HOW DID REMOTE TEACHING DURING THE COVID-19 CRISIS AFFECT FACULTY’S ATTITUDES AND BELIEFS ABOUT ONLINE TEACHING?

A Dissertation
Submitted to
the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree
DOCTOR OF PHILOSOPHY

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Diploma Date: May 2021

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ABSTRACT

Prior to the Covid-19 pandemic, online learning was a contested issue within higher education. Advocates of online higher education saw it as a way to make college more accessible and affordable and bring high-quality education to those who might not be able to attend in-person classes. However, many faculty were skeptical or reluctant to teach online and in particular expressed concerns about increased workload, inferior learning outcomes, cheating, and losing connection with students.

When the pandemic began, some argued that it would accelerate the acceptance of online teaching by faculty, while others argued the pandemic would reveal the weaknesses and limitations of online teaching. Overall, this study shows more support for the former than the latter. A plurality (49.3%) of faculty surveyed report that following the pivot to emergency remote teaching they have a more positive view of online education while 27.5% report no change and only 22.9% have a more negative view. Further, 55.1% report that they are more likely to want to teach online when their campus reopens.

However, many faculty who expressed a more favorable view of online education also expressed reservations, for example that certain courses do not work well online or that certain students do not do well online. The concerns cited in the pre-pandemic literature including cheating, lack of connection and engagement, and increased workload for faculty all surfaced in this study. These are complex and challenging issues that can never be fully solved but should not be ignored if online higher education is to reach its full potential.
DEDICATION

To my mom Ellen who first taught me to be curious and ask important questions.

To my wife Lori: I’m glad you said yes when I asked you an important question.

To my children Macy and Evan, may you go on to ask some very important questions of your own.
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CHAPTER 1

INTRODUCTION AND RESEARCH QUESTIONS

Along with their students, faculty were “thrown into the deep end of the pool for digital learning and asked to swim…..Some will sink, some will crawl to the edge of the pool and climb out and they’ll never go back in the pool ever again. But many will figure out what to do and how to kick and how to stay afloat.”

Will the Coronavirus Forever Alter the College Experience?
New York Times
April 23, 2020

Prior to the pandemic, the rapid growth of online learning was a very hot topic in higher education. Supporters of online higher education point out that it increases access by lowering costs and bringing education to people who could not attend on-campus programs (Carey, 2016). Meanwhile, skeptics express concerns about the quality of online courses (Allen & Seaman, 2012) pointing to lower success rates in online courses particularly for students from underrepresented groups (Hart et. al., 2016; Jaggers, 2011; Johnson & Mejia, 2014; Figlio et. al., 2010; Xu & Jaggars, 2014).

In March 2020, the Covid-19 pandemic upended higher education as at least 14 million college students in the United States transitioned from on-campus to online classes (Hess, 2020). Almost immediately a debate began about whether the move to online would be a “boon or bane” for online education. Experts debated whether the pandemic would cause students and faculty to embrace online learning or sour a whole generation to the idea of online learning (Lederman, 2020). James N. Bradley (2020), Chief Information Officer of Trinity University (TX), wrote on LinkedIn “I can't help but think that this is a transformation moment. And the resistance to online education is going to go away as a practical matter… we're going from a
majority don’t use it to a majority do”. A headline in The Atlantic asked: “Are Universities Going the Way of CDs and Cable TV?” implying that the pandemic was going to lead to the existing business model of higher education being disrupted by technological advances. (Smith, 2020).

On the other hand, Laporte and Cassuto (2020) wrote “The main reason why the ‘distance learning revolution’ didn’t replace the traditional model is that online learning just isn’t as good. And because of that, it can’t be offered at full price” (para. 3). Kevin Carey, who in 2015 wrote a book titled The End of College predicting the demise of the old model of higher education, in 2020 was quoted in the Chronicle of Higher Education as saying that: “The pandemic will probably give people a new appreciation for on-campus learning and convince technology-phobic professors that they were right all along” (Winners and Losers section, para. 4).

The headlines and op-eds above are speculative pieces written during the fog of the early pandemic. My study went beyond speculation and systematically investigated how the campus closures and subsequent pivot to remote teaching affected faculty members’ attitudes and beliefs about online teaching. Readers should note that throughout this paper, I generally use the term “remote teaching” to refer to courses that were originally designed to be in-person but forced to pivot due to the pandemic. In contrast, I use the term “online teaching” to refer to classes that were designed to be taught online and I distinguish between synchronous and asynchronous online where appropriate.

**Historical Precedents**

Cataclysmic events such as wars and pandemics often change the world and higher education in unforeseen ways. The secession of Southern states during the Civil War allowed Senator Justin Morrill of Vermont to fulfill his goal of creating the land grant university system
World War II saw the federal government pour $3.5 billion into research universities (Loss, 2012) and the Serviceman’s Readjustment Act of 1944, more commonly known as the GI Bill (United States Department of Veterans Affairs, n.d.) increased educational attainment in the United States especially for White men and for Black men born outside the South. Tragically, Black veterans from the South faced a segregated higher education system which limited their ability to utilize the benefits they had earned by risking their lives defending their country (Bound & Turner, 1999; Turner & Bound, 2002). In the 1960s, college attendance increased in part due to male students’ desire to avoid being drafted into the military and being sent to Vietnam (Card & Lemieux, 2001).

Land grant universities and the GI Bill are a familiar part of today’s higher education landscape, but these were not inevitable. In 1859, President James Buchanan blocked Morrill’s attempts to create a land grant university system. Aspects of our higher education system that seem natural and almost inevitable are sometimes the result of very specific historical events. Had history taken a different course, higher education might look very different.

How will higher education be affected by the Covid-19 pandemic? My study is specifically focused on the potential long-term effects of the pivot to remote teaching which at the time of this writing are still unknown. Will more faculty embrace online teaching, leading to an expansion of online education? Will bad experiences with remote teaching cause faculty to swear off online teaching forever? Will faculty use synchronous platforms such as Zoom more frequently in the future, not just for teaching, but for meetings, office hours and other purposes?

Like the other historic events mentioned above, the Covid-19 pandemic could have a significant impact on higher education. As the New York Times headline asked: “Will the Coronavirus Forever Alter the College Experience?” (Marcus, 2020)
Theoretical Framework

To make meaning of the faculty experiences, I will use the lens of transformative learning theory (TLT), which postulates that when people experience disorienting dilemmas, they may question prior assumptions and in the process experience growth and transformation (Mezirow, 1978). In this study, being forced to teach remotely on short notice during a global pandemic would be framed as the disorienting dilemma. Of course, TLT does not predict that all individuals who experience the disorienting dilemma will experience growth and transformation nor that all individuals will react the same way. As Dirkx and Smith (2009) state:

There is a kind of mystery to the idea of transformative learning, a way of learning that is more an expression of the creative and artistic dimensions of our being rather than the rational, literal, and scientific. Like the unfolding and metamorphosis of the caterpillar into a beautiful, majestic, and soaring butterfly, the process of transformative learning touches on and reminds us of the fundamental mystery that is being human.

For some faculty, the pandemic led to campus closures and a disruption of their normal routines, but for others the impact has been deeper and more personal including falling ill themselves or watching friends, colleagues and loved ones suffer or die. Although I am exploring how some faculty grew professionally from this tragic experience, nothing in this paper should be interpreted in any way as implying that the pandemic was a blessing for higher education or a positive disruption.

Positionality

Before reviewing the literature, it is important to note that many people studying and writing about faculty experiences with online teaching have a vested interest in the outcome. For example, many studies reviewed below are from journals such as the Online Journal for Distance Learning Administrators (OJDLA) that are written by and for online administrators. This is not
to discredit the research, but to acknowledge that many of the authors are writing from the position that expanding online learning is the goal and faculty resistance is a barrier to be overcome. The opposing position, namely that faculty concerns are legitimate, and expansion of online learning could harm students by providing them with an inferior education, was less common in the peer-reviewed empirical literature. Articles espousing this view were generally opinion pieces (Herman, 2020) or came from teachers’ unions who also have a vested interest in the outcome (McKenna, 2014; National Education Association, 2000; Weingarten, 2014). Of course, there are many people who hold complex and nuanced views about online higher education, acknowledging both the potential of online teaching when done well and the pitfalls when done poorly.

I began my college teaching career in 2000 teaching exclusively in-person courses and taught full-time in the classroom for several years, but since 2013 I have taught predominantly online. For over a decade, I have provided professional development to both in-person and online college faculty. I view myself as neither a cheerleader for, nor critic of, online education. Rather, I believe that online teaching has a place in the higher education landscape and like in-person teaching it can be done well or done poorly.

Currently, I work as an administrator where I support both online and in-person faculty and typically teach two courses (usually online) per year as an adjunct in the summer and fall. In March 2020, I was not teaching, but had a “front-row seat” to the events as my campus closed and I tried to support faculty in their remote teaching. In the fall of 2020, I taught a course that I had taught before and was already designed as an online course.

As an able-bodied, educated, high-income, White male, I occupy a position of privilege. I was raised in a working-class neighborhood, however through grants and scholarships I was able
to attend college full-time directly after high school, live on-campus and graduate in four years. Living in a major metropolitan area with numerous universities, I have never faced a situation where online higher education was my only option.

**Study Design and Research Questions**

This mixed-methods study used surveys and interviews to study the move to remote teaching from a faculty perspective. Throughout this paper, I use the term faculty to refer to full-time and adjunct faculty who teach for an institution of higher education. Graduate teaching assistants were not part of my study. The methodology is described in more detail in Chapter 3.

My specific research questions were:

RQ: How did remote teaching during the Covid-19 crisis affect faculty’s attitudes and beliefs about online teaching? This question has both quantitative and qualitative aspects. From a quantitative perspective I was interested in what percentage of faculty are more likely to teach online in the future. In turn, the qualitative data sheds light on *why* some faculty are more or less likely to teach in the future and adds nuance to the quantitative data. For example, even many of the respondents who are more likely to want to teach online in the future, had reservations about teaching certain courses online. This nuance could not be captured with Likert-scale questions alone.

A. Given the choice, are instructors more likely or less likely to want to teach online in the future?

B. How did the experience affect their inclination to use synchronous or asynchronous tools in future teaching?
C. How did they manage and how will they manage grading and academic integrity issues?

D. How did the move to remote teaching affect their relationships and connection with students and how will that experience shape their teaching going forward?
CHAPTER 2

LITERATURE REVIEW

In this section, I will review the literature in four areas: the landscape of online higher education in the pre-Covid world including pressures to increase online education; the importance of faculty buy-in for quality online learning; faculty attitudes towards and experiences with online teaching; and transformative learning theory applied to teacher professional development.

Synchronous vs Asynchronous

Before reviewing the literature, it is important to note that many if not most of the studies I review below equate online teaching with asynchronous teaching. Synchronous platforms such as Zoom, WebEx, Adobe Connect, and Blackboard Collaborate are used more widely today, but when many of the studies below were conducted, fewer students had the technology and bandwidth to stream video which is a particular concern for institutions such as community colleges that serve lower-income students. Also, many online programs tout their flexibility and market themselves to busy working adults. Having mandatory synchronous class meetings undercuts this strategy.

It is not clear how faculty perceptions in these studies would change if they were teaching an online course that had regular live class meetings on a platform such as Zoom. In my experience, synchronous online teaching and asynchronous online teaching are very different experiences; thus, it is not helpful to lump the two into “online teaching”. Synchronous online teaching is not equivalent to in-person teaching, but it does provide much more immediacy and texture than asynchronous platforms.
Major (2010) notes that research in online teaching often “conflates different modes into a single monolithic category. When reviewing these works, it is difficult to determine at times whether the researcher has examined synchronous, asynchronous, blended courses, or a combination of these” (p. 2189). In some cases the authors do not explicitly state whether they are discussing synchronous or asynchronous courses, but participant statements about the “flexibility of not having a set time for a class meeting” as a positive and the “lack of immediacy” in interactions as a negative seem to indicate that most of the participants in these studies were teaching asynchronously.

Huang and Hsiao (2012) specifically surveyed 16 faculty at one Midwestern university regarding synchronous and asynchronous teaching. Faculty reported liking the fact that synchronous platforms felt more personal, but also reported that on synchronous platforms a small number of students may be high participators. Asynchronous platforms allowed or even required students who might be quieter a chance to participate more; however, instructors did not feel as connected to their students and the time delay often made communication harder. Asynchronous communication also was more time-consuming because they had to respond to individual emails and discussion posts rather than talking to the whole class simultaneously. Finally, faculty reported feeling less spontaneity and creativity with asynchronous tools and missing the “spark” that occurs in a live class.

**Online Education Pre-Covid**

In 2016, 6,359,121 college students took at least one distance education course representing 31.6% of all college students (Seamon, Allen & Seamon, 2018). These students were nearly split between those who took exclusively online courses (3 million) and those who took a mix of online and in-person courses (3.3 million). Both the number and percentage of
students taking online courses has increased steadily over the past 20 years despite the overall decrease in the number of college students nationwide (Seamon, Allen & Seamon, 2018). These two trends of declining numbers of college students combined with increasing online enrollments created pressure on institutions to expand their online offerings, particularly in parts of the country with decreasing numbers of high-school graduates.

The growth of online learning has not been distributed evenly across institutions or sectors. Many colleges and universities have no online presence while 10 huge online universities account for 649,032 students.

Table 2.1 Institutions with Largest Online Enrollment

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>State</th>
<th>Control</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University of Phoenix-Arizona</td>
<td>Arizona</td>
<td>Private for-profit</td>
<td>129,332</td>
</tr>
<tr>
<td>2</td>
<td>Western Governors University</td>
<td>Utah</td>
<td>Private not-for-profit</td>
<td>84,289</td>
</tr>
<tr>
<td>3</td>
<td>Grand Canyon University</td>
<td>Arizona</td>
<td>Private for-profit</td>
<td>68,542</td>
</tr>
<tr>
<td>4</td>
<td>Liberty University</td>
<td>Virginia</td>
<td>Private not-for-profit</td>
<td>67,766</td>
</tr>
<tr>
<td>5</td>
<td>Southern New Hampshire University</td>
<td>New Hampshire</td>
<td>Private not-for-profit</td>
<td>63,973</td>
</tr>
<tr>
<td>6</td>
<td>Walden University</td>
<td>Minnesota</td>
<td>Private for-profit</td>
<td>52,565</td>
</tr>
<tr>
<td>7</td>
<td>University of Maryland-University College</td>
<td>Maryland</td>
<td>Public</td>
<td>50,932</td>
</tr>
<tr>
<td>8</td>
<td>American Public University System</td>
<td>West Virginia</td>
<td>Private for-profit</td>
<td>48,623</td>
</tr>
<tr>
<td>9</td>
<td>Excelsior College</td>
<td>New York</td>
<td>Private not-for-profit</td>
<td>41,658</td>
</tr>
<tr>
<td>10</td>
<td>Ashford University</td>
<td>California</td>
<td>Private for-profit</td>
<td>41,343</td>
</tr>
</tbody>
</table>

(Seamon, Allen & Seamon 2018).

In the years leading up to the pandemic, online enrollments had declined at for-profit institutions such as University of Phoenix and grown at non-profits such as Western Governors University and Southern New Hampshire University. In addition, many public research universities including Arizona State University, University of Maryland and Penn State had invested heavily in online education (Seamon, Allen & Seamon 2018). Folkers (2005) notes that these “click and brick” universities may have more legitimacy in the eyes of students and employers than universities that are online only.
Data for the 2018-2019 academic year (the last year prior to the pandemic), showed a continuation of prior trends, namely growth in online amidst overall declines in college enrollments. Fully online and partially online were both higher in 2018-2019 than in 2017-2018, while fully in-person was lower. Online graduate enrollments showed continued growth (Hill, 2021).

2012 the Year of the MOOC

The excitement over Massive Open Online Courses (MOOCs) contributed to the pressure for colleges to expand their online offerings or get “left behind”. In June 2012, University of Virginia president Theresa Sullivan resigned, citing philosophical differences with the Board of Visitors. An email later surfaced showing that Board members had circulated and discussed a Wall Street Journal article (Chubb & Moe, 2012) about “Higher Education’s Online Revolution” and the rector (board chair) was quoted in the email saying, “we can’t afford to wait” (Jaschik, 2012).

Also in 2012, the New York Times ran an article titled The Year of the MOOC where Coursera founder Andrew Ng pointed out that his company was growing faster than Facebook. The article states: “The shimmery hope is that free courses can bring the best education in the world to the most remote corners of the planet, help people in their careers, and expand intellectual and personal networks” (Pappano, 2012). Around the same time, David Brooks (2012) wrote in the New York Times about the coming “campus tsunami” and former education secretary William Bennett (2012) proclaimed MOOC provider Udacity the future of higher education. He asserted that Udacity could bring a Stanford-level education to people in all corners of the world, shared anecdotes about his radio-show listeners who were advancing their
careers by taking Udacity courses and said that Udacity had “rattled the foundations of the education establishment” (Do we need a revolution in higher education? section, para. 13).

Not surprisingly faculty were skeptical of MOOCs and one of the most highly-publicized examples of faculty resistance to MOOCs came when San Jose State allowed its students to earn credit for a course taught by a Harvard University professor via the EdX platform (Rivard, 2013). The project was ended after six months due to disappointing student outcomes, but it still frightened faculty who feared losing their jobs to “rock-star” professors who could lecture to tens of thousands of students at a time (Rivard, 2013).

**Can Online Learning Bend the Cost Curve?**

Advocates of online education hope that online learning will create economies of scale and make higher education more affordable for everyone. Two popular books *College (Un)bound* (Selingo, 2015) and *The End of College* (Carey, 2015), both predicted the disruption of the traditional university. Carey describes what he calls the University of Everywhere saying: ‘The University of Everywhere is where students of the future will go to college…At the University of Everywhere, educational resources that have been scarce and expensive for centuries will be abundant and free. The University of Everywhere will span the Earth” (p. 5).

Abundant and free educational resources may sound attractive to students, parents, and legislators, but to colleges and universities free online education is an existential threat. Harvard Business School professor Clayton Christenson, known as a promoter of disruptive innovation, also joined the chorus of disruptors predicting the demise of higher education. In his 2011 book, *The Innovative University*, he predicted widespread closures of colleges and in 2017, shortly before his death, he stood by his prediction that half of all colleges and universities will close within a decade (Lederman, 2017).
The idea of online courses making college cheaper is mostly based on the idea of asynchronous learning where a professor can record a lecture once that can be watched thousands of times. Live online (synchronous) teaching does not generally hold the same promise of cost savings. There could be some savings because a university might need fewer buildings, but the labor costs for live online would be similar to in-person.

The Importance of Faculty Buy-In

Several scholars have pointed out that faculty commitment to online learning is key to expanding online course offerings and faculty satisfaction is critical to creating a quality online learning program (Bolliger & Waslik 2009). Folkers (2005) notes that universities are not run like businesses; they do not have typical command and control hierarchies. Rather, faculty traditionally wield a significant amount of power through committees and even more at institutions with faculty unions. Fortino and Wolf (2007) examined online business programs at two universities and noted the importance of faculty buy-in to have a successful program.

The Online Learning Consortium (OLC) lists faculty satisfaction as one of the Five Pillars of Quality in Online Education stating: “Faculty Satisfaction means that instructors find the online teaching experience personally rewarding and professionally beneficial.” The OLC goes on to say that faculty should be included in governance and quality assurance.

Faculty Satisfaction means that instructors find the online teaching experience personally rewarding and professionally beneficial. Faculty satisfaction is enhanced when the institution supports faculty members with a robust and well-maintained technical infrastructure, training in online instructional skills, and ongoing technical and administrative assistance. Faculty members also expect to be included in the governance and quality assurance of online programs, especially as these relate to curricular decisions and development of policies of particular importance to the online environment (such as intellectual property, copyright, royalties, collaborative design and delivery). Faculty satisfaction is closely related to an institutional reward system that recognizes the rigor and value of online teaching. Satisfaction levels increase when workload assignments/assessments reflect the greater time commitment in developing and teaching
online courses and when online teaching is valued on par with face-to-face teaching in promotion and tenure decisions (OLC, n.d.).

Baran, Correia and Thompson (2013) discuss the importance of listening to teachers’ voices and allowing teachers to form their online teaching personas. Betts (2014) surveyed faculty in 1998 and 2014 and noted that although online learning technology and platforms changed a lot during that time period, teachers’ motivations and concerns about online teaching remained relatively stable.

**Are Faculty Excited or Fearful?**

Faculty buy-in may be important but research shows that not all faculty are buying; a substantial percentage of faculty are skeptical. The largest (n=4564) and most commonly cited study of faculty attitudes towards online teaching comes from Elaine Allen and Jeff Seamon (2012) who found the following:

- Administrators are more enthusiastic about online learning than faculty
- Faculty who have taught online are more positive than faculty who have not taught online, although many who have taught online still have doubts
- Faculty are more optimistic when asked about the potential of online learning than about the present reality
- Almost half of faculty who have concerns about the quality of online courses still recommend online courses to students

Their report titled *Conflicted* shows that faculty have mixed and sometimes conflicting views regarding online education. When asked directly about whether they felt more excitement
or fear about online teaching, 58% of faculty members chose fear compared to only 42% who said they felt more excitement about online learning (Allen & Seamon 2012).

Not surprisingly, faculty who have taught online or blended courses were slightly more optimistic with two-thirds reporting they feel more excitement than fear (meaning that even among those who taught online one-third report feeling more fear than excitement). Faculty who have taught online are more optimistic, but this correlation could have many explanations. It could be causal in that once faculty teach online, they warm up to the idea and get more excited about it. Alternatively, it could be that faculty who are already open to the idea of teaching online choose to teach online.

Faculty attitudes also vary by discipline with those in pre-professional programs and the applied sciences expressing the most excitement and those in the humanities and arts expressing the most fear. Faculty at two-year colleges express slightly more excitement than those at four-year schools (49% vs 40%). Faculty with the most years of experience teaching were the least likely to express excitement.

Sixty-six percent of faculty believed that the learning outcomes for an online course are inferior or somewhat inferior to a face-to-face course. Fewer than 6% said superior or somewhat superior. As with the excitement or fear question, those with online teaching experience were more optimistic; however, half of faculty who have taught online believe that learning outcomes are inferior or somewhat inferior. This means that there are many online instructors out there who are still not convinced. Faculty from institutions with no online offerings were the most skeptical with 83% saying that the learning outcomes were inferior or somewhat inferior. Faculty at four-year institutions were more pessimistic than faculty at two-year institutions (Allen & Seamon, 2012).
Finally, faculty acceptance of online learning has not changed that much over time. In 2002, 27.6% of academic leaders believed that faculty at their school accepted the value and legitimacy of online education. Ten years later that number was only at 30.2% although in 2007 it peaked at 33.5% (Allen & Seamon, 2013). Since this study is about faculty attitudes, I will not address the complex and contentious question of whether learning outcomes actually are inferior.

Faculty Motivation to Teach or not Teach Online

Allen and Seamon’s studies are useful in providing a big picture of faculty attitudes towards online learning; however, their surveys leave many questions unanswered including what motivates some faculty to teach online and what inhibits others from teaching online. Other studies have looked more in-depth at faculty motivation to teach online and, consistent with other researchers (Dhilla, 2017; Giannoni & Tesone, 2003, Shea, 2007), I will categorize the findings as follows:

- Intrinsic motivators (e.g., provide access to students who could not attend college)
- Extrinsic motivators (e.g., flexibility and convenience for the faculty)
- Intrinsic inhibitors (e.g., concerns about quality)
- Extrinsic inhibitors (e.g., concerns about workload)

However, I acknowledge that these categories are blurry. For example, a faculty member may list release time as a motivator and workload issues as an inhibitor, but these two statements are essentially expressing the same idea, namely that they perceive online teaching as more time-consuming than in-person teaching.
Intrinsic Motivators to Teach Online

Researchers who study faculty motivation to teach online have found that many faculty have intrinsic motivations for teaching online (Shea, 2007). Conceicao (2006) reported that faculty found the experience of teaching online very rewarding. In the interviews, they used words such as “stimulating”, “invigorating”, “exciting”, “rewarding”, “satisfying”, “gratifying”, and “empowering”. They liked the fact that it was a learning experience for them, but also liked the fact that it seemed to get easier over time. Huang and Hsiao (2012) reported that many faculty reported that online teaching was fun. Major (2010) found that teachers experienced personal rejuvenation by teaching online and the opportunity to learn. Some found the idea of creating an online course to be like creating a work of art and took pride in crafting the course. Faculty also report enjoying the intellectual challenge of leveraging technology to create a positive learning experience for their students and enjoyed the professional growth that comes from teaching online.

One of the most commonly mentioned motivators is that teaching online allows them to reach students that they otherwise would not be able to reach including students who are place-bound (Orr, 2009) or who have responsibilities that prevent them from enrolling in an in-person program. Faculty take great pride in knowing that by teaching online they help provide access to students who might otherwise not be able to attend college (Betts, 2014; Bolliger & Wasilik, 2009; Clark 1993; Conceicao, 2006; Giannoni & Tesone, 2003). Green, Alejandro and Brown (2009) point out that most teachers want to advance knowledge and benefit society and if they believe that teaching online allows them to effectively reach students that they otherwise would not be able to reach, then this can be a significant motivation to teach online.
Other studies have found that faculty enjoy the dynamic of the online classroom and the affordances it provides (Conceicao, 2006). For example, an asynchronous discussion board may provide a chance for more students to participate in a discussion as opposed to an in-person discussion where a few students might dominate the discussion (Huang & Hsiao, 2012). Fish and Gill (2009) found that faculty believed that online learning promoted higher-order thinking because the asynchronous medium gave students more time to reflect. One instructor who taught art and design online described coming to the realization that she did not need to be in the same room as her students in order for them to learn what her in-person students learned in the studio (Baran, Correia & Thompson, 2013). Betts (2014) found that many faculty who teach online enjoy using technology.

Giannoni and Tesone (2003) note that senior-level faculty members (as measured by years of teaching) are often the most reluctant to teach online and thus students in online courses are being denied the opportunity to interact with and learn from these highly experienced educators. The authors conducted phone surveys with a convenience sample of 15 senior-level faculty members (SLFMs) and technical challenge was one of the top motivators, thus contradicting the stereotype of older techno-phobic professors. The primary value of this study is that it is one of the few studies to focus specifically on SLFMs. Although this study appeared in a peer-reviewed journal, the findings should be interpreted with caution due to the small convenience sample of faculty at one institution.

Bollinger and Waslik (2009) found that student factors were the most important for faculty satisfaction. For example, faculty who agreed with the statement: “My online students are actively involved in their learning” or “My online students are more enthusiastic about their learning than their traditional counterparts” were more satisfied. This finding merits more
research because it is not clear if those faculty were simply lucky and got students who were engaged, or if the teacher did something to foster engagement. There could be a cyclical relationship where faculty who are more satisfied design and teach online courses that are more engaging for students which further increases faculty satisfaction. For example, faculty who are more satisfied might actively participate in the discussion board which in turn might motivate students to participate more. In contrast, faculty who are dissatisfied might be less engaged, leading to decreased student engagement, in turn leading the faculty to feel even less satisfied. An alternative explanation might be that some faculty are simply more optimistic in their outlook and so they report being satisfied and also report that their students are engaged, whereas respondents who are more negative or cynical give low marks for their own satisfaction and for student engagement.

There is some suggestive evidence that intrinsic motivation to teach online may change over time. Cook et al. (2009) found that in older studies (prior to 2002) faculty reported more intrinsic motivations for teaching online such as intellectual challenge, and the ability to reach new audiences that could not attend on campus. Whereas, in a 2003 study, faculty reported extrinsic factors such as monetary rewards as important as motivators and concerns about quality as the biggest inhibitors. The authors rely on Rogers’s (1962) theory of technology adoption and hypothesize that the innovators and early adopters were motivated by the novelty of teaching online and an inherent interest in technology. However, as online teaching became more widespread, extrinsic factors play more of a role in motivating faculty to teach online. While their interpretation is plausible, it should be interpreted with caution since their findings rely on only one study that found extrinsic factors more important.
Alexander, Perrault, Zhao, and Waldman (2009) compared faculty experiences teaching online in 2000 and 2006. Faculty found the experience more satisfying in 2006 probably because they had more experience. However, they reported lower levels of motivation for teaching online which the authors speculate is because what was new and exciting in 2000 was no longer such a novel experience in 2006. Like Cook et al., this study shows that faculty motivation to teach online may shift over time as online learning becomes less novel and more commonplace.

Finally, an important factor in motivating faculty to teach online is whether they choose to or whether they are required to by their department or institution. Shea (2007) and Wingo (2017) both argue that faculty who volunteer to teach online will be more engaged and more satisfied than those who are forced to.

**Extrinsic Motivators to Teach Online**

The most commonly cited extrinsic factors in motivating faculty to teach online are:

- Flexibility and convenience for the faculty member
- Rewards by their institution in the form of money or release time
- Coaching and support from their institution with respect to either online pedagogy or technology

One frequently cited extrinsic motivator is flexibility and convenience for the faculty member (Alexander, Perrault, Zhao, & Waldman 2009; Green, 2009; Huang & Hsiao, 2012; Shea, 2007). Shea (2007) found that part-time faculty and female faculty were more likely to report that they were motivated to teach online because it accommodated other needs such as childcare or reduced commuting. Green, Alejandro and Brown (2009) disaggregated their results by faculty status and not surprisingly found that adjunct faculty were more likely to cite increased income as a motivator for teaching online.
Shea (2007) also found that faculty under 45 were more motivated to teach online by extrinsic factors such as online teaching being a condition of employment or they believed that teaching online would help them gain tenure or promotion. While some younger faculty believed that teaching online would help them gain tenure, other pre-tenure faculty in this same study reported lack of recognition as one of their concerns about teaching online. It could be that in some institutions or departments online teaching is rewarded while at others it is penalized. Orr (2009) found that some faculty who teach online commented that they thought their department chairs were not aware of how much work was involved in preparing an online course.

Many faculty report that teaching online requires more up-front work prior to the opening of the course and faculty appreciated being given release time in the semester prior to teaching online to prepare (Orr, 2009). However, overall, most faculty did not expect extra compensation for teaching online if class size was reasonable (although the authors did not quantify reasonable).

Support in the form of professional development is another factor that has been shown to motivate faculty to teach online (Giannoni & Tesone, 2003). Hinson and LaPrairie (2005) developed an intensive professional-development program to help community college faculty use technology more effectively in their teaching and found that faculty are more likely to embrace innovations if given the proper support. Their intervention provided a large amount of support to a small number of faculty, so it is not clear if or how this type of intervention could be scaled at an institution with large numbers of online learners. Orr (2009) found that having technological support was helpful so that faculty did not have to become instructional technology experts.

One final observation about intrinsic vs extrinsic motivators is notable. Betts (2014) found that faculty who taught online were more likely to cite intrinsic motivators as reasons why
they taught online, whereas faculty who did not teach online were more likely to list extrinsic factors such as financial compensation and reduced teaching load as factors that would motivate them to teach online. This seems to indicate that the faculty who did not teach online saw teaching online as undesirable and something for which they would have to be compensated extra, whereas faculty who taught online found it intrinsically rewarding.

Chiou (2006) investigated this question of intrinsic versus extrinsic motivation to teach online and found that consistent with cognitive dissonance theory, smaller rewards led to greater attitude change than larger rewards among faculty who had negative views of online education. However, this effect was only true for faculty who scored higher on measures of individualism and this study was conducted at a single university in Taiwan so it is unclear how the results might generalize to Western cultures.

Intrinsic Inhibitors

As discussed above, Allen and Seamon’s surveys showed that concerns about quality were one of faculty’s biggest concerns about online teaching and other researchers have found the same concerns. O’Quinn and Corry (2002) surveyed faculty members regarding what factors inhibited them from participating in online teaching and one of the top responses was “Concern about quality of courses”. Faculty in one study had concerns about the lack of higher order thinking, believing that discussions could not effectively be facilitated online, and described online courses with terms such as “cheap and low level” (p.56) and a “crappy way to educate students” (Fish & Gill, 2009, p.58).

Another very common concern is that teaching online will negatively affect their relationships with students and thus diminish the joy of teaching. This concern was expressed by faculty in many different ways across a range of studies. Major (2010) and Baran, Correia and
Thompson (2013) both noted that teachers change their public presentation of themselves and often become more reserved online. They tend to be more formal and careful in their interactions with students, using less humor and exhibiting less energy. The instructors also felt more demand for accountability online. Major (2010) and Huang and Hsiao (2012) both mention that teachers felt the need to be more organized and therefore were less creative and spontaneous online.

Online teachers also report being “constantly challenged to make themselves heard, known and felt by their students” (Baran, Correia & Thompson, 2013, p.2). The lack of visual and verbal cues made communication more difficult (Huang & Hsiao, 2012; McQuiggan, 2007) and faculty missed the in-person interaction and the sensory and expressive relationships (Conceicao, 2006; Major, 2010). Faculty reported struggling with the lack of immediacy and social presence and having to invest more effort in getting to know their students as people. Due to the latency inherent in asynchronous communication, the faculty reported investing considerable effort in maintaining connection, but still felt that it was easier for students to fall through the cracks. Faculty also faced some challenges in crafting an online teaching persona and even those who generally described themselves as advocates for online learning reported missing the face-to-face interaction with students (Fish & Gill, 2009).

Academic integrity is another concern that was mentioned by faculty who often wondered if the person doing the work was really the student. Fish and Gill (2009) note: “Student honesty was a concern expressed by all participants.” (p.57) Examples of responses from faculty include:

The biggest barrier to online course offering is that it is purely based on the honor system (p.57).

Who really knows who is doing the work? All the students tell me that they have had someone do some or most of their work for an online course (p.57).
I would like some assurance that enrolled students are the ones actually taking the exams (p.57).

This concern was most prominent among those faculty who had negative experiences with teaching online; however, even many faculty who had generally positive perceptions of online teaching still had some reservations about academic integrity (Fish & Gill, 2009). Concerns about academic integrity appear to be particularly high among STEM faculty; a survey of STEM faculty conducted during the pandemic revealed that “Inability to ensure academic integrity” was the most commonly cited barrier to online STEM education and was selected by 52% of respondents. Crucially, this was the only barrier selected by a majority of respondents (Seamon, Allen & Ralph, 2021).

Some authors proposed strategies to overcome the inhibitors mentioned above. For example, Brooks (2003) urges administrators to help faculty develop ways to create online presence and decrease the distance between them and their students. Eib and Miller (2006) describe an 18-month faculty development experience which explicitly socialized the participants into a community of practice (Wenger, McDermott, & Snyder, 2002) and decreased isolation among online faculty.

McGuiggan (2007) noted that when teachers moved from the classroom to teaching online, they become beginners again and this could challenge their self-concept and identity. Of course, what one faculty member perceives as a threat to their self-concept, identity, or expertise another faculty member could interpret as intellectual challenge and find motivating.
**Extrinsic Inhibitors**

The most commonly cited extrinsic inhibitors related to workload and status although other factors included intellectual property rights, struggles with technology, creative and expressive work being replaced with dull administrative tasks, and fear of losing one’s job.

The question of whether teaching an online course actually takes more time is an open question and beyond the scope of this study; however, in many studies faculty reported workload to be a major concern regarding online teaching (O’Quinn & Corry, 2002). Specifically, faculty reported email being almost unmanageable (Huang & Hsiao, 2012) and online teachers commented frequently about the feeling that they were “always” teaching and felt pressure to log on frequently even on the weekends (Conceicao, 2006). Green, Alejandro and Brown (2009) surveyed four different groups of faculty-adjunct/part-time, full-time non-tenured, full-time tenure track, and tenured- and found that all four groups expressed concern about the time and effort involved in teaching online. Major (2010) also found that faculty noted how time-consuming it was to teach online and how the teaching invaded their personal life because it was no longer contained by time and place. Lao and Gonzales (2005) interviewed six first-time online teachers and half said that they did not enjoy the experience and would probably not teach online again. In particular, many found teaching online time-consuming and one participant complained about being “on 24/7”. It is important to note that Lao and Gonzales were interviewing first-time online teachers, so it is possible that as the teachers gained experience online teaching became less time-consuming.

In some studies, even faculty who enjoy teaching online have expressed concerns that teaching online will lower their status in the eyes of their colleagues and could hurt their chances for promotion and tenure (Fish & Gill, 2009; Wingo, 2017). Shea (2007) notes that at some
institutions the reward structures regarding promotion and tenure may discourage faculty from teaching online and Stewart, Bachman and Johnson (2010) found that 70% of faculty felt that an online degree was not as prestigious as a traditional degree.

Struggles with technology was another theme that emerged in some studies. Lao and Gonzales (2005) noted that participants in their study who were more technologically savvy were more likely to have a positive experience and more likely to want to teach again. Dealing with technology issues led some faculty to complain that they had to spend time on administrative and technological tasks and that this replaced the creative and expressive work that they enjoyed (Major, 2010). Finally, some faculty have expressed fears that they could be replaced by technology such as recorded lectures and online education could cost them their jobs (National Education Association, 2000).

**Summary of the Pre-Covid State of Online Higher Education**

At the beginning of March 2020, the world of higher education was faced with a situation where online enrollments were growing steadily, market forces were creating pressure on many institutions to increase online offerings, yet many faculty remained skeptical of online education. Faculty reluctance and skepticism may have affected some institutions’ ability to increase their online offerings. As one might expect with a phenomenon as complex as online teaching, faculty experience was mixed. Some faculty reported the experience to be rewarding, felt pride in being able to offer their services to students who would not be able to attend a traditional program and enjoyed the intellectual challenge of teaching online. They also enjoyed the convenience and flexibility online teaching offered. Other faculty expressed concerns that online teaching was inferior to in-person teaching, feared that it would reduce the interaction and communication
between them and their students, and worried that teaching online was more time-consuming than in-person teaching.

March 2020—The Pivot to Online: Covid-19 Upends Higher Education

The suddenness with which the Covid-19 pandemic struck higher education was breathtaking. On Friday March 6, 2020 the University of Washington announced that approximately 50,000 students would finish the winter quarter via remote teaching (Baker, Hartocollis & Weise, 2020). By Tuesday March 10, at least 135 colleges had announced campus closures and by the end of the week millions of students at two and four-year colleges would be shifting to remote classes (Voytko & Porterfield, 2020). Barnard College student Oona Rose (2020) summed up the events with a tweet: “watching the entire ivy league slowly turn into the university of phoenix”. News reports described community college students using the school’s wi-fi to take exams from the parking lot and even students on the Navajo Nation who drove to the tops of mesas to connect to a cell tower (Flaherty, 2020). Advocates of online education were quick to point out that emergency remote teaching during a pandemic is not the same as thoughtful, well-planned online education and that the pandemic should not be used as a time to condemn online education (Hodges, Moore, Lockee, Trust, & Bond, 2020).

Although this study focuses on higher education in the United States, the pandemic was a global phenomenon affecting all levels of education. UNESCO (2020) reported that by March 27, 184 countries had closed schools resulting in over 1.5 billion students or 90 percent of the world’s learners experiencing disruption. They also noted that many poorer countries that lack internet access resorted to television and radio broadcasts to deliver lessons.
Research and Commentary during the Pandemic

Since the pandemic began, there have been several surveys and studies that examined how faculty have coped with the move to remote teaching. These studies have examined several aspects of the experience from acceptance of online teaching to faculty burnout.

Faculty Experience

Between April 6 and April 19, 2020, Bay View Analytics surveyed faculty and administrators at 641 different institutions and 90% responded that their institution had switched some or all classes to remote teaching. Of course, institutions that moved classes online might be more likely to respond to a survey on this topic so this might not be an accurate representation of the whole sector. Sixty-five percent of the faculty stated that they had no prior experience teaching online and almost all institutions had the assigned faculty finish the course rather than reassigning the course to a faculty with online teaching experience (Seaman, Mathes, Austin, & Lederman, 2020).

Faculty reported making many adjustments in response to the pivot to remote teaching and also reported being very concerned about their students’ well-being. The most frequently reported change that faculty made was that 63% of respondents changed the kinds of assignments or exams. Forty-eight percent said they lowered their expectations about the amount of work and 32% reported lowering their expectations about the quality of work. (The 32% number regarding lowering expectations about the quality of work might be undercounting the true number because there is likely some stigma for teachers to admit lowering expectations.) The faculty reported using a variety of tools including their learning management system, video conferencing, recorded lectures, and prerecorded external sources such as YouTube videos.
(Seaman, Mathes, Austin, & Lederman, 2020). The survey did not ask about whether they relied more heavily on synchronous or asynchronous platforms which is a question that my study addresses.

A Fall 2020 survey from Tyton Partners, a firm that advises higher education institutions, showed that faculty acceptance of online teaching had increased. Forty-nine percent of faculty surveyed agreed with the statement “Online learning is an effective method of teaching” which was an increase from 39% in May. This same survey showed that 44% of faculty in the fall were using a mix of synchronous and asynchronous methods. The percentage using purely asynchronous methods decreased from 35% in May to 26% in August. Faculty teaching at the introductory level were more likely to report using asynchronous methods only. Increasing student engagement was the top priority with 71% of faculty respondents choosing this as a priority (Fox et al., 2020).

Tyton Partners released another survey in January 2021, which specifically surveyed faculty who teach introductory courses. The survey found that faculty’s perceptions of online learning has improved throughout the pandemic:

- The increased exposure to digital learning practices and tools has positively altered faculty perception of online learning and has prompted enduring changes to teaching and learning. Faculty sentiment about online learning has grown positively throughout the pandemic. Increased exposure to digital tools has enabled faculty to experiment with new and effective practices that they report help struggling students. These include using asynchronous materials, modularizing content and learning outcomes, using digital tools to engage students and foster collaboration, engaging in more frequent and holistic assessment, conducting individualized engagement and outreach to students, and using online proctoring tools.

However, those same faculty were very concerned about student success. They reported that DFWI rates had increased in their classes and the faculty who expressed the most concern were those who teach at institutions that serve more poverty-affected students (Fox et al., 2021).
Sounding the Alarm on Quality and Student Success

Some scholars and policy analysts tried to sound alarm bells about the massive shift to online learning. In July, the Institute for College Access and Success issued a critical report saying that “most online education programs remain unproven….The unprecedented shift to online education is a massive experiment with unknown consequences.” This author expressed concern that institutions that moved programs online due to the pandemic, may choose to keep these programs online, thus expanding online education without sufficient oversight or attention to quality (Robertson, 2020). Bird, Castleman and Lohner (2020) documented a 6.7 percentage point decline in course completion rates among Virginia’s community college students in Spring 2020 and this drop occurred regardless of whether the faculty member had taught online prior to the pandemic.

Economics of Online Learning

Other writers argued that online learning will grow as a result of the pandemic and that this may drive down the cost of higher education. Cornell University economist Robert Frank writing in the New York Times and Mathew Yglesias writing in Vox each separately asserted that online learning will grow following the pandemic because of the economies of scale that can be leveraged with asynchronous content (which can be produced once and then distributed to thousands or tens of thousands of students over multiple semesters). Their prediction may come true this time, but many people have made similar arguments in the past most recently in 2012 about MOOCs. Although thousands of people (including me) have enrolled in MOOCs for their own enrichment, there is little evidence so far that MOOCs have actually displaced traditional higher education or that students are choosing MOOCs in place of a college degree or credential.
The model Frank and Yglesias are proposing of saving money by recording and posting content for large audiences relates only to asynchronous courses and generally means that there will not be a personal relationship between the student and teacher. It is possible that students are willing to pay more to have a personal connection with their professor, just like some (relatively wealthy) people pay for a personal trainer despite the availability of free exercise videos online.

If the shift that Frank and Yglesias predict occurs, it could radically transform the business model of higher education and have profound social implications as well especially if live personal instruction where students know their professors becomes a privilege reserved for the wealthy, while recorded online lectures become the predominant mode of instruction for the less wealthy.

A thorough examination of the economic fallout from the pandemic is beyond the scope of this study; however, any decisions regarding online education will be made in the aftermath of a pandemic that has created financial distress across higher education. In February 2021, The Chronicle of Higher Education reported that 650,000 jobs in higher education had been lost since the pandemic began (Bauman, 2021). Also in February, higher education consultant and strategist Paul Friga estimated that the pandemic could costs colleges and universities $183 billion—$85 billion in lost revenue from declining enrollment, room and board, and athletics; $74 billion in state cuts to higher education caused by the recession; and $24 billion in pandemic-related costs such as testing and cleaning. One of his suggestions for how institutions should respond is to offer new programs, especially online. These economic conditions, combined with the anticipated drop in high school graduates in 2027 (18 years after the Great Recession), could accelerate the pressure on universities to expand their online offerings.
**Zoom Fatigue**

The term Zoom fatigue appeared in many articles written during the pandemic including a commentary in the *Psychiatric Times* by psychiatry professor Jena Lee (2020) where she hypothesizes about the parts of the brain that are implicated in Zoom fatigue. The BBC and Psychology Today also explored why videoconferences may seem tiring (Dodgen-Magee, 2020; Jiang, 2020). Jeremy Bailenson (2021) of the Stanford Virtual Human Interaction Lab recently published a peer-reviewed article that made a theoretical argument for the causes of Zoom fatigue. He proposes four factors that contribute to the tiredness:

1. Excessive amounts of close-up eye gaze
2. Increased cognitive load
3. Increased self-evaluation from staring at video of oneself
4. Decreased physical mobility because participants have to remain still to stay in the frame

In particular, he focuses on the feelings of arousal that may be triggered by the close-up eye contact with a large number of people. His research team has also developed a Zoom fatigue scale. However, he acknowledges that his argument is theoretical and needs further experimentation to confirm.

It is also not known if Zoom fatigue will decrease as people become more accustomed to the medium, just as people have adapted to being in close proximity with strangers in elevators and subway cars. There are no empirical studies of Zoom fatigue in higher education teaching and to my knowledge there is no widely accepted definition of this neologism. As I will discuss in Chapter 5, this seems like an area in need of more research.
Academic Integrity during the Pandemic

Academic integrity is another issue that has gained attention during the pandemic. In February 2021, Lancaster and Cotarlan released a study showing that the number of student requests sent to Chegg in five STEM subjects increased 196.25% in 2020, relative to the same period in 2019. Chegg bills itself as a site for “homework help” and this study cannot definitively prove that students were using the site to cheat on graded work; however, the authors believe the jump from 2019 to 2020 is likely the result of formerly in-class proctored exams moving online giving students the opportunity to cheat. If the requests were truly for assistance with “homework”, then it would be hard to explain the jump from 2019 to 2020, unless, for example, Chegg increased their advertising significantly or students just became more aware of the site.

Bilen and Matros (2021) found evidence that cheating increased during online exams from two sources. First, they examined Google search data and found that searches in the United States for calculus-related terms such as derivative and integral spiked dramatically during the AP Calculus exam and searches for literature-related terms and physics-related terms spiked during the times those exams were given. (Bilen and Matros refer to this as “cheating” although the College Board allowed students to use Google during the 2020 AP exams.) Bilen and Matros also examine data from an intermediate-level course at a large university and found evidence of cheating including the fact that there were students who had failed all three of the in-person midterms prior to the campus closure, but then received A’s on the online final exam. Furthermore, one of these students completed the entire exam in 11 minutes leading the authors to conclude that the answers to the questions were shared somewhere and some students merely entered the answers into Blackboard.
Faculty Workload and Burnout

There have been several reports and articles discussing the effect of the pandemic on faculty workload, morale, and burnout. The *Chronicle of Higher Education* authored a report titled “On the Verge of Burnout: Covid-19’s impact on faculty well-being and career plans” which found that faculty were experiencing mental exhaustion. There were many reasons for the exhaustion including helping children with remote school and job insecurity related to the pandemic. These stressors will hopefully subside if the pandemic is controlled. However, some respondents mentioned missing interacting with students and being forced to learn new technology as stressors which could be an issue going forward if more faculty teach online. One respondent wrote: “Work from home has paradoxically made me feel guilty about working rather than interacting with my kids, while also feeling guilty about interacting with my kids rather than working.” This *Chronicle* report found that women were more likely than men to say that their workload had increased and that their work-life balance had deteriorated, a finding echoed by Calarco (2020).

Finally, the Chronicle survey found that 38% of respondents seriously considered retiring and 73% of tenured professors said that had moved up their retirement date. Of course, this survey was taken in October 2020, during a very stressful period and it is not known whether those feelings will continue if the pandemic subsides. However, it is quite possible that if the pandemic subsides and their campus reopens, they could change their minds again.

Transformative Learning Theory

Transformative learning theory (TLT) was developed by Jack Mezirow (1978), a scholar of adult education at Columbia University who believed that developmental models derived from
studying children were not sufficient to explain the trajectory and experience of the adult learner. In his seminal, 1978 article *Perspective Transformation*, he states that adult learners often come to realize that “we are caught in our own history and reliving it” (p. 101). In his view, adult learners need to “become critically aware of the cultural and psychological assumptions that have influenced the way we see ourselves and our relationships and the way we pattern our lives” (p.101). He goes further to describe certain challenges and dilemmas that cannot be resolved easily and force the individual to reassess prior assumptions. Examples include loss of a partner, loss of a job, or moving and he noted that tension and discomfort are an expected part of the transformation process.

Mezirow first applied his theory to the experiences of women who were returning to college in the late 1970’s and noted that many colleges and universities had developed programs specifically designed to encourage these women to challenge oppressive cultural expectations regarding gender roles. Mezirow rejected the dominant behaviorist model of education: “Education cannot be defined by a simplistic preoccupation with fostering direct behavior change” (p. 107). He eschewed the idea of measuring learning through behavioral objectives and criterion-referenced evaluation. In fact, Mezirow saw adult education as a force for liberating people from prior assumptions and promoting growth and transformation.

Transformative learning experiences usually involve activities such as role-playing, journaling and group discussion designed to promote dialogue and reflection, Mezirow (2009) outlines ten phases of learning as part of the transformative process:

1. A disorienting dilemma
2. Self-examination
3. A critical assessment of assumptions
4. Recognition of a connection between one’s discontent and the process of transformation
5. Exploration of options for new roles, relationships, and action
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one’s plan
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one’s life on the basis of conditions dictated by one’s new perspective (p.18)

The women he studied who were returning to college tended to follow this pattern, and some of the subjects in my study may move through some of these 10 steps, but it is not realistic nor expected that college faculty teaching remotely during the pandemic would march through these 10 steps in a linear fashion. Further, my data was collected in Fall 2020 while the pandemic and thus the transformative learning was still ongoing. Mezirow (2009) notes that transformations may involve dramatic change or may be more incremental.

TLT is a grand sweeping theory that has been applied to a wide array of settings including executive coaching (Fisher-Yoshida, 2009), palliative care education for medical students (MacLeod & Egan, 2009), arts-based adult education (Butterwick & Lawrence, 2009), leadership development (Donaldson, 2009). Although the settings vary widely, the common element is the pattern of disorientation, critical assessment and transformation which is the focus of my study.

Dirkx and Smith (2009) examined transformation in the online context, specifically in an online graduate program in higher and adult education. The program used a problem-based
learning approach and participants were placed in teams and the instructors intentionally created
diversity among the teams in terms of interests, prior knowledge and experience, race, gender,
geographical location and national origin. This study relied on a depth psychology perspective
where the goal is to develop a dialogical relationship with one’s unconscious through structured
activities such as journaling and debriefing. Participants in my study did not engage in this level
of reflection and unconscious motivation was not explored.

Transformative Learning Theory in Teacher Professional Development

There are entire journals and conferences devoted to TLT and most of the literature
involves the application of the theory to the classroom where adult students are the ones
undergoing transformation. However, there are some studies that have examined TLT with
teachers and faculty.

Gravett and Peterson (2009) used TLT in a teaching methodology course with 15 higher
education faculty at the University of Johannesburg in South Africa. They describe the group as
“multicultural” explaining that “The term multicultural as we use it reflects the diversity in terms
of both race and home language as a legacy of the segregated history of South Africa.” The
faculty involved had been implementing a predominantly transmission or delivery mode of
teaching. The goal was to encourage the faculty to adopt a more dialogic approach to teaching
where they and their students are exploring, thinking, inquiring, and reasoning together. Gravett
and Peterson want the faculty to develop a communicative educational relationship with their
students that is respectful and reciprocal. They note that for transformation to occur, the learners
(in this case faculty) must acknowledge the need for change. Some professional development
interventions look to help teachers acquire specific skills, but this course sought enduring
transformation. They did not just present the new way of teaching and expect the faculty to immediately embrace it, but rather they had them engage in reflective writing and discussions regarding their personal beliefs about teaching and the teachers kept a learning portfolio.

Gravett and Peterson advocate for maintaining a balance between challenge and comfort because transformation is most likely to occur when learners are at the edge of their comfort zone and when there is an atmosphere of psychological safety. If learners are pushed too far, they can become defensive and resist the new learning. In their study, as in many studies of TLT, the researchers were introducing the disorienting dilemma by gently challenging the participants’ existing beliefs. In my study, the disorienting dilemma was an external event (being forced abruptly to teach online), so I have much less control over the process.

King and Heuer (2009) used TLT with a group of General Educational Development (GED) teachers in an urban school system who participated in a year-long professional development initiative. At first, these teachers expressed discomfort and reluctance to try new approaches believing that they would not work in the GED setting. However, the researchers/facilitators modeled collaborative and project-based approaches and by the end of the program many participants were “energetic outspoken practitioners who were comfortable trying new strategies, with their adult students” (p.173). An important part of the success of the program was that the researchers/facilitators respected them as professionals which was refreshing for these GED teachers who may be marginalized with their school systems. King and Heuer also mention the importance of psychological safety so that the participants felt comfortable trying new approaches.

Kitchenham (2006) used TLT to qualitatively analyze the experiences of 10 elementary school teachers as they participated in instructional technology workshops. He combined data
from reflective journals, a questionnaire, semi-structured interviews, and field notes and similar to my study, he used both Likert-type and open-ended questions. Perspective transformation occurred for many of these teachers although as with most transformative learning each person’s learning journey was unique.

The study most analogous to mine is one conducted by Sarah Dhilla (2007) who used TLT as a framework to qualitatively examine the experiences of college faculty teaching online for the first time. Like my study, she recruited faculty who were teaching online and investigated whether and how teaching online encouraged professors to rethink assumptions and change as a teacher. She divided the subjects into four categories—novice, journeyman, master or expert—based not on their years of experience but based on their views about teaching. She notes that advancement from one stage to another is not a linear process, but an intermittent one “marked by periods of progression, regression and spans of stagnation” (p. 58). She found that the online environment forced instructors to question their role which generated conflict and critical assessment as predicted by TLT. Many struggled with aspects of online teaching and some formed communities with other online instructors where they could discuss their challenges. Over time the ones she terms experts found ways to adjust to the online environment and found ways to humanize their online courses in order to create connection. Of course, not all online instructors did or will reach that level of expertise. Dhilla argues that institutions should embrace Mezirow’s ideas about how to engage faculty as adult learners—that is respecting them as professionals and valuing the contributions they bring, rather than simply telling them how to teach. TLT is an appropriate theoretical framework for this study because the pandemic represents a disorienting dilemma that may lead faculty to question prior assumptions about
online teaching and move through many of the stages outlined by Mezirow and undergo transformation and growth.
CHAPTER 3

METHODOLOGY

This mixed-methods study used a combination of surveys, interviews, and artifacts to systematically investigate the events of 2020 from a faculty perspective. Creswell (2018) points out that mixed-methods research must integrate the quantitative and qualitative data to develop a stronger understanding of the phenomenon being studied. In that vein, I employed a sequential explanatory design where the quantitative data were used to highlight larger patterns and correlations and the qualitative data, including (open-ended survey questions, interviews, and artifacts) helped explain the quantitative data and provided a complex and holistic picture (Creswell and Poth, 2018).

Creswell (2018) describes a case study as an in-depth analysis and description of a case that is bounded by time or other criteria. The qualitative portion of this study meets this definition because it is an in-depth description and analysis of an event—the widespread campus closures in 2020—and how that event affected faculty’s attitudes about teaching online. The study is bounded by time because it focuses on the events of 2020 and bounded by the participants who are all college professors who underwent the common experience of unexpectedly shifting to remote teaching.

Research Question

The overarching research question for this study was: How did remote teaching during the Covid-19 crisis affect faculty’s attitudes and beliefs about online teaching? Specific examples of this overarching question are:
A. What are instructors’ overall views regarding online teaching? Are they more likely or less likely to want to teach online in the future or to recommend online courses to students? The results of this question have profound implications for higher education because (as discussed above) if faculty are more willing to embrace online teaching going forward this could change college as we know it.

B. How did faculty make choices about the use of synchronous or asynchronous tools? During emergency remote teaching did they rely more heavily on synchronous platforms such as videoconferencing or on asynchronous platforms such as discussion boards? What was their rationale behind these decisions? As mentioned in Chapter 2 above, in the past, online teaching for many people has meant asynchronous teaching. However, synchronous and asynchronous teaching are quite different and the move to online in the spring saw large numbers of faculty using synchronous platforms or as some called it “Zoom U.” (Friga, 2020). One of the possible outcomes of the pandemic is synchronous online platforms becoming more widespread in higher education and this would have a significant impact on higher education. Synchronous online education is in many ways more akin to in-person teaching in that it involves real-time interaction between the teacher and the learner. Further, synchronous online teaching is generally not scalable in the way that asynchronous teaching is where a video can be recorded and then used for thousands of students over multiple semesters.

C. How did they manage and how will they manage grading and academic integrity issues? Academic integrity has been mentioned by faculty as one of the reasons that they are reluctant to teach online (Fish & Gill, 2009), so it will be important to know
how faculty who moved online in 2020 handled issues of academic integrity and if they found those solutions satisfactory which might make them more likely to embrace online teaching. Alternatively, if faculty embrace online teaching but still have concerns about integrity, this could lead to the growth of remote proctoring solutions or a network of in-person proctored testing sites where students have to appear in-person and show an ID to take the exam and if this occurs, it will have a significant impact on online higher education.

D. How did the move to remote teaching affect instructors’ relationships and connection with students and how will that experience shape their teaching going forward? Did they feel that they maintained connections with students (and therefore would be more inclined to teach online in the future) or did they feel disconnected from them which might make them less likely to teach online in the future?

Past research found that faculty who do not teach online report that one of the biggest inhibitors is that they believe that they cannot have the same quality of interaction with students, so it will be important to know how they built and maintained relationships with students and did the experience confirm or allay their fears?

Recruitment of Participants

Survey data were collected using the online tool SurveyMonkey. I posted a notice of the study on social media sites and Google Groups frequented by college faculty and people who work in teaching and learning centers. I also sent a notice about the study to colleagues who work in teaching and learning centers.

To be eligible, participants must have been faculty members teaching at least one college or university course that shifted from in-person to online in spring 2020. Because the focus was
on faculty attitudes, adjuncts were eligible, but graduate teaching assistants were not, nor were K-12 teachers. People who taught non-credit, remedial, ESL and continuing education courses were eligible if they were taught through a college or university.

The online survey which is in Appendix A included a consent statement prior to the first question where respondents agreed to participate and those who declined to participate were instructed to close the browser. At the end of the survey, there was a link to a Google Form where subjects could leave contact information for a follow-up interview. I was not able to link the contact information on the Google Form to the survey data in Survey Monkey, so the surveys were anonymous. Consent for the interview was obtained via email prior to the interviews which were conducted via Zoom. The interview protocol is in Appendix B.

**Description of Online Survey Respondents**

A total of 411 people responded to the online survey and 388 (94.4%) were eligible, meaning that they answered “Yes” to the first question indicating that they were teaching an in-person class in March 2020 that shifted to remote instruction. Twenty-one respondents answered yes to the first question, but then skipped the rest of the questionnaire leaving 367 respondents that gave usable data. A few respondents skipped a few questions, but all closed-ended/Likert-style questions had well over 300 responses.

I did not ask survey respondents where they were located, but the sites where I posted notice of the study and the people to whom I sent the notice were primarily located in the United States. Therefore, I expect that most respondents were from the United States. All of the 77 respondents who left their names and contact information to be interviewed listed institutions in the United States. The survey was only available in English.
Participation in the optional open-ended questions was robust with 190 people responding to the open-ended prompt on their views regarding online teaching and 180 responding to the open-ended question about relationships with students.

The tables below give more descriptive information regarding the survey respondents.

*Table 4.1 Online Teaching Experience Prior to the Pandemic*

<table>
<thead>
<tr>
<th>Prior to the pandemic, I had taught:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only in-person</td>
<td>213</td>
<td>58.0%</td>
</tr>
<tr>
<td>Equally in-person and online</td>
<td>49</td>
<td>13.4%</td>
</tr>
<tr>
<td>Predominantly in-person</td>
<td>92</td>
<td>25.1%</td>
</tr>
<tr>
<td>Predominantly online</td>
<td>12</td>
<td>3.3%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.3%</td>
</tr>
</tbody>
</table>
### Table 4.2 Institution Type

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community College</td>
<td>228</td>
<td>62.1%</td>
</tr>
<tr>
<td>Private research university</td>
<td>15</td>
<td>4.1%</td>
</tr>
<tr>
<td>Public research university</td>
<td>76</td>
<td>20.7%</td>
</tr>
<tr>
<td>Teaching-focused or regional public college or university</td>
<td>12</td>
<td>3.3%</td>
</tr>
<tr>
<td>Teaching-focused college or university including liberal arts colleges</td>
<td>20</td>
<td>5.4%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>1.4%</td>
</tr>
<tr>
<td>Missing</td>
<td>11</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

### Table 4.3 Gender Identity

<table>
<thead>
<tr>
<th>Gender Identity</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>114</td>
<td>31.1%</td>
</tr>
<tr>
<td>Female</td>
<td>209</td>
<td>56.9%</td>
</tr>
<tr>
<td>Non-binary</td>
<td>3</td>
<td>0.8%</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>2</td>
<td>0.5%</td>
</tr>
<tr>
<td>Missing</td>
<td>39</td>
<td>10.6%</td>
</tr>
</tbody>
</table>

### Table 4.4 Age of Respondents

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 35</td>
<td>26</td>
<td>7.1%</td>
</tr>
<tr>
<td>36 – 49</td>
<td>106</td>
<td>28.9%</td>
</tr>
<tr>
<td>50 – 65</td>
<td>148</td>
<td>40.3%</td>
</tr>
<tr>
<td>Over 65</td>
<td>49</td>
<td>13.4%</td>
</tr>
<tr>
<td>Missing</td>
<td>38</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

### Table 4.5 Years Teaching

<table>
<thead>
<tr>
<th>Years Teaching at the College Level</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 years</td>
<td>18</td>
<td>4.9%</td>
</tr>
<tr>
<td>3-5 years</td>
<td>48</td>
<td>13.1%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>60</td>
<td>16.3%</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>212</td>
<td>57.8%</td>
</tr>
<tr>
<td>Missing</td>
<td>29</td>
<td>7.9%</td>
</tr>
</tbody>
</table>
As shown on the tables above, the majority of respondents identified as female (56.9%), had taught only in-person prior to the pandemic (58%), had been teaching for over 10 years (57.8%), and taught at community colleges (63.9%).

**Descriptions of Interviewees**

Seventy-seven survey respondents clicked the link at the end of the survey to a separate Google Form where they left their name, email, and institution. I was not able to connect the interviewee back to their survey, so the survey data remained anonymous. I selected 10 of the 77 who represented a mix of disciplines, regions, levels, and institution types to be interviewed.

Although 63.9% of the anonymous survey respondents were from community colleges, for the interviews I intentionally sought more balanced representation of institution types and therefore interviewed four faculty from community colleges, three from public research universities, two from liberal arts colleges, and one from a private research university. While the survey respondents overwhelmingly taught undergraduates, the interviewees were more balanced between undergraduate and graduate students. Table 4.6 lists the interviewees.
<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Institution Type</th>
<th>Region</th>
<th>Adjunct/FT</th>
<th>Taught Online Prior Pandemic?</th>
<th>Discipline/Level Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stacy</td>
<td>Community College</td>
<td>Northeast</td>
<td>FT</td>
<td>No</td>
<td>Art</td>
</tr>
<tr>
<td>Janet</td>
<td>Public Research University</td>
<td>Northeast</td>
<td>FT</td>
<td>No</td>
<td>Undergraduate mathematics including algebra and pre-calculus.</td>
</tr>
<tr>
<td>Dan</td>
<td>Private Research University</td>
<td>Northeast</td>
<td>FT</td>
<td>No</td>
<td>Biology to post-bac students seeking to apply to medical school</td>
</tr>
<tr>
<td>Elaine</td>
<td>Liberal Arts College</td>
<td>South</td>
<td>FT</td>
<td>Yes</td>
<td>Undergraduate exercise science</td>
</tr>
<tr>
<td>Stephanie</td>
<td>Liberal Arts College</td>
<td>South</td>
<td>Adjunct/administrator</td>
<td>Yes</td>
<td>First-year experience course</td>
</tr>
<tr>
<td>Cole</td>
<td>Community College</td>
<td>West</td>
<td>Adjunct/administrator</td>
<td>Yes</td>
<td>Business &amp; Computer Information Systems</td>
</tr>
<tr>
<td>Brian</td>
<td>Public Research University</td>
<td>Northeast</td>
<td>FT</td>
<td>Yes</td>
<td>Doctoral/professional clinical healthcare program</td>
</tr>
<tr>
<td>Carol</td>
<td>Community College</td>
<td>West</td>
<td>Adjunct/administrator</td>
<td>No</td>
<td>Communication/Public Speaking</td>
</tr>
<tr>
<td>Phyllis</td>
<td>Public Research University</td>
<td>Northeast</td>
<td>FT</td>
<td>Yes</td>
<td>Foreign language, study abroad</td>
</tr>
<tr>
<td>Jack</td>
<td>Community College</td>
<td>West</td>
<td>Adjunct</td>
<td>No</td>
<td>ESL</td>
</tr>
</tbody>
</table>
Stacy

Stacy teaches art at a suburban community college in the Northeast. The courses she teaches include drawing courses for art majors and general education art courses for non-majors. She has been teaching since 1985 but had never taught online prior to the pandemic and “never thought I would”.

In the spring, she transitioned her courses to remote teaching and held class for the full class period on Zoom. She found teaching online to be much more work because in the studio, she would walk around and give students feedback, but online they uploaded their work, so she had to write individual feedback to each one.

Her view of online teaching is more positive than prior to the pandemic and she is more open to teaching online. However, she qualifies that by saying that she would be open to teaching the general education art courses and art history courses online, but that she feels that the artists need to be in a studio in order to learn to draw three-dimensional figures.

Janet

Janet teaches mathematics as a public research university and has a very challenging teaching context. Specifically, she teaches algebra and pre-calculus to undergraduates. Her courses are required for students in STEM majors and certain business programs, but students who are strong in math bypass her courses and enter the university at a higher math level than her courses. So, she has the challenge of teaching required courses to students who may not be particularly strong at math and her courses typically have failure rates of approximately 40-50%.
Prior to the pandemic, she had never taught online. She had taken some education courses online and said, “I hated taking classes online.” Prior to the pandemic, she did not believe that online could work for math.

She was already using a flipped model for her pre-calculus class and she says that “made the lift to online a lot easier. They were used to engaging with videos and things like that.”

Janet admits that she was very skeptical that one could teach mathematics effectively online, but she admits that she is much more open to the idea now, even teaching asynchronously. For her the biggest qualifier is that she wants the ability to give exams in-person where she can make sure they do not have their phones because she had significant issues with student cheating by using apps such as Photo Math to take the online exams. She had to refer numerous students to the office of student misconduct and for her the worst part of teaching online was “the back end headache of dealing with academic dishonesty… if I were to tell you the number of hours I have spent on that….it makes it very, very difficult. And it's very disheartening honestly. It kind of makes you feel like, why am I even doing this if so many students are cheating.”

Dan teaches biology to post-baccalaureate students seeking to apply to medical school. He had never taught online prior to the pandemic but felt like it was something that he should learn to do like “eating my broccoli or something.” Prior to the pandemic he viewed online teaching as “impersonal and isolating”.

In the spring when his campus closed, he was teaching two courses and one was “what some people might call a service-learning course. There's an experiential learning component
that's a major part of their core. So that made it challenging.” He taught a small class remotely in the summer and continued teaching remotely in the fall.

Overall, he had some of the most positive experiences of any of the interviewees. He used Zoom sessions that met for the same amount of time as he would have met in-person. He was already using a teaching method called Process Oriented Guided Inquiry Learning (POGIL) where groups work on problems together and each person has specific roles. This process transitioned to remote teaching nicely and in the breakout groups students each had specific roles. Another strategy that he reports worked very well was when he had students work through the problems on a shared Google Doc, “And the cool thing was I could watch the group's developing their answers….in real time. If I saw them going in the wrong direction, I could step into their breakout groups and kind of ask them leading questions. I could see misconceptions forming in front of me.” He also says he received the best evaluations ever.

He is very open to teaching online in the future saying: “It’s hard to argue with outcomes.” However, he thinks that the service-learning course would still be best taught in-person.

Elaine

Elaine teaches exercise science at a small women’s liberal arts college in the South and many of her students are athletes. Prior to the pandemic, she had completed two online graduate degrees and “loved” being an online student. She also taught online for a community college and worked with instructional designers to develop an online course for a public university in her area. However, she says “Our students really prefer face to face core classes. That's why they come. So, this has been very hard being fully online.”
In the spring she moved her courses online and asked the students if they wanted synchronous classes and they did not, so she finished out the course asynchronously using narrated PowerPoints. Student performance was good and comparable to other semesters. Some learning activities had to be modified because they could not attend athletic events to practice coaching athletes or because they could not be in the lab measuring flexibility etc. But overall, the spring went well.

Erika said that the fall “was a disaster”. She was teaching remotely an introductory exercise science course to first-year students who had never met her or each other. (Elaine had never taught the introductory course before, so it is hard to know how much of her unpleasant experience is attributed to the remote modality and how much is attributed to the fact that she was teaching first-year students.) She scheduled synchronous sessions, but some students did not attend because they tried to work full-time day jobs since their classes were online. She painted a depressing portrait of disengaged students who are not getting the experience they expected and a frustrated teacher. For example, she said: “I reached out to the basketball coach and said your girls aren't coming to class. They're not turning work in when they turn work in it's junk. Like honestly like I don't even think they're trying.” She acknowledged that some of the students might struggle even on-campus but thinks that she could have “grabbed them before or after class and said: “We need to talk. You need to come to my office hours,” During a regular semester, she also would “show up at basketball practice and I know the coach would back me up. You're not going to practice till you talk to me I might be a little goofy…., but they know I care.” She has sent her students invites for Zoom office hours and many do not show up. She said: “I will say my online teaching this semester. I'm not very pleased with it…..And the Zoom fatigue has just killed me like. So, I think, yeah, I was not proud of me this semester.”
Going forward she still believes that online education can work, but not in this program at this institution. “Unfortunately, our students typically do not want it. There's a lot of resentment that all the schools around us have gone back on campus, but we haven't. Oh, you know, all the teams and their conferences are playing. Yes, they are very angry.”

Stephanie

Stephanie teaches a first-year experience (FYE) course at a small liberal arts college in the South which serves many low-income and first-generation students from the surrounding area. She had taught online for a community college prior to the pandemic. Her current school is not Division I but has many sports programs and a very high percentage of students play sports. She is an administrator in student life and teaches the FYE course as an adjunct.

In the spring, when her campus closed, she already had a good rapport with her students and they completed the course asynchronously in what she describes as “like an independent study type thing.” She said that “due dates just stopped existing” but ultimately everyone received an A including one student who she met with outdoors at a park. She admits that she is a lenient grader and students who do the work generally get As and Bs. She says: “I've been thinking maybe I need to tighten up a little bit.” Her self-described lenient grading is in part because she teaches a first-year experience course which is designed to be supportive and boost success.

Her fall semester was in-person and was a very challenging experience because she was teaching a class of 23 first-year students who were sitting six feet apart with masks. Many days there was at least one student in isolation or quarantine and so she also had to talk to the computer and could not move around the room. Remote students had trouble hearing what in-person students were saying. She feels that it would have gone better if everyone had been
remote because then “Everyone would have been on the same like playing field.” Stephanie also contracted Covid herself and had to teach remotely for a short period of time.

Further she questions the university’s decision to be in-person saying that “there’s a lot of magical thinking”. There were widespread outbreaks and at times whole athletic teams were quarantined. She thinks that the true number of cases was higher than reported.

Moving forward, she is an advocate for online teaching “especially at the community college level” and for “working adults trying to get an education” but thinks it is “a little silly” for the traditional residential undergraduate population where she works now. Her institution offers a small, residential college experience and does not see value in online courses in that context.

Cole

Cole teaches business and information systems at a community college in the Western part of the United States. Prior to the pandemic, he had significant online teaching experience and said that he felt online teaching was “underappreciated and underrated”. He said that “certain educators have been stuck in paradigms and lack understanding of online pedagogy and how to really engage students online.”

In the spring he found switching to online “a pretty easy lift” because he was already using online assignments outside of class. He had some synchronous sessions but “only like two people would show up” because “there were no graded assignments”. Most students ended up doing fine with just the asynchronous learning experiences.

For the fall, he had no mandatory synchronous sessions, however he allowed students to schedule Zoom meetings with him where they would work on their assignments and he was
available when they got stuck to ask him questions. He said these were “awesome” and something he might not have thought of, but that he would keep even after the pandemic.

Of the people interviewed he had the most positive view of online teaching describing it as a “disruptive innovation”. He thinks that the pandemic will result in an increased use of online learning and that “over half of [students] can do well online.” However, he did have some qualifiers saying that online learning may not work for everyone. For example, he mentioned that some students have challenging home environments and need to “get into a physical space…where they can focus and breathe”. Further, he stated that some students might not do well online because they have “certain learning disabilities…or just certain characteristics of their personality, you know.”

Brian

Brian teaches in a doctoral program in a clinical health care field at a large public research university in the Northeastern United States. Prior to the pandemic, he had taught online and had taken courses online and had generally positive views of online teaching.

In the spring when his campus closed, the lectures moved online, but the lab classes were “suspended”, and students completed the labs in the summer after the lockdowns were lifted. The class of 2020 students took the licensing exam and the pass rate was comparable to other years. There was no “loss of learning” evident due to the campus closure.

In the fall, his university was primarily remote, but his program was a hybrid where lectures were again online and the labs were in-person with students working with the same lab partner for the whole course in pods in order to minimize contact between different students.
There were some Covid cases among the students, but he believes that the transmission occurred outside of class and there was little or no transmission in labs.

For the lecture courses, he met online about 50% of the time the lecture would have met in-person in order to avoid “Zoom fatigue”. He said that it was challenging to get students engaged and he thinks that fewer students asked questions on Zoom. Interestingly, he states that he saved concepts that were more difficult and more essential for the synchronous sessions, and concepts that they can learn on their own he used recordings or readings. One of the lessons he learned is that he can probably “streamline classes quite a bit” by shifting material to reading and recordings (although it is too soon to know if students are learning as effectively this way.)

His classes require that students memorize certain foundational knowledge and he had some concerns about academic integrity. He used exam proctoring software, but says he was not as vigilant about cheating as some of his colleagues.

His program is a three-year cohort model and so ordinarily students get to know their professors and each other very well during this time. He said that with online classes there is less “of a sense of cohesiveness” and fewer impromptu interactions outside of class.

He misses the informal interactions with students but is still open to teaching lectures online in the future, but not labs. In his field, some programs combine online lectures with intensive one-week in-person labs in order to serve students who live far away, and he said that he would be open to this type of model.

Carol

Carol teaches communications and public speaking as an adjunct at a community college in the West where she is also an administrator in recruitment. Prior to the pandemic, she had not taught online, but she did earn two master’s degrees online from University of Phoenix and
Southern New Hampshire University. January 2020 was her first time teaching credit-bearing courses. When her campus closed, her classes were “suspended” as she called it “an extended spring break” because the administration thought that it would be a temporary shutdown, but after three weeks faculty were instructed to teach begin teaching remotely. She had no synchronous sessions, so students uploaded their speeches and she viewed them and gave feedback. One part of the class that was lost is that the students did not see each other’s speeches as they would have in-person. She admits that she was very lenient and flexible, and everyone passed the class.

For the fall she is teaching remotely an online course for high school students where they can earn college credit. That course has a three-hour Saturday synchronous session.

She is very new to teaching and is open to teaching online in the future, but added that she “really enjoyed in person because … you really can read someone's face if they're confused. [Online] people don't turn on their cameras. In the synchronous classes. So I really do miss that aspect of connecting with people.”

**Phyllis**

Phyllis teaches Spanish at a large, research university in the Northeastern United States. She has been teaching for 27 years and in addition to teaching Spanish, she observes and trains adjuncts and teaching assistants on how to teach so she has immersed herself in the research on second language acquisition (SLA). Prior to the pandemic, she had taught fully asynchronous courses for a community college and she has also taught general education courses online. Also, prior to the pandemic she was already working on developing an online post-baccalaureate certificate. So she was quite comfortable with online teaching.
Her story is the most dramatic of the interviewees because at the time of the pandemic she was in Ecuador with 27 students on a study-abroad trip. In an effort to keep the pandemic at bay, Ecuador banned incoming flights, but she was able get all of her the students back to the United States with some students having to travel through third countries. She heard stories of students from other universities who were stranded abroad and unable to make it back to their home countries.

After returning from Ecuador, she assisted the language teachers in moving their classes online and most of them held Zoom classes for about 50% of the time that they would have met in-person. She mentioned that students in their surveys actually wished there were more synchronous sessions. Phyllis believes strongly that one cannot teach language in a purely asynchronous format. Prior to the pandemic, many people in her college were skeptical of synchronous teaching because they had bad experiences with glitchy connections early on. She hopes that one of the outcomes of the pandemic is that people will more fully embrace synchronous online teaching.

Jack

Jack is an adjunct faculty member who teaches ESL at a community college in the Western United States. His students come from two populations—international students who want to improve their English and attend an American university, and adult immigrants who want to improve their English for everyday life.

Prior to the pandemic, he had never taught online but had taken one online pedagogy class at the community college where he works because all faculty were required to take it.

His students are for the most part lower income and when the pandemic hit, some of them moved to other parts of the US where they had family or “went back to Central America and
South America or Mexico”. Many did not have access to computers so when his campus closed, the students and faculty were very unprepared for remote teaching and learning. They held an in-person department meeting and Jack paraphrases his chair as telling faculty to “wind down your class as soon as you can and get the hell out of Dodge.” They agreed to teach their classes in a manner that students could participate via phone. He did not hold any synchronous sessions and did everything via email and text message. For example, he emailed videos to them and students emailed him videos or voice memos of them speaking English so he could assess their pronunciation. He says one student had to walk miles from her home to a village in Mexico with internet access in order to submit her assignments.

Jack was clearly the most pessimistic about online teaching. In fact, he “retired” from the community college this summer rather than teach remotely in the fall (although technically he is still employed by them and on the adjunct list.) He believes that the ESL classroom should be a safe place where one can practice speaking without fear and that one cannot create the appropriate supportive environment online.

He stated that teaching ESL at this community college for ten years “has been the most wonderful experience in my life. It has been great.” He planned to teach for three or four more years, but “he can see the writing on the wall” meaning that he believes that online education is expanding because there is money to be made. He said: “We're going to 10 years from now 20 years from now 30 years from now, we're going to look back on this moment. And we're going to say, my God, what were we thinking? People need to learn in classrooms.”

**Description of Artifacts**

Table 4.7 lists the significant artifacts reviewed including assignments, syllabi and communication with students via announcements on the learning management system.
### Table 4.7 Artifacts reviewed

<table>
<thead>
<tr>
<th>Artifact</th>
<th>Interviewee/Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Introduction to Art</td>
<td>Stacy</td>
</tr>
<tr>
<td>End of the Semester Remote Learning Survey - Fall2020</td>
<td>Stacy</td>
</tr>
<tr>
<td>Survey for Introduction to Art (get to know you survey)</td>
<td>Stacy</td>
</tr>
<tr>
<td>Learning Management System for Art courses</td>
<td>Stacy</td>
</tr>
<tr>
<td>Padlet boards with student work</td>
<td>Stacy</td>
</tr>
<tr>
<td>Examples of student submissions for Getty Art Challenge</td>
<td>Stacy</td>
</tr>
<tr>
<td>Histology Syllabus-Summer 2020</td>
<td>Dan</td>
</tr>
<tr>
<td>Histology Student Surveys-Summer 2020</td>
<td>Dan</td>
</tr>
<tr>
<td>Exercise Science Syllabus Fall 2020</td>
<td>Elaine</td>
</tr>
<tr>
<td>Student’s Coaching Notebook</td>
<td>Elaine’s student</td>
</tr>
<tr>
<td>Privilege Walk Activity</td>
<td>Elaine</td>
</tr>
<tr>
<td>“Murder One” Class Activity</td>
<td>Elaine</td>
</tr>
<tr>
<td>Photo Essay Assignment</td>
<td>Elaine</td>
</tr>
<tr>
<td>Introduction to Exercise Science Fall 2020</td>
<td>Elaine</td>
</tr>
<tr>
<td>Plan of Study Assignment</td>
<td>Elaine</td>
</tr>
<tr>
<td>Yoga/Body Image Reading</td>
<td>Elaine</td>
</tr>
</tbody>
</table>

### Data Analysis

I analyzed the quantitative survey data using SPSS to discern larger patterns such as whether faculty were more likely to want to teach online and overall views about online teaching. In addition, I investigated patterns and relationships in the data such as whether responses to certain questions varied significantly by gender, age, discipline institution type etc.

I also gathered extensive qualitative data in the form of hundreds of open-ended survey responses, 10 hour-long interviews with faculty and numerous artifacts including syllabi, assignments, student feedback forms, and samples of student work.

The first step in the process was managing the data (Cresswell & Poth, 2018). The interview transcripts were downloaded from Zoom and then uploaded into ATLAS.ti for coding. There were four open-ended questions related to the four elements of my research question: views about online learning, choice of synchronous or asynchronous methods, academic integrity, and connection with students. These were exported from Survey Monkey and then
uploaded into ATLAS.ti. Following the interviews, the interviewees emailed me artifacts and I uploaded these into ATLAS.ti.

I coded the qualitative data based on my theoretical framework of transformative learning theory as well as the four elements of my research question. I grouped the codes into themes related to the four elements of the research question. In addition, I created codes when I observed repeated responses related to an idea that about which I had not directly asked. For example, I did not have a survey question related to workload, however there were 15 responses where faculty mentioned that teaching online had increased their workload, and this seemed like an important topic to include. So I created a code for increased workload and included that topic in the results chapter below under the heading of views about online teaching. In some cases, I created a code that I did not use in the write-up. For example, one respondent mentioned hybrid flexible (hyflex) format, however since that term never appeared again in any documents, I did not discuss hyflex classes in my report.

**Credibility and Validity**

Creswell and Poth (2018) note that qualitative researchers need to ask themselves if they are accurately conveying the story that the data are telling. To increase credibility and validity, I triangulated interviewees’ responses with artifacts such as syllabi, announcements they sent to students through their learning management system, online assignments, and student survey responses. During my reviews of the artifacts I used the same codes as for the survey questions and interview transcripts and the artifacts reinforced what the respondents had told me in the interviews. I found no evidence in the artifacts that contradicted what the interviewees told me.

I encountered some challenges in collecting artifacts. For example, some interviewees declined to provide me access to their course materials either because they were unsure
technologically how to make me a guest on their learning management system or because they were unsure if institution policy permitted me to be a guest on the learning management system. Also, two interviewees emailed me that they had added me as a guest to their course, but I was unable to access the course. Despite this, I was able to collect 16 artifacts, and used these in my analysis. One of the threats to validity is that it is possible that interviewees only shared artifacts that portrayed them in a positive light.
CHAPTER 4

RESULTS

I begin with an overall description of the survey respondents, interviewees and the artifacts reviewed. Following that, results are presented in four sections relating to the four parts of my research question:

A. Overall views about online teaching

B. Use of synchronous vs asynchronous methods

C. Concerns about academic integrity

D. Effect on relationships, connections, and engagement

In addition, there were several themes discovered in the interviews that did not directly relate to the four research questions. These are presented in Section E. For each section, I begin with the quantitative data to provide the big picture and then use the qualitative data to augment and enhance the quantitative data. When a quote is from an interview transcript or an artifact such as a syllabus, I identify the interviewee by their pseudonym. Quotes that do not list a pseudonym are from anonymous survey respondents. For authenticity, I have quoted the open-ended survey responses verbatim including spelling and grammatical errors and even occasional profanity (which helps convey the frustration and distress some faculty members were experiencing).

A. Overall Views about Online Teaching

The first section of the survey asked faculty how their views regarding online education have changed and how likely they are to want to teach online in the future. There were five
questions on the survey that asked about the respondent’s view of online learning. The tables below show survey respondents’ overall views of online teaching.

Table 4.8 View of Online Education

<table>
<thead>
<tr>
<th>Following the 2020 move to remote teaching, my view of online education is</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much more negative (1)</td>
<td>23</td>
<td>6.3%</td>
</tr>
<tr>
<td>Somewhat more negative (2)</td>
<td>61</td>
<td>16.6%</td>
</tr>
<tr>
<td>No change (3)</td>
<td>101</td>
<td>27.5%</td>
</tr>
<tr>
<td>Somewhat more positive (4)</td>
<td>112</td>
<td>30.5%</td>
</tr>
<tr>
<td>Much more positive (5)</td>
<td>69</td>
<td>18.8%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Mean</td>
<td>3.39</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.9 Campus Reopening

<table>
<thead>
<tr>
<th>When my physical campus reopens, I am:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much less likely to want to teach online in the future (1)</td>
<td>42</td>
<td>11.4%</td>
</tr>
<tr>
<td>Somewhat less likely to want to teach online in the future (2)</td>
<td>40</td>
<td>10.9%</td>
</tr>
<tr>
<td>No Change (3)</td>
<td>82</td>
<td>22.3%</td>
</tr>
<tr>
<td>Somewhat more likely to want to teach online in the future (4)</td>
<td>114</td>
<td>31.1%</td>
</tr>
<tr>
<td>Much more likely to want to teach online in the future (5)</td>
<td>88</td>
<td>24.0%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>3.45</td>
</tr>
</tbody>
</table>

Table 4.10 Recommending Online Courses to Students

<table>
<thead>
<tr>
<th>Following the move to remote teaching, how likely are you to recommend online courses to students?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much less likely (1)</td>
<td>36</td>
<td>9.5</td>
</tr>
<tr>
<td>Somewhat less likely (2)</td>
<td>41</td>
<td>10.9</td>
</tr>
<tr>
<td>No change (3)</td>
<td>125</td>
<td>33.2</td>
</tr>
<tr>
<td>Somewhat more likely (4)</td>
<td>107</td>
<td>28.4</td>
</tr>
<tr>
<td>Much more likely (5)</td>
<td>59</td>
<td>15.6</td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
<td>2.4</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>3.30</td>
</tr>
</tbody>
</table>

Table 4.11 Learning Outcomes for Online Courses

<table>
<thead>
<tr>
<th>How do you think outcomes for online courses compare to learning outcomes for in-person courses?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferior (1)</td>
<td>45</td>
<td>11.9</td>
</tr>
<tr>
<td>Somewhat inferior (2)</td>
<td>136</td>
<td>36.1</td>
</tr>
<tr>
<td>Same (3)</td>
<td>153</td>
<td>40.6</td>
</tr>
<tr>
<td>Somewhat superior (4)</td>
<td>22</td>
<td>5.8</td>
</tr>
<tr>
<td>Superior (5)</td>
<td>11</td>
<td>2.9</td>
</tr>
<tr>
<td>Missing</td>
<td>10</td>
<td>2.7</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>2.50</td>
</tr>
</tbody>
</table>
Table 4.12 Effectiveness of Online Instruction

<table>
<thead>
<tr>
<th>Online education can be as effective in helping students learn as in-person instruction.</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree (1)</td>
<td>32</td>
<td>8.5</td>
</tr>
<tr>
<td>Disagree (2)</td>
<td>94</td>
<td>24.9</td>
</tr>
<tr>
<td>Neutral (3)</td>
<td>62</td>
<td>16.4</td>
</tr>
<tr>
<td>Agree (4)</td>
<td>116</td>
<td>30.8</td>
</tr>
<tr>
<td>Strongly Agree (5)</td>
<td>63</td>
<td>16.7</td>
</tr>
<tr>
<td>Missing</td>
<td>10</td>
<td>2.7</td>
</tr>
<tr>
<td>Mean</td>
<td>3.23</td>
<td></td>
</tr>
</tbody>
</table>

Following the move to remote teaching, respondents in general have a more positive view of online education, are more likely to teach online when their campus reopens and are more likely to recommend online courses to students. Almost half (49.3%) have a somewhat or much more positive view of online learning compared with only 22.9% who have a somewhat or much more negative view. The lowest mean (2.5) was on the question of learning outcomes for online courses. On that question, faculty were evenly split with 49.3% saying learning outcomes are the same or superior while 48% said inferior or somewhat inferior. It should be noted that this question could be interpreted in a few ways and it is not clear whether the respondents were answering the question in reference to online courses during the pandemic or online courses in general.

A principal components analysis was conducted on the five questions listed above to determine if the data could be simplified for additional analyses. This produced one factor that accounted for 69.84% of the variance. Consequently, factor scores were computed and converted to T scores. This variable is scored so that the higher the score, the more the respondent has a positive view of online learning. Some analyses using this factor score are presented below.

Prior Online Experience
The means and standard deviations for the total evaluation score as a function of whether the instructor had taught online in the past are presented in Table 4.13.

Table 4.13 View of Online Learning by Prior Teaching Experience

<table>
<thead>
<tr>
<th>Prior Online Teaching Exp.</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only in-person</td>
<td>213</td>
<td>48.8350</td>
<td>11.07580</td>
</tr>
<tr>
<td>Predominantly in-person</td>
<td>92</td>
<td>51.0551</td>
<td>8.13107</td>
</tr>
<tr>
<td>Equally in-person and online</td>
<td>49</td>
<td>52.4518</td>
<td>7.71313</td>
</tr>
<tr>
<td>Predominantly online</td>
<td>12</td>
<td>52.1363</td>
<td>9.83404</td>
</tr>
</tbody>
</table>

The ANOVA testing the difference among these means was marginally significant (F 3, 362 = 2.97, p = .036, $\eta^2 = .02$) with a small effect size. Throughout this study when reporting effect size for $\eta^2$ I will interpret .01 to be small, .06 to be medium and .14 to be large (Watson, 2020). As shown in Table 4.13, the group with the least positive view of online learning are those faculty who had only taught in-person previously. It should be noted that the sample sizes in Table 4.13 and in some of the other analyses presented later are very unequal (especially the predominantly online group which contains only 12 subjects); thus, the ANOVA results should be interpreted with caution. In a more detailed analysis of the five questions underlying the total score, it was evident that the question with the greatest difference asked whether the instructor was more or less likely to want to teach online in the future.

**Gender**

The means and standard deviations for the total evaluation score by gender are presented in Table 4.14. Only male and female are shown here due to small sample size for other responses.

Table 4.14 Views of Online Learning by Gender

67
Gender | Mean | Std. Deviation | N
--- | --- | --- | ---
Female | 51.6670 | 9.35993 | 209
Male | 46.9568 | 10.78234 | 114

The F was significant with a medium effect size (F = 1, 321 = 16.75, p = .000, $\eta_p^2 = .050$). As shown in Table 4.14, females have a more positive view than males of teaching online.

To explain why female faculty would be more positive regarding online teaching, I compared males and females on other factors represented in the data set. The only statistically significant relationship was that faculty who identified as female were significantly less concerned about academic integrity (F = 1, 321 = 12.10, p = .001, $\eta_p^2 = .036$).

**Other Variables**

All of the remaining demographic variables in the data set were analyzed using the total evaluation score as the dependent variable. These included the respondent’s age, how long the person had been teaching, and the number of courses that had been moved to online instruction. None of these relationships were significant. The only significant effect was for type of institution in which the instructor taught. To make this analysis possible, the sample was dichotomized into those who taught in a community college versus all others. There was a marginally significant difference showing that community college instructors were slightly less positive about online learning (F = 5, 350 = 2.36, p = .04, $\eta_p^2 = .033$).

**A Contradiction?**

A total of 149 of 312 respondents said that they believe learning outcomes for online courses are inferior or somewhat inferior to in-person courses, yet 36 of those 149 answered that
they were somewhat or much more likely to recommend online courses to students. There are a few possible explanations for this apparent contradiction. First, some of those 36 mentioned in the open-ended responses that they felt that online was more appropriate for some courses than others. So the apparent contradiction could be explained by the fact that they think learning outcomes are inferior for some courses (such as labs) but would recommend online for other courses (such as lectures). Another possible explanation is that some interviewees and survey respondents mentioned the idea that online learning provides access for students who would not otherwise be able to attend college. So another explanation could be that some faculty view in-person as better than online, but online as better than nothing. The idea of faculty having conflicted and even contradictory views about online learning, is somewhat consistent with previous research such as the Allen and Seamon’s 2012 report titled *Conflicted: Faculty and Online Education*.

**Qualitative Data Regarding Views about Online Teaching**

At first glance, the quantitative data above seem to show solid support for the idea that after the pandemic, faculty will have more positive views about teaching online and will be more likely to teach online. However, the qualitative data from the open-ended survey questions and interviews reveal the picture to be much more complex because many respondents added qualifiers in the open-ended responses or in the interviews.

**Qualifier: Certain Disciplines or Courses**

Throughout the open-ended survey questions and interviews, respondents expressed the sentiment that certain disciplines or courses were more appropriate than others for online. In
particular, labs, clinicals, studios and technical courses were mentioned as courses that were difficult to teach online.

specific course type greatly influence the effectiveness student learning.

I think it really depends on the subject type. I believe skill classes are suited better for face to face.

I teach chemistry laboratory which is a hands on, technique experience. It is ludicrous to teach this on line.

For some material, such as lecture courses, online teaching can be nearly as effective as F2F instruction, although it requires tailoring assessment to that environment. Lab courses still require F2F interaction, no matter how good the virtual content.

The subject I teach is not conducive to online teaching. The feedback from students is that it is much more difficult to grasp the concepts, and they wished we were in the classroom.

It's good for subjects that don't require hands-on for technical equipment not available at their homes. Online learning is fine but when you have to teach console operations, live sound, or have extensive labs it is not as good.

Certain classes in my content area work well online and in a hybrid format and others are inferior.

Depending on the subject, online learning can be effective. It is not the best option for all disciplines and students so an on campus option for each course is essential

Online teaching can be a difficult transition, especially for a class that requires participation, teamwork or labs.

Currently, the course that I teach requires the majority of the class is skills based, we can not accomplish this online.

But, in ESL an instructor performs better when communicating and connecting with all.

Particularly for learning didactic content, I think, you know, it's perfectly fine. Anything hands on though obviously I think for what, at least for what I teach like that you need that hybrid format to make it work (Brian, teaches doctoral students in a clinical health care program).
Of course, the majority of respondents had never taught online prior to the pandemic and as they gain more experience with teaching online, they could become more open to teaching labs clinicals, studios and other experiential courses online.

Qualifier: Certain Students

In addition to specifying that they felt certain courses worked better online, respondents felt that certain students were better at learning online. Assessing the empirical validity of this notion is beyond the scope of this study, but the fact that many faculty hold this view is noteworthy. Most of the faculty seemed to express the idea that certain students were “cut out” for online and others were not. For example:

- Its appropriate for some students but not for others...
- It requires a good deal of buy-in from the students. If they need extra help or nurturing, online education is not for them.
- It is not for everyone. Several students have commented that they do not like online classes.
- I find, that those students lack the discipline and organization to be extremely successful in an online course.
- About half my students did not get much out of the online instruction I provided.
- Some students will do well no matter what, but others really need that interaction.
- For many of my students online learning has been productive and I would be happy to continue, a few of my students however have struggled with the process and I think would do better in-person.
- But it's not ideal for everyone, as it requires more self-motivation than a synchronous, face to face class.
- My own experience taking online courses is that I found myself being somewhat lackadaisical, with a tendency to procrastinate.
- There's just so many different factors that perhaps they're at home environments they can't do that they need to get out and get into a physical space away from that
environments where they can focus and breathe. Or certain just certain characteristics of either personality or, you know, (Cole, business/information systems instructor community college)

My guess would be I think there are students who are in certain situations that make online, a better a better method for them. (Janet, math instructor public research university)

It is very dependent on students. They are either thriving or struggling. I don’t see a middle ground.

In some cases they related the ability to learn online to age, maturity level or whether they were undergraduates or graduate students.

Teaching online is really for the mature learner. The younger the student the less successful the student. If they were taught more responsibility at the secondary level and less coddled they might have been more successful.

Community college students are not the best at online learning, even though they fit the description for it you know they have jobs, they could do it on their own time, but they don't quite live up to that. (Stacy, art instructor)

I believe online education works best for graduate courses for adults balancing work life and education. I completed the majority of my doctorate studies online except for residencies. Online education for undergraduates is challenging in a professional curriculum.

higher level courses work well asynch.

My opinion of an online learning environment is positive for students who are not first year students.

Some faculty who teach young undergraduates or who teach at community colleges believed that their students struggled due to their age or lack of maturity. However, Brian teaches doctoral students in a health care program that is selective in their admissions and yet he still believes that some students are more cut out than others for online learning which somewhat undermines the idea that success in online learning is related to age or maturity level.

This idea that certain students are not well-suited to online learning is an area that warrants further research as I will discuss in Chapter 5
**Qualifier: Certain Institutions**

A few survey respondents and interviewees noted that the culture of the campus where they currently teach does not support online education.

We are a small campus that prides itself on being 'high touch' and highly discursive. The online platform established barriers. I am not against online teaching; but I noticed a significant decompensation in students as ALL of their classes moved to online. Screen burnout all around.

The students who attend the college where I am now tend to prefer face-to-face teaching and some have really struggled with the transition to online.

…we are small. We are face to face. We are very involved in their lives, you know…. Administration announced that we would not be going on campus in the spring. The kids were really upset and came to me and that was what they wanted to talk about. And they were like, what can we do to change their mind and I said nothing (Elaine, teaches at a small, women’s liberal arts college).

**Qualifier: Student Choice**

Some respondents mentioned that they think that students who choose online courses do better than students who are forced into online courses as happened during the pandemic.

I think the success of the online classroom and the success of the student is about the choice. Students who CHOSE to study online (and faculty as well) seem to do better with the modality. Students (and faculty) forced to teach online tend to have less positive experiences.

Some students who choose in-person programs are not always best suited to the on-line experience.

**Remote is not Online**

Many people pointed out the differences between planned online and emergency remote teaching.

I know it has the capacity to be effective, but it feels like we've done it in an ad hoc fashion that has added to our workload and confused students, making it extremely ineffective. It likely has tainted online teaching.
I think with planning and consideration it's equally good as in person. Without the right environment and equipment for the instructor can be a challenge.

I think online teaching can be positive if students elected this option and we were not in a pandemic. The stress of the pandemic have impacted learning and teaching in general and students/instructors are overwhelmed. My students prefer inperson but we are doing hybrid and all are making the best of it, but I notice a significant decline in attendance when we are fully virtual due to our COVID numbers - students see the fully virtual weeks as breaks. Honestly they need breaks and my institution has rid the fall and spring of breaks to accommodate COVID and their concerns with high peak COVID times.

I like "online Learning" but "remote" is a different animal. I think online learning can be a good option, but not everyone wants to or can learn well via computer. This pandemic seems to have really reinforced that idea.

**Increased Workload**

Prior to the pandemic, researchers had identified increased workload as one of the concerns faculty expressed when asked about teaching online. Many respondents in this study echoed those concerns. For example:

While teaching online, my workload increased drastically.

Online teaching requires much more time to prepare the same classes I was doing F2f

I teach lab sections and I found these in particular difficult to convert to on-line format and still meet the competencies expected. It took an incredible amount of time and I work full-time and am an adjunct faculty so it was a great deal of unpaid time involved and trying to locate appropriate content.

sucks balls. every single in-person move for the teacher=10X the time in canvas. I fucking make 50 cents an hour married to a box 14 hours a day with no days off since March. there are international laws against what we are going through

The misconception that online teaching is easier is certainly not true - for students or teachers. It is more work to try to reach students in this fashion.

One respondent recommended having an instructional designer to lighten the workload for the faculty.

If the university doesn't provide an instructional designer to help in the design, development, and deployment of online courses, it is very difficult as a professor to be an instructional designer, subject matter expert, AND teach the course (as well as learn the
technology). My university just expected us to design the courses to fit Blackboard without hiring the appropriate instructional design support. I'm in favor of online learning if someone else designs the course and I'm responsible for the content.

The role of instructional designers and instructional technologists in online teaching may be a critical issue if online learning expands following the pandemic.

Finally, one respondent who teaches in the health professions even argued that the increased workload associated with teaching online was unhealthy:

Teaching 12 semester hours online (which is about 2 - 3 X's more labor intensive in normal circumstances) is extremely challenging, particularly when one or more of the courses is new, or newly adapted to OLL. In addition, I am in a health profession, and I believe that total online teaching is severely deleterious to people's physical (& possibly mental) health. All that sitting is just terrible for a person's skeleton, even when good posture is maintained. (Even a 'standing up' place for one's computer can create stress on cardiovascular system & skeleton). Nobody except healthcare providers seem to comprehend this... yet! Too much screen time, as well.

Work-life Balance

On the topic of work-life balance, respondents had mixed feelings. Some said that online teaching had eroded boundaries and erased any sense of work-life balance.

You'd have to do a second study on how that has negatively affected every teacher I know in order to understand that one! No work-life boundaries at the moment!

I have spent at least three time more hours than face to face on preparations for online teaching. I have students call, text, and email seven days a week with concerns, problems, and questions.

However, two teachers (both of whom refer to themselves as “moms”) said that online teaching helped them balance work and family responsibilities:

The flexibility is nice, as is being able to teach from home. I am saving money on gas and am able to be a full-time mom without issue. That said, I do not think this format is as effective as in-person learning. There is a definite disconnect, relationships are lacking, communication from students is minimal and sporadic, and students “disappear” more easily. I would 100% prefer to go back to a traditional schedule.

I am probably the only person to actually have a positive experience during quarantine as I got to be the mom I wanted to be while not giving up my career. And now that I spent
the summer building my online course curriculum I will not have to ever make that choice. I would like to return to in-person teaching in the future, but for now I am loving my current situation.

B. Synchronous/Asynchronous Methods

When online higher education began, it was mostly asynchronous because very few people had the technology for live videoconferencing. However, by 2020 many people in the United States had computers with microphones and webcams and internet connections that are fast enough to support synchronous or live online learning. Thus, when the pandemic began, many instructors had to make choices about whether and how to use live, synchronous platforms such as Zoom. In some cases, faculty did not have a choice because their institutions chose for them or because they did not have access to videoconferencing technology. There were two questions that asked about synchronous teaching. These data are presented in Table 4.15 and 4.16.

Table 4.15 Synchronous or Asynchronous Tools

<table>
<thead>
<tr>
<th>When you shifted to remote teaching, did you use synchronous tools such as Zoom or asynchronous tools such as recorded lectures and discussion boards?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only asynchronous</td>
<td>56</td>
<td>15.3%</td>
</tr>
<tr>
<td>Mostly asynchronous</td>
<td>70</td>
<td>19.1%</td>
</tr>
<tr>
<td>About even</td>
<td>89</td>
<td>24.3%</td>
</tr>
<tr>
<td>Mostly synchronous</td>
<td>82</td>
<td>22.3%</td>
</tr>
<tr>
<td>Only synchronous</td>
<td>65</td>
<td>17.7%</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>1.4%</td>
</tr>
</tbody>
</table>
Table 4.16 Amount of Synchronous Class Time

<table>
<thead>
<tr>
<th>For the majority of your courses, when you shifted from in-person to remote, did you hold:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No synchronous sessions. You used only asynchronous tools.</td>
<td>92</td>
<td>25.1%</td>
</tr>
<tr>
<td>Synchronous sessions, but for less time than you would have met in person</td>
<td>113</td>
<td>30.8%</td>
</tr>
<tr>
<td>Synchronous sessions for the same amount of time that you would have met in person</td>
<td>156</td>
<td>42.5%</td>
</tr>
<tr>
<td>Missing</td>
<td>6</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

As shown in the tables above, faculty were split on their use of synchronous and asynchronous methods and those who used synchronous teaching were further split between those who met for the full class time and those who met for less time than they would have met in-person. There are some questions that these data cannot answer such as whether those who met less than the regularly scheduled time used asynchronous activities to make up for the lost time or whether some learning was lost.

Several analyses were conducted to ascertain if the use of synchronous tools differed among groups. The only significant result was for type of institution. Because the sample sizes were small for some institution types, I collapsed the data into two categories-community college and non-community college and a chi-square analysis showed that community college faculty were more likely to report only or mostly asynchronous, \(X^2 (4, N=353) = 26.14, p=.000\). See Table 4.17.
Table 4.17 Use of Synchronous or Asynchronous Methods by Institution Type

<table>
<thead>
<tr>
<th></th>
<th>Only async</th>
<th>Mostly async</th>
<th>About even</th>
<th>Mostly sync</th>
<th>Only sync</th>
<th>Count</th>
<th>% within</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comm College</td>
<td>47</td>
<td>51</td>
<td>46</td>
<td>40</td>
<td>41</td>
<td>225</td>
<td>20.9%</td>
</tr>
<tr>
<td>Not Comm College</td>
<td>8</td>
<td>17</td>
<td>40</td>
<td>41</td>
<td>22</td>
<td>128</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

The qualitative data below will shed more light on faculty use of synchronous and asynchronous tools.

**The Case for Synchronous**

Faculty who chose to use synchronous tools gave a variety of reasons including the idea that synchronous provides more structure and connection.

I mean, I think they wanted the connection. I think they wanted to feel like one student said to me, You're my only structure of the week. So I think that really convinced me that the Zoom meetings, even though they don't may not have their cameras on are useful because when that student said that she said you know my other classes are asynchronous. I just read the instructions. I'm supposed to do it. You gave me structure because I knew I had to show up (Stacy, teaches art at a community college).

With synchronous tools, there is more opportunity for interaction with students and among students. Also there was a more structured weekly schedule to keep students on track.

I feel like live-online gives more structure for students. I have been teaching entirely asynch this fall and doing a lot of one-to-one meetings for tutoring. I feel like a segment of my students would do better with more structure, like that provided in a synchronous meeting environment. I think a blend of asynch and synch would be best. Once a week I would like to gather my students together and introduce the topic of the week, then give them resources to continue learning at their own pace for the week.

synchronous helps keep the students and instructor connected.
They think that participating asynchronously will give them more time and flexibility, but they end up falling behind, cutting corners, and learning less.

Live online is more effective to replace in person than online anytime.

I did not find asynchronous to be as successful for as many students. Completion of outside work is better, more student questions are answered in my courses that meet. Students, in mid semester surveys, report that speaking with their peers in breakout rooms/small groups is key to their learning.

I am doing synchronous sessions for my freshman English classes rather than purely online. I would not want to teach this class online only.

The students have valued our synchronous sessions, as indicated by programmatic surveys to students.

One teacher said that:

It takes a particular kind of focused, independent student to be successful in asynchronous courses.

**Certain Disciplines or Certain Content Require Synchronous Instruction**

Some respondents expressed the idea that certain content or certain disciplines benefit from live, synchronous interaction. Obviously there are colleges that offer asynchronous foreign language courses and even apps that purport to teach a foreign language asynchronously, but Phyllis who seemed well-versed on the topic of second-language acquisition felt strongly that in order to achieve fluency or even proficiency, language learners must practice live in real-time.

Asynchronous language classes suck, like they’re just bad. You need to have spontaneous conversation like if your goal is communication. So, I think students expect to meet with their teacher and to talk to other students if they’re in a language class. I think without some sort of spontaneous guidance and feedback, you're losing a lot.

Brian who teaches doctoral students in the health professions said that he saved material that was more complex or more essential for the live sessions and used asynchronous tools for background knowledge.
Interviewer: How did you decide which material to explore in the live sessions and which to have them explore in the asynchronous platform?

Brian: Yeah, it's a good question. I, I would say, maybe the content that needed more, required more nuanced discussion or understanding it wasn't just like the background material of like anatomy, physiology, it was, it was more, you know, things that I think the students might find confusing or you know areas where I felt like. I really wanted them to know this. And I felt like it was essential knowledge for that that course that I was teaching. Or maybe you know content that is still important for them to know, you know. So, for example, maybe a condition in physical therapy that they might see. But it's not something that they would routinely see then that can be more like, you know, here's a paper to read about this.

This idea that synchronous sessions are preferable for more complex material is an area that warrants further research as I will discuss in Chapter 5.

The Case for Asynchronous

The faculty who opted for purely asynchronous gave a variety of reasons for this choice, but one of the most common reasons was that they believed their students could not handle synchronous learning because of other obligations especially during the pandemic.

So I asked my students what they wanted. And most of them said they would prefer to be to do it on their own time (Elaine, small liberal arts college).

Students' schedules changed dramatically when the pandemic/quarantine hit. They previously may have worked on schoolwork while their kids were in school but then this time was taken away, for example. Holding synchronous meetings remotely during the same time as in-person courses were held became impossible.

asynchronous for student flexibility to attend

Students are just as crazy with life as teachers are, and I wish to respect that.

If I had to switch in the middle again, I may do some synchronous, it was just too challenging for students in March. Many of them switched their work schedules or didn't have good spaces. Now that we are all a bit more familiar with it, I would probably do some synchronous to keep touch, and still do some asynchronous.

I prefer (and I believe so do my students) asynchronous tools. It allows for flexibility for my students, especially because many work or have more family responsibilities due to the pandemic.
In my experience, students with demanding work and family responsibilities overwhelmingly prefer the asynchronous model. The only students I've seen show a preference for/benefit for "live" online teaching are the more "traditional" (e.g. late teens/early 20s, limited responsibilities outside of school) and, at a community college, they are a distinctly small population relative to the whole."

Students have so many different schedules and barriers, so asynchronous seems to work better for my student population. Online instruction was for flexibility. Synchronous takes out the flexibility option.

Some found it difficult to engage students in synchronous sessions:

I like online teaching that is asynchronous but live online that is synchronous is proving to be awful as students just log in but do not participate and sometimes just leave the class

While others felt strongly that asynchronous learning was simply better.

Asynchronous online learning that is designed effectively is far superior to synchronous online learning and on par with in-person learning.

One of the things that has surprised me the most is how helpful asynchronous activities have been in helping students to apply what they are learning through projects and for me to see what areas still need further discussion.

Finally, Stephanie who teaches at a small liberal arts college when discussing her teaching in the spring of 2020 said “I will be honest, I didn't even think about synchronous.”

**Asynchronous Teaching is a Bigger Shift**

Some people expressed the idea that teaching synchronously was more similar to in-person and that teaching asynchronously represented a bigger shift for both teachers and students.

The asynchronous was more of a shift. Moving to Zoom wasn't wildly wildly different in terms of just teaching. I think it just, it does require you know better planning… trying to design learning experiences that are going to be effective in Zoom takes a little bit more work. But it's not as wildly different from teaching… in person. I think the asynchronous situation was… completely different. I had to completely come up with very different learning activities and I would have done in person, because I'm not there to facilitate them (Janet, mathematics instructor, public research university).
Live online is very much like teaching in-person but it's done through Zoom or some other program like that, so you get that face-to-face with students. In asynchronous classes, you don't get that face-to-face, and I do think that's more detrimental (I teach both types this semester) because students may be afraid to reach out to their instructors in asynchronous classes. In live online classes, the students get to know you, and you build a rapport with them.

For students struggling to adapt to online learning, I believe synchronous classes come closest to simulating the in-person experience.

**The Double-edged Sword of Technology**

For these online instructors, technology was a double-edged sword. Some complained about technology glitches with synchronous teaching. For example, Elaine said she would lose students in the middle of classes because they did not have stable internet connections. Others also expressed concerns about the reliability and availability:

My concern with synchronous is related to technology reliability... that's my main concern with using it...

Honestly students bandwidth at their homes can not handle a full class period of synchronous learning so we cut back.

There are tech issues with internet connections and online students.

Students trying to participate via iPads and cell phones was another issue:

I have heard instructors say their students can take their online classes with just their cell phones. This should not be the case, and if it is, the students are being short-changed because very little can be accomplished on a phone as compared to a computer.

some students use ipads which is another issue.

Janet who teaches mathematics said she never found a good solution for how students could work together on math problems: “They couldn't show each other their papers without essentially just holding them up to the screen. And I think that that became a barrier for them.”

However, others had positive comments about how much technology had improved.
So back in the day, we would use Blackboard, which I don't think is as good as Canvas. We would use WebEx. That was really, really clunky. Now we use Zoom, which I think it has worked pretty well you know I have been teaching from home on my laptop. I haven't had any issues. It's been pretty good (Brian, doctoral program in health sciences)

The biggest difference is the fact that remote teaching is synchronous and the technology (ZOOM) is so simple for faculty and students that everyone's attitude about online teaching is different than before the pandemic.

Phyllis offered a cautionary tale about becoming too enamored with technology. As a full-time faculty member, part of her role is to observe and evaluate adjuncts. She observed one instructor screen-sharing a game in a Spanish class:

So one of them is teaching prepositions and directions and they had it wasn't like Pac Man, but it was some sort of software where a person was walking around like a map. And it was an animated person and he would bump into things. And the idea was that the students would give the instructor who was controlling the mouse directions to do this. And they got points when he got somewhere without bumping into stuff, but the students weren't producing nearly as much language. ... And it was only three students who were yelling out random words. ... It looks very cool. But they were producing less language [than if they had been engaging in regular conversation rather than using the game.]

Ultimately, the quality of engagement and learning may relate more to quality of the question the teacher asks rather than the particular platform.

Many Faculty Still Undecided

The optimal decision about synchronous, asynchronous or a blend will probably vary by context and some faculty admitted they were still searching:

I'm still experimenting to find the right mix between asynchronous and synchronous experiences

I'm just not sure what I will do in the future - need more time to digest this experience.

The more I teach online, the more I can see myself selectively integrating asynchronous tools.
Zoom Fatigue

In the open-ended responses and interviews the term “Zoom fatigue” was mentioned a few times.

I believe that Zoom fatigue is real.

Students become extremely exhausted if they have to meet on Zoom for the exact amount of time that they would have to meet in person.

Another complaint I have heard from my students is so-called "Zoom fatigue." Students are forced to connect to Zoom for 4-5 hours a day, which gives many a headache or mental exhaustion, as well as results in impaired vision.

These respondents seem to be asserting that students become exhausted from long periods of time on Zoom and as a result may have held fewer or shorter synchronous sessions. As noted above, 30.8% of faculty said they held synchronous sessions, but for fewer hours per week than they would have met in-person.

This is an area that warrants much more research before surrendering to the idea that synchronous, online classes inevitably cause fatigue. For example, Dan had concerns about Zoom fatigue, but rather than reduce the time of his live online sessions, he felt the appropriate response was to make the synchronous sessions interactive and engaging.

I would break up the lectures, I'd always have had excessive obsessive use of polling…. [and I was] probably was more careful about breaking up the lecture online, including poll questions. Well yeah you know that because I was so conscious of the Zoom fatigue. I tried to break things up and tended to make my presentations more engaging with polling and using the chat and students respond, either in polls are in the chat (Dan, teaches health sciences students at a private research university).
C. Academic Integrity

Because research conducted prior to the pandemic (Fish and Gill, 2009) showed that academic integrity was a major concern when faculty considered teaching online, I included a series of questions about cheating and academic integrity.

*Table 4.18 Concerned about academic integrity*

<table>
<thead>
<tr>
<th>When you shifted your course to online, how concerned were you with academic integrity?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
</table>
| Not at all concerned (1)                                                             | 41  | 11.2%
| Not very concerned (2)                                                               | 98  | 26.7%
| Somewhat concerned (3)                                                               | 138 | 37.6%
| Very concerned (4)                                                                  | 83  | 22.6%
| Missing                                                                             | 7   | 1.9%
| Mean                                                                                | 2.73|

The majority of faculty (60.2%) were very or somewhat concerned about academic integrity. The concern about integrity was analyzed using several of the variables in the data set. Three significant results are presented below: for gender, for the use of in-class exams, and by academic discipline.

The means and standard deviations for gender are presented in Table 4.18

*Table 4.19 Concerns about Academic Integrity by Gender*

<table>
<thead>
<tr>
<th>Dependent Variable: When you shifted your course to online, how concerned were you with academic integrity?</th>
<th>Gender identity</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>2.9825</td>
<td>.88230</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.6029</td>
<td>.96586</td>
<td>209</td>
</tr>
</tbody>
</table>

As shown above, males were more concerned than females about academic integrity (F 1, 321=12.04, p = .001, $\eta^2 = .036$).
The means for a faculty’s concern about academic integrity as a function of the degree that they had used in-class exams before the move to remote learning are presented in Table 4.20.

**Table 4.20 Concerns about Academic Integrity**

<table>
<thead>
<tr>
<th>Before the shift to remote teaching, how frequently did you use in-class exams as a form of assessment?</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>2.0137</td>
<td>.85786</td>
<td>73</td>
</tr>
<tr>
<td>Occasionally</td>
<td>2.6701</td>
<td>.86267</td>
<td>97</td>
</tr>
<tr>
<td>Somewhat frequently</td>
<td>2.8718</td>
<td>.93084</td>
<td>78</td>
</tr>
<tr>
<td>Very frequently</td>
<td>3.1518</td>
<td>.78511</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>2.7306</td>
<td>.94244</td>
<td>360</td>
</tr>
</tbody>
</table>

The ANOVA comparing these means was highly significant with a large effect size (F 3,356 = 27.09, p = .000, \(\eta^2 = .186\)). See Figure 4.1.

Figure 4.1 Concerns about Academic Integrity by Use of Exams Pre-Pandemic
As expected, faculty who reported more frequent use of in-class exams had more concerns about cheating and academic integrity.

The data relevant to concerns about academic integrity for certain disciplines are presented below.

Table 4.21 Academic Integrity Concerns by Discipline

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career &amp; Tech</td>
<td>3.1250</td>
<td>.94696</td>
<td>24</td>
</tr>
<tr>
<td>Humanities</td>
<td>2.5161</td>
<td>1.00396</td>
<td>62</td>
</tr>
<tr>
<td>Math</td>
<td>3.5500</td>
<td>.68633</td>
<td>20</td>
</tr>
<tr>
<td>Natural Sc &amp; Eng</td>
<td>3.2857</td>
<td>.78857</td>
<td>35</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>2.4030</td>
<td>.97016</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td>2.7788</td>
<td>1.01159</td>
<td>208</td>
</tr>
</tbody>
</table>

The ANOVA showed a statistically significant difference with a medium effect size (F 4, 203 = 10.92, p=.000, \( \eta^2 \) = .177).

Table 4.22 Tukey Post Hoc Test Comparing Academic Integrity by Discipline

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SS</th>
<th>Hum</th>
<th>C &amp; T</th>
<th>Nat Sc</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sc</td>
<td>2.40</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>2.52</td>
<td>NS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career &amp; Tech</td>
<td>3.13</td>
<td>.011</td>
<td>NS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nat. Sc &amp; Eng</td>
<td>3.29</td>
<td>.000</td>
<td>.000</td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td>3.55</td>
<td>.000</td>
<td>.000</td>
<td>NS</td>
<td>NS</td>
<td>-</td>
</tr>
</tbody>
</table>

As shown above, the greatest concern about academic integrity are in Natural Science and Engineering, and in Math.
Strategies Used to Prevent Cheating

Respondents described a variety of ways that they tried to ensure academic integrity. One of the most commonly mentioned was to simply make assessments open-book, or replacing exams with papers or other forms of assessment.

I redesigned exams with the knowledge that they would be open notes.

I had students write papers instead.

Assessments were shifted from exams to written paper assignments.

I gave only essay questions for which the students had to make an evaluation, a choice and explain why, or give an opinion and explain why.

I rewrote the exams and quizzes so as to be open note/open book, but there was more of a need to apply the concepts correctly.

I altered the final exam to make it open book & note.

I converted exams from multiple choice to essay questions.

Other responses included making exams timed so that students did not have enough time to look up answers, as well as randomizing or shuffling the questions and answers on exams.

One faculty member mentioned an unusual technique that might be worth exploring further because it might have potential to decrease cheating and increase attendance:

I included essay questions based on points raised during synchronous discussions, so that students had to be in class in order to answer those questions sufficiently.

Another faculty member mentioned adaptive learning software as a potential solution:

"Adaptive learning" software, when available, removes many of the academic integrity issues associated with teaching online.

This respondent did not explain exactly how adaptive learning software discourages cheating, but it could be because adaptive learning software has frequent low-stakes assessments that
allow students to demonstrate gradual mastery and this would reduce the incentive to cheat that comes with high-stakes, summative assessments.

Some faculty used technology including web cams, proctoring software and lockdown browsers to prevent students, including this person who gave the most detailed account of how they proctor exams online:

In our dept, exams are very high stakes, so we actually did not like the proctor service we were offered, so we invented our own. It was not helpful for us to see the students' faces on Zoom. What we wanted to see was their screen to see if they were googling information or sharing with classmates on chat. We also wanted to see their hands to make sure they were not using their phones for this as well. We have them load ZOOM on their phones and they must login to Canvas to take the test. then they open zoom and prop up their phones so we see their screen, keyboard and hands. We also do a scan of the room and desktop prior to the test starting and they must have a clear desk. WE have our own faculty as proctors and put a group of 5 students into a Zoom breakout room with one faculty-proctor. Proctors are in touch with the lead instructor throughout via phone texts in case there is anything suspicious, in which case the lead instr. goes into that breakout room. the Lead instr. rotates among breakout rooms throughout the test to make sure things are good and can ask a student to focus in on their screen, etc. We have very good success with this method.

However, this high-tech approach to preventing cheating did not sit well with everyone, including this teacher who stated:

I trusted myself as to not fucking police and surveil my students.

And some seemed resigned to the idea that online students would cheat:

I have many misgivings regarding teaching on-line…I have no real control over cheating on online tests

There is no way of knowing the person online is the actual student.

teaching all day, every day

I feel like my students are cheating on the exams. They may not look up answers to every question, but they are definitely using apps to find some answers.
I have accepted that some student will provide answers that they did not generate.

While others seemed to have more faith in students’ honesty

I feel like a cheating student will cheat anyways. I believe the vast majority of students are honest.

I model integrity to my students and I haven't had an issue with cheating.

I have tried to build a safe space in my class so that students are willing to ask for help instead of cheating.

I quote the advice of Polonius to his son in Hamlet: "This above all. To thine own self be true ..." and I live my life by that advice.

**Flexibility during the Pandemic**

Many faculty stated that their institutions gave students the option of pass/fail. In addition, many made adjustments on their own to their usual grading policies and some took pride in the fact that they were flexible and supportive:

Many students in our Community College had personal issues to deal with. Due to these issues I allowed late work to help them out. They lost employment, Covid in family, food infirm, home schooling children. everal got behind and I mademajor efforts to tell them I would work with them in changing due dates. This saved several students from leaving the program.

I shifted how group project was graded to be more lenient due to the challenges presented in getting people together.

Offered a "menu" of assignment and assessment options so students had some choice in how they demonstrated learning. Also, allowed dropping lowest grades from certain categories.

I dropped lowest scoring assignments (e.g. lowest homework, quiz), which I had never done before.

Because of access issues with some students (The _____ Community College student body is economically diverse) I have been flexible with late work.

Two of the interviewees described how they had changed their policy on due dates:

Stephanie said that she normally would deduct points for late work, but during the pandemic:
“due dates just stopped existing…Everyone got an A, and no one turned anything in on-time.”
Similarly, Carol said: “I had due dates, I changed everything. I was very lenient and flexible.”

The Unique Challenge of Math and Science

Janet teaches undergraduate mathematics at a public research university and was clearly the person most concerned about academic integrity. She reports that her department’s classes frequently have failure rates of 50-60%. The classes are required for students in certain majors, so they have a strong incentive to cheat. During a regular semester, hundreds of students from across multiple sections come to an auditorium to take a common exam. The faculty and proctors check IDs of any students they do not know and monitor closely to ensure that no one is using their phone. This was not possible during the pandemic and cheating has been a major problem.

She said that monitoring services such as Proctorio, Respondus or Examity do not work because they require the student to look at the web cam during the exam, but math students need to work out problems on paper. (I would suspect that some institutions do use remote proctoring software for mathematics courses, but she felt that it would not work.) The biggest problem that she sees is students using apps such as Photo Math. Janet reports that she has seven or eight apps on her phone and sometimes she can tell when students have used the apps because the solution they submit is identical to the one the app produces, but different from the method that she taught them. She says there are also services where students can pay someone to take the exam for them live. Steps that she takes include having students submit their notes and scrap paper. Janet coordinates all of the sections for her course and states they identified 90 cases where she and the graders suspected cheating and 54 cases where they felt the evidence was solid enough to report them to the university administration. She has since begun warning her online classes that she
knows about Photo Math and urging them to delete it from their phones and she thinks that this has had some effect.

Overall, Janet found online teaching better than she expected, but her experience with the widespread cheating was “disheartening”. She said that she would be happy to teach online in the future if there were a way to assure integrity of the exams such as a proctored, in-person testing center where students could take the exams. It should be noted that Janet did not have to be so vigilant about cheating. She would have saved herself a lot of work if she simply looked the other way. Going forward, academic integrity will likely be a significant issue for online math and science courses because there is a lot of opportunity and temptation for cheating. Janet’s idea of in-person, proctored testing centers might be a possible solution.

My interview with Janet reiterates what was reported in the *Chronicle of Higher Education* about which faculty are most concerned about cheating. In October 2020, Supiano wrote about which faculty were most concerned about cheating:

By and large, those professors fit a pattern: They taught in STEM or other quantitative disciplines with sequential curricula; they taught large classes; and they saw exams as a valuable tool, and content mastery as an important thing to test. They had tried to make exams work remotely and it hadn’t gone well, and now some of them just weren’t sure what to do.

**D. Relationships, Connections and Engagement**

Research conducted prior to the pandemic revealed that faculty had concerns that because online (especially asynchronous) interaction lacks the immediacy and social presence of in-person interaction, the sense of connection and engagement would suffer.

The responses to the question about relationships are presented in Table 4.21
Table 4.23 Effect on Relationship with Students

<table>
<thead>
<tr>
<th>How did the move online affect your relationships with your students?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harmed Relationship (1)</td>
<td>150</td>
<td>39.8</td>
</tr>
<tr>
<td>Little or no Effect (2)</td>
<td>145</td>
<td>38.5</td>
</tr>
<tr>
<td>Enhanced relationship (3)</td>
<td>61</td>
<td>16.2</td>
</tr>
<tr>
<td>Missing</td>
<td>21</td>
<td>5.6</td>
</tr>
<tr>
<td>Mean</td>
<td>1.75</td>
<td></td>
</tr>
</tbody>
</table>

As shown above, respondents were split on how the move to remote teaching affected their relationships with students. A slight plurality (39.8%) said it harmed their relationships with their students, while 38.5% said it had no effect and 16.2% said it enhanced their relationships with students.

A few faculty in the open-ended responses challenged my use of the word “harmed”:

I selected "harmed" but what I mean by that is more "altered". It is definitely not the same as in person, but that doesn't mean that it my connection to them is any less effective- just different.

I wouldn't say 'harmed' but it made things different.

While I worked at making the class online environment similar to in-classroom, I feel that certain parts of the student-professor relationship were diminished but not harmed.

I acknowledge that “harmed” was not the best word choice for this question as it implies a negative or confrontational relationship, whereas I was really asking about lack of connection.

Data on the relationship between the use of synchronous tools and relationships are presented in Table 4.22 and higher means equals better relationships with students.
Table 4.24 Effect on Relationships by Synchronous/Asynchronous

<table>
<thead>
<tr>
<th>How did the move online affect your relationship with your students?</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only asynchronous</td>
<td>1.58</td>
<td>.68</td>
</tr>
<tr>
<td>Mostly asynchronous</td>
<td>1.53</td>
<td>.66</td>
</tr>
<tr>
<td>About even</td>
<td>1.93</td>
<td>.76</td>
</tr>
<tr>
<td>Mostly synchronous</td>
<td>1.84</td>
<td>.72</td>
</tr>
<tr>
<td>Only synchronous</td>
<td>1.75</td>
<td>.74</td>
</tr>
</tbody>
</table>

These was significant difference among these means (F 4, 345 = 3.95. p = .004, ηp² = .043). Overall, faculty who used synchronous tools reported better relationships with students while those who chose asynchronous tools were more likely to report poorer relationships with students. It is interesting, however that the highest mean is for faculty who reported that they used the two types at about the same rate.

The qualitative responses below show that lack of connection and engagement were major concerns for many, although there were some respondents who had very good experiences reporting that students were engaged and connections were strong.

Student Engagement during Synchronous Sessions

Student engagement is a relatively broad term that can mean different things to different people. Still, it was a term that appeared frequently in the interviews and open-ended survey questions. Many expressed concerns about trying to get students engaged during synchronous sessions:

You're sort of talking to nobody They're afraid to interrupt.” (Brian, teaches health sciences)

When I would pop into the breakout room, they would be talking about their discussion questions in English (which she would not allow in the classroom) (Phyllis, teaches foreign language).
Please stay engaged during our Zoom meetings without being on your phone or other webpages even though it is tempting to multitask! (Warning in syllabus from Stacy who teaches art at a community college)

students having only a webex non-face, non camera on, makes everything less engaging, less interactive than in person face-to-face, when they are looking right at you.

Cameras off and microphones muted takes away some of the energetic connection and subtler aspects of people discussing in a group.

Online teaching simply does not have the "personality" of in-person teaching. I am rigorous on what I require of my students. They cannot ghost; they must look alert; they are not to multi-task. I made it work as well as I could. Nevertheless, the contact is not the same; the exhaustion is profound; my students tell me it is not the same. I do not get the same feedback from those on line as I do in person.

There are many intangible aspects in a face to face presentation that can't be seen or recognized in an online environment. Some examples are: eye to eye contact, student reaction off camera, fidgeting, my reactions to student participation, etc.

I do not think this format is as effective as in-person learning. There is a definite disconnect, relationships are lacking, communication from students is minimal and sporadic, and students “disappear” more easily. I would 100% prefer to go back to a traditional schedule.

Students are less engaged, less motivated, and learning less then they were in my in-person classes

**Missing Informal Interactions**

Many respondents said that they missed the informal interactions such as hallway conversations.

Honestly, I missed my students, [in-person] kids will come and do their homework in my office and just come in to talk and that kind of thing. And I knew I would miss that (Elaine, teaches exercise science at a liberal arts college).

I really feel like that's one of my favorite parts of the job with my program, we really get to know the students. Well, not only in class, but outside of class (Brian, teaches health sciences, large public research university).

I realized I lost the informal and impromptu encounters with students before and after class during in-person sessions. As a result, I realize now that I know less personal information about my students, which was valuable in relationship building.
There is much less non-academic interaction with remote teaching. No small talk, to student interaction with other students.

I have lost much of the serendipity that occurred seeing students in the department, in their study areas, in the dining hall, etc.

When we're on campus, I "hang " with my students a lot. I talk to them before and after class, some will turn on the big screen in my classroom (which my office is attached to) and watch movies if they're between classes and the room isn't in use, and others come to my office to do homework between classes. I keep candy in my office and students will drop in to see what I have and chat while they're there. I haven't figured out a way to reproduce all those interactions online and I think we all miss them.

The big disadvantage with the online environment is that there is less opportunity for students to 'hang out' before or after class, or to chat while walking across campus

Without the casual conversations before and after class, and even during (students become very shy on zoom in larger classes), I feel less of a connection to my students.

I do not enjoy it as much as in person teaching. I miss the in-person interaction with students. Engagement with students is more challenging online.

It is impossible to tell from this study if faculty are simply missing the enjoyment of these hallway conversations or whether these impromptu interactions (between students and faculty and between students themselves) actually contribute to learning. It is also possible that faculty and students may find a way to recreate these serendipitous moments online perhaps through some yet-to-be-invented app that facilitates informal interaction between teachers and online students.

**Lacking Connection**

Many faculty felt a lack of connection with students and for a some this lack of connection diminished the joy and inspiration they usually experienced in teaching.

I'm extremely disconnected from my students
I realized I lost the informal and impromptu encounters with students before and after class during in-person sessions. As a result, I realize now that I know less personal information about my students, which was valuable in relationship building.

I teach in a small, connected program and it is hard to get to know the students in an online community.

While communication increased, it became more transactional (checking on assignments, granting extensions, etc.)

Not having this opportunity removed my inspiration to teach. While a lot easier, online teaching may not be for me.

I endeavor to make one-on-one connections with my students. The move to remote resulted in the loss of this opportunity for the majority of students.

I have bonded with them a bit, but I know I would have been able to build tighter relationships with them and gain their trust more in a face to face setting versus being online (even though it was live online).

There is something to be said about communicating in person and students being able to both see and hear my concern, comments, enthusiasm, etc.

**Better Engagement and Relationships**

Not all respondents lamented the lack of in-person interaction. There were some who felt that they made very good connections with students:

I actually got a better idea of their personalities than I do sometimes in face-to-face courses. We had a lot more email communication. People took more advantage of my office hours (Dan).

The online space gave me room to discuss with students in a low-risk environment. Students have been more likely to ask for help and I have had good one-to-one meetings about the course content.

My relationships with students are definitely enhanced for my situation

Remote teaching has enhanced my relationship with my students. There is a much better line of communication between us.

Teaching in person is fine and it allowed me to get to know my students, as much as they wanted to share. Online, we see each others' worlds a little more: my 2 cats get on the screen and we all get to know each others' pets! I see their children and parents in the
background, and we give them a shoutout! I actually think it has made us feel more like an extended family, so it was unexpected, but a bonus.

When I began teaching online (Fall 2014) I was very skeptical because I always thought that in-person teaching was much more superior, but I learned that through online teaching I could actually get to know my students better and meet their individual/personal needs, especially for students who were struggling in the class. I am a fan (convert) of online teaching.

I found myself giving each student more individual attention, even though it was more work and time-consuming.

I like the personal connection with students and I did not think it was possible to have this. I am finding new ways to develop relationships.

After a couple of years of online teaching, I realized that I often had closer relationships with online students. I also noticed that online students' essays were more "genuine" and reflective than my in-person students. Online students also communicated with me far more than in-person students.

I am pleased by the opportunities for active learning online. By combining breakout groups and Google doc worksheets during online/remote teaching, I have been able to increase the amount of small group, active learning activities and opportunities to learn. The chat tool and polling provide additional opportunities for active student participation.

I actually had more interaction during virtual office hours

E. Other Themes

Transformation, Growth and Joy

Transformative learning theory (Mezirow, 1978) postulates that transformation, learning and growth occur when people experience disorienting dilemmas which cause them to rethink their prior assumptions. For some of the subjects in this study, it appears that remote teaching served as a transformative experience which fostered growth and new discoveries and helped them grow as a teacher. Three interviews in particular-Dan, Janet, and Stacy revealed this sense of growth and transformation and some survey respondents also briefly mentioned new
discoveries that they would use in their future teaching. For three of those four, they had not taught online prior to the pandemic.

*Dan*

Dan had been teaching science at the college level for many years prior to the pandemic but had never taught online. He thought of teaching online as “You know, eating my broccoli or something. Something I thought I should do some time.” He recalls thinking of online teaching as “maybe it was impersonal, you know, not getting face to face. So, isolation. You know, making a lot of videotapes.”

His experience with remote teaching has left him with a much more positive impression of online teaching. During this challenging time, he made a few positive discoveries which he states he will use in his online and in-person teaching.

One of the most notable discoveries he made, which could conceivably be used by many online teachers is the use of collaborative Google Docs. Even prior to the pandemic, Dan used active and collaborative strategies and in his in-person class he would often handout paper worksheets and his students would answer the questions or work on the problems in small groups. When he moved to remote, he used the polls, chat box and breakout rooms and by necessity he switched from his paper worksheets to sharing Google Docs with the students, and he made a surprising discovery: “…the cool thing was I could watch the group's developing their answers on the Google Docs in real time.” The online worksheets which he implemented out of necessity actually gave him a window into the students’ thought process and allowed him to offer guidance when they were going off track.

In addition, Dan said that he had more frequent email communication with students and they took more advantage of his online office hours. Finally, he said that he received the best
student evaluations ever and he is very open to teaching online in the future. Dan shared the
evaluations with me; the scores and student comments were very impressive. Below are some
student comments from his summer class (where unlike Spring he had some time to prepare for
this online class)

Dr. _____ did an amazing job at teaching this class. I greatly appreciate all the work he
put into the class. I feel like I learned way more in this class than I did in any other.

This course was well organized and was adapted perfectly for online. Discussion groups,
scavenger hunts, and polls were extremely helpful.

Dr._____ was truly a phenomenal teacher to have this summer.

There isn’t enough amazing things I can say about Dr. _____ and this class in general.

Janet

Prior to the pandemic, she had never taught online, but she had taken classes online
towards a doctorate in education and did not think it would work for math.

“I struggled to see how an online math course would work prior to, prior to March.” Earlier I
discussed the problems she had with cheating and she had some trouble getting students to
engage on Zoom:

I would assign them to breakout groups and then try to pop into the groups and nobody's
talking nobody's doing anything. They're all just sitting there muted cameras off doing
whatever I get everybody back and ask for some feedback on what they worked on in
their groups and it would just be crickets…. it became very quickly evident was not an
effective way of spending that time in that in that environment.

Nonetheless, she is very open to the idea of teaching online in the future as long there is a
proctored location for students to take exams and she is even open to the idea of teaching fully
asynchronous courses online.

“the actual instruction being online and I don't mind it. I miss being able to facilitate
group work in person. But I think that, you know, as I get better and better at that. It's
starting to imitate a little bit more of that in zoom and I plan to him continue to improve
that for next semester. And I, and I am very much in favor of exploring the possibility of asynchronous online math classes.

**Stacy**

Stacy works at a community college and has been teaching art since 1985. She had never taught online and “to be honest I never thought I would”. She found teaching online to be more time-consuming because in the studio she can walk around and give feedback whereas online she has to critique each student’s work individually.

They would start the project in class. I'd walk around the room, give them feedback and they got feedback. So because I felt they needed feedback more feedback. It added to my grading burden. And then I learned how to mark up the drawings, you know with with the marker and the, the, the, the annotation. So that took longer to do because normally I wouldn't be annotating artwork. So that took a lot longer because now I felt that I need to annotate this little section because it needs to be a little darker. Now, whether they will really looked at that feedbacks and other issue, but in class, we would have critique and I would just walk over you know if the work was here and say, you know, this little section over here needs to be a little darker. I think the annotation to do it well to really give them, you know, substantial feedback that they could use took longer.

While teaching remotely, she discovered some new technologies which enabled her to teach online more effectively. For example, she found a stand that would hold her iPad and convert it into a document camera, so the students on Zoom could watch her draw in real-time.

She says that the “live demos really made a difference.” She also made use of Padlet for students to share their work with each other.

All of my friends who are art professors said use Padlet. It was a game changer. The students also really liked Padlet because they could see their work, you know, next to each other.

She said that her students were grateful that she held synchronous sessions. She thinks it helped build community and gave structure to the students’ day. Students told her that in their other classes they just “read the instructions”. Going forward she says that: “I think I have a much more positive look at it that you can teach art online.” She is open to the idea of teaching
an asynchronous art class which she still had not done. “To offer an option for the non-traditional student who wants to take online classes, but never thought that there was an option for it.” So I've been thinking about it, but I now think I would be more open to do it. It would be nice. Maybe to have one less course on campus.” One of the most unexpected moments of joy for her came when she had her students participate in the Getty Art Challenge—a contest initiated during the pandemic where people try to recreate famous works of art and post the photograph online. Her students were quite creative and she was quite pleased with their effort.

**Other Moments of Joy and Discovery**

Several survey respondents shared very positive sentiments about their experience with remote teaching.

I thought I would hate it but I love it!

Teaching in person is fine and it allowed me to get to know my students, as much as they wanted to share. Online, we see each others' worlds a little more: my 2 cats get on the screen and we all get to know each others' pets! I see their children and parents in the background, and we give them a shoutout! I actually think it has made us feel more like an extended family, so it was unexpected, but a bonus.

I am pleasantly surprised at how rewarding the experience has been for me.

I have learned lessons through teaching online that will benefit me as an instructor even if the university returns to in-person classes.

The 'crisis teaching' in the spring, and the more thoughtful online course development in fall 2020, will have lasting effects on how 'primarily on campus' courses are taught. We'll be much better educators for this, I feel.

I am pleased by the opportunities for active learning online. By combining breakout groups and Google doc worksheets during online/remote teaching, I have been able to increase the amount of small group, active learning activities and opportunities to learn. The chat tool and polling provide additional opportunities for active student participation.

I like the personal connection with students and I did not think it was possible to have this. I am finding new ways to develop relationships.
Most instructors don't realize all the advantages. I like the ability to use multiple monitors, more than I would have in a classroom, for speaker's notes and to stage material that is upcoming in the class session. TAs can answer questions in the chat while the class session is going on. Breaking up into groups, which is very difficult in classrooms with fixed seating, is super-easy with breakout rooms. And you don't have to worry about noise from other groups making it hard for students to hear.

I have noticed that the students are becoming more "active" in the learning process!

One of the things that has surprised me the most is how helpful asynchronous activities have been in helping students to apply what they are learning through projects and for me to see what areas still need further discussion.

**Stress Frustration and Burnout**

Obviously teaching during a pandemic was challenging and many expressed stress and frustration. As one survey respondent said: “It's all the work and none of the fun :) I really miss being in the room with my students so much.”

The experiences of Elaine and Stephanie illustrate the challenges faced teaching during the pandemic. Both women taught at small, non-selective liberal arts colleges in the South that serve low-income and first-generation students from that region. Elaine’s institution chose remote teaching for Fall 2020 and the students were dissatisfied and lobbied the administration to open the campus. She teaches exercise science and many of her students are also athletes who were disappointed that they could not play the sports they loved while other colleges in the same conference were having their seasons. In a normal semester, Elaine keeps in touch with the coaches about her students’ progress and if a student does not submit assignments, she will show up at practice and talk with the coach who will in turn talk to the student. She missed the in-person interaction and feels that many students also struggled without the supportive environment of the campus and she says:

Honestly, I missed my students. So kids will come and do their homework in my office and just come in to talk and that kind of thing. And I knew I would miss that.
In contrast, Stephanie’s college, chose to open their campus and she taught a first-year experience course to masked students sitting six feet apart. Despite the precautions, Stephanie herself contracted Covid and had to teach remotely for a short period of time. In addition, for most class meetings there was at least one student in quarantine or isolation, so she had to teach students who were logging in remotely as well as students who were in front of her.

Stephanie: So I had to stand and basically make sure and it was very, very challenging for the students that were on Teams to hear my class because of course everyone in the class is wearing a mask.

Interviewer: Do you think it would have worked better if everyone were online?

Stephanie: … so it would have been easier on me. because I think we're just, we're in this weird place where you're trying to do all the things you can social distance, but then you've got to figure out what to do with these other students and you're almost not doing either well, Whereas if we had all been on Zoom or Teams or whatever, then at least everyone would have been on the same like playing field.

Both Stephanie and Elaine found the semester unpleasant and seemed to question whether their institution had made the right choice.

**Equity and Access**

The issues of equity and access arose in several ways in the surveys and interviews. The majority of the respondents in this study were from community colleges and other institutions that serve many students who are low-income and/or first-generation. Many faculty discussed the struggles their students were facing including: losing jobs, working increased hours, lack of technology, needing a quiet place to study, taking care of family members, and trying to learn online while also watching their children who ordinarily would be in school.

Students' schedules changed dramatically when the pandemic/quarantine hit. They previously may have worked on schoolwork while their kids were in school but then this time was taken away, for example. Holding synchronous meetings remotely during the
same time as in-person courses were held became impossible. It was an interesting experience.

Faculty filled the role of social worker -- fielding questions from students who were now living in their cars, without food, without a working electronic device, and on and on and on.

Two of my students had the following situations: one computer, a husband, wife and four children while the other student had five children

Surprisingly, almost no respondents explicitly mentioned race despite the fact that discussions about racial justice were common in higher education in 2020. The only interviewee to explicitly mention race was Brian who said that during the Black Lives Matter protests some of his “minority students” mentioned to him that they had trouble focusing. He stated that he gave them some added flexibility in terms of submitting assignments.

The issue of access for students with disabilities was only mentioned once in the following comment.

I am glad we can teach online during this hard time, but I notice most online is mostly speaking. It is very different for learning for deaf when need visual with interpreter or teaching students sign language, which is also visual.

**Writing on the Wall**

Jack expressed the most pessimistic/cynical view that the push for online learning is being driven by financial considerations:

I know right where this is headed this we're talking market … it's a lot easier with a lot less expense particularly occupancy expense and all of these college classrooms and all of that. And if you can get a student from Manila who might want to get up in the middle of the night and attend college, a class at _______ college. Why would you say no? For the revenue… I can see the handwriting on the wall there is every incentive financially and economically. And I think that will be a mistake. And I think we will do it. I think we will make that mistake. And I think it will be regretted decades ahead.
Of the interviewees, Jack had by far the most negative view of online learning and he chose to retire rather than teach online. He acknowledged that younger faculty did not have this choice and that for their own survival and advancement they should probably learn to teach online. Some of his critiques of online learning were specific to what he sees as problems with teaching ESL online because of the need to create a safe space for people to practice language without being judged or feeling embarrassed. However, he also expressed a more general sense that institutions were going to move online to generate revenue and save expenses on buildings, but that the quality of education would be inferior.
CHAPTER 5

DISCUSSION

This study sought to determine whether remote teaching during the pandemic (clearly a disorienting experience for many) would spur transformative learning. Mezirow’s theory proposed that transformation occurred through a 10-step process including a disorienting dilemma, questioning assumptions, exploration of options, planning a course of action, trying new roles and integrating new perspectives into one’s life. Mezirow also acknowledged that transformative learning is not a linear process; each learner’s journey is unique depending on, among many other factors, their prior experiences and assumptions.

In some cases, transformation occurred. Many survey respondents and interviewees felt that the experience helped them grow as a teacher. Some discovered strategies and tools that they said they will take back to the in-person classroom. Others mentioned how teaching online made them be more intentional. For example, Dan mentioned how prior to the pandemic, he viewed online teaching as impersonal and recording videos. However, while teaching remotely he questioned those ideas and came to see value in online teaching. Going forward, he is more open to teaching online in the future.

In other cases, there was less evidence of transformation. Cole, who teaches business and information systems, at a community college was already a proponent of online teaching and so he was not forced to critically examine assumptions. He developed a few new strategies such as online homework sessions, but he was, and continues to be, a proponent of online teaching. Similarly, Jack who teaches ESL at a community college, was and still is skeptical of online teaching and chose to retire over the summer rather than teach remotely in the fall of 2020. Rather than forcing them to question their beliefs, for both Cole and Jack the experience
reinforced prior beliefs. It is not surprising that different people reacted differently to the experience of remote teaching.

The quantitative data may be cautiously interpreted as providing some support for the idea of transformation. In particular, the fact that 49.3% of the respondents reported having a somewhat or much more positive view of online learning implies that they have experienced perspective transformation. However, the interviews and open-ended survey responses provide the most direct evidence of perspective transformation because the quotes discussed in chapter 4 reveal the participants’ assumptions and beliefs. As would be expected with almost any transformative learning experience, each learner’s journey was unique.

A. Overall Faculty Views about Online Learning

“It’s all the work and none of the fun.”

“I thought that I would hate it, but I am loving it.”

These two quotes represent the opposite ends of the spectrum in terms of how faculty viewed remote teaching during the pandemic. Faculty experiences with remote teaching during the pandemic and their views about online teaching going forward run the gamut. Overall, the experience of remote teaching seems to have improved their views about online teaching and made more faculty open to teaching online in the future. However, there are still many faculty who do not want to teach online and even those who are willing to teach online have reservations about certain courses or certain students not being a good fit for online teaching.

**Gender and Views about Online Learning**

In this study, respondents who identify as female reported a significantly more positive view of online teaching and the reasons for this are not entirely clear. One finding is that female
faculty reported less concerns about cheating, partially because they were less likely to be teaching disciplines such as math, science, and engineering that used exams.

There are, of course, other possible factors. Two survey respondents mentioned that teaching online allowed them to have a better work-life balance and feel like they were able to be a better mother. My survey did not specifically ask about parenting and these two respondents spontaneously shared this sentiment. It is unknown if these two respondents are representative of other faculty.

Another possible explanation is that this finding is not related to online teaching at all. Some authors have found that female employees overall report higher levels of job satisfaction, so my finding about female faculty’s more positive views regarding online teaching may simply be a reflection of this larger trend or what is sometimes referred to as the gender-job satisfaction paradox (Perugine & Vladisavljević, 2019).

B. Synchronous and Asynchronous Teaching

For many years, online teaching meant asynchronous teaching. However, the widespread availability of videoconferencing technology and broadband internet has made synchronous online classes a reality for millions of students during the pandemic. Some respondents remarked that synchronous teaching feels more like in-person teaching whereas asynchronous teaching is a much bigger shift. In fact, one could argue that using a single term “online teaching” to refer to these very different modes is unhelpful.

Are Synchronous Sessions a Form of Privilege?

My data show that institutions such as community colleges that serve non-traditional populations are less likely to use synchronous sessions because they believe that their students
are unable to attend synchronous sessions due to other commitments. While it is understandable and perhaps even commendable that community colleges would want to be responsive to students’ needs, it is also somewhat troubling.

For example, Jack who taught English to adult immigrants said that some of his students asked for live Zoom classes but: “I talked to my boss and he said no… It's not gonna work. What about the young woman who went back to Mexico? And she's still left out.” On the one hand, Jack’s boss’s commitment to making sure that no one is left out is admirable. However, if this “lowest common denominator” approach is implemented on a wide scale, then it could result in a situation where institutions such as community colleges that serve less privileged students shun synchronous sessions, while colleges that serve more privileged students embrace synchronous online learning. Much more research is needed to determine the relative merits of synchronous vs. asynchronous teaching, but if students benefit either academically or socially from real-time interaction with an expert and with peers, then students at less selective institutions could be missing out.

If faculty at community colleges are currently shying away from synchronous teaching because they believe their students do not have access to the technology, then that may resolve itself as technology becomes cheaper and more available. Alternatively, colleges could provide their students with cheap laptops and wi-fi hot spots. However, if community college faculty are avoiding synchronous sessions because their students have other obligations such as work and family and cannot make time to attend the sessions, that seems to be a more challenging problem.
C. Academic Integrity

This study showed that many faculty are concerned about cheating especially in disciplines such as math, science and engineering which rely heavily on closed-book exams where students demonstrate their learning by solving problems. In some disciplines, it seems plausible to assess student learning through take-home exams, projects, or portfolios. However, it is hard to imagine a mathematics class without exams, so this issue is unlikely to go away. One possible trend is that disciplines that rely less on exams move online in greater numbers while STEM disciplines remain more in-person. Although most undergraduate degrees include a math and science requirement

Faculty had very mixed feelings about remote proctoring software. Some felt that it worked well while others opposed the idea of surveilling their students. It is possible that this relatively new industry will grow and the technology for remote proctoring and verifying students’ identity will improve. Another possible solution might be a network of proctored testing centers with which colleges and universities can contract for testing services.

D. Relationships with Students

Another area of concern is the effect that remote teaching had on relationships between students and their instructors. A plurality (39.8%) said that remote teaching harmed their relationships with their students. Many faculty reported missing the informal hallway conversations and the students coming to their office. This study did not look at peer relationships, but they were likely affected as well.
For some students such as full-time undergraduates those relationships with their instructors may be critical. In other areas, for example, online master’s programs aimed at working professionals the lack of informal interactions may not matter as much.

E. Equity and Access

Many faculty reported that their students were struggling with remote learning during the pandemic because of other factors such working and caring for family members. Some of these challenges such as their children’s schools being closed due to the pandemic are hopefully temporary, but balancing work, school and family responsibilities will continue for many college students. Perhaps surprisingly, no survey respondents specifically mentioned the topic of race when describing the struggles their students were facing. Any discussion about online learning post-pandemic must consider the reality that many college students are not residential, full-time, 18-24 year-olds and taking online courses while balancing other responsibilities is challenging.

As mentioned in Chapter 4, only one respondent brought up the issue of accessibility for students with disabilities. However, this is also an area that needs more attention if online learning expands in the post-pandemic world. Groups such as EDUCAUSE and the National Federation of the Blind (NFB) have raised concerns about accessibility being an “afterthought” and the NFB reports that some blind college students have had such a poor experience with remote learning that they have decided to take time away from their studies rather than continue online (Mackenzie, 2021). Online exams may be a particular issue for students with disabilities and University of Illinois announced that it was discontinuing use of the remote-proctoring tool Proctorio due to concerns over accessibility (Flaherty, 2021).
Limitations

First and foremost, this study only looked at faculty attitudes, beliefs, and perceptions. I did not examine student experiences during the pandemic, nor did I attempt to measure actual learning (or loss of learning) during the pandemic. Therefore, nothing from this study should be used to make inferences about the student experience or learning outcomes.

Non-random Sampling

The subjects in this study may not be representative of all higher education faculty. I recruited subjects through a few sources including posting a notice on LinkedIn, sending a notice to online forums for people who work in teaching and learning centers, and sending information directly to directors of teaching and learning centers whom I knew personally. These methods are all non-random and could lead to my sample not being representative of higher education faculty. Also, relative to the American professoriate, my sample has an overrepresentation of community college instructors.

It is also possible that people who strongly dislike online teaching dislike technology in general and might be less likely to spend time on LinkedIn, Google Groups or other places where I recruited subjects, thus skewing my sample towards those with more favorable attitudes towards online teaching.

Geography

I did not ask geographical questions in the anonymous online survey; however, all the people who left contact information for interviews were from institutions located within the United States. Also, the listservs and Google Groups that I used to recruit subjects are affiliated with organizations located in North America. The survey was only available in English making it
less likely that people from other parts of the world would participate. It is very likely that most subjects were located in the United States and it is not known how or whether these findings would apply to faculty in other parts of the world.

Please the Researcher Bias

Although I made every effort to avoid making the questions leading in any way, it is possible that some respondents assumed that I was trying to advocate for online teaching and adjusted their answers accordingly. For example, at one point in the interview, Jack was explaining why he thought ESL cannot be taught online and he anticipated that I was going to try to persuade him otherwise. I assured him that I was a researcher not an advocate which he seemed to accept, but it is possible that other respondents assumed that I was an advocate for online teaching and chose not to participate. One survey respondent commented:

The questions seem slanted toward garnering a favorable outlook toward online teaching. I felt that the problems / difficulties were not asked about.

It is also conceivable that respondents thought that I was a critic of online teaching, but none of the open-ended responses implied or mentioned that.

Difficulty extrapolating from data gathered during a pandemic

My research is a snapshot taken during a cataclysmic event. Just as faculty views have changed during the pandemic, it is possible that their views could change again if the pandemic subsides. For example, faculty who said they enjoyed remote teaching could return to the classroom and realize they missed it.

In addition to the pandemic, there were many other tumultuous events in 2020 including a severe economic recession, hurricanes, wildfires, a presidential election, and the brutal murder
of George Floyd. The survey respondents and interviewees cannot realistically be expected to
disentangle the effects of these different events in their own minds. As one respondent said:

I would just add that it is difficult to disentangle my views on online teaching from the
present moment. This experience of online teaching during a pandemic is compounded
by isolation, the sheer volume of online interaction, general anxiety, etc. I would imagine
that the benefits of online teaching might be clearer and more readily available in a more
"normal" context.

One interviewee (Brian) mentioned that his “minority students” had trouble focusing on
their studies during the summer at the height of the protests against police brutality and so he
tried to be flexible during this time. I did not interview students, but it is conceivable that some
of the lack of engagement that faculty attributed to the online modality was actually because the
general tumult of 2020 was interfering with the students’ ability to engage and focus and they
would be more engaged online during calmer times. Particularly, for those faculty who had a
negative experience with remote teaching in 2020, it is impossible to know if their experience
would have been more positive if they had been introduced to remote teaching under other
circumstances.

Areas for future research

Synchronous/Live Online

The pandemic dramatically increased the number and percentage of faculty using live
online platforms such as Teams and Zoom. There needs to be much more research into this type
of teaching and learning including ideally studies that randomly assign students to in-person, live
online, and asynchronous online conditions. For research purposes, it may be best to keep the
three modalities separate, but in practice many institutions run courses that use a mix of the three
modalities-in-person, synchronous online and asynchronous online. To minimize travel time and
expense, classes aimed at commuter or part-time students often meet once per week for three hours. However, it would seem that synchronous online courses can be more easily scheduled in smaller “chunks” consistent with the idea that distributed learning is superior to massed learning (Carpenter et al., 2012) and raises the question: “Could two 90-minute Zoom sessions per week be as good or better than a single 180-minute in-person section?”

In addition, there needs to be more research into how to operationally define “Zoom fatigue” and to determine if students really get tired or lose attention more readily on Zoom than in-person and if synchronous online courses can be designed to sustain engagement. Dan mentioned the frequent use of polls, chat box and breakout rooms as ways to keep students engaged and he reported good results. There needs to be more research into the effectiveness of various strategies to increase engagement in the synchronous online classroom at various levels.

Potential research questions for future studies include:

- Is Zoom fatigue real? The conventional wisdom seems to be that students get tired or lose interest more quickly on Zoom than in-person. However, obviously, students can lose interest and even fall asleep during in-person classes. There needs to be more carefully controlled studies (preferably randomized controlled trials) that directly compare in-person and live online versions of the same activities.

- If faculty reduce or eliminate live sessions, with what do they replace the live activities? Are they designing high-quality asynchronous learning activities to replace the lost time or is the learning simply lost to avoid Zoom fatigue?

- Does it make a difference if the Zoom sessions are spread over more days—for example three 60-minute sessions per week versus one 180-minute session?
• Can use of active, participatory tools such as breakout rooms, chat boxes, and polls reduce Zoom fatigue and increase engagement?

• Is it true as some respondents suggested that more complex material is better suited to live instruction?

• Do certain disciplines such as foreign language or mathematics require real-time interaction?

Incorporating Technology into In-person Classes

Many faculty were forced to expand their repertoire of educational technology tools and some expressed the intention to use these tools when they return to the classroom. It would be useful to follow-up after more campuses reopen to ask them if they are in-fact using these tools or if once they return to the classroom, they revert to the teaching methods they were using pre-pandemic. In addition, it would be important to examine how faculty are incorporating the new technology into their in-person courses. For example, if they are simply adding additional work such as online discussion boards to their regular class, then this could end up increasing the students’ workload.

Student Success in Online Courses

This study found that many faculty were more open to teaching online following their experience with remote teaching during the pandemic. This will likely be greeted as a positive finding by advocates for online higher education. As discussed, online education has the potential to improve access. However, as mentioned in Chapter 2, prior to the pandemic, there was some evidence that students who were already at-risk have not been served well by online education (Jaggers, 2011).
If online education grows following the pandemic, careful research should be conducted to ensure that the most vulnerable students are not being left behind.

**Implications for Practice**

In addition to being more open to teaching online, some respondents mentioned that they learned from the experience, and some seemed excited to bring some strategies they learned during the pandemic back to their in-person classroom. It would be very useful to have research investigating how faculty do or do not incorporate what they learned during the pandemic into their teaching. It would also be useful to have forums, perhaps sponsored by their institution’s teaching and learning center, where faculty can share what they learned with other faculty including those who may be reluctant to try teaching online.

**Conclusion**

People who value online learning and want to see it grow will find hopeful data in this study, in particular, the fact that the majority of faculty reported having a more positive view of online teaching and would be more likely to teach online in the future. Further, consistent with Transformative Learning Theory, many faculty reported instances of growth and discovery and felt that teaching online would make them better teachers.

However, skeptics will also find plenty to be concerned about including questions about whether certain courses or certain students are best suited for online. In addition, the concerns cited in research prior to the pandemic about increased workload, cheating, and lack of connection with students all were mentioned frequently.

Finally, 2020’s massive experiment in remote teaching has raised many questions about the relative virtues of synchronous vs. asynchronous teaching. Some respondents felt strongly
that synchronous teaching was better because of the real-time interaction, while others had bad experiences with live online teaching and preferred asynchronous models. It is likely that the answer to the question of whether synchronous or asynchronous teaching is preferable will, like so many things in teaching and learning, vary by context. There are, of course, financial implications as well because asynchronous content such as recorded lectures requires more upfront investment of time and money to create, but then can be reused across multiple semesters and shown to large audiences, potentially driving down the cost of higher education.

It is far too early to make concrete predictions about when the pandemic will end or what higher education will look like in a post-pandemic world, but this study provides preliminary evidence that more faculty will be open to teaching online in the future. However, this study also highlights several issues that need to be monitored closely if online learning is to reach its full potential.
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APPENDIX A SURVEY INSTRUMENT

Introduction
Research Consent

You are being invited to take part in a research study.

Why is this research being done?

The purpose of this research is to learn how remote teaching affected college faculty’s attitudes and beliefs regarding online teaching and learning.

What happens to me and how long will I be in this research?

Participation is completely voluntary and we expect it will take about 10 minutes to complete this survey.

Will it cost me money or benefit me to take part in this research?

There is no cost, nor will you receive any compensation for taking part in this research.

What happens to the information collected for this research?

The information collected in this survey will be analyzed and the results published without any identifying information.

Who can answer my questions about this research?

If you have questions about this research you should contact Pete Watkins from Temple University’s College of Education and Human Development at pwatkins@temple.edu.

This research is being overseen by an Institutional Review Board (“IRB”). An IRB is a group of people who perform independent review of research studies. You may talk to them at (215) 707-3390 or irb@temple.edu.

At the end of this survey, you will be given the option of going to a separate form where you can enter your email if you are open to being contacted for a follow-up interview.

If you click OK to proceed with the survey, you are agreeing to be a subject in this study.

If you do not wish to participate, simply close this browser window.

* 1. During the spring of 2020, I was teaching at least one in-person college or university class that shifted to remote teaching
   - [ ] Yes
   - [x] No
Views about online teaching

Throughout this survey, the term "remote teaching" refers to in-person classes that were moved online due to the pandemic, whereas the term "online teaching" refers to courses that are designed to be taught online.

2. Prior to the pandemic, I had taught:
   - Only in-person
   - Predominantly in-person
   - Equally in-person and online
   - Predominantly online
   - Only online

3. Following the 2020 move to remote teaching, my view of online education is
   - Much more positive
   - Somewhat more positive
   - No change
   - Somewhat more negative
   - Much more negative

4. When my physical campus reopens, I am:
   - Much more likely to want to teach online in the future
   - Somewhat more likely to want to teach online in the future
   - No change
   - Somewhat less likely to want to teach online in the future
   - Much less likely to want to teach online in the future

5. Following the move to remote teaching, how likely are you to recommend online courses to students?
   - Much more likely
   - Somewhat more likely
   - No change
   - Somewhat less likely
   - Much less likely
6. How do you think learning outcomes for online courses compare to learning outcomes for in-person courses?
   - Superior
   - Somewhat superior
   - Same
   - Somewhat inferior
   - Inferior

7. Online education can be as effective in helping students learn as in-person instruction
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

8. During the summer of 2020, did you participate in any training or professional development (PD) related to teaching online? (Check all that apply.)
   - I participated in PD through my institution
   - I participated in formal PD outside my institution
   - I did my own informal PD such as reading about online teaching and talking to colleagues who have taught online
   - I did not participate in any PD related to online teaching

9. For fall 2020, I am teaching:
   - Remotely because I have no choice (e.g., my campus is closed)
   - Remotely by choice to reduce my risk of exposure
   - In-person by choice
   - In-person because I am required to by my institution
   - Neither (e.g., retired, sabbatical, course canceled)
   - Other (please specify)

10. Feel free to elaborate on your views about online teaching (or hit the "Next" button to proceed)

    [Blank space for input]
Synchronous/Asynchronous Tools

11. When you shifted to remote teaching, did you use synchronous tools such as Zoom or asynchronous tools such as recorded lectures and discussion boards?
   - Only synchronous
   - Mostly synchronous
   - About even
   - Mostly asynchronous
   - Only asynchronous

12. For the majority of your courses, when you shifted from in-person to remote, did you hold:
   - Synchronous sessions for the same amount of time that you would have met in person
   - Synchronous sessions, but for less time than you would have met in person
   - No synchronous sessions. You used only asynchronous tools.

13. If you teach remotely again in the future, would you make the same or different choices regarding synchronous and asynchronous tools?
   - Same
   - Different

14. Feel free to elaborate on your responses regarding synchronous or asynchronous tools (or hit the "Next" button to proceed)
Grading and academic integrity

15. Before the shift to remote teaching, how frequently did you use in-class exams as a form of assessment?
   - Very frequently
   - Somewhat frequently
   - Occasionally
   - Never

16. When you shifted your course to online, how concerned were you with academic integrity?
   - Very concerned
   - Somewhat concerned
   - Not very concerned
   - Not at all concerned

17. What steps (if any) did you take to ensure academic integrity? (Check all that apply)
   - [ ] I reminded students of academic integrity obligations
   - [ ] I had students sign a statement of academic integrity
   - [ ] I used remote exam proctoring software (e.g. Proctorio, Respondus, Examity)
   - [ ] I set exams for a specific time so that the whole class had to take the exam together
   - [ ] I set a time limit on exams so that students did not have time to look up answers
   - [ ] None of the above
   - [ ] Other (please specify)

18. What, if any, changes did you make to grading due to the move to online? (Check all that apply)
   - [ ] I allowed more flexibility with respect to submission of late work
   - [ ] I reduced the number of assignments or exams
   - [ ] I made my course pass/fail
   - [ ] I was more lenient in grading assignments
   - [ ] Other (please specify)
19. Feel free to elaborate on your answers to the above questions about grading and academic integrity (or hit the “Next” button to proceed)


Communication and connection with students

20. Compared to a typical in-person class, after the move online, how frequently did you communicate with students?
   - Much more
   - Somewhat more
   - About the same
   - Somewhat less
   - Much less

21. How did the move online affect your relationships with your students?
   - It enhanced my relationships with students
   - It had no or little effect on relationship with my students
   - It harmed my relationships with students

22. Please elaborate on your answers regarding communication and connection with students during remote teaching (or hit the “Next” button to proceed)
<table>
<thead>
<tr>
<th>Course/Discipline/Institution</th>
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<tbody>
<tr>
<td>23. How many courses did you have to move from in-person to remote due to the pandemic?</td>
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<tr>
<th></th>
<th>24. What types of courses did you move to remote? (Check all that apply.)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Lectures</td>
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<td></td>
<td>Seminars</td>
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<td></td>
<td>Labs</td>
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<td></td>
<td>Other (please specify)</td>
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<td></td>
<td>Studios (e.g., art, dance, music)</td>
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<tr>
<td></td>
<td>Clinical (e.g., health care)</td>
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<tr>
<td></td>
<td>Internships/apprenticeship</td>
</tr>
</tbody>
</table>

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<th>25. What was the size of the course(s) that you had to move to remote? (Check all that apply.)</th>
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<tr>
<td></td>
<td>Less than 10 students</td>
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<td></td>
<td>10-25 students</td>
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<tr>
<td></td>
<td>26-50 students</td>
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<tr>
<td></td>
<td>More than 50 students</td>
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</tbody>
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<table>
<thead>
<tr>
<th></th>
<th>26. In what discipline were you teaching primarily when your campus closed?</th>
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<tbody>
<tr>
<td></td>
<td>Natural sciences or engineering</td>
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<tr>
<td></td>
<td>Math</td>
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<td></td>
<td>Social Sciences</td>
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<td>Humanities</td>
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<td></td>
<td>Business</td>
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<td></td>
<td>Health care/health sciences</td>
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<td></td>
<td>Education/teacher education</td>
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<td>Performing arts/fine arts (including theater, music, dance, painting etc.)</td>
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<td></td>
<td>Media arts/journalism</td>
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<td></td>
<td>Foreign language</td>
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<td>Career/technical (including auto tech, culinary arts etc.)</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>27. What level of students were you teaching when you shifted to remote?</th>
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<tbody>
<tr>
<td></td>
<td>Undergraduate</td>
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<td></td>
<td>Graduate</td>
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<tr>
<td></td>
<td>Professional school (e.g., medical, law, pharmacy)</td>
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<tr>
<td></td>
<td>Non-credit including developmental, ESL, continuing education</td>
</tr>
</tbody>
</table>
28. At what type of institution, do you teach primarily? (please choose the institution where you were teaching the most during the shift to remote)
- Community college
- Teaching-focused or regional public college or university
- Teaching-focused private college or university including liberal arts colleges
- Public research university
- Private research university
- Other (please specify)

---

**Teaching Experience and Demographics**

29. About how many years have you been teaching at the college level
- Less than 2 years
- 3-5 years
- 6-10 years
- More than 10 years

30. About how many courses had you taught online at the time you switched to remote teaching
- None
- 1-4
- 5 or more

31. What is your age? (optional)
- Under 35
- 36-49
- 50-65
- Over 65

32. What is your gender identity? (optional)
- Female
- Male
- Non-binary
- Other (please specify)

---

Before you go!
Thank you for completing this form. If you are interested in being contacted for a follow-up interview, please [click here](#). (This link will take you to a separate Google Form and cannot be linked back to this survey so the anonymity of this survey will be preserved.)
APPENDIX B INTERVIEW PROTOCOL

These interviews will be with faculty who prior to 2020 had little or no online teaching experience and will be focused on how the experience of remote teaching shaped their attitudes and beliefs about online teaching. I expect that some interviewees will still be teaching remotely due to campus closures or social distancing requirements, while others might be back in the physical classroom.

1. Prior to the Covid-19 pandemic, what was your experiences with online teaching and learning?
   a. Had they taught online?
   b. Taken a course online?
   c. Been asked to teach online?
   d. Considered or discussed the idea of teaching online?

2. Are you currently (Fall2020) teaching remotely or in-person and why?
   a. Was it their choice?
   b. Is their campus closed?
   c. Did the institution move their course online because of distancing measures?
   d. Did they choose to teach remotely for safety reasons?
   e. Did they decide that they like teaching remotely?

3. If teaching online/remote this semester, how has the experience been?
   a. Are they using more synchronous or asynchronous tools?
   b. Are they applying what they learned from the spring?

4. Prior to the campus closures, what was your general feeling about teaching online?
a. Did they have a generally positive view of online teaching? Were they skeptical?

5. Where do you think that your impressions of online teaching came from?
   a. Since most of the interviewees had not taught online, did they talk to colleagues, read
      research or articles in the higher ed press about online higher education?

6. What did you learn from the experience of teaching remotely during the campus closure?

7. In what ways has the experience changed your attitudes or beliefs about online higher
   education?

8. In what ways has teaching remotely changed you as a teacher?

9. Have you found any unexpected moments of joy teaching remotely?