> *"Yes, absolutely. I think I am a lot more brutal in the online environment than I am on ground. And the reason for that is, first of all I am teaching graduate level students, so the expectations are pretty high to begin with. I also, because of the nature of what we do."*

In contrast, several Case Study One participants indicated that their expectations for their online students were lower because they were at a "disadvantage" and because they, as teachers, could not "be themselves" online. Case Study Two participants did not appear to experience these constraints, and at times demanded more of their online students.

Same Teachers Essentially

When asked whether they felt they were the same teacher online and face-to-face, six participants responded that were essentially the same teachers:

> *"And I remember somebody saying, 'I don't know if I can be me online, how can I be me, how can I have a personality online.' I really haven't felt that it would be an issue. I speak informally, I make jokes, I mean, I do all the things online that I would do if I were speaking to students face-to-face. "*
>
> *"I think that I am fundamentally the same teacher, but there are some differences."*
>
> *"I think I'm pretty much the same, but I know that sometimes I proceed differently.'*
>
> *"I think the basic, my basic theory of learning is the same. My basic approach to assessment is the same. And my basic approach to the course being project-based, you know, that students do things, they develop things, they put things together, and they share things with each other, those are all the same. "*

One participant felt he was a different teacher online, however, he did not attribute this difference to the modality, but rather to the level of the students: he teaches graduate seminars face-to-face and large undergraduate classes online.

Only one participant reported being different in the face-to-face classroom:

> *"Well I know in class, I'm a little bit more, as I used the jazz experience, or the jazz expression earlier, a little bit more like a jazz performance, whereas online you can't have as much jazz and improvisation going on because students are with you and they come in to check up, and so you have to have a little bit more of a structured approach to what you're trying to accomplish. Still, I find you can still be flexible."*

The inability to provide spontaneous explanations in the online classroom was reported as a constraint by several participants in Case Study One. In contrast, this participant simply acknowledged the problem and developed a way to deal with it.

For Either Modality, It Is The Quality Of The Design That Drives Quality

Four Case Study Two participants argued that what determines the quality of a course is not its modality, but rather the care that went into its instructional design. This attitude supports the conclusion that they had transcended the modality, viewing each modality as a tool to be used as most appropriate:

> *"I honestly think they are just modalities, I truly think the instructor is the difference. What I found is if you are a good instructor you are a good instructor regardless of modality. So if you are a bad instructor you are a bad instructor regardless of the modality, but some people I think tend to blame the modality when someone does not succeed for example… I bet their face-to-face isn't so good either."*

> *"I mean, basically the instructional design is, is going to drive that whether it's a face-to-face classroom or an online class, you know. You could argue that in a well-designed face-to-face class students are going to learn more than in a poorly-designed online class. Well of course, you know. But if you're looking at two, equally well-designed courses, one's face-to-face and one's online, then I would assume that, I, I, I think it's fair to assume, that students would learn equally well in both, in both courses. If they're well designed. "*

Thus, understanding that the difference between face-to-face and online courses is a matter of modality, and that the design of the course is the primary factor in how effective it will be, is probably the most important realization that teachers need to make in order to successfully teach online.

5.2 Participants are Different at the Micro Level

Although Case Study Two participants indicated that they were essentially the same teachers online and face-to-face, they nonetheless acknowledged the existence of important differences at the instructional design and instructional practices level. All nine teachers expressed the idea that online courses require a different instructional approach in order to reach the same goal:

"On ground, in the classroom, you can show me sketches and I can tell you what to change and you come back and refine more of it, and so on. I tend to be ok with that, but in the online environment I want to see every step of the way. And online we have a progress book where we see the sketches, the research, the color swatches, and every step of the way. Very very detailed all the way to the final product. I think I am equally as demanding, it is just the variables of the content are different because of the expectations themselves, if that makes sense."

"Still I find you can still be flexible, you can still be diverse, but you really have to know where you're going from the moment you start with taking the next step. With jazz you start, you gotta riff, you know where you're gonna finish up, what happens in the intermediate twenty minutes, nobody knows for sure. With online, where you start, you need to know the intermediate steps and you need to know where you end up at the end. It's like writing a film, you have to have it scripted out enough to know what's going on."

"And part of that's just the way we teach differently. You know, so in an online class to have students participate we have rubrics that often say you participate so many times, and maybe even have qualitative measures about quality. But they have to do certain things. Whereas in a classroom course, rarely do we have them do that. Where we have a checklist that says, you know, did you raise your hand three times? Other times in classroom courses, we just say there might be participation grades, but a lot of the times faculty don't keep any firm, set way of assessing it, just try a holistic feeling they get by the end of the semester."

Several Case Study Two participants warned against the risk of attempting to port their classes directly to the web. The participant quoted below is a good example of how one adjusts their beliefs and strategies in order to transition online successfully:

"When I first began teaching online, I think I was like everybody else, and I just thought that it would be sort of transferring all of my content to an online format and it would be sort of like a glorified correspondence course. And then of course I started reading a little bit - I mean there wasn't much back then – about what people were doing and how they saw it as being different and looking at my own interaction and I realized that online pedagogy had to be considerably different. It had to be content-rich and media-rich. You had to build in props toward interaction rather than just assuming that the students would be sort of passive receptors and then say something about the material. So I had to learn to take the same energy that I would put into an on-site course and translate it into ways in

> *which to keep enthusiasm and interest and interactivity going in an online course."*

5.3 Online Teaching Had an Impact on Participants' Face-to-Face Identity

Case Study One participants acknowledged a small but positive impact of online teaching on their face-to-face behaviors, mainly that they had become more organized. Five of the Case Study Two participants also reported that online teaching had an impact on their face-to-face practices, the most frequent impact also being a better overall sense of course organization.

> *"And what's interesting, and I think the research will support this, is that generally professors improve their face-to-face courses by virtue of teaching online because teaching online requires you to be so much more organized. So much more forward thinking in terms of planning in advance."*

> *"I think it [teaching online] helped me be more organized. I don't know, maybe I would have become more organized anyway, the longer I taught. But online you really have to be very organized. And I think also, I may be much more likely to prepare everything before the semester started."*

One participant who was teaching adjunct online courses at the time of the study valued the reciprocal influence of online and face-to-face teaching:

> *"If I had a faculty job, I would want to teach both face-to-face an online because I find that my, both influence what I do in the other environment. And I think it would be a shame to choose only one over the other (...) I would teach one face-to-face and one online. Both of them have always influenced what I did in the other."*

Two teachers did not report any impact of online teaching on their face-to-face teaching; two participants had not gone back to teaching in the classroom after transitioning online and thus could not answer this question.

5.4 Discussion

Although it appears that transitioning online required participants to make significant adjustment to their beliefs and to their teaching practices, online teaching did not fundamentally alter who they were as educators. They were essentially the same teachers in each classroom, were equally demanding of themselves and of their students (although they practiced differently). However, as they transitioned online and met the demand of virtual and mostly asynchronous environments, these teachers experienced significant growth in their professional identities, a growth that appeared to have also benefited their face-to-face teaching identity.

6. Finding 6: The Support of the Community Plays a Determining Role in a Successful Transition Online

Teachers' identities are not immune to the social-cultural context that surrounds their practices. Wenger argues that identities and communities of practice are mutual constitutive (Wenger, 1999). In other words, teachers' identities both shape and are shaped by the communities in which they work. Case Study One participants were not part of a professional network that strongly valued or encouraged online teaching, they did not report having any interactions with online teachers (although several expressed interest in such interactions) and none of them reported attending conferences or reading the relevant professional literature. Case Study Two participants however, appeared to benefit from a professional network supportive of online teaching endeavors. Almost all Case Study Two participants benefitted from professional networks that valued online learning as evidenced by the existence of strong institutional support structures, and many instances of faculty collaboration.

6.1 Participants Benefit from Institutional Support

Participants were asked whether their online courses counted towards tenure and/or promotion, and whether online courses counted as much as their face-to-face courses for tenure, promotion, and for course load. Only two participants responded that their online teaching performance did not count towards their evaluation, primarily because teaching was not their primary activity. Both teachers happened to be professional instructional designers in charge of providing support to the faculty who teach online. Although they were not required to do so, they were both teaching online courses because they believed it gave them credibility and informed their practice as instructional designers.

The seven remaining participants indicated that their online course counted towards tenure and promotion and, for the four participants who taught both online and face-to-face regularly, that their institution made no distinction between the two modalities. In addition, seven out of nine participants worked for institutions that had well-established online programs. At least three of those institutions had received significant funding to develop their online offerings, and had strong ties to Sloan-C, the largest online learning organization in North America. Only one participant expressed the view that the technological and pedagogical assistance available at his institution was not satisfactory. Another one indicated that for many faculty at her school, online teaching was still considered secondary to face-to-face teaching.

6.2 Participants Benefit from Faculty Support

While only one participant in Case Study One mentioned the instructional design and mentoring assistance available at their institution, five of nine Case Study Two participants reported being pleased with the level of support they received:

> *"Currently, the model at xxx is the faculty create the curriculum. We have an amazing system. We are paired up with an instructional designer, a media designer and a writer."*

> *"We have a whole staff of instructional designers because we feel it is very useful. In many cases the faculty take advantage of it."*

6.3 Participants Benefit from Faculty Collaboration

At least five participants appeared to be part of a professional network where they frequently collaborated with other colleagues, either formally or informally:

> *"So, I am developing this course from scratch, but before I started working on this, on the construction side, we started a, what we call boot-camp. Where we are teamed up with 2 other members of the department where we brainstorm the core of the concepts and policies that are required for the particular course (...) And again just because we collaborate so much in the department and we are so tight that it is easy to pick up where one left off in the department, and it is easy to bring it into the course."*

> *"Yup, that was my buddy [name of institution]. One of the smartest history professors I ever knew but he just had no concept for online. Yeah he was one of the first I helped for his History 101 and 102 online at xxx University."*

> *"This semester I'm teaching a course that I actually teach only a few units of, and I coordinate it with a number of other faculty members. (...). It's a model that we have developed at the University of [name of institution] and actually won a few prizes for it because the idea of having a closely integrated course where faculty work together and each one offers a lesson, basically, for a ten day period and grades and interacts."*

6.4 Discussion

The defining element of a community of practice is the mutual engagement of a group of people who work towards a common goal using a common repertoire. Findings from this section illustrate the collaborative nature of the teachers' engagement towards making online learning as effective as possible. Being immersed in a community that acknowledges the differences between face-to-face and online, without favoring one modality over the other, is essential for teachers to feel committed to online teaching excellence. Since teaching duties maybe secondary to research at many higher education institutions (D'Andrea & Gosling, 2005), it is important that online teaching does not become a second-class modality in higher education. Institutional support is central to this objective. Participants in Case Study One did not enjoy such support. This absence adversely affected not only their practice, but their level of engagement with online teaching. Participants in Case Study Two did have access to a support network and this support appeared to have had a positive impact on their online teaching experiences.

7. Finding 7: Case Study Two Participants Were Intrinsically Proud of their Online Teaching

Teachers must be a part of a supportive professional network in order to fully engage in online teaching and derive pride and professional fulfillment from this activity. Participants in Case Study Two benefited from such support at the institutional or departmental level, but not necessarily from their inner circle of friends and family.

7.1 Participants Are Intrinsically Proud To Teach Online

With no hesitation, all Case Study Two participants reported being proud to teach online:

"Absolutely, I embrace it, I enjoy it."

"Are you proud of teaching online? Yeah. I tell people all the time, [laugh]"

"I was proud that I was at the forefront of the University of [name of institution], so I had the first fully online class here 12 years ago or whatever it was, maybe 13 years."

"I am, definitely. And I'm proud of being an advocate of online learning."

"Very. I am very very proud of teaching online. I am very very proud of being a pioneer in online teaching."

7.2 Participants Received Negative Feedback from the Public

Interestingly however, several Case Study Two participants had either experienced or anticipated negative reactions from their friends and family:

"I am a college professor but I never go into a classroom so I give up on explaining. It really became not that important. I am from Puerto Rico and my mother-actually on both sides- have lots of educators including presidents, college professors, researchers and all that great stuff. And of course they are all in those traditional environments. So the fact that I teach online is actually one of those things that we do not talk about, they are like "let's not talk to her, she's on the computer."

"When I talk to people at parties or something and I mention what I do I get a lot of comments like 'oh yes you video-tape all the classes and put them online'. 'No, that's not it at all'. (...)So I think it's a matter of educating the general public about it as well."

"When they ask about online learning, there is the assumption that it's a lower version of anything that gets done on a college campus."

"That's an interesting question, because I am proud to teach online, but I find myself a bit defensive when I'm telling people who are outside of the field of online instruction because of that stigma of it not being high-quality, or of it being a piece of cake."

"I'm proud of being an advocate of online learning. However,(..) it happens all the time where I'll be somewhere: "What do you do for a living?" And I tell them. And, you know, people often will have this, if they've never done it, they will have

> *"really? How does that work? I don't see how that's as good." Um or people will say things like "you know, well I took a couple courses online and they just sucked." Um and you know my reply often is "have you ever taken a face-to-face course that just sucked?" Because most of us have. And, and so you can't judge every online course by just a couple poor ones. Um and so while I'm proud of it, it, there's definitely mixed feelings in the world about online learning. And so there are times you have to defend what online learning is, and I'm ok with that. In fact, I like to do that. And I like to challenge people's perceptions of it. But um, but I don't think people think being an online instructor is the same as, you know, as being a face-to-face traditional college professor, or that either of those is as prestigious as say being a doctor or a lawyer or something. You know, um so I think society thinks of it certainly. But yeah, I'm proud of what I do. "*

According to a 2011 survey conducted by the Pew Foundation, only 29% of the public believes that online courses have the same educational value as face-to-face courses (Parker et al., 2011). Thus, outside of academic circles, being an online teacher does not generally have the same social value as being a "traditional" teacher, a stigma that further reinforces the need for institutional support for faculty.

Only one Case Study Two participant reported experiencing positive reaction when sharing his practice with others:

> *"Oh they tend to be impressed. If they think about it as online education then it doesn't make much sense, but once they have seen what we're doing and have a sense they're very impressed, I think dazzled by the array of the technology and the richness of the experience so I think they're very much impressed."*

7.3 Participants Believe that Online Teaching is Stigmatized

When asked whether they believed online education was stigmatized, seven Case Study Two participants indicated that this was their experience, one was unsure, and one did not agree. One participant believed that online learning was still marginalized:

> *"The fact that it is still kind of taboo in this generation you still kind of can get a degree online and get people that go oh they got their degree online? There is a stigma it's not accepted as a formal way of education."*

Another participant believed that although there was a stigma, it was slowly fading away:

> *"I think yes. It [The stigma] does still exist. I do think it's much better than it used to be but it's breaking down (...) But there are still pockets of people out there who resist on principle and just refuse to accept it as being as good as. A lot of people seem to equate convenience with easy or poor quality, and that's not always the case. (...) I think there's just a lot of ignorance about what online learning is."*

One participant appeared to believe that the stigma was much stronger inside academia than among the general public:

> *"I don't think it has near the stigma outside of academia than it does inside."*

Finally, one participant thought this stigma was a disservice to students who could otherwise benefit from the opportunity to take online courses.

> *"I do believe that there is a stigma against it, and I think it's quite unfortunate because so much good can be done to serve our students and our constituents through online teaching and once again, it really does boil down to the willingness of a teacher to teach."*

7.4 Discussion

The teaching profession is constrained by social ideologies of what a teacher is and what a teacher is not. As one participant noted, "*when you think of a college professor you don't think about a guy in a ponytail and t-shirt sitting in front of two monitors, teaching."* Participants in Case Study Two appeared to have had firsthand experiences with the public's predisposition against online learning. However, they appeared to also have the necessary confidence, self-efficacy and institutional and professional support necessary to offset the negative effects of this

perception. This factor is important to the process of teaching identity construction. Alsup underlined the powerful influence of teachers' social circles, including colleagues, friends and family (Alsup, 2008). Her research shows that teachers who benefited from supportive social circles were most likely to develop healthy professional identities.

8. Finding 8: Participants Held Positive Views of Online Teaching and Learning

Case Study Two participants appeared to hold generally positive beliefs about the impact of online education on the teaching profession. However, they expressed concerns about the widespread absence of thorough teacher preparation as well as the large number of low quality online programs. Both of these factors create the view that online learning is inferior to face-to-face teaching.

8.1 Participants Believe in the Benefits of Online Learning

Five Case Study Two participants believed that online teaching contributed directly to the improvement of teaching practices. For example, one participant believed that online teaching contributes to the abandonment of obsolete practices:

> *"I just think it is time to strip those walls and if we are trying to create a society that is progressive, I think the days of talking heads in the classroom are over, and we need to engage the students in activities and experience."*

The same participant also believed that online teaching helped expose poor teaching practices because all activities are recoded and archived, as opposed to the relative privacy of the classroom:

> *"I think that distance education is calling on education and putting it on a spotlight that education hasn't had. So while in the traditional campus, professors can hide behind a tenure umbrella or doors and be protected by all those things.*

> *But the online environment exposes you because everything is recorded and documented and it puts the professor in very vulnerable position. Now do I care? No, because I do the same thing online that I would do in the classroom. So I don't have a problem with it. But a lot of professors are not - now I am going to get on my soapbox- they are not very committed to teaching. They are more concerned with their own interests and teaching provides them with the ability to still have those interests. You know they go back into the classroom and teach it just like the time they did before. You cannot do that in the online environment so sometimes the students in the classroom are taken advantage of."*

One Case Study Two participant expressed the view that teachers felt pressure to design good online courses because they might be held accountable for poor practices:

> *"Well and I think partially another part of that reason it's [online teaching] held to a higher standard is because it's public. You know, when I go into a face-to-face course and shut the door, none of my peers know what's going on in there. Students do, but in an online course, yeah granted, you can't go in and look at my online course until somebody gives you access, but it's not hard for somebody to give you access. So that's all public information and I think for some people that there's that sense of 'oh my gosh, I really have to make sure this is good incase somebody comes in and looks at it.'"*

Still other Case Study Two participants believed that online teaching caused some teachers to rethink their pedagogies, beliefs and teaching practices, which are all an integral part of their teaching identity:

> *"What we hear from faculty here and I heard it when I was at [name of institution] as well is that faculty who go through our online training program, fundamentally change the way they teach face-to-face. It's not just the integration of technology but it's the alignment of objectives to measurable outcomes and all of that stuff that we try to emphasize."*

> *"I've heard faculty say during that time as well as subsequent to that, that learning how to be a good online instructor, and learning how to build their own courses, (...), they find that their face-to-face course improves because the online experience requires them to be so much more organized."*

> *"The biggest thing that it has done is caused me, and the literature shows this, is it has caused a lot of instructors to re-think well what is education. What is formal*

education and, and why do we do what we do, and how can we do it differently, better, more efficiently, etc. You know, and so I think those are all real good."

"I think that on the positive side, it has forced us to really think about pedagogy - I mean this is the idealist in me, obviously – and really think about how what we're trying to teach can be best received by our students, which I think is very very positive."

8.2 Participants' Views of the Risks and Issues of Online Education

All nine Case Study Two participant expressed concerns about the way online education is currently deployed. The two main issues they raised were (1) the lack of training available for teachers and (2) the poor quality of some online programs. Together, this issues help propagate negative attitudes against online learning.

8.3 Participants Blame the Lack of Training for the Negative Perceptions of Online Education

One participant pointed out that the rapid growth of online learning caught some institutions off guard, and that in many instances, teachers are thrown online with little preparation. Then, when failure occurs, the modality is blamed:

"I will share a concern. As online learning continues to grow and grow at this really torrid pace, as a faculty member and administrative member and someone who cares deeply about the quality of online learning, I worry that the growth is kind of our own worst enemy. Some institutions are jumping on the online bandwagon and encouraging faculty to teach online and enabling that to happen with technology. So for example you get a learning management system and you get a course shell and they're told 'go, teach online. Great. Do as much as you can'. But they're not given instruction on how to do it well. They're not provided the infrastructure on how to be effective online and we could end up with online classes that are also poor quality. And that's where quality will be blamed on the modality, not on the way that they built their course or instructional practices.

> *And it's really not a modality issue, it's a support issue. So I fear that we're going to kind of outrun our supply lines if you will, of quality support and we may end up having some sort of a backlash on online learning where people are going to say, 'wait a minute, this isn't so great' because we expanded too fast."*

Another participant observed that not all teachers are a good fit for the online classroom:

> *"What you see is a lot of institutions that shove online courses down the throats of faculty because they don't give them choices on how to do it. And the reality of it is, is that it is a new thing and you have to learn how to do it so you either have to embrace it and roll with it or stay away from it. And some institutions think that everyone has to do it but it is not for everyone. So I think that we have a lot of work to do in order to make ourselves educators as well as distance educators and we are talking years out."*

8.4 Participants Blame Low Quality Programs for the Negative Perceptions of Online Education

A common concern among Case Study Two participant was the existence of programs of low academic quality, especially in the for-profit industry. An additional concern were practices that contributed to a negative perception of online learning:

> *"The things I don't like about the influence of online learning is that I don't like the rhetoric that it will save us money. Because I think if online learning is done well, it should cost as much as, if not more. I don't like the slippery slope of wow! If we can fit thirty students, why can't we fit seventy? If we can fit seventy, why don't we put 250? If we can 250, why don't we do 1000 students in this section? And just get a bunch of TA's and just multiple versions of each test. And so there are ways because of the money, because of what online can do. Um, I think there are definitely some negative impacts.*

> *"I don't think that enough professors do it well enough. But they may be the same professors who didn't teach face-to-face well enough either."*

A few teachers had an optimistic take on the situation, and suggested that as time goes by, new policies could increase accountability.

> *"I think that in any industry, you either police yourself or some outside agency will police you. And I guess I think that the instructional design and the educational community are trying to police themselves. They're trying to set standards, they're trying to offer workshops and training and seminars and whatever to help people improve and to make sure that the instruction that's out there is good. I think they're making an effort. But it did start out badly and partially because the tools were not so helpful, but partially because nobody had a model. It's that old, like I talked about on Friday, that old model where when TV first came out, it was all talking heads because nobody knew what to do with the visual."*

> *"But I think over time, and as universities and institutions get more comfortable with the idea, that there is going to be more accountability (and I think that it's already happening to an extent), and there's going to be committees that approve online courses—there's just going to be more accountability."*

8.5 Discussion

The rapid growth of online education took higher education largely by surprise. Few institutions had the opportunity to carefully plan their entry into the online arena. School of Continuing Education or centers for distributing learning saw their online enrollment double or triple in just a few years. They had to quickly hire teachers to meet that demand (Allen & al., 2009). Many online quality control systems were implemented after the fact, if they were implemented at all. While there is a clear need for accountability to be built into online courses and programs, it is important to remember that the field of online learning is still very young. We do not yet have definitive guidelines on best practices in this new learning environment, let alone on formal evaluation methods. However, despite these concerns, participants in Case Study Two appeared to hold positive beliefs about the future of online learning, and in addition appeared to be proud to be at the forefront of this new social phenomenon.

9. Finding 9: Case Study Two Participants Used Traditional Technologies in the Classroom and Emerging Technologies Online

One objective of this research was to evaluate the role of technology in the process of teaching identity growth. For Case Study One participants, this role was minimal. Although technology had a potentially enabling role, necessary incentives and support structures that would have facilitated this role were largely absent. Case Study Two participants did not self-identify as any more technology inclined that Case Study One participants, but their practices revealed that the majority of Case Study Two participants were engaged with technology in the online environment, and that this engagement played a key role in their identity growth.

9.1 Participants Reported Moderate Levels of Technological Self-Efficacy

When asked whether they considered themselves to be technologically savvy, four Case Study Two participants unequivocally answered that they thought so:

> *"Uh the computer science kids call me a wire-head. But yes, I know technology."*

> *"Yeah it's unfortunate but I spend most of my time engaged in technology in one way or another."*

The remaining five participants gave nuanced answers, noting that one's technological proficiency is a relative notion:

> *"You know I am not going to consider myself a guru of technology. I am a user of technology but not a technology geek."*

> *"Yeah I think there are people who are more so but I think I am about as tech savvy as the next person."*

> *"You know that's an interesting question because it depends on who I'm with. So, I think my students and most of my colleagues perceive me as being very technical and technologically on top of it. However, in comparison to, for instance the guy that I hire when I do my consulting, I mean I can't even compare to his skills, you*

> *know? So, so technology skills is a relative scale. It depends on who I'm comparing myself to."*
>
> *"I don't know, I'd probably give myself like a B. I mean I think I am, compared to the average instructor, yes, but compared to what's available, no. I mean, I had the first fully online class at the University of [name of institution]. So we're out front with the Second Life also."*

These results track those from Case Study One, where nine of ten participants considered themselves to have average technical skills.

9.2 Participants Used Traditional Technology in the Classroom

Six of nine Case Study Two participants reported using traditional technologies when teaching face-to-face: computer and projector, web pages, YouTube and other video clips, images, music, newscasts and PowerPoint slides. Three participants reported using a larger array of tools. Two of these were using technologies such as blogs, wikis, websites, MS Office products, mapping tools such as Inspiration and Kidspiration. SharePoint, digital storytelling (Photostory), iMovie, Moviemaker, Adobe Premiere Elements, Animoto, VoiceThread or Jing. Adobe Creative Suite, Digital Cameras, Video, and Skype/Adobe Connect. The immersion expert used a combination of websites, social media, audio whiteboard and virtual worlds. Based solely on the interviews, it appeared that these technologies were used primarily to support teacher-centered practices for at least of the nine participants interviewed.

9.3 Participants Used Non-Traditional Technologies in the Online Environment

Participants in Case Study One primarily used the university sponsored course management system, as did eight of nine Case Study Two participant (5 Blackboard, 2 Ecollege, 1 Moddle,

one Ecollege and Moddle). The ninth participant was using his immersion tool kit. The main difference between participants in Case Study One and Two however, is that Case Study Two participants supplemented the university sponsored CMS with a wide variety of instructional and mainstream technologies. Examples of these technologies are depicted in Figure 5, a word map that displays the size of the word identifying the technology in proportion to its frequency of use among the participants.

Figure 5: Word Cloud of Technologies Used in the Online Classroom

9.4 Participants Reported Ambivalent Attitudes Towards Use of Synchronous Tools

When asked whether they used synchronous communication tools, six Case Study Two responded that they did and three that they did not.

> *"I will have a live session at the beginning for anyone to set up the course and at that time if I want to change anything, I give them a heads up and save the recording so they can access it at any point in the term if they want to."*
>
> *"Yes. Usually something like Blackboard Collaborate and then I archive the product in case someone misses the event. This semester I have students up to 6 time zones away, so truly synchronous sessions do not always work. I use it when I have guest speakers."*

No participant in Case Study One reported organizing synchronous events with their students.

9.5 Discussion

The majority of Case Study Two participants used a rich array of tools to supplement their course management system. The most frequently mentioned tools were Adobe Connect, YouTube, Facebook and Skype. Some of these tools are educational technologies developed for teaching and learning purposes (e.g., Adobe Connect and Elluminate) but the majority are mainstream tools that the teachers repurposed (e.g., Facebook, Jing and Dropbbox) to meet the needs of their online courses. This willingness to deal with the often unexpected consequences of introducing mainstream technologies into their courses constitutes a strong sign of technological engagement. Such use requires teachers to train their students how to use these tools, and that teachers be willing to adapt the tools to make them fit their educational purpose, often without technical assistance. Case Study Two participants were apparently willing to accept this challenge, because it increased the range of instructional capabilities of the online classroom. Case Study Two participants were therefore able to overcome a lot of the constraints experienced by Case Study One participants, who mostly used the CMS. The discussion below further illustrates the enabling role that technologies played in the process of online teaching identity growth.

10. Finding 10: Technology Played a Determining Role in Teaching Identity Growth

Although the majority of the participants did not identify as highly technologically inclined, seven of nine Case Study Two participants displayed strong evidence of overall engagement with technology. Such evidence manifested itself directly in general open statements of engagement (6), indirectly in the "pioneer spirit" they adopted vis-à-vis technology (7), and an overall pragmatic, realistic and positive attitude towards the technology, despite the many issues they reported using the technology. This technological engagement is what allowed Case Study Two participants to overcome the pedagogical and interpersonal constraints experienced by Case Study One participants.

10.1 Participants Displayed General Signs of Engagement with Technology

Six Case Study Two participants expressed their interest in technology, whether used by them or by their students:

> *"I love when students discuss their own ways of using technology, so I have seen students collaborate by texting each other ideas and concepts…collaboration with texting, I would have never seen before. (…) [students] either use Skype or Dropbox to exchange files. You can see the files flying in and out and you can see the way they are exchanging references and stuff."*
>
> *"I do have a smart phone, and iPhone and iPad. That's technology that I embrace, now I read books faster than ever because while you are waiting you can just be reading."*
>
> *"Oh, I love technology. And it goes back actually, you didn't ask about this and I'm not the one to talk about my past, but growing up, my father was a manager for the telephone company."*

Further signs of engagement were apparent in the time they appeared willing to invest in using the technology:

> *"So basically one year, I spent all summer going through 30 different lectures or whatever and picking out the things that I thought would be pertinent for an online class."*

Case Study Two participants also evidenced a willingness to develop and build the technologies they wanted to use from the ground up, dealing with whatever problems they encountered in the process, and learning from their mistakes:

> *"Oh yeah. We worked on the technology, worked on developing it. Like anything, it was early stage technology so we assumed that it would not be perfect and we learned a lot from those early days. The two major things that we learned was that you have to have voice-chat. We do a combination of voice and chat (...) You know, you have no voice at all.. you really lose a lot. So we learned that you have to have voice and we learned that you have to have a stable environment for the majority of people (...)So the stability of the platform and the richness of the modes of communication were the two major things that came out of those early years."*

In addition to being willing to experiment with various tools, participants also appeared to have a particularly optimistic and pragmatic mindset with respect to technology, as discussed in the next section.

10.2 Participants Displayed a Pioneer Spirit and Attitude Towards Technology

At least seven of nine Case Study Two participants exhibited a "pioneer" spirit with regards to technology. Age was not a factor. They appeared willing to explore new tools and cope with unstable technologies until they improved. Some had been involved with online learning since the early days of the Internet, and several were early adopters of new software tools. One participant expressed her willingness to explore software tools not necessarily designed for teachers:

> *"There is no tool out there right now for everything we need, which is unlike the classroom. You can go outside and find what you need. I am not an expert but I am looking for opportunities that need testing."*

Several participants expressed pride in being early adopters and pioneers of online teaching at the time when the online teaching technologies were still in their infancy:

> *"We were on the first exploration of how you did desktop publishing […] Uh this was back in the days when there was no learning management system. We were just putting together HTML pages and simple links. I mean it was very very rudimentary."*

> *"So I think in 2001 I taught one of these courses that was on TV, that can be broadcast to remote sites and then on the public television and then kids could watch at whatever time (…)I would say that I have 'led the charge' but some other people are involved also in using Second Life."*

> *"I began doing that just as soon as it was possible to do it. In the very beginning before we really had course-management software, when it was much more like a closed bulletin board, it was very very difficult and as soon as I understood enough about very basic HTML scripting to be able to insert some pictures, that was sort of like the beginning. And then once we -first we used WebCT and now of course we're using Blackboard - I quickly learned what the possibilities were. So I started using a media-rich course probably about 2000 when that became more possible. "*

> *"Oh sure, yeah. The very first generation of technology that we used always afforded text chat and it didn't support.... It was funny, it crashed. So, students were constantly crashing and having to come back into the learning environment. And it was really a pioneer spirit that students had, they had to be very motivated and keep going. So this was in the mid 90's."*

10.3 Participants Displayed a Pragmatic, Realistic and Positive Attitude Towards Technology

Case Study Two participants reported having issues with the technologies available to teach online today, but they also displayed a willingness to put up with these issues, find creative solutions and in general displayed an overall positive attitude with regard to what can be achieve

today:

> *"I mean you have to embrace the technology with all the glitches, could it be better, absolutely but in the meantime that is what we have."*
>
> *"The fact that we have Skype, Connect, and Blackboard and they don't work the way they did when I started teaching, so I have to say that technology evolves. You know Connect, having it, and not ...I mean it has some audio problems, I would take it any day."*
>
> *"I don't think there's anything I can't do, but then I'm very fortunate in that I've got a great network of people, so if I can't figure out how to do it then I just contact somebody in my network and say, "Help me figure this out. Let's figure this out." And the two people that I co-teach with are also very talented and so between the three of us and then, some of the people that work at [name of institution], we can almost always figure it out. It may not be elegant, and it may not be efficient, but we can almost always figure it out and then it just makes us aggravated that it took so much time and effort to do something that we thought was instructionally a good idea and why didn't E-college help us with that."*

Case Study Two participants appeared realistic about the potential of the technologies available, the way students can adjust to these technologies, and the role educators have to play in this process:

> *"So I've always been around technology and I understand it, I don't think the latest and greatest is always the latest and greatest."*

While many teachers are reluctant to introduce mainstream tools in their classes for fear of overwhelming the students, one Case Study Two participant displayed a pragmatic attitude about this issue:

> *[About students struggling with the use of social media in the classroom] "No, I would say basically, we have five hundred million people that use Facebook, I think they've figured out how to use the interface."*

The same participant believed that part of his duty, as a teacher, was to expose students to such technologies:

> *"I also feel that one of my jobs teaching online is to educate students in how to use other technologies. The world does not exist inside Blackboard and after they*

> *graduate when they're gonna be online, it's not gonna look like Blackboard, act like Blackboard, cause all the issues Blackboard has, you're gonna be in a completely different world, so I'd rather they learn it as we move along. […] But you will use Twitter, you will use blogs, you will use ListServes, there's a whole range of stuff, technologies that are out there that are far more important."*

Finally, Case Study Two participants appeared appreciative of the fact that technologies had improved overtime:

> *"And that was in like 2001. I did that with a dial-up. And then I taught my first course on a dial-up. For me when I sit there and think about where we've come, I'm satisfied with where we are now. So when I think about what should be possible, I'm not happy. You know, I'm just kinda content. It works."*

10.4 Participants Used "Bricolage" Strategies to Solve Many of the Issues Encountered Online

In the field of education, the word "bricolage" refers to a creative way of solving problems, mostly through trying, testing and playing around (Pappert & Harel, 1991). At least six Case Study Two participants had developed a "bricoleur" attitude to technology, which allowed them to adapt the technology to their specific needs, or had simply found alternative ways to achieve their goals. Table 7 summarizes examples of issues encountered by six Case Study Two participants, and ways in which those issues were resolved.

Participant	Issue	Work Around
1	The CMS is not interactive enough: *"But it fails miserably at providing tools for creative collaboration."*	She sets up Adobe Connect sessions for the students to use and she allows them to use whatever tool they wish to use: *"So when I am teaching and I want to bring in collaboration type things for the students I have been testing a couple ways to do it. (…) So right now we have an open Connect session where students can come in and use it basically for anything that they want. But*

		the students have shied away from that and either use Skype or Dropbox to exchange files."
1	Word processing tools are too constraining: *"You know I hate Word so the students never use it even when they have papers because it customizes things"*	She requires PDF files to take advantage of the annotation features: *"So I ask them to give PDFs so I can mark it up and have that freedom with it."*
1	Technology fails to work at times: *"Of course you know technology does not always cooperate."*	She came up with an "on-the-spot" temporary solution: "*I had Adobe Connect on one computer to get the audio through Skype through Connect to get to the students. So it was one of those days where technology was just not cooperating.*"
2	We have to help teachers think outside the LMS.	He organizes workshops and round tables around this topic: *"I'm also doing a workshop at the beginning and we're gonna use, it's called thinking outside the LMS. So, and it's talking about the technologies you can use that aren't part of your typical learning management system. Like Twitter and Facebook and Listservs.*"
2	The LMS is too clunky: To access the discussion forum you have to "*log into a computer, get into your learning management system, get into your course, get into the discussion forum, you have six clicks before you get to do anything meaningful.*"	He uses listservs: *"Because I think ListServs, which is basically just a huge email list, each student gets your email on your iPhone or your Android and you can read it and respond to it right then and there (...) This way it comes right to you and you can respond immediately."*
2	Blackboard is not 100% accessible: *"I had a student in one of my*	He sends assignments via email while looking for other non-CMS options: *"So I ended up sending almost everything to*

	Media Writing classes, we were posting our assignments on Blackboard, at the end of the second week I said 'Well Bill, what do you think?' and he says, 'Well, I can't read anything on Blackboard, my screen reader doesn't work,' he's completely blind so he has to read it on a screen reader."	*him as an email or something else. He could read a webpage, but he can't read a Blackboard page."*
2	He wanted more spontaneous types of exchanges: *"I just missed the fact that even with the ListServ the students are responding to assignments and stuff that goes back and forth, but it wasn't those little of bursts of energy that you sometimes would use."*	He introduced Twitter: *"This past summer, I introduced Twitter into my online course (...) They didn't have to be sitting in front of a desktop computer to make it work. And so it was something I was very happy with."*
2	Enclosing the course in a CMS does not prepare students for the technologies they will use in their lives: "*Well because I don't think Blackboard works. It has all the parts but it doesn't really work interactively. And students are not going to go out into the real world and learn things through Blackboard"*	He introduces mainstream technologies in his courses: "*But you will use Twitter, you will use blogs, you will use ListServs, there's a whole range of stuff, technologies, that are out there that are far more important."*
3	CMS are based on obsolete instructional models: *"Well the, what I call course management systems, like E-College or Blackboard, they're still working off that old model where, well teachers lecture and students read a book and turn in a paper."*	She tricked the system into doing what she needs it to do: *"And so, I mean, I can get E-College to do almost everything I want it to do, but sometimes I have to trick it. I used to teach people how to use E-college and, you know, it's not capable of doing what I want it to do straight up so I have to go through the back door. Or I have to some sort of HTML or CSS on the site."*
3	CMS have a white background that	She changes the background color, although

	is straining on the eyes: "*For example, a screen, when you look at a PC screen, that's basically light coming into your eyes, right? And if you have a white background, that's white light shining in your eyes, which is a bad thing."*	it is not a feature in Blackboard: "*So we try to put pastel backgrounds behind all of our pages (…) Anyway, trying to get E-college to put in background colors is not easy. I mean, I figured out a way to do it, and it's not really difficult, but it'd be a whole lot easier if E-college would just have an option on their edit menu that says, "Would you like to put in a background color?" "Yes" "Okay here's the color palette, which color would you like?""*
3	CMS's interface make reading difficult: *"And the other thing about text that I think gets messed up with these tools that we're using (…)is that the general consensus for any kind of online (…) website or what it is – is forty to sixty characters per line is what people can quickly and easily read and get back to the left margin."*	She modified the default template: *"Now we can do it, but we have to trick it, we have to figure out a way around their standard templates."*
4	The CMS is lacking essential tools and features: "*The learning management system itself I mean, me and our college have talked about how the LMS comes stranger teaching, and what a real LMS should do if it's designed by faculty*."	He is part of a focus group on the topic: "*So, we even started a project called the Learning Management Frontier. And really writing out, you know, what should a learning management system really have*."
4	Giving feedback on certain type of material is difficult: *"An example would be lets say someone develops a PowerPoint presentation, and you want to give feedback on it. It's really cumbersome to add notes in the PowerPoint."*	He uses a video capture software: *"I just fire up Jing or Fantasia and I start giving them feedback. And that has gotten great results through the years."*
5	Not everybody has broadband access:	She creates alternatives: "*I always need to think about alternative*

	"*Much of the state is still on dial-up*"	*assignments for the students that may not be able to access the videos*."
6	Second Life promised to become open-source and didn't: "*We B-listed Second Life. (…) What happened is that LindenLabs decided not to release the server software, the open source, they decided to commercialize it and sell it for 50,000 dollars."*	They abandoned it as a tool: "*And from that point forward, we've only mandated or only used completely open technologies*."
6	The immersive system lacked interactions: "*Like anything, it was early stage technology so we assumed that it wouldn't be perfect and we learned a lot from those early days. The two major things that we learned was that you have to have voice-chat*."	They introduced voice-chat: "*We do a combination of voice and text.*"
6	The immersive platforms are not user friendly for teachers: *"But the learning curve on how to really master that and really utilize that to its greatest effect in the classroom, the virtual classroom, that can take years on their own and also trial and error, that's too long and much too difficult."*	The Immersive Education Institute is creating training modules: "*So a key part of what (…) the immersive education initiative is doing over the next couple of years, is providing certification and training so that we can cut that down*."

Table 8: List of Technical Issues Encountered and Their Solution

10.5 Discussion

As one participant described one of her solutions, "*It might not be elegant, but it works.* Several Case Study Two participants talked about the ways in which they enjoyed experimenting with the technologies to draw out unexpected learning affordances, or simply to solve problems

they experienced online. In the absence of adequate tools to support online teaching, these teachers resorted to tinkering with existing tools to bend them to their instructional objectives. In French, the word "bricolage" has a temporary connotation, often referring to a temporary, perhaps inelegant, yet effective solution. It will be interesting to find out whether technologies improve significantly enough over the course of the next ten years for teachers to no longer need to tinker with existing tools. In the meantime, it seems that technology is playing an important role in allowing teachers to overcome pedagogical and interpersonal challenges, allowing them to find professional fulfillment in the online classroom.

11. Finding 11: Participants Were Not Able to Solve All the Issues Encountered

All nine Case Study Two participants reported unresolved issues with regard to the technologies they use to teach online. Over half of these issues pertained to their CMS (although they were not specifically prompted to talk about the CMS).

11.1 Participants Had Issues with the CMS

The CMS related issues fell into three categories: (1) the lack of social network features, (2) incompatibility with other tools and (3) usability and accessibility issues. Each of these issues are discussed below.

<u>The Lack of Social Network Type of Features and Compatibilities</u>

Five of nine Case Study Two participants wished that course management systems offered features similar to those of social networks, such as:

- Tools to facilitate students collaboration:

  "But it [Blackboard] fails miserably at providing tools for creative collaboration."

- Interactive features:

  "Well because I don't think Blackboard works. It has all the parts but it doesn't really work interactively."

- The possibility for students to establish a strong social presence and for the teacher to make part of their courses public. Most social networks offer a variety of privacy settings, that allow users to share their blog or Google document with a limited number of people (or the whole world). Course Management Systems tend to be anonymous and private to the teacher and his students:

  "Your typical learning management system lacks certain things, certain social features that Facebook has, and that some LMS's have had for years but most of them don't. So, by being able to put your picture online, being able to see if you're currently online and can you chat with them. Being able to have the students have a central area, portfolio like, so that they can build content throughout the course that's not tied to the course. In so many courses they're lock down or either are built private. And to me a course should have a public side."

  "I would like for students to be able to put some kind of personal photo or something next to their names so that in the discussion, you know how Facebook does it, we would be able to see their little picture, their thumbnail of themselves."

Incompatibilities with Other Tools

Generally, Case Study Two participants wished their CMS was compatible with other social media, allowing them to freely post and share articles and documents from the web to their course shells:

"I would love to be able to put an RSS feed on the page. I tried, I have the English Language news thing, but you can't really tell that it's an RSS feed, like you have to click on it and then it takes you to Yahoo and there you see my feeds."

> *"I mean there should be something like a Google Reader or whatever and I could just put in subscriptions of blogs related to the course material (...) And I should be able to send stuff. You know how you can you click a button and it sends it to your Facebook or to your Google Plus as your reading the news? I should be able to do that. I should be able to click a button and have it send to my course that I'm teaching."*

Very few Course Managements Systems offer this kind of functionality, prompting Case Study Two participants to supplement the CMS with other tools.

Usability and Accessibility Issues

The second most frequently reported CMS-related issue (four of nine participants) was that the CMS tended to exhibit poor user interface design. Several teachers missed a simple search and replace features for dates, which would speed up the course updating process from semester to the next:

> *"And E-College does not have a search and replace function. Which is extremely annoying when you take the shell that you used in the Spring, and you want to use it again in the Fall."*

Participants wanted to be able to customize the CMS to their needs:

> *"Why do I have to upload it, then create a link, then find the document that goes to the link? All of those sorts of things. Why can't, if I have quizzes, designate that all of them are going to be open on this day and close on this day? Instead I have to go into each individual quiz. Why don't I have an option to edit all of my quizzes at once, if I am going to put the same information in them for instance?*
>
> *And then there's all kinds of little glitches inside Blackboard that I would fix if I could, but I think those are more specific to this platform, like if somebody posts something to the discussion, it's a real hassle for me to reply privately."*

Several Case Study Two participants observed that the CMS was not generally accessible to students and teachers with disabilities:

> *"So how many other blind kids are out there and just, they don't raise their voice and say this is a concern for me and end up losing out because we haven't thought it through. We just had Blackboard, one size fits all and it doesn't."*
>
> *"I'm not satisfied with Blackboard as a learning management system. And the reason why I'm not satisfied with that is because it takes students who are visually impaired a tremendous amount of clicks just to get to the discussion board. It is a true barrier, and that's very very frustrating when I have a student that has to use screen-reader, I know that that student is far more burdened by the technology than any of my sighted students."*

Most CMS products are intended to be accessible. For example, it is possible for students with visual impairment to use screen readers. However, according to the two Case Study Two participants who raised these issues, the time and effort required to make use of these accessibility features is such that students with disabilities are at an educational disadvantage with respect to other students.

11.2 Participants Reported Non CMS-Related Technical Issues

Four Case Study Two participants reported issues not related to their CMS, including an overall lack of flexible and engaging tools:

> *"When it comes to distant education I am constantly, I feel that the current technology is not the best and that there are so many opportunities out there for a system that is far more flexible and engaging especially for courses like ours that do not fit in a box."*

- The lack of reliability of existing tools:

> *"Yeah it used to be a Macromedia product then Adobe bought it. You know Connect has issues, I can't tell you how many times I have had a guest speaker come and do a virtual presentation to my students and realize the audio doesn't work."*

- The lack of feedback/annotation features:

  "You know I wish it was easier to provide feedback on papers. I use 'Track Changes' (?) and that works well, but I have seen audio feedback demoed where you can embed audio into a document and provide some general comments. I'm thinking about experimenting with that. I also am aware of macro packages that you can load into Word and have some pre-loaded statements and feedback."

- Broadband accessibility issues:

  "We're a very rural state, we don't have broadband everywhere – and so that's one consideration, and it's one reason why I don't like instructional designers, because they'll make statements like, 'Well, if a student's gonna take an online course, they've gotta have Broadband!' and I say, 'That is disenfranchising our rural population who are still on dial-up.' And so, you're putting up barriers to education again. I mean this is more of a political discussion, and a philosophical one, but I just think that sometimes we forget that what we've got at our universities is not necessarily what our population has out there."

11.3 Four Participants Are Satisfied with the Technology

In contrasts, four of nine Case Study Two participants reported being generally satisfied with the technologies in place:

"I am pretty satisfied to be honest I know a lot of people complain about learning management systems, but I have found Blackboard to be extremely useful and it allows me to structure a course in the way I want to be structured. I bring a lot of external resources to the course, I figure why be on the Internet if you are not going to take advantage of it. But for the most part I don't have any major issues with technology or the system."

11.4 Discussion

Despite largely successful efforts to bend existing technologies to meet their instructional needs, most of the Case Study Two participants still reported important issues with the tools available to teach online today. While technology played an enabling role in enacting their

teaching identity in their online courses, technology also continue to limit the full potential of that enactment.

III. Case Study Two Summary and Discussion

The goal of Case Study Two was to further examine the impact of online teaching on teaching identity, and the role played by technology in this process. Findings revealed that online teaching initially had a disrupting impact on teachers' identities: they experienced some difficulties enacting their teaching practices and their teaching persona online. However, Case Study Two participants were able to overcome these challenges by adjusting their teaching practices and belief systems over time. Teaching online also appeared to have a small but positive impact on their face-to-face teaching practices, as it enforced a certain level of organization and added to their pedagogical skill sets.

Technology appeared to have played an important role in the process of professional identity growth, as the majority of the solutions implemented by Case Study Two participants to improve their online teaching experiences were tied to the use of technological tools. At the time of this study, online teaching had become an integral part of their teaching identity, as evidenced by the fact that few participants were able to talk about their face-to-face teaching without also talking about their online teaching.

The community in which Case Study Two participants were embedded offered significant support for their online teaching endeavors. Most participants benefited from both instructional design support and faculty collaboration. For those who taught both online and face-to-face, their institutions did not differentiate between their face-to-face and online courses. The presence of institutional and community support motivated participants to invest time and effort into

professional development efforts, which allowed them to fully integrate online teaching into their professional identities.

CHAPTER VIII

DO THE CASE STUDY RESULTS GENERALIZE?

I. Introduction

Findings from the two case studies revealed that higher education faculty experience the transition to the online classroom in different ways. While some are able to find equal, although different levels of professional fulfillment online and face-to-face, others appeared to be unable to fully enact their teaching selves online. Upon completion of the two case studies, a survey was developed to examine the degree to which findings from the two studies could be generalized to a wider population.

The survey, entitled "Face-to-Face vs. Online Teaching", contained a total of 22 items (see Appendix J). It included a combination of rating scales, multiple choice and continuous scales and collected attitudinal (beliefs and perceptions about various aspect of face-to-face and online teaching), behavioral (practices in the face-to-face and online classroom, types of activities, technologies used, etc.) and factual (years of experience, job title, etc.) type of information. Thirty-one separate collectors were sent to 26 institutions with significant online offerings and four organizations involved in online learning efforts. Fourteen collectors (four organizations, one liberal arts college, and nine non-profit public universities) produced a total of 223 respondents (N=223).

Findings from the survey confirm that faculty experience the transition online classroom in very different ways. This first part of this chapter provides a summary of the statistical data

collected; the second section reports the impact of key factors that appear to affect online faculty's satisfaction with online teaching.

II. Summary of Survey Results

1. Survey Results

Respondents' Academic Appointments are depicted in Figure 6. This distribution confirms findings from the 2009 Sloan-C survey and contravene a common notion that adjunct faculty carry the bulk of the online teaching load (Seaman, 2009).

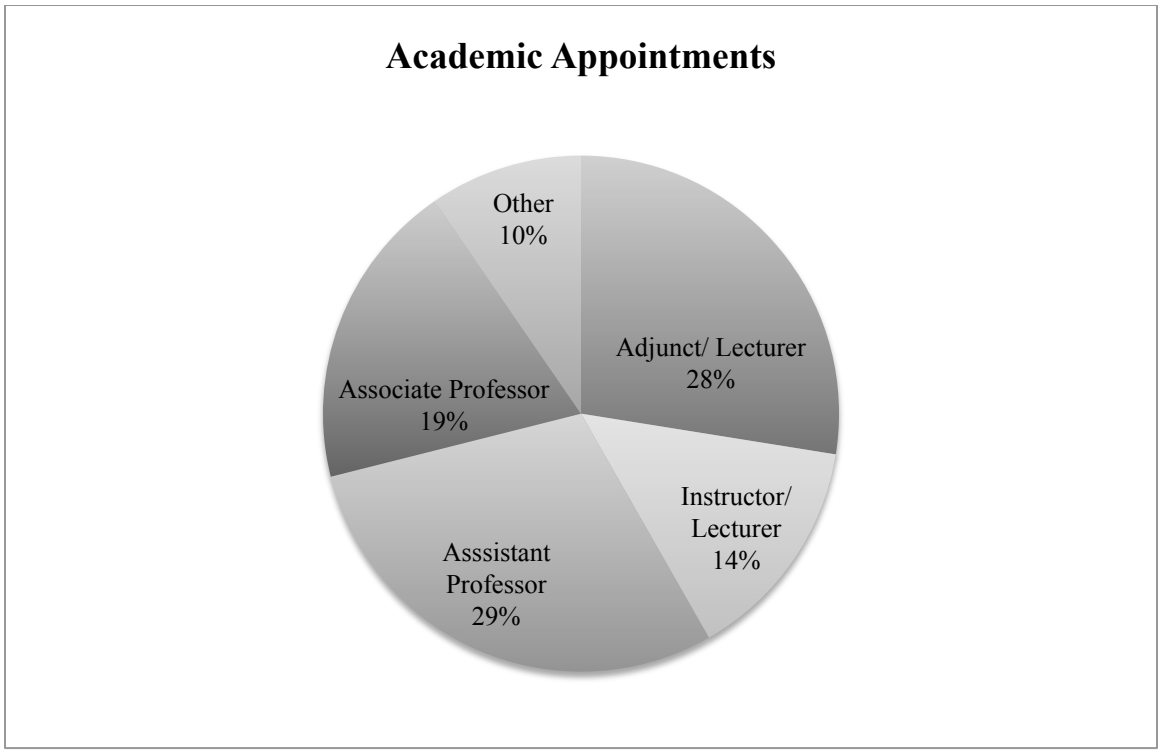


Figure 6: Respondents' Academic Appointments

Figure 7 shows that respondents had more face-to-face than online teaching experience. 65.3% of the respondents had over 10 years of face-to-face teaching experience. Their online

teaching experience were more varied: 49% of the respondents had less than five years of online experience and 51% had over five years of experience. This finding is understandable given that online education has only become widespread in the last 10 years.

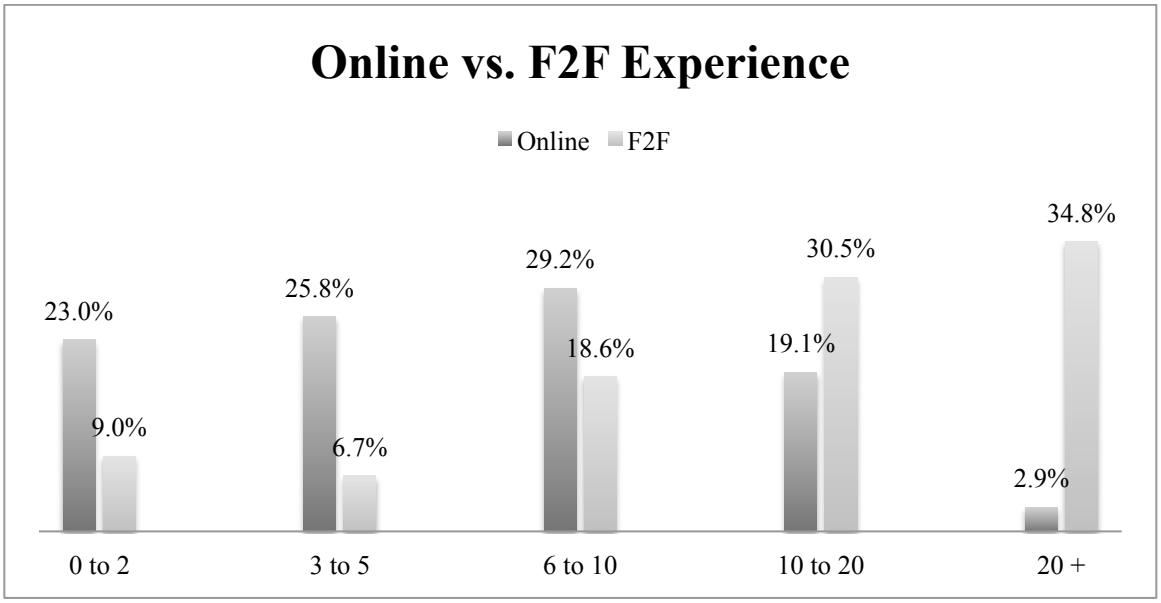


Figure 7: Respondents' Online and Face-to-Face Experience in Years

There was a relatively even division between face-to-face and online course loads: 24% of the respondents were no longer teaching face-to-face, and had moved entirely online. The remaining respondents taught a fairly even load of face-to-face and online courses. Since some respondents were teaching hybrid courses and others were not full-time faculty, it is difficult to estimate exactly how much they taught online and face-to-face.

There was a slight preference for face-to-face vs. online teaching among respondents: 19.2% of the respondents enjoyed each modality equally; 17.3% expressed a strong preference for face-to-face teaching, and 14.9% respondents expressed a strong preference for online teaching.

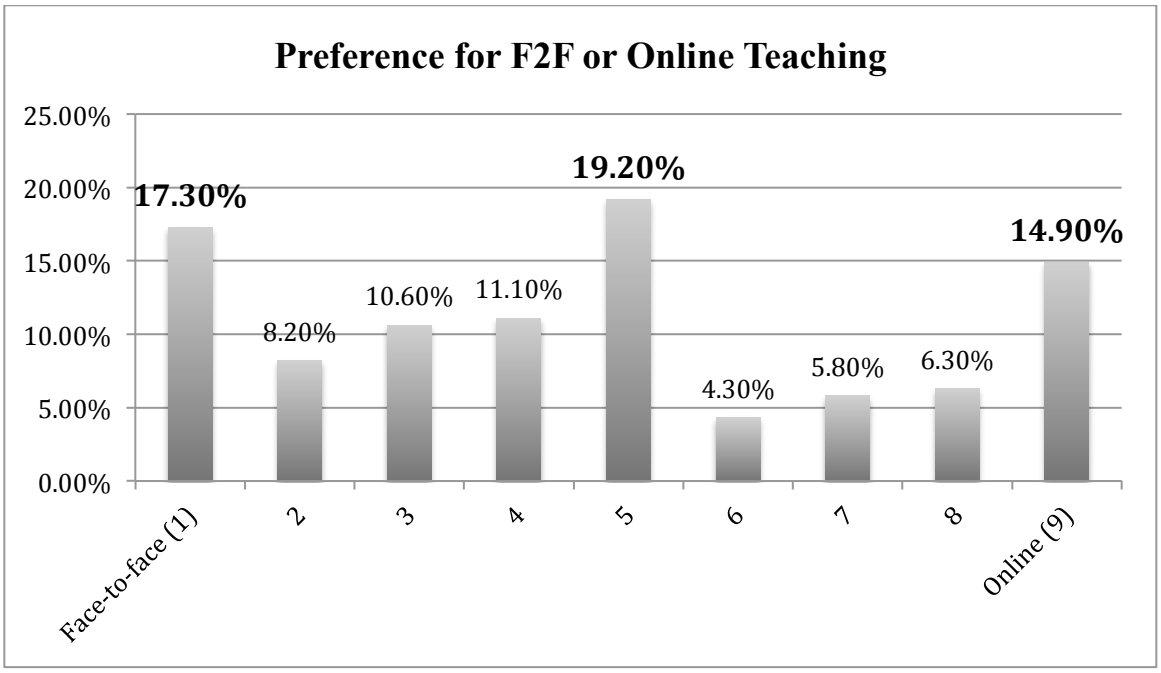


Figure 8: Respondents' Preference for Online or Face-to-Face Teaching

The slight overall preference for face-to-face teaching is apparent once the ratings are clustered into three categories: Leaning towards face-to-face teaching (ratings 1-4), Equal appreciation for each modality (rating 5) and Leaning towards online teaching (rating 6 to 10).

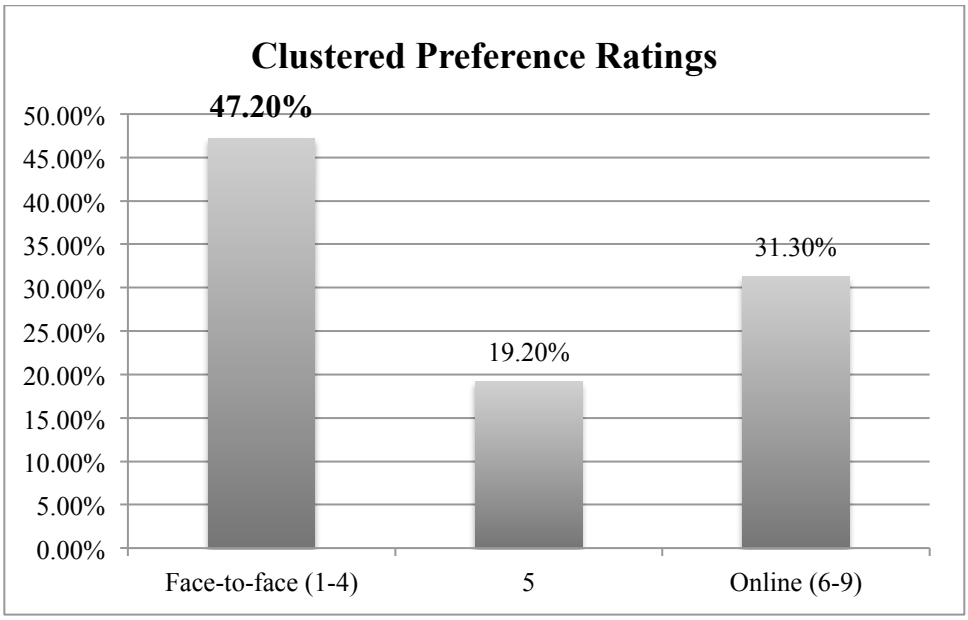


Figure 9: Respondents Preference for Online or Face-to-Face Teaching in Three Clusters

There was a slightly higher enjoyment and fulfillment when teaching face-to-face. Respondents seemed to derive slightly higher levels of enjoyment and fulfillment out of face-to-face courses. Notably, 8.5% strongly disagreed that online teaching was professionally fulfilling (combined ratings of 1 and 2) as opposed to 0% reporting that they strongly disagreed that face-to-face teaching was professionally fulfilling (combined ratings of 1 or 2).

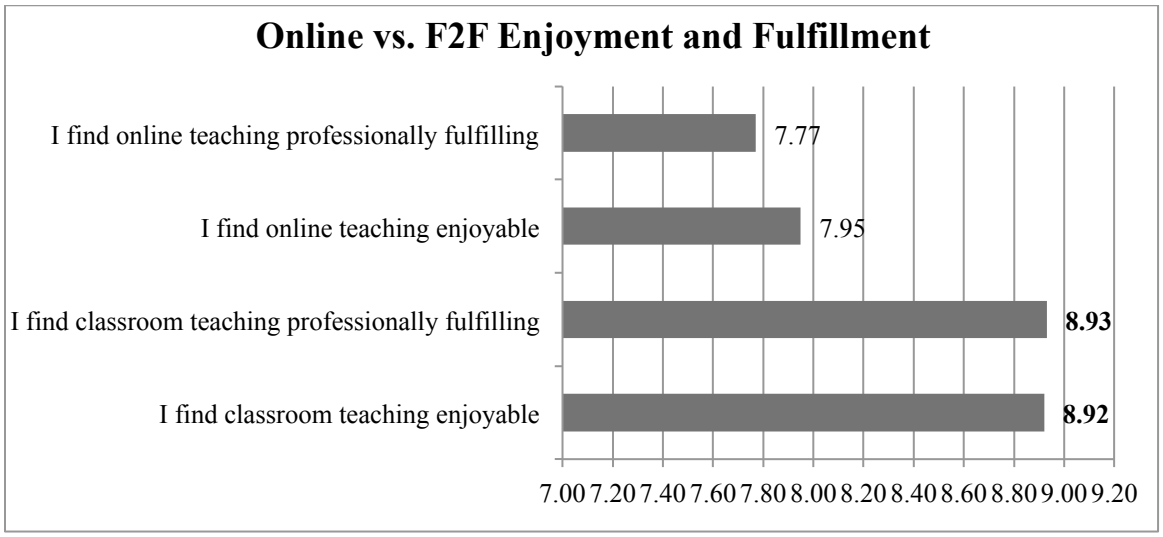


Figure 10: Online vs. Face-to-Face Enjoyment (scale of 10)

Respondents did not seem to hold significantly negative perceptions regarding online teaching and learning. However, they did appear to find the face-to-face classroom interpersonally richer, as it allowed students and teachers to get to know one another better. This difference did not appear to influence respondents' assessment of the teaching and learning potential of the online classroom.

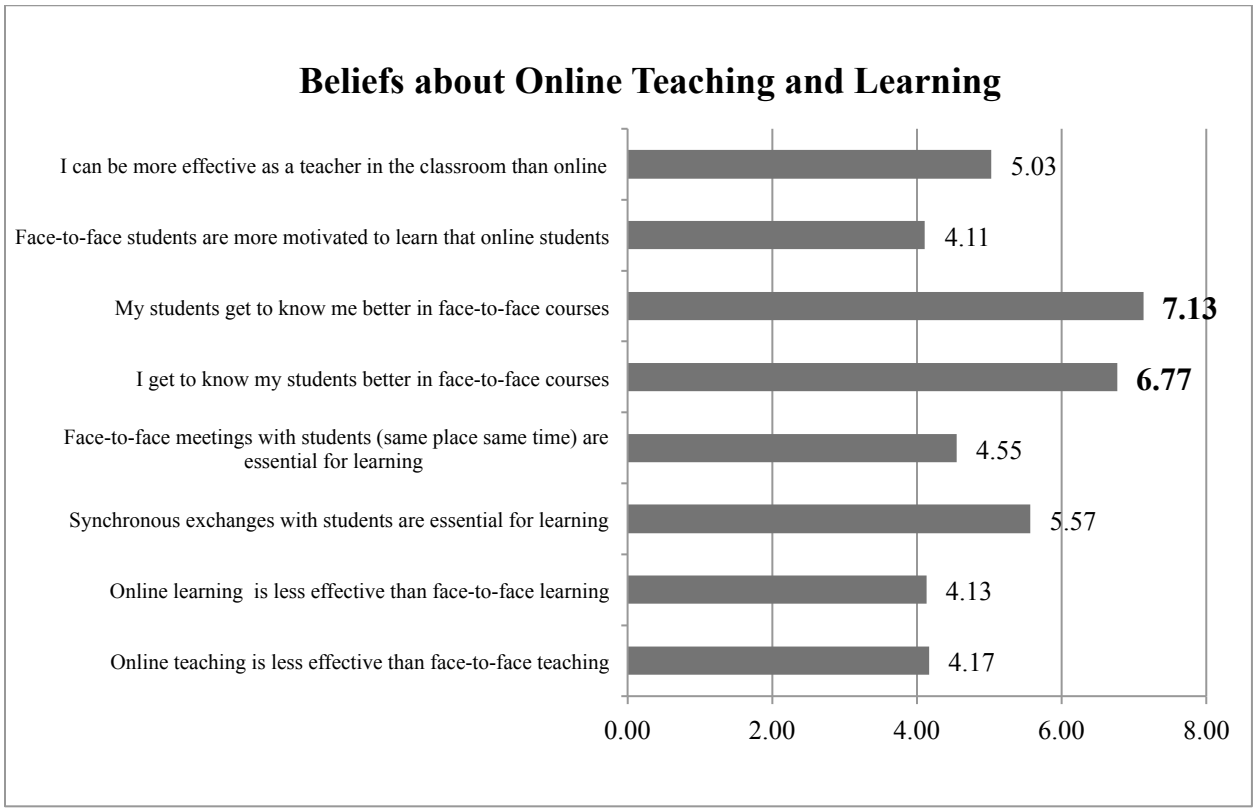


Figure 11: Beliefs about Online Teaching and Learning

Less than one quarter of respondents (20.6%) reported being skeptical about online teaching when they first started teaching online; this number dropped to 8.1% after experiencing this modality for themselves.

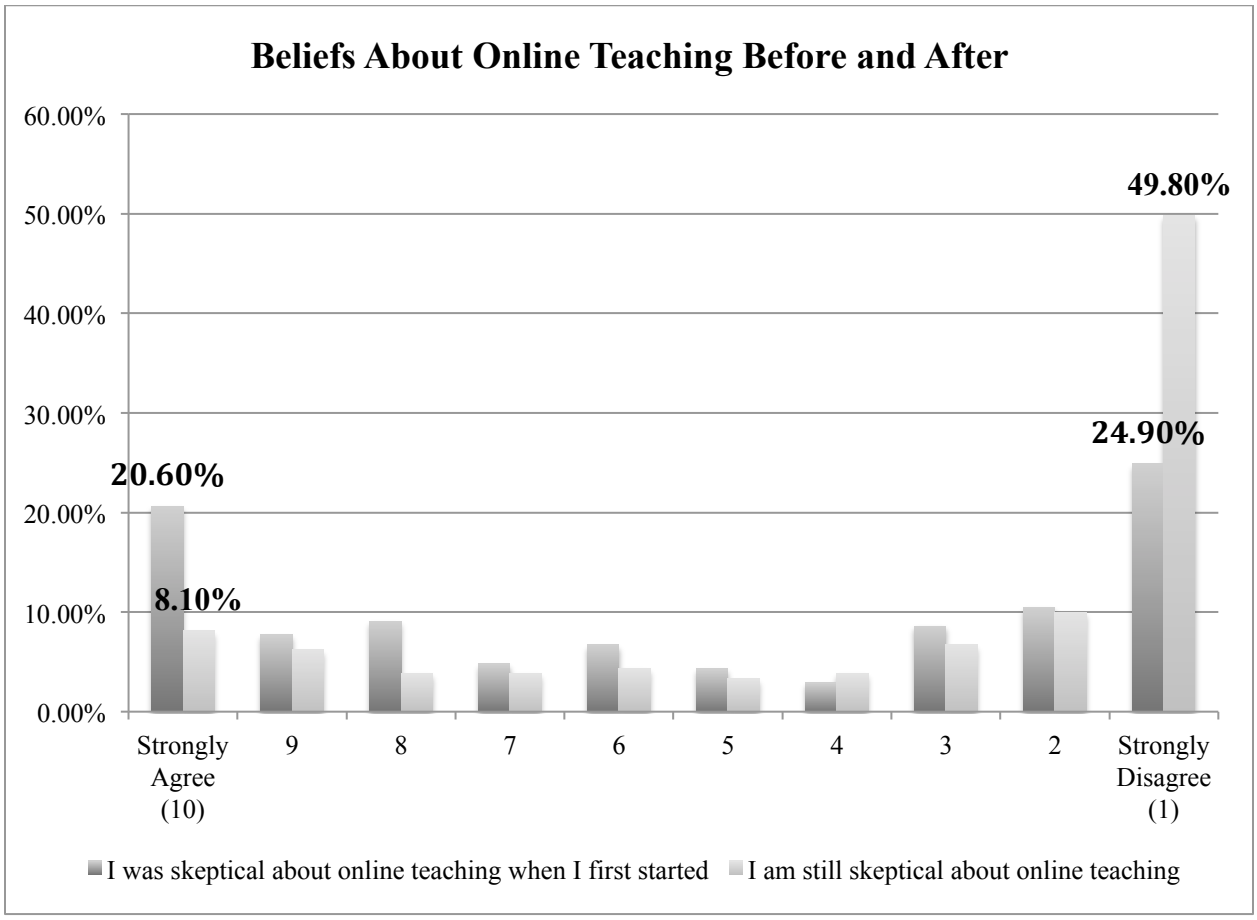


Figure 12: Beliefs About Online Teaching Before and After Online Teaching Experience

If we cluster these answers into three groups, it appears that 70.3% of the respondents were no longer skeptical about online teaching, and about half of the respondents who reported initially being skeptical revised their perception regarding this modality (from 42.2% to 21.90%) after using it.

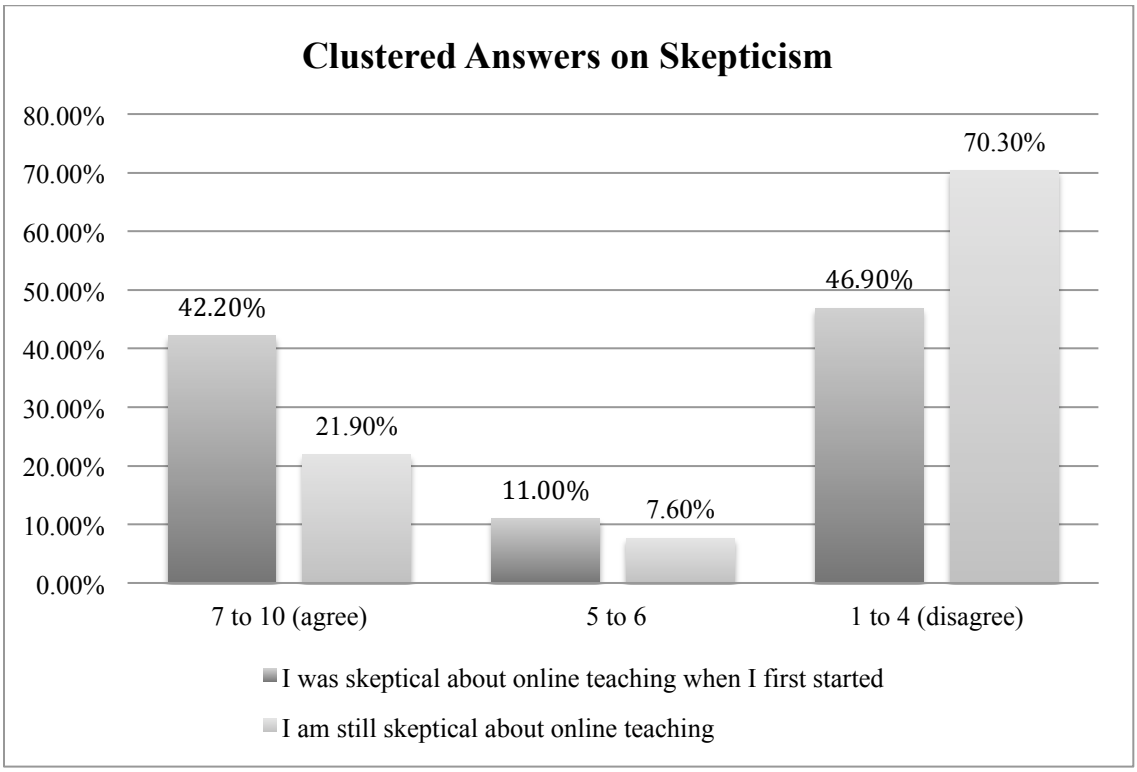


Figure 13: Respondents' Level of Skepticism Grouped in Three Clusters

Finally, half of the respondents reported having always looked favorably upon online teaching:

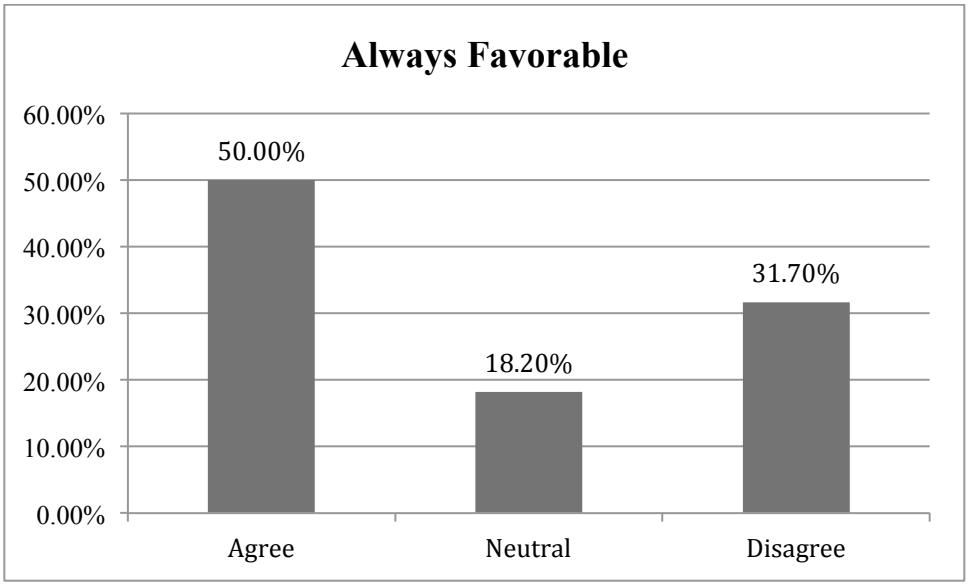


Figure 14: "I Always Looked Favorably Upon Online Teaching"

Respondents were prompted to reflect upon the differences between their current situation and their first semester online. Only 10.6% reported that nothing had changed. As they gained experience, their online teaching identity appeared to have evolved positively, as they reported being more comfortable with this modality (67.6%), managing their time better (54.4%), organizing their courses differently (55.9%) and being better online teachers (59.3%).

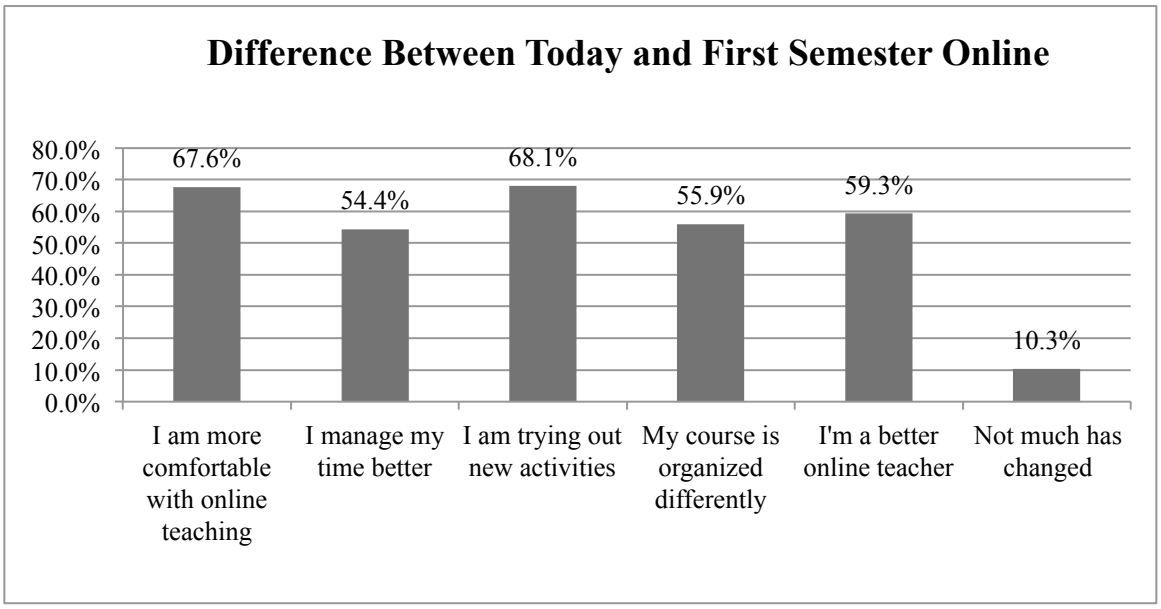


Figure 15: Difference Between Respondents' First and Current Online Semester

The vast majority (91%) of the respondents reported that their courses counted towards their regular teaching load (as opposed to being taught as overload).

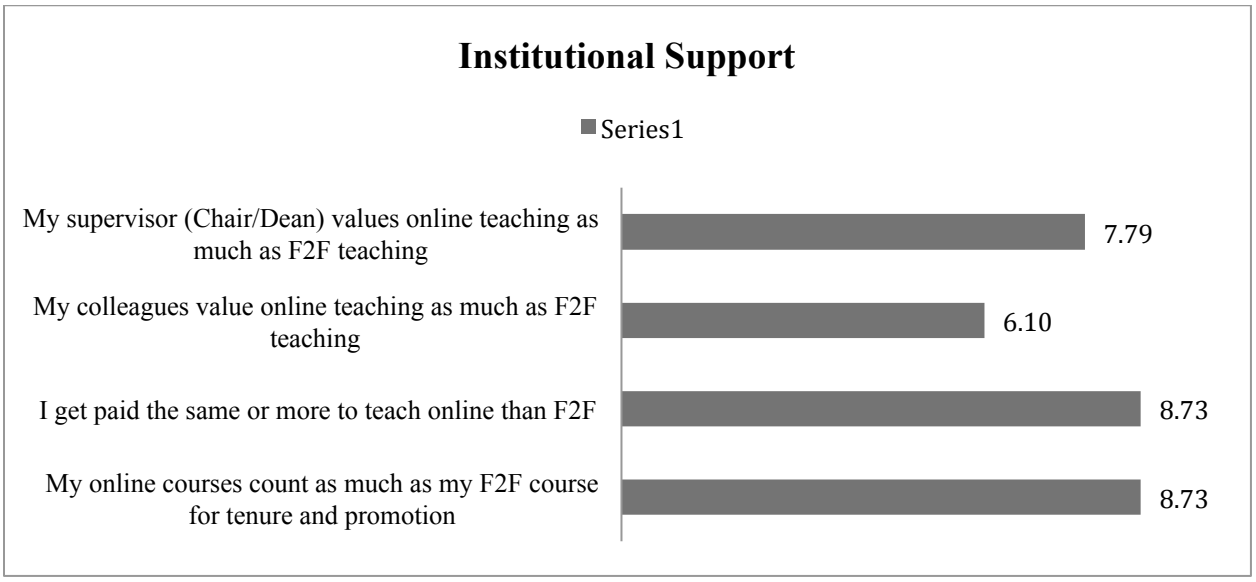


Figure 16: Institutional Support for Online Teaching

Respondents appeared to perceive a slight prejudice against online teaching among their colleagues. However, respondents appeared to benefit from a fairly high level of institutional support.

Respondents appeared to have access to generally non-mandatory pedagogical and technical training, which they took advantage of.

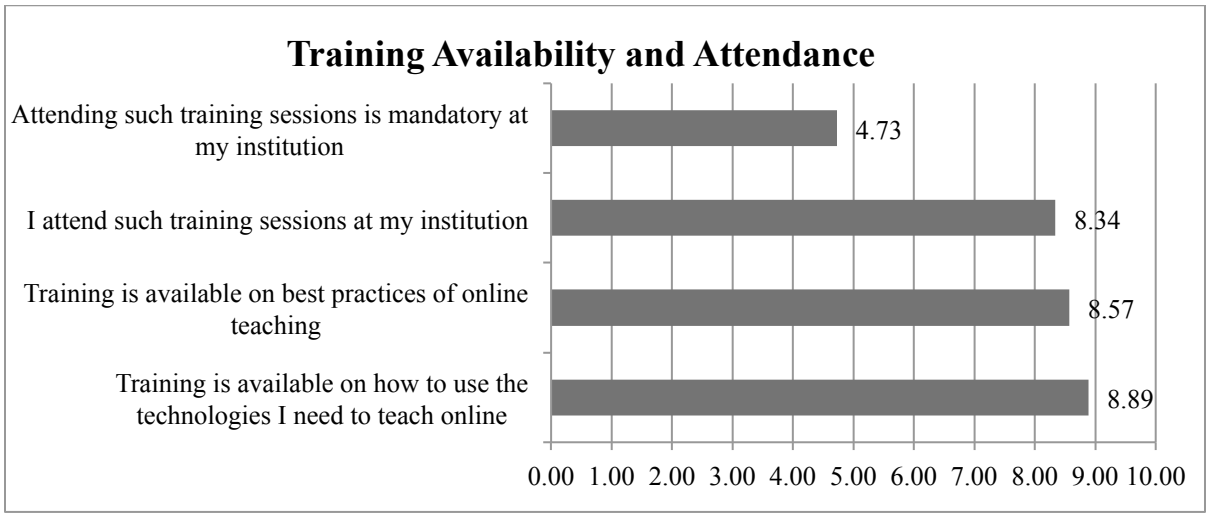


Figure 17: Training Availability

Almost three-quarter (72.4%) of respondents reported reading articles about online teaching and learning issues (scholarly or trade press) either very frequently of frequently, and 82.4% reported attending training sessions on online teaching. In addition, 34.8% reported having published at least once on their online teaching practices. Respondents appeared engaged in the online teaching community of practice, 68.1% reporting trying new activities (thus evidencing commitment to improvement and exploration).

Almost two-third (63%) of respondents reported being moderately technology oriented. Respondents were asked whether they used technologies to supplement their CMS. The most frequently mentioned tool was a screen-capture software (41% reported using it often). The other two most frequent additions were blogs (44.8% reported either frequent or occasional use) and video conferencing tools (56% reported either frequent or occasional use). About half of the respondents had no intention to use Twitter or Facebook.

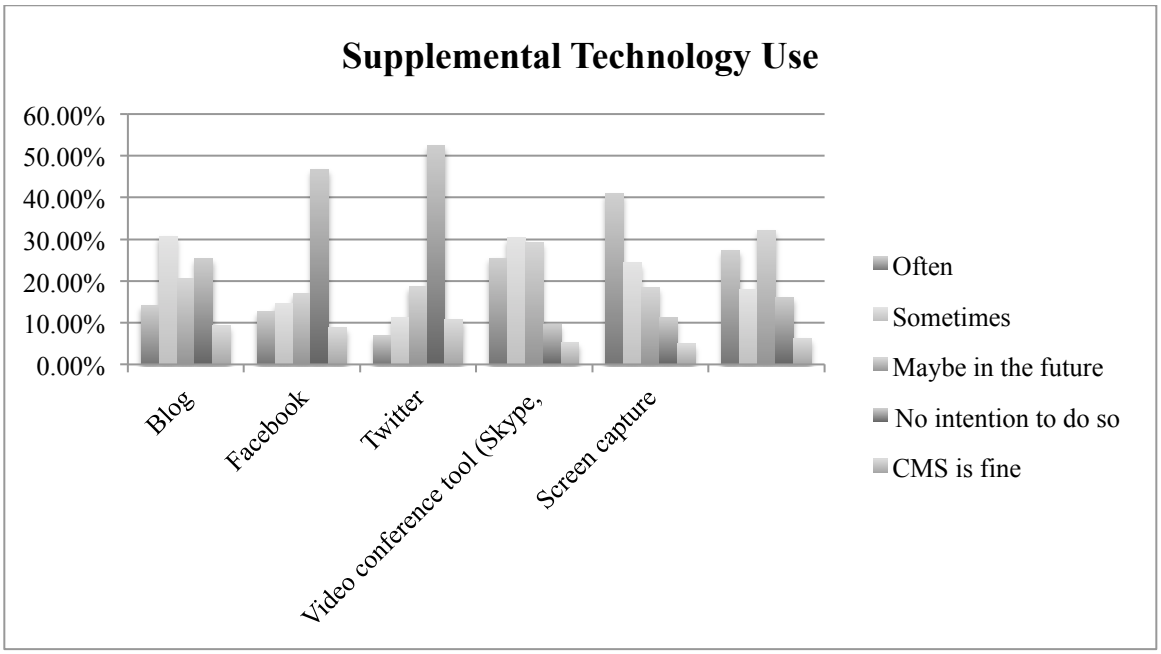


Figure 18: Uses of Tools in Addition to the CMS

80.7% of the respondents either strongly agreed or agreed that they were satisfied with the technologies available to them (the CMS). This is surprising given that so many reported supplementing the CMS with other tools. Those who were *not* satisfied with the technologies available reported adding supplemental tools (46.4%), adapting the technology (36.7%) and simply working with the system available to them despite its shortcomings (39.2%).

Respondents were offered the opportunity to list other tools they use regularly and the very wide variety of tools listed suggests that they use supplemental tools to accommodate the particular needs of the subject they teach.

2. Summary

In general, respondents held more classroom experience than online teaching experience. They appeared to look favorably upon online education and hold few negative beliefs about this modality. They did appear to have a slight preference for face-to-face teaching but for qualitative

reasons rather than pedagogical reasons. Over half of those who reported being initially skeptical about online teaching reported being no longer skeptical after experiencing this modality for themselves. Respondents appeared to benefit from fairly high levels of institutional support, to be committed to taking advantage of the training opportunities available to them (even though they were rarely mandatory), and to stay abreast of new developments in the field through regular readings on the topic. Although over half of the respondents reported being moderately technology inclined, and two thirds reported being satisfied with the CMS assigned to them, an average of 43% reported using supplemental technologies in their courses. The large array of tools they reported using suggest that while CMS satisfy basic teaching and learning needs, they do not offer the specific tools necessary to instruct particular subject matters.

3. Limitations

Since the survey was sent to programs with significant online offerings, the sampled population may have over-emphasized institutions that have been involved with online learning for several years. These institutions have more infrastructures, training opportunities and quality control systems to foster positive perceptions and effective practices related to online education.

III. Factors Impacting Professional Fulfillment And Enjoyment Online

In order to investigate the factors that impact professional fulfillment in the online classroom, two dependent variables were created. The variable *OnlineSatisfaction* grouped survey items 7-3 and 7-4 ("I find online teaching enjoyable" and "I find online teaching professionally fulfilling"). The variable *OnlineEffectiveness* grouped survey items 9-1, 9-2 and 9-9 (see Appendix J for a description of corresponding survey items). The large standard deviation (*SD*=2.44 and *SD*=2.98), which was typical of this data set, signals that online teaching evaluation is complex and varied, although it appears to be generally positive:

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
OnlineSatisfaction	213	1.00	10.00	7.8451	2.43925
OnlineEffectiveness	213	1.00	10.00	4.4343	2.98307
Valid N (listwise)	213				

Table 9: Mean Scores for the Variables *OnlineSatisfaction* and *OnlineEffectiveness*[41]

1. Impact of Classroom Experience

There was a non-significant correlation between the variables *OnlineSatisfaction* and *ClassroomSatisfaction*[42] $r(201) = -.112$, $p = .105$). The absence of correlation suggests that respondents' existing levels of professional fulfillment in the classroom did not affect their professional fulfillment online.

[41] OnlineEffectiveness was worded negatively therefore a teacher who thinks of the online classroom as highly effective would get a rating of 1 or 2.
[42] The variable ClassroomSatisfaction groups survey items 7-1 and 7-2

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
ClassroomSatisfaction	8.7582	1.92035	213

Correlations			
		OnlineSatisfaction	ClassroomSatisfaction
OnlineSatisfaction	Pearson Correlation	1	-.112
	Sig. (2-tailed)		.105
	N	213	213
ClassroomSatisfaction	Pearson Correlation	-.112	1
	Sig. (2-tailed)	.105	
	N	213	213

Table 10: Correlation Between Respondents' Online and Face-to-Face Satisfaction

$0 < \|r\| < .3$	weak correlation
$.3 < \|r\| < .7$	moderate correlation
$\|r\| > 0.7$	strong correlation

Figure 19: Pearson Correlation Significance

This finding helps demonstrate that the respondents' enjoyment of the online modality was not generally connected to a disinclination for face-to-face teaching. Similarly, most of Case Study

Two participants enjoyed online teaching for the unique affordances it offered, not because they disliked teaching face-to-face. In contrast, two Case Study One participants reported enjoying online teaching because they disliked the performance aspect of face-to-face teaching. However, findings from the survey suggest that these two participants constitute outlying examples.

2. Impact of Online Experience

A one-way ANOVA was used to test the impact of online teaching experience on the variable *OnlineSatisfaction*. There appears to be a positive relationship between the respondents' years of experience and how satisfied they are with this modality, $F(4, 208) = 4.8$, $p < .05$.

ANOVA
OnlineSatisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	106.686	4	26.671	4.804	.001
Within Groups	1154.701	208	5.551		
Total	1261.387	212			

Table 11: ANOVA of *OnlineSatisfaction* and Years of Online Experience

A cross tabulation of respondents' years of experience online and levels of skepticism revealed that 7% of those who had over 6 years of experience remained skeptical about this modality (N=212, 15 respondents with over 6 years of online experience gave a rating between 6 and 10 to the question "*I am still skeptical about online teaching*," 7.1%)

		"I am still skeptical about online teaching"										Total
		SD (1)	2	3	4	5	6	7	8	9	SA (10)	
How much ONLINE teaching experience do you have (in years)?	Up to 3	14	4	3	3	2	5	3	3	5	8	50
	3 to 5	27	4	3	3	2	1	1	3	3	7	54
	6 to 10	32	9	5	2	2	**2**	**3**	**2**	**4**	1	62
	10+	26	4	3	0	2	**1**	**2**	**0**	**1**	1	40
	20+	6	0	0	0	0	0	0	0	0	0	6
Total		105	21	14	8	8	9	9	8	13	17	212

Table 12: Cross-Tabulation of *Experience* and *Skepticism*

A one-way ANOVA was used to test the impact of online teaching experience on respondents' current levels of skepticism. There appears to be a significant negative relationship between the teachers' level of skepticism about online teaching and their years of experience teaching online, $F(4, 207) = 6.53$, $p<.05$.

ANOVA					
I am still skeptical about online teaching					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	242.756	4	60.689	6.531	.000
Within Groups	1923.447	207	9.292		
Total	2166.203	211			

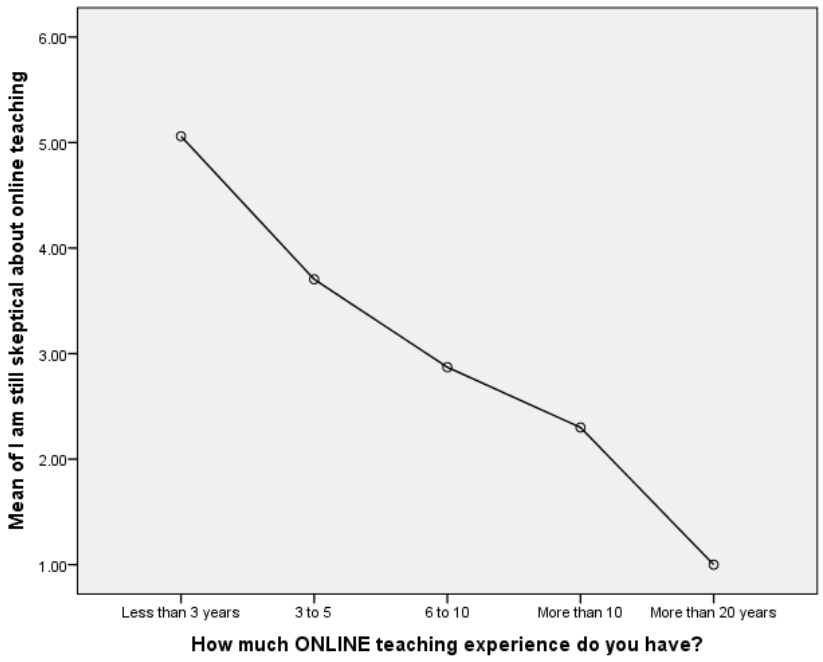


Table 13: ANOVA of Current Level of Skepticism and Online Experience

This finding suggests that teachers' positive perceptions of online learning, and the overall enjoyment they derive from this modality, increase over time. This finding confirms that online teaching has a disrupting impact on teachers' identity at first, however, most teachers appear to resolve this disruption over time. Supporting this conclusion, Case Study Two participants generally had more experience than Case Study One participants and were more satisfied with the online modality. Further, among the ten participants in Case Study One, those who reported being most satisfied by the online modality were those with the most experience.

3. The Role of Beliefs

There was a strong correlation between the variables *OnlineSatisfaction* and *OnlineEffectiveness*, r=(213) = -0.744, $p < .001$. This result indicates that respondents who believed online learning was an effective modality tended to derive more satisfaction out of their online courses.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
OnlineEffectiveness	4.4343	2.98307	213

Correlations			
		OnlineSatisfaction	OnlineEffectiveness
OnlineSatisfaction	Pearson Correlation	1	-.744**
	Sig. (2-tailed)		.000
	N	213	213
OnlineEffectiveness	Pearson Correlation	-.744**	1
	Sig. (2-tailed)	.000	
	N	213	213
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 14: Correlation Between Beliefs about Effectiveness and Satisfaction Online

There was a moderate negative correlation between *OnlineSatisfaction* and respondents' initial levels of skepticism, $r(212) = -.436$, $p < .001$. This result indicates that faculty who reported being initially skeptical about online teaching tended to be less satisfied with this modality.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
I was skeptical about online teaching when I first started	5.2642	3.56604	212

Correlations			
		OnlineSatisfaction	I was skeptical about online teaching when I first started
OnlineSatisfaction	Pearson Correlation	1	-.436**
	Sig. (2-tailed)		.000
	N	213	212
I was skeptical about online teaching when I first started	Pearson Correlation	-.436**	1
	Sig. (2-tailed)	.000	
	N	212	212
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 15: Correlation Between Online Satisfaction and Initial Levels of Skepticism about Online Teaching

There was a moderate correlation between *OnlineSatisfaction* and respondents who reported having initial positive beliefs about online teaching, $r(211) = .488$, $p < .001$. This finding suggests that faculty who reported that they always looked favorably upon online teaching appeared more likely to be professionally fulfilled by this modality.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
I always looked favorably upon online teaching	6.3081	3.15246	211

Correlations			
		OnlineSatisfaction	I always looked favorably upon online teaching
OnlineSatisfaction	Pearson Correlation	1	.488**
	Sig. (2-tailed)		.000
	N	213	211
I always looked favorably upon online teaching	Pearson Correlation	.488**	1
	Sig. (2-tailed)	.000	
	N	211	211
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 16: Correlation Between Initial Positive Beliefs and Online Satisfaction

There was a strong negative correlation between OnlineSatisfaction and respondents' current levels of skepticism about online learning, $r(212) = -.749$, $p < .001$. This correlation suggests that faculty who report still being skeptical about this modality are less likely to find it professionally fulfilling.

Descriptive Statistics

Correlations

		OnlineSatisfaction	I am still skeptical about online teaching
OnlineSatisfaction	Pearson Correlation	1	-.749**
	Sig. (2-tailed)		.000
	N	213	212
I am still skeptical about online teaching	Pearson Correlation	-.749**	1
	Sig. (2-tailed)	.000	
	N	212	212

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

	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
I am still skeptical about online teaching	3.4387	3.20412	212

Table 17: Correlation Between Online Satisfaction and Current Levels of Skepticism

These findings confirm the crucial impact of teachers' beliefs on teachers' levels of satisfaction online that both Case Study One and Two illustrated. Teachers who hold negative beliefs about online teaching are less likely to find this modality professionally fulfilling. Findings from the survey also show the important impact of prior negative beliefs, which unsurprisingly appear to negatively affect teachers' satisfaction in the online classroom. This finding suggests that professional development efforts could productively address any negative beliefs about online teaching teachers might have prior to assigning online courses to these teachers. It appears that experience alone does not suffice for teachers to revise their negative beliefs about this modality.

4. Impact of the Community

4.1 Overall Comparison Between Attitude and Community Support

Two dependent variables were created in order to compare respondents' overall attitude about online teaching and the level of support that they receive from their community. The first variable, *AttitudeAboutOnline*, grouped survey items 7-3 and 7-4 and items 9 (1, 2, 3, 6,7, 8, and 9) into one rating. These items measure aspects such as enjoyment and professional fulfillment online, beliefs about online effectiveness and qualitative aspects of online teaching and learning (see Appendix J for a complete description of each item). The second variable, *CommunitySupport*, clustered survey items 12 and 13 (1, 2, 3, 4, 6, 7 and 8) into one rating. These items measure aspects such as supervisors' and colleagues' perception of online teaching and the value attributed to online courses relative to face-to-face courses by the institution (see Appendix J for a complete description of each item).

Descriptive Statistics

	Mean	Std. Deviation	N
AttitudeAboutOnline	4.3029	1.99392	213
CommunitySupport	7.6454	1.64026	212

Correlations

		AttitudeAboutOnline	CommunitySupport
AttitudeAboutOnline	Pearson Correlation	1	-.172*
	Sig. (2-tailed)		.012
	N	213	212
CommunitySupport	Pearson Correlation	-.172*	1
	Sig. (2-tailed)	.012	
	N	212	212

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 20: Correlation Between Attitude and Community Support

There is a weak correlation between *AttitudeAboutOnline* and *CommunitySupport*, $r(212) = -.172$, $p < .05$. This result indicates that faculty who receive support from their institutional community tend to have more positive attitudes about online learning.

This finding is confirmed by the existence of a weak correlation between *OnlineSatisfaction* and *CommunitySupport*, $r(212) = -.147$, $p < .05$. This correlation indicates that faculty who receive institutional support are more likely to be satisfied by the online modality.

Descriptive Statistics

	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
CommunitySupport	7.6454	1.64026	212

Correlations

		OnlineSatisfaction	CommunitySupport
OnlineSatisfaction	Pearson Correlation	1	.147*
	Sig. (2-tailed)		.033
	N	213	212
CommunitySupport	Pearson Correlation	.147*	1
	Sig. (2-tailed)	.033	
	N	212	212

*. Correlation is significant at the 0.05 level (2-tailed).

Table 18: Correlation Between Online Satisfaction and Community Support

This finding further confirms that the level of support that online teachers receive from their institution, department and colleagues has an impact on their overall level of satisfaction with the online modality. Similarly, Case Study Two participants, who derived high levels of satisfaction out of their online courses, benefitted from higher levels of community support than Case Study One participants, who did not benefit from such structures. This finding is consistent with prior research conducted in the corporate sector. According to this research, learners are more likely to apply new knowledge to the workplace when they benefit from high levels of collegial support (Gunawardena et al., 2010).

4.2 The Role of Training and Professional Development Efforts

There was a weak correlation between *OnlineSatisfaction* and the availability of pedagogical training related to best practices at the respondents' institution, $r(210) = -.166$, $p < .05$. This result suggests that the availability of pedagogical training opportunities has a positive impact on respondents' level of online satisfaction.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
Training is available on best practices of online teaching	8.5667	2.24095	210

Correlations			
		OnlineSatisfaction	Training is available on best practices of online teaching
OnlineSatisfaction	Pearson Correlation	1	.166*
	Sig. (2-tailed)		.016
	N	213	210
Training is available on best practices of online teaching	Pearson Correlation	.166*	1
	Sig. (2-tailed)	.016	
	N	210	210
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 19: Correlation Between Online Satisfaction and the Availability of Pedagogical Training

There was a weak correlation between *OnlineSatisfaction* and the availability of training related to the use of technology at the respondents' institution, $r(211) = -.155$, $p < .05$. This correlation suggests that the availability of technical training opportunities has a positive impact on respondents' level of online satisfaction.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
Training is available on how to use the technologies I need to teach online	8.8863	1.99913	211

Correlations			
		OnlineSatisfaction	Training is available on how to use the technologies I need to teach online
OnlineSatisfaction	Pearson Correlation	1	.155*
	Sig. (2-tailed)		.024
	N	213	211
Training is available on how to use the technologies I need to teach online	Pearson Correlation	.155*	1
	Sig. (2-tailed)	.024	
	N	211	211
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 20: Correlation Between Online Satisfaction and the Availability of Technical Training

Pedagogical training ($r(210) = -.166$) appears to have a stronger impact on the respondents' online satisfaction than the availability of technical training ($r(211) = -.155$). The variable *Training* was created, which combined survey items 13-3 and 13-4. These are items pertaining to the availability of technical and pedagogical training, respectively. There is a weak correlation between *OnlineSatisfaction* and *Training*, $r(212) = -.173$, $p < .05$. This result confirms the relationship between the respondents' level of satisfaction online and the availability of training at their institution.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
Training	8.7217	1.95091	212

Correlations			
		OnlineSatisfaction	Training
OnlineSatisfaction	Pearson Correlation	1	.173*
	Sig. (2-tailed)		.012
	N	213	212
Training	Pearson Correlation	.173*	1
	Sig. (2-tailed)	.012	
	N	212	212
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 21: Correlation Between Online Satisfaction and Training Availability

A one-way ANOVA was used to test the impact of professional engagement with the field of online learning on current levels of skepticism. There appears to be a significant negative correlation between teachers' engagement with the literature and their level of skepticism about online teaching, $F(3, 207) = 9.46$, $p < .05$.

ANOVA I am still skeptical about online teaching					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	260.557	3	86.852	9.464	.000
Within Groups	1899.670	207	9.177		
Total	2160.227	210			

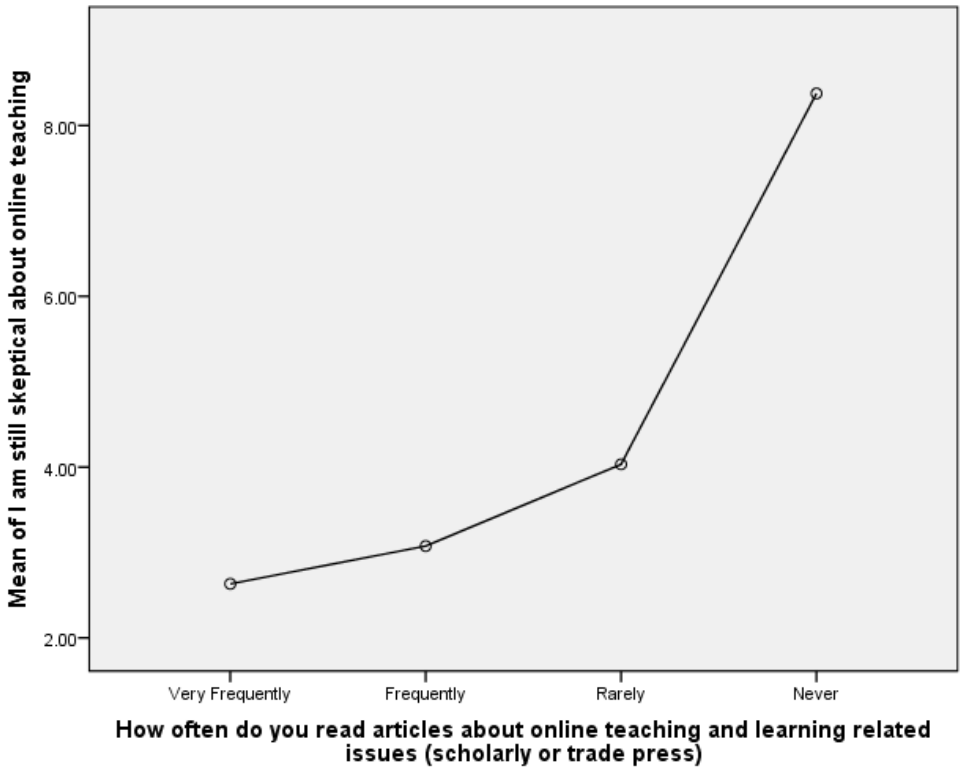


Table 22: ANOVA of Levels of Skepticism and Engagement with the Literature

These findings confirm the positive impact of professional development opportunities on teachers' level of satisfaction in the online classroom. The only Case Study One participant who had received substantial training in online learning practices is the one who reported enjoying this modality the most. Two Case Study Two participants reported receiving little training or support from their respective institutions. However, they compensated for this shortcoming by taking charge of their own professional development in this area, which as Figure 21 shows, appears to have a strong impact on teacher's beliefs.

4.3 The Role of Colleagues and Supervisors

There was no correlation between the variable *OnlineSatisfaction* and respondents' perceptions of their supervisors' attitude about online teaching, $r(211) = .081$, $p > .01$. This absence of correlation indicates that the attitude of the respondents' supervisor does not appear to impact teachers' level of satisfaction with online teaching.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
My supervisor (Chair/Dean) values online teaching as much as face-to-face teaching	7.7867	2.88461	211

Correlations			
		OnlineSatisfaction	My supervisor (Chair/Dean) values online teaching as much as face-to-face teaching
OnlineSatisfaction	Pearson Correlation	1	.081
	Sig. (2-tailed)		.241
	N	213	211
My supervisor (Chair/Dean) values online teaching as much as face-to-face teaching	Pearson Correlation	.081	1
	Sig. (2-tailed)	.241	
	N	211	211

Table 23: Correlation Between Respondents' Online Satisfaction and their Perception of their Supervisor's Attitude

There was a weak correlation between *OnlineSatisfaction* and respondents' perceptions of their colleagues' attitude about online teaching, $r(210) = .191$, $p < 0.01$. This result suggests that the respondents' satisfaction with online learning is more likely to be influenced by their colleagues' attitude towards this modality.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
My colleagues value online teaching as much as face-to-face teaching	6.1000	3.01265	210

Correlations			
		OnlineSatisfaction	My colleagues value online teaching as much as face-to-face teaching
OnlineSatisfaction	Pearson Correlation	1	.191**
	Sig. (2-tailed)		.005
	N	213	210
My colleagues value online teaching as much as face-to-face teaching	Pearson Correlation	.191**	1
	Sig. (2-tailed)	.005	
	N	210	210
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 24: Correlation Between Respondents' Online Satisfaction and their Perceptions of their Colleagues' Attitudes

5. The Role of Technology

5.1 The Use of Additional tools

In order to determine whether the use of additional tools had an impact on teachers' satisfaction online, the variable *AdditionnalTools* was created. This variable grouped survey items 18(1-6); these items assess the use of supplemental technologies such as Blogs or Facebook (see Appendix J for a complete description of the survey items).

There was a weak correlation between *OnlineSatisfaction* and *AdditionnalTools*, $r(211) = .137$, $p < .05$. This correlation indicates that faculty who use supplemental tools (Blog, Facebook, Twitter, Video conferencing tools, screen capture, media annotation programs, etc) tend to be more satisfied with online teaching than those who do not use such additional tools.

Descriptive Statistics			
	Mean	Std. Deviation	N
OnlineSatisfaction	7.8451	2.43925	213
AdditionnalTools	2.2415	.84867	211

Correlations			
		OnlineSatisfaction	AdditionnalTools
OnlineSatisfaction	Pearson Correlation	1	.137*
	Sig. (2-tailed)		.047
	N	213	211
AdditionnalTools	Pearson Correlation	.137*	1
	Sig. (2-tailed)	.047	
	N	211	211
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 25: Correlation Between Respondents' Online Satisfaction and their Use of Additional Tools

Similarly, there was a weak negative correlation between respondents' remaining levels of skepticism about online teaching and their use of additional tools, $r(211) = -.198$, $p < .05$. This result suggests that the use of supplemental tools has a positive impact on both teachers' beliefs about online teaching and their level of satisfaction with this modality. Similarly, the majority of Case Study Two participants were using supplemental tools. For many of these faculty, using such tools had been instrumental in successfully addressing many of the issues they initially encountered in the online classroom. It is possible that their success in addressing these issues on their own increased their level of self-efficacy with regard to online teaching and therefore, increased their overall satisfaction with this modality. In contrast, Case Study One participants used very few supplemental tools, and reported lower levels of satisfaction and higher levels of skepticism with the online modality.

Descriptive Statistics

	Mean	Std. Deviation	N
AdditionnalTools	2.2415	.84867	211
I am still skeptical about online teaching	3.4387	3.20412	212

Correlations

		AdditionnalTools	I am still skeptical about online teaching
AdditionnalTools	Pearson Correlation	1	-.198**
	Sig. (2-tailed)		.004
	N	211	211
I am still skeptical about online teaching	Pearson Correlation	-.198**	1
	Sig. (2-tailed)	.004	
	N	211	212

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

Table 26: Negative Correlation Between Respondents' Level of Skepticism and their Use of Additional Tools

5.2 Satisfaction with the CMS

A one-way ANOVA was used to test the impact of the respondents' satisfaction with their CMS on their satisfaction with online teaching. There is a significant correlation between the faculty's level of satisfaction online and their satisfaction with their course management system, $F(3, 206) = 10.2$, $p < .05$.

ANOVA OnlineSatisfaction					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	161.864	3	53.955	10.202	.000
Within Groups	1089.465	206	5.289		
Total	1251.329	209			

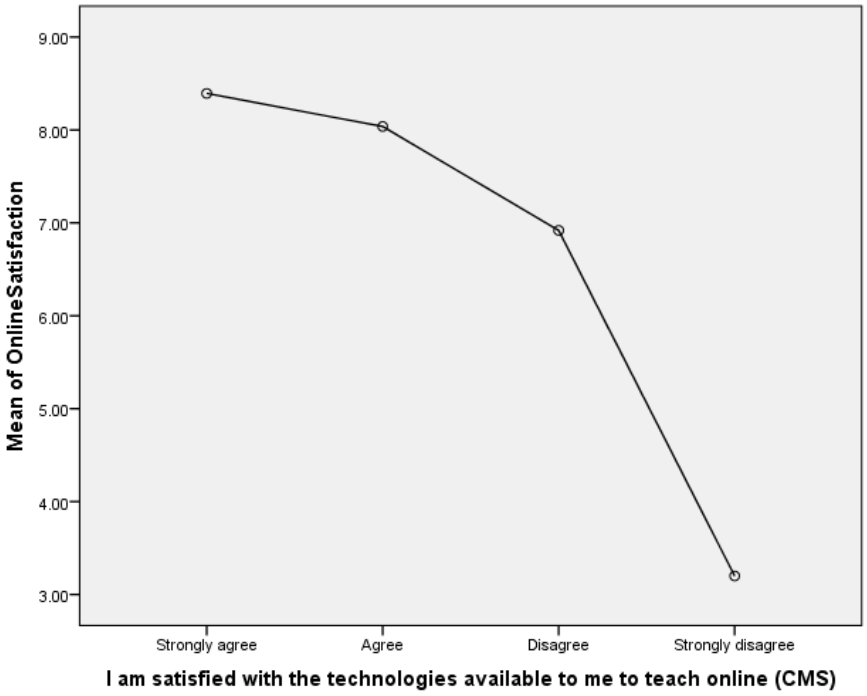


Table 27: ANOVA of Respondents' Online Satisfaction and their Satisfaction with the CMS

This result is consistent with findings from both case studies. Case Study One participants, who did not report using any additional tools, and who derived low levels of satisfaction online, reported experiencing issues similar to those reported by Case Study Two participants (lack of interactive features, lack of usability, etc). However, Case Study Two participants who reported using additional tools, and who derived high levels of satisfaction online, reported low levels of satisfaction with the course management systems. It appears that the course management system, which is the primary technology used to deliver online courses has a negative impact on teachers' level of professional fulfillment online.

6. Discussion

Findings from this survey confirm that not all online teachers have stable and holistic professional identities, and that some teachers appear to derive more enjoyment out of this modality than others.

The first factor examined was the impact of experience on respondents' satisfaction online. Findings revealed that experience plays an important role, as more experienced online teachers appeared to find this modality more professional fulfilling than novice online teachers. Similarly, the more experienced online faculty in both case studies also appeared to enjoy online teaching more than their colleagues who had less online experience. Since over 7.1% of the respondents with over six years online teaching reported still feeling skeptical about this modality, it is important to not rely on experience alone to resolve faculty's negative beliefs about online learning. Professional interventions have the potential to accelerate the resolution of these negative beliefs.

The second factor examined was the role of respondents' beliefs on their level of satisfaction with the online modality. Findings from the case studies revealed the importance of faculty's beliefs about online teaching on their engagement with this modality. Findings from the survey confirmed that respondents who reported feeling especially skeptical about the effectiveness of online teaching and learning were less likely to find this modality professionally fulfilling. Those who reported holding negative preconceptions ideas also appeared to be less likely to find this modality professionally fulfilling. This finding points to the importance of addressing faculty's initial perceptions about online education, and providing them with opportunities to examine and perhaps challenge these notions prior to assigning online courses to these faculty.

The third factor examined was the role of the respondents' community (institutional support for online teaching, availability of training, colleagues and supervisors perceptions of online teaching) on their levels of satisfaction online. An institutional community supportive of online teaching endeavors appeared to have a generally positive impact on faculty's satisfaction with online teaching. Similarly, the case study participants who benefited from a supportive institutional environment appeared more engaged with and fulfilled by online teaching. Survey findings also revealed that respondents were more likely to be affected by their colleagues' negative attitude towards online teaching than by their supervisors'. This finding points to the importance for novice online teachers to have opportunities to interact with members of the online teaching community of practice, especially if their department or institution is new to online education. This be can be achieved through attendance (virtual or physical) at online learning conferences. Expectedly, findings from the survey also revealed that the availability of training opportunities, especially pedagogical training, had a positive impact on their levels of satisfaction online. This points to the importance of offering online teachers not only technological training, but also the pedagogical resources necessary to deploy their newly acquired technical skills. Finally, the survey revealed the strong impact of faculty's personal engagement with the professional literature on their beliefs about the effectiveness of online teaching. Those who reported reading the literature the least also reported the highest levels of skepticism. This finding suggests that a personal motivation and willingness to address negative beliefs is instrumental in addressing those beliefs. Similarly, the case study participants who reported engaging with the online education literature the most also reported the lowest levels of skepticism with this modality.

The final factor examined was the impact of technology use on respondents' satisfaction with online teaching. Findings from the survey confirmed case studies findings according to which faculty's overall technological engagement appears to be correlated with their satisfaction in the online classroom. Respondents who used additional tools to supplement the available CMS appeared to be more satisfied with online teaching and less skeptical about this modality than those who do not use supplemental technologies. Finally, respondents' satisfaction with their CMS was strongly negatively correlated with their level of satisfaction with online teaching. These findings confirmed case studies findings according to which technologies play an important role in teachers' transition to the online classroom and that the technologies currently available tend to hinder rather than facilitate a successful transition online.

CHAPTER IX

CONCLUSIONS AND FUTURE WORK

I. Research Summary

Previous work on faculty preparation to teach online does not consider how the significant changes in teaching conditions imposed by online teaching impacts higher education faculty's teaching identities, or how faculty handle the challenge of integrating online teaching duties with teaching identities often dominated and defined by face-to-face beliefs and practices. In this dissertation, I have employed a mixed-method approach to investigate these issues. I first evaluated the results of two qualitative studies that compared two groups of teachers who experienced the transition to online teaching in different ways. The first group was comprised of teachers who taught both online and face-to-face, but who expressed a clear preference for the face-to-face classroom, and who reportedly experienced difficulty enacting their professional identity in the online classroom. The second group was comprised of online teachers with a record of online teaching excellence, but who reportedly enjoy both modalities equally. I then evaluated the results of a quantitative study that considers the degree to which findings from the first two studies could be generalized.

II. Key Findings

Results from the case studies revealed that while for some faculty, teaching online has become an integrant part of their professional selves, others experience difficulty reconciling

their beliefs and teaching practices with the online modality. For most Case Study One participants, the disruption caused by online teaching led them to marginalize their online teaching identities, define themselves primarily as classroom teachers, and therefore not be as devoted to online teaching as they are to face-to-face teaching. In contrast, Case Study Two participants had made significant changes to their professional identities, by adjusting their beliefs and practices and by becoming more technologically engaged. This transformation, generally facilitated by an institutional community supportive of online education, allowed them to more fully integrate online teaching into their teaching selves, thus finding equal levels of professional fulfillment in the face-to-face and online classroom. Case Study Two participants were fully aware of the differences between each modality, the different purposes that each modality serves and the different pedagogical approaches that each requires. Findings from the survey confirmed the critical importance of positive perceptions of online teaching, technological engagement and access to a community supportive of online teaching.

III. Contribution of this Research

This research helped identify how online learning is changing both teachers and the teaching profession within higher education, why many faculty remain ambivalent about online teaching, and suggests ways to address these challenges.

The changes brought upon teachers by online teaching are transformative rather than incremental. Those teachers who are resistant to these changes tend to adjust poorly to the online classroom, and often blame their lack of satisfaction on the shortcomings of the modality. This research also highlighted the increasingly important role that technological proficiency plays in the teaching profession. Historically, being technology inclined was never a requirement to enter the academy and succeed as a higher education faculty member. However, just as technology has

become an essential part of the way we socialize, work and communicate, it is becoming an essential part of the way we teach and learn, and by extension, an important part of faculty's professional identity.

Unfortunately, the technologies available to teach online today often lack useful features that teachers need in order to teach their particular subject matter, and to deploy the pedagogies required by that subject matter. Online teachers' technological and pedagogical needs vary significantly by discipline. Unfortunately, the technologies of online learning attempt to address all these needs at once through one single product (the CMS), therefore offering a "one size fit all" solution. The primary technological challenge faced by online education in the next ten years will be to develop the kind of technologies that teachers need in order to teach online freely and effectively. Whether or not this challenge is met is likely to have a strong impact on the quality of the education delivered online, and subsequently on the degree of skepticism with which faculty will view this modality.

Finally, this research revealed the importance of institutional and peer support in the process of a successful transition online. The identity of a community and the individual identities of its members are mutually constitutive. Thus, for faculty to be willing to integrate online teaching with their professional identities, higher education institutions need to offer support for this modality by making online education a part of their institutional identity. While an increasing number of institutions have signaled their intention to include online education in their strategic planning, very few have taken significant steps to actually do so (Allen et al., 2011). In January 2012, the *US News and World Report* offered its first classification of the best online schools and programs. Just as it important to learn from those faculty who successfully transitioned online, it is crucial to learn from those institutions that appear to have successfully

integrated online education with their institutional identity, without sacrificing academic standards or reputation.

IV. Future Work

Future work will continue to research the connections between faculty's teaching identities and patterns of technology adoption and rejection. This research will likely involve both faculty who teach fully online courses and faculty who teach hybrid courses. Of particular interest, emerging technologies, such as the new generation of non-commercial management systems, and the educational use of mainstream social network platforms. Future research will focus on the way in which faculty and students handle the increasingly blurry lines between their professional, social and personal identities in the presence of such technologies in educational settings and the role played by anonymity in this process.

Online learning is here to stay. It is changing teachers, learners and as result, the academy as a whole. Understanding the nature of these changes is a critical step toward the successful integration of online education into higher education.

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APPENDIX A: CASE STUDY ONE AND TWO CONSENT FORMS

The Impact of Current and Emerging Technologies on Teacher's Identity in Online Learning Environments

Edwige Simon

PARTICIPANT INFORMED CONSENT FORM

Please read the following material that explains this research study. Signing this form will indicate that you have been informed about the study and that you want to participate. We want you to understand what you are being asked to do and what risks and benefits—if any—are associated with the study. This should help you decide whether or not you want to participate in the study.

You are being asked to take part in a research project conducted by Edwige Simon, a graduate student in the ATLAS institute at the University of Colorado at Boulder, 80309-320. This project is being done under the direction of Dr. Bennett, ATLAS institute, UCB 320. Edwige Simon can be reached at 303 492 7225. Professor John Bennett can be reached at 303 735 4577.

Project Description:
This research study is about understanding and exploring the role of current and emerging technologies on teachers' identity in online learning environments. You're being asked to be in this study because you teach both online and in the classroom. It is entirely your choice whether or not to participate in this study. Up to 15 participants will be invited to participate in this research study.

Procedures:
If you agree to take part in this study, you will be asked to be observed in the classroom and interviewed twice over the course of the semester. I will ask your permission to access the online courses that you are currently teaching for the school of Continuing Education or those you have taught in the past. I will take quotes and screenshots, but will remove names, pictures and any identifying information so that they cannot be traced back to you or your students. I will request copies of your online and face-to-face evaluations.

Participation should take between 9 to 12 hours of your time and **this estimate includes the two classroom observations above mentioned**. Each interview will take between 45 minutes to an hour.

Participation in this research may include audiotaping of the interviews. These recordings will be used for analysis of the impact of online teaching on teacher's professional identities and will be retained for the duration of the study. I will be the only one to have access to these recordings, unless I chose to opt for the use of a professional transcriptions service, in which case you will be informed. Being audio taped is not a requirement for participation. You may still participate in the study should you choose not to be taped. Identifying information like names and pictures

will be removed from quotes and screenshots taken from the online courses. That way, quotes and screenshots cannot be traced back to you or your students.

Signature and date:

_____

Risks and Discomforts:
There are no foreseeable risks if you take part in this study.

You will not be asked about any illegal activities, but if you should discuss such activities, the information could be requested by authorities such as the police or court system.

There are some things that you might tell us that we CANNOT promise to keep confidential, as we are required to report information like:

- Child abuse or neglect.
- A crime you or others plan to commit.
- Harm that may come to you or others.

Benefits:
The benefits in this study include the opportunity to discuss and reflect on your teaching practices with myself and with your peers.

Subject Payment:
You will not be paid for participation in this study.

If You Are Injured or Harmed:
If you feel that you may have been harmed while participating in this study, you should inform Edwige Simon at 303 492 7225 immediately. The cost for any treatment will be billed to you or your medical or hospital insurance. The University of Colorado at Boulder has no funds set aside for the payment of health care expenses for this study. If you should find the need to make an injury claim, Colorado State Law allows for claims to be made within 180 days of the discovery of injury (Article 24-10-109).
If you experience injury that requires medical attention, contact the investigator Edwige Simon and your personal physician immediately (if it is a medical emergency, first call 911).

Ending Your Participation:
You have the right to withdraw your consent or stop participating at any time. You have the right to refuse to answer any question(s) or refuse to participate in any procedure for any reason. Refusing to participate in this study will not result in any penalty or loss of benefits to which you are otherwise entitled.

Confidentiality:
We will make every effort to maintain the privacy of the data. Recordings will be promptly transcribed and the audio files will be destroyed upon completion of the project. All data will be

kept in a password-protected computer. As far as the virtual observations of the online courses are concerned, all quotes and screenshots will be anonymized, so that they cannot be traced back to their owners.
Other than the researchers, only regulatory agencies such as the Office of Human Research Protections and the University of Colorado Human Research Committee may see your individual data as part of routine audits.
The de-identified information collected in this study maybe be shared with other researchers who conduct similar research or used for future research projects.

Questions?
If you have any questions regarding your participation in this research, you should ask the investigator before signing this form. If you should have questions or concerns during or after your participation, please contact Edwige Simon at 303 492 7225.

If you have questions regarding your rights as a participant, any concerns regarding this project or any dissatisfaction with any aspect of this study, you may report them -- confidentially, if you wish -- to the Executive Secretary, Human Research Committee, 26 UCB, Regent Administrative Center 308, University of Colorado at Boulder, Boulder, CO 80309-0026, (303) 735-3702.

Authorization:
I have read this paper about the study or it was read to me. I know the possible risks and benefits. I know that being in this study is voluntary. I choose to be in this study. I know that I can withdraw at any time. I have received, on the date signed, a copy of this document containing 2 pages.

Name of Participant (printed) _____

Signature of Participant _____ Date _____.
(Also initial all previous pages of the consent form.)

I am consenting to be **audio** taped during the participation of this research.
___ Yes, I would like to be taped during my participation in this research.
___ No, I would not like to be taped during my participation in this research.

For HRC Use Only

This consent form is approved for use from _____ through _____.

_____ Panel Coordinator, Human Research
(Signature) Committee

APPENDIX B: INTERVIEW PROTOCOL ONE

Interview 1

Name: _____
Date:_____
Recorded: Yes No
Transcribed: Yes No

Remind instructor of the anonymous nature of the study.

FACE-TO-FACE TEACHING

1. What do you teach? What is your specialty?
2. What is your position at CU? (instructor, lecturer, ect)
3. How long have you been teaching face-to-face?
4. What are you teaching face-to-face this semester?
5. Why did you choose geology/economy/Writing? What brought you to this field?
6. Do you like teaching? What do you like about it? What do you dislike about it?
7. How would you describe yourself as a teacher? What do students say about you as a teacher? Is there something that comes back frequently in your FCQs?
8. What is your role as a teacher as far as learning goes? Socially?
9. Are you happy with your face-to-face teaching? Why, why not?

ONLINE TEACHING

10. How long have you been teaching online?
11. What are you teaching online this semester?
12. How did you come to teaching online?
13. Do you like teaching online? Why/why not?
14. Do you prefer to create your own content? Are you comfortable with delegating some of the course development responsibilities?

ONLINE TEACHING VS FACE-TO-FACE

15. How does teaching online compare to teaching in the classroom?
16. What do you prefer and why? Do you know your online students by names? Do you know who is who?
17. Is online teaching what you expected it to be?
18. Did you have any prior experience?
19. Do you think you are the same teacher online and in the classroom? Do you want to be?
20. Do you have the same expectations for your students online and face-to-face? What about yourself**?**
21. Do you see a course as a reflection of who you are as a teacher? Or are courses interchangeable? Is it the same online? In the classroom?

TECHNOLOGY

22. What does it mean to be tech-savvy??
23. Do people perceive you as tech-savvy?
24. What technologies do you use in the classroom? For what purpose?
25. What technologies do you use to teach online?
26. Describe your experience with these technologies. What are things that you like and dislike about them?

Thank the teacher and schedule next data collection event.

APPENDIX C: INTERVIEW PROTOCOL TWO

Interview 2

Name: _____
Date:_____
Recorded: Yes No
Transcribed: Yes No

Remind instructor of the anonymous nature of the study.

1. What adjustments did you have to make in your teaching to be able to teach online?

2. What were the biggest challenges you encountered as you started to teach online?

3. Tell me about your online teaching this semester.
    a. Are you pleased with your online teaching? Not pleased? Why?

4. If you had to choose between teaching f2f or online, what would be your choice? Why?

5. How do you experience the mainly textual nature of online learning?

    a. Have you found a way to add visual or aural components to the online learning experience? In what ways? If not, would you want to do so? Why/why not?

6. How do you experience the (mostly) asynchronous nature of online learning?
    a. Have you found a way to add synchronous components to the online learning experience? In what ways? If not, would you want to do so? Why/why not?

7. How would you describe your online teaching presence? How would describe your social presence? Is it important for you to establish a social presence?

8. Overall, are you satisfied with the technologies you use to teach online? Is there anything you wish you could do, that you can't find a way to do online? Please describe.

9. How do you feel about Blackboard? The way it looks

10. What do your online students say about the online course in your fcqs? Is it different from what the face to face students say? Why do you think that is the case?

11. Did teaching online change your face-to-face teaching in any way? If so, in what ways? If not, why not? What about your teaching is “transferable” over either medium?

12. Do you see a possible impact of online learning on the teaching profession? On higher education as a whole? [describe the impact, is it positive? Negative? For whom, students or faculty, public?]Do you have any concerns or worries?]

13. Are you proud of teaching online? Do you believe there is a stigma against online learning at all?

APPENDIX D: CLASSROOM OBSERVATION PROTOCOL

Classroom Observation #1 2 3 (circle one)

Date and Time: _____

Teacher:_____

Course name and number: _____

Description of the course:

Description of the setting:

Description of actors:

Description of teacher:

Activity (time log):

Observations/questions for teacher:

APPENDIX E: ONLINE COURSE OBSERVATION PROTOCOL

Date the course was reviewed:
Teacher:
Course:
Type of course (circle one) :

Teacher presence (is there a teacher page? How is the teacher introduced):

Structure of course (how many units/chapters, etc):

Use of audio/ visual material:

Use of outside resources (web links):

Technologies used:

Technology use (type)	Purpose	Comments

APPENDIX F: ONLINE COURSE ARTIFACTS COLLECTED FOR CASE STUDY 2

Participant One

- Online course observation and evaluation (8 page document with a self-evaluation and a report from an evaluator).
- Three of her course evaluations (comments + statistics)
- Her USDLA Excellence in Distance Learning Teaching nomination 2011
- One sample course announcement
- One example of the feedback she gave on a 23 page design documents
- Course syllabus

Participant Two

- Full course access

Participant Three

- Online course website one
- Online course website two
- Syllabus
- Sample assignments

Participant Four

- Second Life guided tour
- Link to his YouTube channel and his videos
- Grant funded project website
- Course syllabus
- Second Life assignments, training manuals and sample videos

Participant Five

- Full course access
- Personal blog
- YouTube Channel

Participant Six

- Syllabus
- Schedule of assignment (day by day lesson plan)
- Second Life schedule of assignment
- Guided Tour of the Second Life Island

Participant Seven

- Virtual Immersion and mediagrid website
- His lesson plans for his class (step by step)
- Use of the whiteboard
- Guided tour of his open sim world (Rocket mms)
- Youtube video presentation of the incorporation of the open sim

Participant Eight

- Full course access

Participant Nine

- Full course access

APPENDIX G: CASE STUDY ONE CODE BOOK

1. F2F Teaching Identity
    a. Teaching Experience
    b. Likes and Dislikes
    c. Sources of Satisfaction

2. Online Teaching Identity
    a. Background Information
    b. Reported Preference
    c. Motivation for Teaching Online
    d. Metaphors
    e. Engagement with Online Teaching
    f. Ways in Which They Changed
    g. Identity Enactment Struggles
    h. Impact of Struggles on their Teaching Identity
    i. Unique Affordances for their Teaching Identity
    j. Beliefs
    k. Professional Satisfaction
    l. Peer Perception
    m. Time Concerns

3. Engagement with Technology
    a. Self-efficacy
    b. Attitude and Experience Towards Educational Technology
    c. Face-to-Face Technology Use
    d. Online Technology Use
    e. Things they Considered but Didn't Do
    f. Attitude Towards Technology
    g. Wish List
    h. Work-Arounds
    i. Take on the Use of Synchronous
    j. Technical Problems

4. Isolated Findings

APPENDIX H: CASE STUDY TWO CODE BOOK

1. General
    a. Job Title
    b. Other Careers
    c. Signs of Engagement with Teaching

2. Face-to-Face Teaching
    a. Teaching Experience
    b. Likes and Dislikes
    c. Teaching Identity
    d. No Longer or Doesn't Currently Teaches F2F

3. Online Teaching
    a. Experience
    b. How They Began
    c. Likes and dislikes
    d. Teaching identity
    e. Initial challenges and how they changed
    f. Signs of engagement
    g. About own content

4. The Role of Community
    a. Counter example

   b. Faculty collaboration
   c. ID help available
   d. Institutional support
   e. Other
   f. Whether courses count

5. Face-to-Face and Online
   a. Similarities
   b. Differences
   c. Time factors
   d. Reported preference
   e. Impact of online on their f2f teaching

6. Engagement with Technology
   a. Self Efficacy
   b. Technology Use
   c. Engagement and Attitude
   d. Issues and Work Around
   e. Smart Uses for Showcase
   f. Issues with the Technology
   g. Satisfied with the Technologies Available
   h. Things They Considered But Didn't Do
   i. Synchronous Tools

    j. Counter Experiences

7. Stigma and Perceptions
    a. About the existence of a stigma
    b. Benefits of online learning
    c. Future
    d. Peers and family friends perceptions
    e. Proud or not
    f. Risks and issues

APPENDIX I: STUDY THREE CONSENT FORM
University of Colorado Boulder
Consent to Participate in a Research Study

Study Title: *The Impact of Current and Emerging Technologies on Teacher's Identity in Online Learning Environments*
Principal Investigator: Edwige Simon, Doctoral candidate, ATLAS doctorate program.

Key Personnel:

Name	Role	Department	Phone Number	E-mail
Edwige Simon	Principal Investigator	ATLAS	303 249 5970	Edwige.simon@colorado.edu
John Bennett	Advisor	ATLAS	303 735 6153	jkb@colorado.edu

Your participation in this research study is voluntary. Please think about the information below carefully. Feel free to ask questions before making your decision whether or not to participate. If you decide to participate, you will be asked to check the agree box at the end of this box.

Purpose and Background

This research study is about understanding and exploring the impact of online teaching on faculty's professional identity and the role played by technology in this process.
You're being offered to participate in this study because you teach online. It is entirely your choice whether or not to participate in this study. Up to 300 participants will be invited to participate in this research study. Up to 15 major US programs will be offered to participate.

Study Tasks and Procedures

If you agree to take part in this study, you will be asked to fill out the online survey that follows. The survey contains 22 questions. The survey is entirely anonymous.

Duration

This survey will take about 10 to 15 minutes of your time.

Study Withdrawal

You have the right to withdraw your consent or stop participating at any time. You have the right to refuse to answer any question. Refusing to participate in this study will not result in any penalty or loss of benefits to which you are otherwise entitled.

Risks and Discomforts

There are no foreseeable risks if you take part in this study

Benefits

There are no foreseeable benefits if you take part in this study

Confidentiality

These are some reasons that we may need to share the information you give us with others:

- If it is required by law.
- If we think you or someone else could be harmed.
- Sponsors, government agencies or research staff sometimes look at forms like this and other study records. They do this to make sure the research is done safely and legally. Organizations that may look at study records include:
    i. Office for Human Research Protections or other federal, state, or international regulatory agencies
    ii. The University of Colorado Boulder Institutional Review Board
    iii. The sponsor or agency supporting the study

Incentives

At the end of the survey, you will be offered to enter your email address in a separate window to enter a drawing for one in four $25 Starbucks gift cards Four addresses will be selected randomly to receive a gift card. The odds of winning are 1 in 75. Gift cards will be sent out by May 30th, 2012.

Participant Rights

Taking part in this study is your choice. You may choose either to take part or not take part in the study. If you decide to take part in this study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you in any way. You will not lose any of your regular benefits. We will tell you if we learn any new information that could change your mind about being in this research study. For example, we will tell you about information that could affect your health or well-being.

If You are Injured, contact Professor John Bennett at 303 735 4577

Contacts and Questions

For questions, concerns, or complaints about this study, call Edwige Simon at 303 249 5970.
If you are injured as a result of participating in this study or for questions about a study-related injury, call Professor John Bennett at 303 735 4577

If you have questions about your rights as a research study participant, you can call the Institutional Review Board (IRB). The IRB is independent from the research team. You can contact the IRB if you have concerns or complaints that you do not want to talk to the study team about. The IRB phone number is (303) 735-3702.

___ I agree

Name of Person Obtaining Consent (printed) ___Edwige Simon_____

APPENDIX J: STUDY THREE SURVEY

Face-to-face vs. online teaching

Fill out this survey and get a chance to win one of four $25 Starbucks gift cards!

Results from this survey will inform research on the impact of online teaching on faculty teaching identity. It will take about ten minutes to complete. It is anonymous, entirely voluntary and you may exit this survey at anytime.
To enter the drawing for one of four $25 Starbucks gift cards, you will be prompted to enter your email address in a separate window at the end of the survey.
You received this survey because you teach online courses. Items will address online teaching primarily, and may refer to face-to-face (classroom based, in person) teaching experiences as well. Hybrid or blended courses are outside the scope of this study. If you never taught fully online courses, please exit the survey. If you don't have any face-to-face teaching experiences, please indicate "not applicable." If you have questions about this research or this survey, please contact Edwige.Simon@colorado.edu. Thank you for your contribution.

[Consent form inserted here].

___ I agreed

Item 1: What is your job title? (Select all those apply)

Item 1.1: Adjunct/ Lecturer
Item 1.2: Instructor/visiting professor
Item 1.3:Tenure track/Associate Professor
Item 1.4: Tenured/full Professor
Item 1.5: Other: _____

Item 2: Do you have any other professional duties/career in addition to teaching, whether or outside of academia ? If yes, what are they?

(Type in answer here)

Item 3: How much IN PERSON classroom teaching experience do you have?

Item 3.1: Less than 3 years
Item 3.2: 3 to 5
Item 3.3: 6 to 10
Item 3.4: More than 10
Item 3.5: More than 20
Non-applicable

Item 4: I teach face-to-face

Item 4.1: Half of my course load or more
Item 4.2: Not anymore
Item 4.3: Non-applicable

[Comment box]

Item 5: How much online teaching experience do you have?

Item 5.1: Less than 3 years
Item 5.2: 3 to 5
Item 5.3: 6 to 10
Item 5.4: More than 10
Item 5.5: More than 20
Non-applicable
[Comment box]

Item 6: I teach online…

Item 6.1: Half of my course load or more
Item 6.2: Not anymore
Item 6.3: Non-applicable

Item 7: Please rate the following statements

[This is a scale of 1 to 10, 1 being strongly disagree and 10 being strongly agree]

Item 7.1: I find classroom teaching enjoyable
Item 7.2: I find classroom teaching professionally fulfilling
Item 7.3: I find online teaching enjoyable
Item 7.4: I find online teaching professionally fulfilling

Item 8: Preference for face-to-face vs. online teaching?

[This is be a 9 point spectrum with face-to-face on one end and online on the other end]

Do you have a preference for face-to-face or online teaching?

Item 9: The following statements relate to your beliefs about online teaching and learning. Please rate each statement.

[This is a scale of 1 to 10, 1 being strongly disagree and 10 being strongly agree]

Item 9.1: I believe online teaching is less effective than face-to-face teaching
Item 9.2: I believe online learning is less effective than face-to-face learning
Item 9.3: I believe online courses and degrees increase access to education for students
Item 9.4: I believe synchronous (real-time) exchanges with students are essential for learning
Item 9.5: I believe face-to-face meetings with students are essential for learning
Item 9.6: I believe I get to know my students better in face-to-face courses
Item 9.7: I believe my students get to know me better in face-to-face courses
Item 9.8: I believe face-to-face students are more motivated to learn that online students
Item 9.9: I believe I can be more effective as a teacher in the classroom than online

Item 10: The following statements relate to your teaching practices in the ONLINE classroom. Please rate each statement.

	I do this often	I do this sometimes	I never do this	I do not do this now but I am planning on doing this in the future	I have no plans to do this
Item 10.1: Small-group projects					
Item 10.2: Threaded discussion (in discussion boards)					
Item 10.3: Student-led threaded discussion					
Item 10.4: Chat session (in real time)					
Item 10.5: Recorded or typed lecture notes/lessons					
Item 10.6: Video conferencing (Adobe Connect, Skype, etc)					

Item 11: How do your online courses compare to your face-to-face courses in terms of design (activities, assignments, tests...)

[This is a 9-point spectrum with "essentially the same" on one end and "completely different" on the other end]

Item 11: If this is not your first semester teaching online, how is this semester different from your first semester as an online teacher? Check all those that apply

Item 11.1: This is my first semester teaching online
Item 11.2: I am more comfortable with online teaching
Item 11.3: I manage my time better
Item 11.4: I am trying out new activities
Item 11.5: My course is organized differently
Item 11.6: I'm a better online teacher
Item 11.7: Not much has changed

Item 12: Do your online courses count towards your regular teaching load?

Item 12.1: Yes
Item 12.2: No
Other:

Item 13: The following statements consider institutional support for online teaching and learning

[This is a scale of 1 to 10, 1 being strongly disagree and 10 being strongly agree]

Item 13.1: My online courses count as much as my face-to-face course for tenure and promotion
Item 13.2: I get paid the same or more to teach online than face-to-face
Item 13.3: Training is available on how to use the technologies I need to teach online
Item 13.4: Training is available on best practices of online teaching
Item 13.5: I attend such training sessions at my institution
Item 13.6: My colleagues value online teaching as much as face-to-face teaching
Item 13.7: My supervisor (Chair/Dean) values online teaching as much as face-to-face teaching
Item 13.8: I was skeptical about online teaching when I first started
Item 13.9: I am still skeptical about online teaching
Item 13.10: I always looked favorably upon online teaching

Item 14: Are you familiar with the following organizations?

	I have never heard of this organization	I know this organization	I have attended (physically or	I have presented

			remotely)	(physically or remotely)
Item 14.1: MERLOT				
Item 14.2: SLOAN-C				
Item 14.3: USDLA				
Item 14.4: CALICO				
Item 14.5: ACTE				
Item 14.6: WAOE				

Do you know of any other associations related to online teaching ?

Item 15: How often do you read articles about online teaching and learning related issues (scholarly or trade press)

Item 15.1: Very Frequently
Item 15.1: Frequently
Item 15.1: Rarely
Item 15.1: Never

Item 16: Have you published an article or presented a paper in relation to your work as an online teacher in any venue (scholarly journal or mainstream publications like Educause, Chronicles of Higher education, etc.)?

Item 16.1: Never and I have no plan to do so
Item 16.2: Never but I am thinking about it
Item 16.3: Once
Item 16.4: More than once

Item 17: How technology oriented do you consider yourself?

Item 17.1: I'm a technophile (I own the latest gadgets and I am an early adopter)

Item 17.1: Moderately technology-oriented (I own a few tools but I usually wait a while before purchasing new products)
Item 17.1: Not interested in technology generally
Item 17.1: I'm a technophobe

Item 18: Do you use any technology in addition to a course management system to teach online?

	Often	Sometimes	Maybe in the future	No intention to do so	The course management system is just fine
Item 18.1: Blog					
Item 18.2: Facebook					
Item 18.3: Twitter					
Item 18.4: Video conference tool (Skype, adobe connect)					
Item 18.5: Screen capture					
Item 18.6: Image and video annotation programs (Voicethead)					
Item 18.7: Other tools you use and how frequently?	[text box]				

Item 19: I am satisfied with the technologies available to me to teach online (primarily the course/learning management system like Blackboard, ecollege, webct, d2l, Moodle)

Item 19.1: Strongly agree
Item 19.2: Agree
Item 19.3: Disagree
Item 19.4: Strongly disagree

Item 20: If you are NOT fully satisfied with the features of the technologies available, have you found ways to circumvent the limitations of these tools by

Item 20.1: Adding supplemental tools
Item 20.2: Tweaking the technology to adapt it to your need
Item 20.3; No, I work with what is available
Comment:

Item 21: Any other comments?

[text box]

If you wish to participate in a drawing for one of the four $25 Starbucks gift cards, please copy and paste this link in a new browser window and enter your email address (doing this will ensure anonymity of your answers):
https://www.surveymonkey.com/s/WXVVTG5