

THE IMPACT OF DIGITAL READINESS, TEACHING METHODS, AND INSTRUCTOR
FEELINGS AND EXPERIENCES ON STUDENT SELF-DIRECTED LEARNING IN
VIRTUAL COURSE MODALITIES DURING THE COVID-19 PANDEMIC: A
QUALITATIVE INVESTIGATION OF COMMUNITY COLLEGE FACULTY
PERCEPTIONS

A Dissertation

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ABSTRACT

The Covid-19 pandemic in the Spring 2020 semester heralded unprecedented changes to higher education institutions. Most colleges and universities across the globe moved to emergency remote or synchronous online courses for the remainder of the Spring 2020 semester and continued with virtual course modalities, namely fully online and Hyflex, during the 2020-2021 academic year. The move to virtual modalities required students to demonstrate self-directed learning orientations, which presented questions about how the unique and challenging circumstances faculty faced during the pandemic affected their ability to serve students' learning needs, as well as faculty perceptions of how students performed. The purpose of this qualitative study was to examine community college faculty perceptions of teaching in virtual modalities during the Covid 19 pandemic, focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences on student SDL skill development.

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CHAPTER I

INTRODUCTION

The Covid-19 pandemic in the Spring 2020 semester heralded unprecedented changes to higher education institutions. Most colleges and universities across the globe moved to emergency remote or synchronous online courses for the remainder of the Spring 2020 semester (Marinoni, et al., 2020). UNESCO (2020) estimated that 850 million people across the globe transitioned to alternative modalities for teaching and learning between January and March 2020. By April 1, 2020, “schools and higher education institutions were closed in 185 countries, affecting 1,542,412,000 students, which constitutes 89.4% of total enrolled learners” (Marinoni, et al., 2020, p. 8). While the virus continued to ravage the world through the summer of 2020, education administrators were forced to adapt the 2020-2021 academic year course modalities to promote social distancing and mitigate the spread of the virus on college and university campuses. The Fall 2020 and Spring 2021 semesters saw wide implementation of virtual modalities beyond the traditional face to face (f2f) lecture classes, specifically fully remote and Hyflex courses (Turk, et al., 2020). These widespread changes potentially precipitated a permanent shift in U.S. higher education (Kim & Maloney, 2020). Notable differences exist between the current Covid-19 crisis and previous crises that higher education has faced:

The current pandemic is still evolving, and as things continue to change, the one certainty among all the uncertainties is that it will not be a *return to normal*, but rather that it will be a *new normal*, which will be quite different from anything that we have known before. (Neuwirth, et al., p. 3)

As such, American higher education must be “re-envisioned and re-imagined” (p. 3) if it hopes to promote student success and foster growth of self-directed learners.

Virtual Learning Modalities

The most well-known virtual modality that was widely implemented in the 2020-21 academic year is fully remote, or online learning. At the time of this writing, the most recent survey report of 295 American university and college presidents from the American Council on Education (ACE) found that 10% of classes at all institutions included in the survey were offered exclusively online in the Fall 2020 semester (Turk, et al., 2020).

Although terms for virtual learning are often used interchangeably, Bates (2020) argued a distinct difference between online learning and remote education, such as what was employed as a response to the pandemic. According to Bates (2020), online learning is more than how a course is delivered. Instead, it is “a form of distance education in which a course or program is intentionally designed in advance to be delivered fully online. Faculty use pedagogical strategies for instruction, student engagement, and assessment that are specific to learning in a virtual environment” (para. 18). In March 2020, most faculty across the U.S. had to transition traditional face-to-face (f2f) courses to emergency fully online courses in a matter of days, leaving no time to intentionally design the course based on pedagogical strategies (Crawford, et al., 2020). For faculty who had never taught an online course, the requirement to quickly convert traditional courses, many of which consisted of content built over years of classroom experience, to online formats was a struggle (Crawford, et al., 2020). Even with a little more time to implement course changes for the 2020-21 academic year, many faculty remained ill-equipped to design online courses without significant institutional support (O’Keefe, et al., 2020).

In addition to the fully remote, online courses, many U.S. institutions of higher education moved to Hyflex synchronous courses, often described as blended or hybrid classes. Of the 295 institutions surveyed by ACE, 87% of classes offered were some combination of in-person and online instruction (Turk, et al., 2020). Synchronous courses refer to “real-time online learning which facilitates students and teachers to interact at the same time or live” (Rinesko & Muslim, 2020, p. 155). The live component of the course is delivered through video conferencing platforms such as Zoom and Microsoft Teams, live chatting, and live-streaming lectures. A previous study by Hrastinski (2008) reported greater student engagement and increased motivation during synchronous online learning, contributing to the positive reception of this mode of course delivery.

The Hyflex model was designed to allow students greater flexibility in choosing when to attend class in person or participate online by engaging students in the f2f classroom and synchronously online. Developed by Beatty (2007), the Hyflex model invites students to “participate either in face-to-face sessions or through [live] online activities in any given week of the semester, depending on their needs and desires...with no learning deficit” (p. 15). Beatty (2007) developed the Hyflex model to meet the needs of adult students at San Francisco State University who needed the flexibility to attend their classes in the most convenient modality on any given day.

The Hyflex courses implemented in the 2020-21 academic year designated certain days for half of the students to attend class f2f while the other half attended synchronously online; the students alternated their f2f and synchronous online days so that every student had the opportunity to attend f2f (Kim & Maloney, 2020). Colleges and universities adopted the Hyflex model because it still allowed a controlled number of students to attend f2f but ensured

adherence to social distancing guidelines and enabled institutions to track the number of people on campus (Turk, et al., 2020). Theoretically, the Hyflex model is one of the best options for students who want to attend f2f during the pandemic, but, as McMurtrie (2020) attested, the major benefit of the Hyflex model is the flexibility it allows students to exercise in their learning. However, it was not students, but administrators, who decided when students attended class f2f and when they attended synchronously online during the pandemic, thereby eliminating the “flex” in the model. Hyflex can work, but as McMurtrie (2020) attested, it requires institutions to invest substantially in outfitting all classrooms with compatible technology and train faculty in how to facilitate a f2f and synchronous online class.

The Digital Divide

While virtual learning modalities have been offered by American higher education institutions for decades, the majority of courses at most institutions have maintained a f2f course delivery component (Simon, et al., 2020). The sweeping changes to traditional education necessitated by the Covid-19 pandemic transposed the number of f2f classes and virtual classes; thus, the majority of faculty and students do not get to choose classes based on modality preference because most classes only meet virtually or have some virtual component, underscoring the problems stemming from digital divide in America. Kady and Vadeboncoeur (2019) described the digital divide as discrepancies between countries and between people groups within a country regarding fluency with, access to, and use of digital technology. Research has sub-divided the digital divide into multiple levels. Studies focusing on the delineations between access to digital technology and skills in using digital technology are recognized as first-level and second-level digital divides (Collins-Warfield, et al., 2019).

Scheerder, et al. (2017) recently identified a third-level digital divide concerned with the outcomes of digital technology use.

Survey data gathered over 18 years by The Pew Research Center (2018) found several identifiers within the first-level digital divide: “age, socioeconomic status (SES) or income level, educational attainment, community type/location, and ethnicity” (para. 25). Although access to the Internet was seemingly ubiquitous in the U.S. before the pandemic, the Covid-19 pandemic shutdown and transition to digital platforms shone light on the inequities of access in America, not only for learners, but also for educators. Along with accessing the Internet, American students and educators also struggled with material access (Collins-Warfield, et al., 2019). The US Census Bureau (2013, 2016) and The Pew Research Center (2018) data show that digital technology access is directly related to SES and income level, meaning that people of lower SES and income levels struggle to pay for adequate Internet service, devices, and software. Dhawan (2020) found that faculty who relied on the material access provided by their workplace struggled with access to stable Internet service and devices when institutions shuttered in Spring 2020 and forced instructors to move to working remotely.

Even if people have access, researchers have found that access does not automatically promote skills with digital technologies (Scheerder, et al., 2017). The demographic breakdown in the U.S. presents a layered view of the digital divide: “Individuals and communities employ technologies for very specific goals, linked often to their histories and social locations” (Hines, et al., 2001, p. 5, as cited in Ferro, et al., 2011, p. 4). An increasing amount of digital divide research seeks to study technology use through a socio-cultural lens, arguing that use of digital technology is not necessarily a reflection of the socio-cultural position but that the socio-cultural position is the motivation for developing digital skills (Harambam, et al., 2013). From this view,

participation in digital platforms may have more to do with the formed cultural meanings people have about the medium:

Such choices are related to the moral–cultural beliefs people have about social contact – to their fears and fascinations concerning computer-mediated communication, to their moral concerns about face-to-face contact and virtual contact and evaluations of online sociality versus offline sociality. After all, there are many people who prefer face-to-face contact over online contact or, more than that, consider the latter a sign of social deterioration. (Harambam, et al., 2013, p. 1099)

Considering and addressing the cultural beliefs about digital technology are necessary steps toward the procurement and execution of digital skills, which are necessary to bridge the second-level digital divide (van Deursen & van Dijk, 2019). Some faculty previously resisted any move to virtual teaching because of deeply held pedagogical values opposing such learning media (Ubell, 2016). Their socio-cultural position motivated their resistance, but such resistance resulted in these faculty members lacking the necessary skills to effectively design Hyflex and online courses during the pandemic and enduring a steep learning curve.

The concern with the digital divide in the midst of the Covid-19 pandemic and in the succeeding years is that college access may be even more difficult for disadvantaged students (Fleming, 2012). Even before the pandemic, despite the general absence of digital technological prerequisites for students, most universities conducted almost all college business online: applications for admission and financial aid, course enrollments, access to institutional announcements and information, and learning management systems (LMS) for courses (Goode, 2010). Brown, et al. (2016) asserted the notable difference between students accessing information online and actually understanding that information; low income and first-generation

students are especially vulnerable to misunderstand or overlook important information because of their inexperience with higher education. Goode (2010) cited the necessity of digital readiness regarding institutional resources, including library research databases, as well as LMS:

“Knowing how to utilize the technological ecosystem of university life is certainly critical for academic success” (p. 498). The Covid-19 pandemic potentially widened the digital divide for students and even some faculty, revealing the need for research to understand the issue and find possible solutions.

Community Colleges

The changes of course modalities implemented in the U.S., coupled with digital divide concerns, have the potential to greatly affect community colleges more than other institutions, simply because of the mission and history of these institutions and the student populations they traditionally serve. Established over 100 years ago in the U.S., community colleges today offer students opportunities to learn adult basic education, vocational trades, earn Associate's degrees, or transfer to 4-year universities. The wide range of educational offerings at community colleges has made them the institutions of choice for many Americans.

As Reed (2016) stated, “the mission of a community college differs significantly from that of a four-year college or university. The university can be broadly defined as a research-focused institution, while the community college is most emphatically an institution focused on teaching” (p. 84). This mission to provide quality education focused on teaching means that community colleges seek a certain type of person to join the faculty (Reed, 2016). In general, community college faculty are focused on teaching, not conducting research (Twombly, 2005). Another common trait is that community college faculty are generalists, not specialists, meaning that knowledge spanning a broad background is necessary, as opposed to a specific research area

(Reed, 2016) because the classes they teach cover a wide range of topics to prepare students for more focused coursework at 4-year institutions if students choose to transfer. Versatility and flexibility are also traits widely attributed to community college instructors (Reed, 2016).

Additionally, the student-centered approach to education makes many community college faculty activists (Reed, 2016). They usually share the community college mission of accessibility: making quality education affordable for the diverse student population at community colleges. The Center for Community College Student Engagement (CCCSE) (2012) asserted that more than almost every other factor, community college faculty are consistently committed to the success of an ever-increasing student population.

The growth of the community college student population is widely documented. From 2006-2007, over 6 million students, or 35% of all students in higher education in the U.S., attended community colleges (Pfahl, et al., 2010). A little over a decade later, enrollment in community colleges increased to over 8.2 million students (Community College Research Center, 2020, para. 1); estimates today suggest that almost half of all undergraduate students in the U.S. attend community colleges (Miller, 2019). Accordingly, the appreciable amount of people enrolling in community colleges has created the ubiquitous hallmark of these schools: a diverse student population.

The student body of the community college mirrors the general population; one need only disaggregate America's population into demographic categories of race, income, ethnicity, education level, family structure, etc. to understand the dimensions of diversity on community college campuses (Carnevale & Strohl, 2010). The mission of being "inclusive institutions that welcome all who desire to learn, regardless of wealth, heritage, or previous academic experience" (American Association of Community Colleges, 2015, para. 1) has resulted in

community colleges attracting people most in need of the upward mobility that postsecondary education can provide.

The majority of community college students are considered non-traditional: marginalized racial and ethnic groups, low-income students, first-generation students, and returning students (Sandmann, 2010). Additionally, community college students are more likely to be older than traditional 18-22-year-old students, work full or part-time jobs to pay for basic needs, have dependents, live on their own, and have experience in the workforce or military (Halm, 2018).

While community colleges have no shortage of non-traditional learners, they do have deficits in the retention and completion rates for these students, despite colleges' mission to produce self-directed, lifelong learners (Pfahl, et al., 2010; Grow, 1991). MacDonald (2018) asserted that "67% of nontraditional students [drop] out of college before receiving a degree" (p. 160). The already tenuous success of community college students before the Covid-19 pandemic is in jeopardy of declining further due to the additional barriers to learning that the pandemic imposed, which faculty are well-positioned to mitigate.

Non-Traditional Learners

The overwhelming majority of nontraditional students that comprise the population at community colleges requires faculty considering and implementing adult learning theories and practices, specifically self-directed learning skill development, in order to meet the needs of these learners. One of the defining characteristics of nontraditional students is that their educational pursuits often conflict with life circumstances, like working while attending school, caring for dependents, experiencing food and housing insecurity, living in poverty, and not knowing how to access resources (Delima, 2019; Bivens & Wood, 2016; Petty, 2014), requiring nontraditional students to do more of their learning independently.

If these circumstances were difficult to balance before the pandemic, the economic downturn, shutdowns, and education's move to virtual learning only exacerbated the difficulties for these students. Dhawan (2020) found that nontraditional students struggled with time management, attention-regulation, adequate personal support systems, communication, and sufficient digital literacy skills in formal virtual courses. The climate of emergency Hyflex and online learning requires even more independence and autonomy on the part of nontraditional learners, with heightened self-regulation, time management, independent information seeking behaviors, and assertiveness in seeking help with learning activities and assignments, among other things. This poses an additional, new challenge for instructors in needing to design courses in such a way to help build and support these kinds of self-directed learning (SDL) behaviors that will be necessary for nontraditional students to persist in this "new normal" of higher education.

The situation imposed on students in higher education classes by the Covid-19 pandemic, in contrast to learning situations prior to the pandemic, might make adult learners more dependent at a time when instructors are assuming that they will be fairly independent in their learning. This contradiction of SDL expectations and reality poses a natural problem that needs further exploration. For example, investigating the problems that arise regarding SDL in situations where learners have no choice but to engage in virtual learning and what instructors experience as they try to teach in new Hyflex and online contexts is both timely and relevant to adult education and higher education research.

Statement of the Problem

Considering the rapid, wide-spread implementation of virtual learning modalities in American higher education institutions due to the Covid-19 pandemic, and the likely residual changes to higher education, the impact of the transition on community college faculty and

students has been insufficiently investigated. Both instructors and students had no choice teaching and learning in virtual modalities during the pandemic. This fact raised questions about the digital literacy levels of both groups and how they dealt with digital technology.

Additionally, the virtual modalities caused instructors to change almost every aspect of their courses, from their teaching methods to how they communicated with students, with little time to prepare and transition to digital spaces. Further, the instructors' perceptions and experiences during the pandemic were potentially influential in what they changed, how they changed, and how they perceived their students. Moreover, many people assumed that students would develop and exhibit increased independence in virtual courses; however, it is unclear if students' self-directed learning skill development was hindered or helped by the changes implemented by instructors. Much of the existing SDL research focuses on students' perspectives, resulting in a dearth of literature regarding how instructor digital literacy, changes to teaching, and instructor feelings and experiences impact student SDL skill development. Investigation of these relationships is crucial to furthering our understanding of the educator's power in student SDL.

Purpose of the Study and Research Questions

The purpose of this study was to examine community college faculty perceptions of teaching in virtual modalities during the Covid 19 pandemic, focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences on student SDL skill development. The interconnectedness of all of these facets is the focus of this study, bringing together digital literacy, teaching methods, student SDL skill development, and the influence of teachers' personal lives on their teaching.

The recent research during the pandemic takes a narrow view of the “new normal” brought about by the pandemic. If the changes instituted during the pandemic will affect higher education, faculty, and students far into the future, then scholars need to broaden their research to consider the long-term implications of increased virtual learning modalities and decreased traditional f2f classes, especially how faculty responses impact students most in need of upward mobility who already face barriers to their educational pursuits.

The characteristic diversity of community colleges and the low success rates of their nontraditional students requires investigation into how the choices and experiences of faculty affect student SDL orientations after the comprehensive transition of f2f classes to virtual modalities as a result of the Covid-19 pandemic. Most community college students who were enrolled in virtual courses during the pandemic did not willingly choose a virtual modality; they simply took what was available (McMurtrie, 2020), and most faculty did not have a choice in the modality in which they had to teach. Further, the non-traditional learners and faculty at community colleges may not possess adequate digital technology skills necessary to succeed in virtual learning modalities, deficits that will negatively impair SDL skill growth (Adam-Turner & Burnett, 2018). The long-standing mission of American higher education is to produce lifelong, self-directed learners; therefore, research should focus on how faculty are fostering the growth or decline of these skills in students during unprecedented times of change.

Research Questions

The following research questions guided this study:

1. How digitally ready were faculty to teach in virtual modalities?

2. How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities?
3. How did instructors' personal feelings and experiences during the pandemic affect their teaching?
4. How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?

Conceptual Framework

The following section describes the conceptual framework that shaped this study. The study required the convergence of theories and frameworks across different disciplines through which to view the issues under investigation: Digital Intelligence (DQ) Framework, and Grow's (1991) Staged SDL Model. Both frameworks are necessary to investigate how faculty are responding to students' needs during the pandemic. Educators are still tasked with promoting SDL growth in students while also moving their classes to virtual platforms that require increased digital literacy skills from both educators and students.

Digital Intelligence (DQ) Framework

Any investigation of virtual learning spaces must address the digital literacies of instructors, as well as learners. The Digital Intelligence (referred to as DQ by the researchers) Framework was introduced by Dr. Yuhyun Park (2016) and later developed by her research team from several international universities, who then published the DQ concept and structure (DQ Global Standards Report, 2019). The research team sought to develop a framework by combining the best parts of other methodologies. The resulting framework "aggregates 25 leading frameworks on digital literacy and skills from around the world" (DQ Global Standards

Report, 2019, p. 12). The worldwide reception of the DQ Framework has positioned it as the global industry standard for best practices for digital skills assessment (DQ Global Standards Report, 2019), and a valuable tool for assessing the digital readiness of educators designing virtual courses.

Digital Intelligence (DQ) comprises “technical, cognitive, meta-cognitive, and socio-emotional competencies grounded in universal moral values that enable individuals to face the challenges of digital life and adapt to its demands” (DQ Global Standards Report, 2019, p. 12). The consideration of the challenges associated with digital skill acquisition, as well as the necessary adaptation by instructors and learners, position the DQ framework as a valuable research tool for this study. The culmination of DQ capabilities are “wise, competent, and future-ready digital citizens who successfully use, control, and create technology to enhance humanity” (DQ Global Standards Report, 2019, p. 12). Building DQ competencies should be a higher education priority in order to strengthen instructors’ and students’ competitiveness in an increasingly digital world.

The development of DQ is especially important in “an increasingly technology-oriented society, [in which] digital competencies such as digital literacy, digital skills, and digital readiness have become core requirements for the future- and job-readiness of individuals” (DQ Global Standards Report, 2019, p.9). While all of the competencies are important, the DQ Framework is adaptable, emphasizing different components in different contexts. All eight areas and three levels can be differentiated by three components of competency: “Knowledge, Skills, and Attitudes and Values” (p. 13). This study sought to inquire how faculty digital intelligence influenced the decisions they made in their virtual courses and how those decisions impacted student SDL skill development, including building students’ DQ.

Seemingly, only students who thought they had adequate DQ would have enrolled in courses with a virtual component prior to the pandemic, but “among studies conducted at open-access ... institutions, such as community colleges ... online courses are associated with substantially lower course persistence and completion rates after taking into account students’ self-selection into online versus face-to-face classes” (Xu, 2020, para. 3). In other words, student success rates were alarmingly low, even though students were the ones who chose virtual learning. The changes to learning modalities necessitated by the pandemic meant that students’ digital literacy skills were no longer a primary consideration to online learning, so how faculty are dealing with students’, and their own, potentially wide-ranging digital skills is an important topic to research if higher education is now indelibly changed. Additionally, another necessary angle of inquiry could argue that SDL research in the future should include DQ, so we in higher education need to study how to promote and cultivate this by investigating faculty digital readiness, practices, and priorities in Hyflex and online courses.

Grow’s Staged Self-Directed Learning (SSDL) Model

To position SDL research in the 21st Century by arguing for its necessary coupling with DQ, my study was also framed by Grow’s (1991) Staged Self-Directed Learning Model. The main reason why this model is most appropriate for this study is because it is one of the few models that focuses on educators, instead of the learners, and supports the position that SDL orientations can be taught; Grow’s model is primarily concerned with educators teaching SDL skill development. Since this study was centered on the impact of faculty decisions on students developing SDL skills, this model is a fitting choice with which to analyze teaching practices of the participants.

Borrowing concepts from the Situational Leadership Model developed by Hersey and Blanchard (1988), Grow's (1991) model reflects the position that teaching is situational: "the style of [teaching] should be matched to the [learner's] readiness" (p. 126). Grow identifies the combination of ability and motivation comprising readiness, which ranges from an inability and unwillingness to do something to "able and willing" to complete "the task at hand" (p. 126). Grow maintained that readiness was not only situational, but also potentially task specific, meaning that readiness can fluctuate depending on the situation and required tasks.

In his Staged Self-Directed Model, Grow (1991) identified four stages of student, teacher, and content interactions that move students from dependent to self-directed learners. Grow hoped that his model would be used as "a way teachers can be vigorously influential while empowering students toward greater autonomy" (p. 128). When he introduced the model, Grow helpfully articulated assumptions he held that shaped his views of self-direction: (1) "The goal of the educational process is to produce self-directed, lifelong learners," but many educational practices actually perpetuate dependency instead; (2) "Good teaching is situational—it varies in response to the learners" in a variety of ways; (3) "The ability to be self-directed is situational in that one may be self-directed in one subject [and] a dependent learner in another"; (4) While SDL is a worthy pursuit, "there is nothing inherently wrong with being a dependent learner, whether that dependency is temporary or permanent, limited to certain subjects or extending to all"; (5) "Just as dependency and helplessness can be learned, self-direction can be learned—and it can be taught" (p. 127). These assumptions are helpful because they contribute to the on-going research about SDL by allowing researchers to determine if Grow's model is appropriate if the researchers also hold the same assumptions. For the purposes of this study, Grow's assumptions

about SDL and his SSDL model neatly support my pursuit of the topic because of the implicit connection between SDL and DQ: both digital intelligence and SDL skills can be taught.

Digital literacy serves as a significant part of the foundation for college success, especially in virtual modalities; the learned digital literacy skills and potential SDL characteristics transfer to almost every college course and the wider world and are integral components of virtual course design. Faculty are the best sources of information when seeking answers about the impact of instructional factors on SDL growth in virtual modalities.

Significance of the Study

Among the prevailing concerns in higher education, motivation and persistence are commonly mentioned in research on college students (Tinto, 2017). Both motivation and persistence have been linked to self-direction skills, skills that can be taught (Grow, 1991). Continuing, virtual course modality offerings were on the rise before the pandemic and will continue to increase after the pandemic. Student SDL skills are one of the best indications and predictors of success in virtual courses (Bell, 2007; Puzzifero, 2006; Hodges, 2005; Bernard, et al., 2004). Considering that SDL skills are teachable, it is important to understand the influence of instruction on student SDL orientations in virtual modalities.

With that in mind, this study contributes to this issue in the areas of research, policy, and practice. Much of the research concerning community colleges is conducted by administrators and university scholars, or findings from studies about university educators and students are often automatically assumed true for community college students and faculty (Twombly & Townsend, 2008). The fact remains that community college faculty and students differ significantly from university populations regarding demographics and needs (Pfahl, et al., 2010), thus, how faculty educate and support community college students must be explored.

From a research standpoint, this study furthers SDL knowledge pertaining to the community college by framing the research with Grow's (1991) SSDL model and the DQ framework (Park, 2016), thereby contributing to the growing body of research on SDL in virtual learning environments. Furthermore, this study sheds light on how educator digital readiness, teaching methods, and instructor physical and mental health are important factors in teaching students SDL skill development in virtual course modalities, factors that could transform future virtual course SDL research.

Moreover, from a policy standpoint, this study provides community college stakeholders and decision-makers insight into faculty experiences teaching in virtual modalities during the pandemic. The modality of their classes and the requirements that they had to meet were not decided by faculty members; instead, administrators made all of the decisions. The findings of this study should impact future policies and decisions that will have widespread implementation that profoundly affect faculty in their personal and professional lives. The implications for policies exist with the realms of course modality and format implementation, faculty training, shared governance, and physical and mental health resources.

Practice is the final area in which this study is significant. This study was concerned with how faculty practices in virtual modalities foster or hinder SDL orientations in nontraditional community college students, a group who comprises a significant portion of higher education students in the U.S. While community college students are highly motivated, they have worryingly low persistence (MacDonald, 2018). Recognizing the link between motivation, persistence, SDL skills, and teaching practices will empower educators to employ practices that best meet the needs of their students. Research demonstrates that teaching methods differ according to modality, so teaching in virtual modalities requires a different approach than

teaching f2f. Moreover, teaching in one virtual modality, such as Hyflex, has different pedagogical underpinnings and best teaching practices than teaching in another virtual modality, like fully online, asynchronous courses. The way that courses are designed and the methods by which content is delivered impact student SDL skills development, so practitioners will benefit from knowing which methods are appropriate.

Organization of the Dissertation

This research study follows the traditional five-chapter dissertation format. Chapter I introduces the dissertation topic and provides a rationale for its importance. Chapter II presents a review of the relevant literature, while Chapter III provides an overview of the research methodology and methods. Chapter IV provides the findings from the participants' interviews as a result of the analysis of the data. The last chapter, Chapter V discusses answers to the research questions based on the findings and current literature and draws implications for research, practice and policy.

Definition of Terms

The following is a list of key terms used in this study, along with their definitions.

- *Adult learners*: Many definitions exist to clarify the meaning of adult learners, but the most comprehensive and inclusive was offered by Merriam and Brockett (2007): adult learners are “those whose age, social roles, or self-perception define them as adults” (8).
- *Emergency remote teaching*: Emergency remote teaching required by Covid-19 was “improvised rapidly, without guaranteed or appropriate infrastructural support ... [and] has focused on the technological tools available in each institution ... considered adequate to support the switch” (Rapanta, et al., 2020, p. 924).

- *Learning Management System (LMS)*: According to Simonson (2007), “course management systems, also called learning management systems or virtual learning environments, are software systems designed to assist in the management of educational courses for students, especially by helping teachers and learners with course administration” (p. vii). Beyond their technical functions, “there is considerable potential in the construction of knowledge and competence development. The LMS can generate a real pedagogical success only if their use relies on solid and proven learning theories (Ouadoud, Rida, & Chafiq, 2020, p. 28).
- *Nontraditional student/learner*: Nontraditional students’ “personal characteristics, lifestyles, and enrollment patterns might be viewed as nontraditional when compared to the pattern of enrolling in college directly after high school, attending classes on a full-time basis, working part-time, if at all, and completing an undergraduate degree within four years” (Ross-Gordon, et al., 2017, p. 329). Nontraditional students include those from underrepresented groups in higher education, such as non-white races, low-income students, first generation students, financially independent, or over the age of 25. Any existence or combination of these factors can make someone a nontraditional student.
- *Online education*: Online education “pre-supposes an existing organizational infrastructure, serving the purposes of online teaching and learning” (Rapanta, et al., 2020, p. 924) and is based on pedagogical course design knowledge.

CHAPTER II

LITERATURE REVIEW

The purpose of this study was to examine community college faculty perceptions of teaching in virtual modalities during the Covid 19 pandemic, focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences on student SDL skill development. The following research questions guided this study:

1. How digitally ready were faculty to teach in virtual modalities?
2. How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities?
3. How did instructors' personal feelings and experiences during the pandemic affect their teaching?
4. How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?

The first section of the literature review presents an overview of SDL in adult education, an overview of digital literacies, and the connection between SDL and digital literacies. This organization is intended to establish how research has progressed and demonstrate the relationship between these concepts. The last section will provide research on digital literacies and SDL in virtual courses.

Overview of Self-Directed Learning

Before beginning any discussion about the concept of SDL in adult learners, it is necessary to first consider its origins in andragogy, a major theory in adult education.

Andragogy's precepts inspired SDL's development; therefore, this section details andragogy's origins and major criticisms, then introduces SDL. The development of SDL is followed by criticisms and concludes with research specifically using Grow's (1991) SSDL model.

Origins in Andragogy

First introduced to the U.S. by Malcolm Knowles in 1968, andragogy offered a new, distinct name for adult learning, a concept that differs from pedagogy, which is focused on children's' learning (Merriam, et al., 2007). Simply put, andragogy is "the art and science of helping adults learn" (Knowles, 1980, p. 43). After introducing the concept of andragogy, Knowles continued to develop and advance andragogy as a foundational set of assumptions about adult learners and as an adult learning theory.

Knowles originally proposed four assumptions about adult learners and later expanded to six assumptions. In the beginning, Knowles (1980) made the following assumptions about adult learners: 1) "As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being; 2) An adult accumulates a growing reservoir of experience, which is a rich resource for learning; 3) The readiness of an adult to learn is closely related to the developmental tasks of his or her social role; 4) There is a change in time perspective as people mature—from future application of knowledge to immediacy of application. Thus, an adult is more problem centered than subject centered in learning" (p. 44-45). Later, Knowles (1984) added two more assumptions: 5) "The most potent motivations are internal rather than external; and 6) Adults need to know why they need to learn something" (p. 12). Knowles saw these assumptions about adults' learning as distinctly different from children's learning.

From the perspective that andragogical assumptions provided a foundation for designing adult educational programs, Knowles offered suggestions about everything from classroom climate to content development. Knowles believed that the classroom for adults should reflect and respect their adult status, not only physically, but also psychologically (Merriam, et al., 2007). Regarding content development, Knowles thought adult students were capable of diagnosing their learning needs, planning and implementing learning experiences, and assessing those experiences (Merriam, et al., 2007). Using Knowles's assumptions as a guide, scholars' and practitioners' attempts to apply these ideas have impacted research pursuits and classroom facilitation throughout the years.

Criticism of Andragogy

Although many researchers found Knowles's (1968) development of andragogy beneficial to the field of adult education, the concept has not been without controversy. While it is often considered a theory, critics have questioned specifically what kind of theory it is and whether andragogy more closely aligns with the qualities of a model, a technique, or merely a set of assumptions (Merriam, et al., 2007). In a particularly scathing critique, Carlson (as cited in Grace, 1996) accuses Knowles of being little more than an opportunist, a "salesman and promoter" (p. 383), packaging and hawking his wares to an educational field in dire need of practical, customized theories for adult learning.

Not quite as denigrating as Carlson (as cited in Grace, 1996), Hartree (1984) questioned andragogy's legitimacy as a philosophy because it is not rooted in a philosophical approach. Further, Hartree (1984) probed the idea that the assumptions served as a list of ideal adult learner traits, calling into question Knowles's (1984) designation of andragogy as a theory of adult learning since he does not "establish a unified theory of learning in a systematic way" (p. 207).

Similarly, Welton (1991) attested that the andragogy paradigm had crumbled under repeated scrutiny, prompting Knowles (1980) to allude to andragogy as something other than a theory. Indeed, roughly twenty years after its introduction, Merriam and Caffarella (1991) deliberated over andragogy's fate:

[Andragogy] has... caused more controversy, philosophical debate, and critical analysis than any other [adult learning] concept proposed thus far... . Since andragogy now appears to be situation-specific and not unique to adults, it does not qualify as a theory of adult learning. (p. 250)

If not a theory, perhaps andragogy is, as Day and Baskett (as cited in Grace, 2002) suggested, “an educational ideology rooted in an inquiry-based learning and teaching paradigm” (p. 384). Maybe andragogy is simply “a model of assumptions about learners” (Knowles, 1980, p. 43). Even Knowles recognized the weaknesses of his original theory when faced with ongoing scrutiny.

Despite Knowles's (1980) amendment, further critiques revealed there was nothing simple about andragogy's assumptions. Brookfield (1986), took issue with Knowles's (1984) assumptions, specifically andragogy's deference to adults' experiences. In Brookfield's view, adults inevitably amass more experiences than children do, but the number of experiences does not mean that all of them are learning experiences (Merriam, et al., 2007). Furthermore, Jarvis (1984) contended that Knowles's assumptions seemingly disregard adult learners' intrinsic motivators, thus reflecting a reductionist view of learning.

Criticism has continued from the early years of andragogy's influence to the present. More recently, scholars have lamented andragogy's apparent disregard for learner context. Merriam et al. (2007) explained that “Knowles's reliance on humanistic psychology results in a

picture of the individual learner who is autonomous, free, and growth oriented” (p. 88). While this is a pleasant idea, researchers have increasingly touted context as an intrinsic part of learning, a component some believe is glaringly absent from andragogy.

Considering context, Alfred (2000) evaluated andragogy through the Africentric feminist lens, concluding that many of andragogy’s assumptions disregard ways of knowing and learning for people of color. Moreover, Lee (2003) pointed out that Knowles based his assumptions on a specific segment of the population: “What has been left out ... are women, people of color, working-class adults, adult immigrants, and other marginalized groups whose experiences are often ignored in adult learning settings” (p. 18). When investigating andragogy’s assumptions and immigrant learners, Lee concluded that andragogy is not compatible with such people, whose socialization occurred in varying contexts and whose perspectives of teaching and learning are shaped by their specific cultural values and practices.

The primary weakness of andragogy, according to some researchers, is its lack of a researchable definition (Baumgartner, 2003). After reviewing numerous andragogy studies, Rachel (2002) concluded that the disparate results of the studies were because, although their focus was andragogy, each study created their own definitions for andragogy research. Rachel (2002) responded to this predicament by offering seven criteria for a researchable andragogy definition involving learning situation, participant identity, learning activity, assessment, learner satisfaction, and logistical issues. Altogether, each criticism of andragogy has contributed to researchers challenging themselves to further the field by producing more robust studies and advancing theory.

Development of Self-Directed Learning

Despite the criticisms of andragogy's limitations, the concept inspired the development of self-directed learning, which has become a major theory of adult education. Self-directed learning (SDL) has been part of the fabric of American higher education for generations. As far back as the 1800s, American institutions of higher education, Yale and Harvard, lauded the importance of students becoming life-long learners (Baumgartner, 2003). Inspired by Houle (1961), Tough's (1971) formative study on adult learning projects focused on SDL and inspired new branches of research into adult learners.

Overall, SDL is explained by its three primary goals:

1. to enhance the ability of adult learners to be self-directed in their learning;
2. to foster transformational learning as central to self-directed learning; and
3. to promote emancipatory learning and social action as an integral part of self-directed learning. (Merriam, et al., 2007, p. 107)

The first goal, which focuses on enhancing learners' abilities to become self-directed, is heavily influenced by Knowles's (1980) and Tough's (1979) work. Grounded in humanistic philosophy, goal one "has spawned the majority of research in self-directed learning" (Merriam, et al., 2007, p. 107), as it creates a partnership between educator and learner. The second goal was inspired by Mezirow and Brookfield (Merriam, et al., 2007). This goal focuses primarily on critical reflection. Some scholars believe goal one places too much emphasis on instruction of individuals, while goal three, according to Collins (as cited in Merriam, et al., 2007), requires using "critical theory and interpretive and participatory research approaches" (p. 109) to foster democratic practices. As a result, SDL research revealed tension between goals three and one.

Beyond the goals, SDL research has delineated into two broad frameworks. The first framework (Table 1) contends that SDL is a process or form of study (Caffarella, 1991; Owen, 2002). To support this view of SDL, scholars have developed models to illustrate the process of learning. Baumgartner (2003) divided the models into three categories: sequential, interwoven, and instructional. The sequential, or linear, models from Knowles (1975) and Tough (1971) chart the steps of the self-directed learning process. Interwoven, also known as interactive, models demonstrate that SDL does not take place in predictable, sequential steps but occurs when two or more factors, such as learner personality and environment, interact (Baumgartner, 2003). Merriam, et al. (2007) provided several examples of interactive models: Brockett and Hiemstra’s (1991) Personal Responsibility Orientation; Spear’s (1988) model; Garrison’s (1997) model; and Danis’s (1992). Instructional models represent “frameworks that instructors in formal settings could use to integrate self-directed methods of learning into their programs and activities” (Merriam, et al., 2007, p. 117). Grow’s (1991) Staged Self-directed Learning and Hammond and Collins’s (1991) models provide educators a structured approach to teach SDL.

Table 1

Self-Directed Learning Process or Form of Study Framework

Category	Sequential	Interwoven	Instructional
Researchers	Knowles (1975) Tough (1971)	Brockett and Hiemstra (1991) Spear (1988) Garrison (1997) Danis (1992).	Grow (1991) Hammond and Collins (1991)

Table 1 Continued

Category	Sequential	Interwoven	Instructional
Model Function	Linear models: Charts the steps of the self-directed learning process	Interactive models: SDL does not take place in predictable, sequential steps but occurs when two or more factors, such as learner personality and environment, interact	Teaching models: Provides educators a structured approach to teach SDL; how to integrate self-directed methods of learning into their programs and activities

On the other hand, the second research framework affirms that SDL comprises personal attributes of individuals (Caffarella, 1991). In studying self-directed learners, researchers have conceptually ascribed learner autonomy to the development of certain characteristics. Working in this vein, Guglielmino (1977) developed a survey to measure learners' readiness to engage in SDL, termed Self-Directed Learning Readiness Scale that has proved valuable for quantitative SDL inquiries (Baumgartner, 2003; Merriam, et al., 2007). Chene (1983) described autonomous learners as independent, able to make decisions and analytical judgements, and skilled in recognizing and articulating the socio-cultural aspects of learning contexts.

After consulting literature concerning SDL, Oddi (1986) created a scale to measure learners' "initiative and persistence in learning over time through a variety of learning modes" (Baumgartner, 2003). Brockett and Hiemstra (1991) also identified three overarching concepts: "independent thinking, self-responsibility, and control over actions" (Merriam, et al., 2007, p. 122). Candy (1991) characterized self-directed learners as holding strong personal beliefs and values that act as the foundation for planning and goal-setting, making decisions, engaging in

reflection on learning, possessing resolve in following through, practicing self-control and purposefulness.

Of note are SDL scholars who explored the “situational characteristic of autonomy in SDL” (Merriam, et al., 2007, p. 123), inquiry which posited that at certain times and in certain situations, adults may become more dependent in learning situations, and autonomy or dependence may, at times, be a choice that learners consciously make (Tennant & Pogson, 1995; Brockett & Hiemstra, 1991; Pratt, 1988; Candy, 1987). Merriam, et al. (2007) provided four variables that significantly influence autonomous learner exhibition in adults: (1) “their technical skills related to the learning process; (2) their familiarity with the subject matter; (3) their sense of personal competence as learners; and (4) their commitment to learning” (p. 123) at the point during which the learning is occurring. According to Candy (1991), the combination of these variables, and thus a learner’s autonomy, will change depending on the situation; educators must be careful not to assume that learners’ autonomy will transfer to all learning contexts.

Criticism of Self-Directed Learning

Despite its recognition, self-directed learning has faced criticism since its introduction. Caffarella’s (1991) critique of SDL included three observations: (1) the future of SDL depends on researchers developing a theoretical base, offering “model building [as] one way to embark on this effort” (p. 61); (2) researchers needed to strengthen their methodological approaches “from a number of different paradigms, depending on the problems being addressed” (p. 62); and (3) scholars must assess their rationale for pursuing any SDL research, and articulate what it contributes to the field (Caffarella, 1991). Caffarella recognized that SDL knowledge would be limited if research was positioned within only one paradigm, applied only one methodology, and if it did not explicitly state its contributions to the field.

A fundamental flaw underpinning the original iterations of both andragogy and self-directed learning (SDL) is the focus on individual learners, with little consideration of context (Caffarella, 1991). In truth, they are merely reflections of their time period: White, Western perspectives valuing “independence and autonomy and ignoring other sociocultural contexts and values” (Baumgartner, 2003, p. 33). As a result, scholars have pointed out that SDL’s underlying principles and approaches must be adapted to account for a variety of contexts. For example, in their study of SDL in Eastern cultures, Tsang, et al. (2002) argued that learning is hampered when SDL outcomes are based in Western cultural values, as opposed to Chinese culture, which values the collective above the individual.

Much earlier, Brookfield (1984) recognized problems stemming from the homogeneity of learner identity, among other things, in SDL studies. His review of SDL research, specifically studies using the Self-Directed Readiness Scale (SDLRS), generated the following criticisms: overrepresentation of white, middle-class populations; imbalanced use of quantitative methodologies; inattention to social contexts; and ineffective social and political influence (Brookfield, 1984). Candy’s (1989) assertion that the overwhelming amount of positivist/empiricist research on SDL presented limitations of what was understood resulted in increased qualitative SDL research. Continued qualitative research approaches will add new dimensions of knowledge to SDL.

Grow’s Staged Self-Directed Learning Model

To position SDL research in the 21st Century by arguing for its necessary coupling with digital literacy, the study was also framed by Grow’s (1991) Staged Self-Directed Learning Model (Figure 1). Grow (1991) acknowledged the influence of Candy’s (1987) dissertation in developing his model. Candy (1991) considers SDL as a set of skills or characteristics of the

learner. In this view, self-directedness is a product of person/situation interactions, rather than inherent in either the person or the situation. More directly, Grow's (1991) model, influenced by Candy, posited that SDL skills can be learned in certain situations, and environments can be created in support of building self-directedness. Interviewing faculty is necessary in this study to understand if the virtual learning environment is designed to support student SDL; therefore, adequate attention must be given to instruction.

Figure 1

Grow's Staged Self-Directed Learning Model (Reprinted with permission from Grow, 1991, p. 129)

Stage	Student	Teacher	Examples
Stage 1	Dependent	Authority Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance
Stage 2	Interested	Motivator, Guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal. Seminar. Group projects
Stage 4	Self-Directed	Consultant, Delegator	Internship, dissertation, individual work or self-directed study-group.

Song and Hill (2007) discussed the inclusion of design and support elements to encourage SDL development. “Resources, structure, and nature of the tasks in the learning context” (p. 32) are considered design elements: “These resources could be embedded in the specific learning context and could be designed by the instructor as instructional support” (p. 32). Further, contextual support elements can significantly impact learners’ acquisition of SDL skills. Instruction should provide constructive and informative guidance and feedback instead of

judgmental assessments, which cause learners to focus more on pleasing the instructor than on their own learning (Song & Hill, 2007). Again, interviewing faculty about how they have designed their courses will seek to answer the questions of how faculty have responded to support students in the new learning environments during the pandemic.

By framing my research through this particular lens of SDL, it is likely that instructors who lack sufficient digital literacy skills and knowledge of virtual teaching methods will not successfully teach students SDL skill development in virtual learning courses, a line of inquiry that demonstrates the intersection of DQ and SDL. Cazan and Schiopca (2014) found that “self-directed learning has multiple connections to personality traits; it is not linked to one personality trait” (p. 643). This explains how students can be highly motivated but still not be considered a self-directed learner. In order to increase learners’ self-directedness, learning situations should teach broad self-management competencies that serve as the basic building blocks of all independent learning, sufficient familiarity with the subject matter, and a sense of learning competence (Candy, 1991).

Research with Grow’s Staged Self-Directed Learning Model

One model that has been continually used and adapted since its inception is Grow’s (1991) SSDL model. This model is relevant for any study that focuses on classroom instruction. Grow’s model is based upon the notion that the context in which a person is learning must support the student’s level of self-direction (Brockett & Hiemstra, 1991). The premise of Grow’s (1991) model is that teachers and course content must be adjusted as students’ self-direction increases; therefore, teacher control is a major component of the model. In addition to Grow, other researchers recognized the interaction between context and learner self-direction.

For example, Carpenter (2011) applied Grow's (1991) model to study if the self-direction of students in online courses differed from students in face-to-face (f2f) courses. Carpenter (2011) looked specifically at the participation and performance of students enrolled in one instructor's f2f or online psychology courses at a community college in the Midwest U.S. using quantitative methodology; her study was concerned with if student self-direction differed depending on course delivery, as opposed to why such relationships might exist. Data were obtained through student responses on the Self-Directed Learning Readiness Scale (SDLRS). The SDLRS was developed by Guglielmino (1977) to measure a learner's readiness for SDL and has been used as a primary instrument in SDL research, which may explain the proliferation of quantitative SDL studies (Nasri, 2017).

Carpenter (2011) also considered the course format in relation to Grow's (1991) model, basing the premise of her research on earlier findings that students who enroll in online courses have higher levels of self-direction (Bell, 2007; Puzzifero, 2006; Hodges, 2005; Bernard, et al., 2004). Carpenter (2011) concluded that students' ability to self-direct interacted with course format: Students with higher self-direction were more likely to succeed in online courses, whereas students with lower self-direction were more likely to succeed in f2f courses than they were in online courses.

Moreover, Grow's (1991) model was used to frame Kidane, et al. (2020) mixed-methods study of Ethiopian medical students' perceptions towards SDL in hybrid courses. Focusing on students' points of view, Kidane, et al. (2020) quantitatively analyzed 62 participants' responses on a survey, followed by qualitative analysis of two focus group discussions with 16 participants. Maintaining that Grow's (1991) model demonstrates that to "persistently improve SDL skills, implementation of appropriate teaching strategies and activities has paramount importance"

(Kidane, et al., 2020, p. 2), the researchers concluded that students with overall high SDL scores indicated that they required increased support and direction from educators in students' first year of study. This initial support from faculty resulted in student SDL increasing in subsequent years, underscoring the situational nature of SDL.

Additionally, Grow's (1994) elaboration on his original SSDL model included his assertion that instructors should match the instructional process to student's learning styles. In this vein, Abu-Asaba, et al. (2014) used a mixed-methods approach to investigate the relationship between science students' SDL and the educators' teaching styles in Yemen. The study analyzed quantitative results from 179 student surveys and qualitative analysis from 50 lecture observations. They found that among their participants, the demonstrated teaching styles did not align with student learning preferences or promote student SDL skills, indicating a need for educators to assess and adjust their teaching styles to enhance student experiences through SDL.

Considering previous SDL research, Nasri (2017) contended that our understanding of SDL is limited because most SDL studies are from the learners' points of view. Using Grow's (1991) model as a framework, the purpose of Nasri's (2017) study was to investigate "how ... educators viewed their roles as adult educators in the context of SDL" and "how [they] empower their students to take responsibility for their learning" (p. 166). Applying qualitative methodology, Nasri (2017) conducted interviews with 30 university educators in Malaysia and followed a grounded theory approach to make sense of the data. Nasri (2017) found that although all of the educators provided various learning opportunities to support students' SDL skills, almost all participants were reluctant to relinquish their role as an authority figure. Nasri (2017) concluded that this viewpoint supported the existing literature that reported that many Malaysian

college educators are not comfortable with changing their role to facilitator and remain attached to traditional educator roles as knowledge experts and one-way knowledge transfer. Nasri suggested that the study highlights the need to ensure meaningful learning experiences for students by adjusting teaching methods to match student SDL skills, according to Grow's (1991) model.

As Nasri (2017) pointed out, most SDL studies focus on the learner and data are from the learners' points of view. The under-researched vantage point of educators—how they view themselves, and how they support student SDL development—will offer new insights into our understanding of SDL (Nasri, 2017). The benefit of Grow's (1991) model is that it differs from general SDL theory's predictions about the “interactions among self-direction, course format, and achievement” (Carpenter, 2011, p. 55). For example, Knowles (1975) assumed that students who demonstrate increased levels of self-direction are able to learn in any context or situation, even if the context or situation is not congruent with self-direction. Mok, et al. (2004) stated that “students in typical classroom settings can engage in self-directed learning; ... effective classroom learning is in reality a result of greater self-direction rather than dependence upon the instructor” (p. 64). As a result of these assumptions, the application of Grow's (1991) model in future research may inform theory in the field of self-directed learning (Carpenter, 2011, p. 55) because of its shared focus on the educator, the learner, the content, and the environment. Research from educators' points of view will shed new light on the influence of teacher support in creating SDL learning environments.

Overview of Digital Literacies

As this study focuses on the support of SDL development in virtual courses, it is important to also explore digital literacies. In the following section, I will explore new literacies,

including digital literacies and how they have been defined by scholars. After which, I will present seminal models and frameworks influential to digital literacy research. Then, I will discuss how digital literacy research has developed into three prominent lenses and conclude by reviewing literature of DQ framework research.

Defining New Literacies

Digital educational technology has grown exponentially over the past 25 years, leaving stakeholders grappling with problems of what to call the required new skills, how to teach these new skills, and who can best deliver these skills (Belshaw, 2012). To compound the confusion, each country and field of study seemingly developed their own way of addressing these new literacies (Spante, et al., 2018), resulting in a variety of uses across the literature. In their systematic review of 107 higher education digital literacy and competency research articles between 1997-2017, Spante, et al. (2018) found that the majority of research from the U.S., UK/Ireland, and Asia used the term digital literacy, while articles from Spain, Italy, Scandinavia, and South America used the term digital competence. This indicates the emergence of geographic conventions regarding research terms for new literacies.

Moreover, a report issued by the European Parliament Council (2008), an organization that represents the general interests of the European Union, exemplified the European perspective of digital literacy as “the skills required to achieve digital competence, the confident and critical use of ICT for work, leisure, learning, and communication” (p. 4), but, as Belshaw (2012) pointed out, the report later equated digital literacy to mere internet skills and using a computer. Interestingly, Belshaw noted that the adoption and understanding of new literacies “seems to be less about pedagogy and educational outcomes and more about individual nations’ internal social cohesion and external competition, ... often labeled ‘citizenship’ ... and closely

linked to ... ‘efficiency’... or ‘economic competitiveness’” (p. 43), which stemmed from goals aimed at closing the digital divide.

Influenced by the earlier, evolving research on visual literacy, technological literacy (Martin, 2008), computer literacy (Hunter, 1984), and information literacy (American Library Association, 1989), Gilster (1997) first introduced the term digital literacy as “the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers” (p. 1). Digital literacy, like the preceding literacies, has continually suffered from a definition problem. When he introduced the term in his book *Digital Literacy*, Gilster was criticized for offering multiple, sometimes conflicting definitions of the term (Bawden, 2008). His attempts to define digital literacy in subsequent literature range from “the ability to access networked computer resources and use them” (Gilster, 2007, p. 1) to “awareness of other people and our expanded ability to contact them to discuss issues and get help” (p. 31). Despite the ambiguity of its meaning, digital literacy research has flourished due to Gilster’s explicit recognition of the meta-level nature of literacy when he asserted that digital literacy is about “mastering ideas, not keystrokes” (p. 15). Bawden (2008) detailed the meta-level elements from Gilster’s (1997) work:

1. “Knowledge assembly”, building a “reliable information hoard” from diverse sources;
2. Retrieval skills, plus “critical thinking” for making informed judgements about retrieved information, with wariness about the validity and completeness of internet sources;
3. Reading and understanding non-sequential and dynamic material;
4. Awareness of the value of traditional tools in conjunction with networked media;
5. Awareness of “people networks” as sources of advice and help using filters and agents

- to manage incoming information; and
6. Being comfortable with publishing and communicating information, as well as accessing it. (p. 20)

Even with these detailed elements, digital literacy research continues to provide varying definitions and standards. This seemingly simple concept has evolved in research, with the term digital literacy often used interchangeably with the terms digital competence, information literacy, digital skills, digital intelligence, new literacies, multiliteracies, meta-literacy, media literacy, e-literacy, internet literacy, ICT skills, ICT competence, ICT literacy, transliteracy, computer skills, and technology literacy (Martinez-Bravo, et al., 2020).

Early research of digital literacy emphasized a functional use of technology and the ability to adapt one's skills. For example, Goodfellow (2011) described digital literacy as simple know-how. Based on Pool's (1997) definition, Joosten, et al (2012) explained digital literacy as an adaptation of "skills to an evocative new medium, [and] our experience of the Internet will be determined by how we master its core competencies" (p. 6). These researchers demonstrate that their understanding of digital literacy means a person possesses certain technical skills.

More recent publications orient digital literacy as cognitive skills and faculties, rather than technical. Traxler and Lally (2016), as well as Bennett (2014), further developed Beetham and Sharpe's (2011) approach to the cognitive perspective of digital literacy: "The functional access, skills and practices necessary to become a confident, agile adopter of a range of technologies for personal, academic, and professional use" (p. 1). This perspective indicates the adaptability of digital literacy to different contexts and purposes. Chan, et al. (2017) also considered the adaptability of digital literacy when they defined it as "the ability to understand and use information in multiple formats with emphasis on critical thinking rather than

information and communication technology skills” (p. 2). Although the varying definitions for digital literacy available in the literature are overwhelming, there emerged researchers and theorists whose contributions to digital literacy research exemplified particular perspectives, indicating convergent and divergent lenses for research.

Digital Literacy Models

One such researcher, Eshet-Alkalai (2004), developed a holistic conceptual model for digital literacy that was later expanded (Eshet-Alkalai & Chajut, 2009). The model organizes digital literacy into three branches (Table 2).

Table 2

Eshet-Alkalai’s Holistic Conceptual Model (2004)

Technical-Procedural	Cognitive	Emotional-Social
Basic computing skills necessary to operate technology (p. 94)	Pedagogy issues ... such as comprehension, critical reflection, and creativity (p. 94)	Skills ... concerned with the social media aspect of computing in contemporary society (p. 94)

Whereas much of the digital literacy research disproportionately favors technical skills, Eshet-Alkalai and Chajut’s (2009) framework balances the technical with cognitive and emotional-social dimensions.

Like Eshet-Alkalai (2004), Martin (2008) sought to make sense of the confusion surrounding digital literacy by providing five key elements of digital literacy that are interrelated and progressive, meaning each one element relies upon the previous one:

1. The ability to successfully complete digital actions as they arise in and are part of everyday life;
2. Digital literacy will vary from person to person as an evolving lifelong process, depending on his or her life situations;
3. Digital literacy is broader than information and communication technology (ICT) literacy because digital literacy comprises elements from several digital literacies;
4. ‘Acquiring and using knowledge, techniques, attitudes and personal qualities and will include the ability to plan, execute and evaluate digital actions in the solution of life tasks’ (p. 165); and
5. “The ability to recognize oneself as a digitally literate person, and to reflect on one's own digital literacy development” (p. 165).

Notable features of Martin’s (2008) framework are the consideration of context, as well as the notion of multiple literacies (Belshaw, 2012). The context transcends specific times or settings to account for a person’s whole life, with digital literacy evolving with the person. Martin attempted to distance his framework and the elements of digital literacy from assumptions of ICT literacy; this is not merely a reiteration of ICT literacy elements but is a newly formed collection of many digital literacies.

Despite his attempt, Martin’s (2008) framework is weakened by ambiguity, much like the definitions of digital literacy that preceded and influenced his research. While it makes an effort to underscore the complexity of necessary skills and abilities, the framework fails to clearly distinguish conceptual from technical skills. For example, he mentions access but does not clarify if it is physical access or cognitive access. Moreover, Martin makes no reference to power relations or the context in which digital interactions are taking place (Belshaw, 2012). Iordache,

et al. (2017) asserted that digital literacy research must make distinctions between the conceptual complexity and multiple dimensions of digital skills, including the power dynamics that exist within those dimensions. Martin’s (2008) elements, unfortunately, do not make necessary distinctions.

Additionally, Martin’s (2008) list of elements are limited in their applicability because they are a collection of soft skills lacking any indication of how to recognize them. If digital literacy varies from person to person, as Martin suggests, then digital literacy is immeasurable and unstandardized with his model because it relies on the subjective nature of individuals’ experiences; therefore, digital literacy is relative. In this way, Martin, essentially, leaves the definition of digital literacy up to the individual, per the fifth element. A person is digitally literate if he or she believes it. This viewpoint suggests that digital literacy exists on a continuum or spectrum (Panke, 2015).

Another notable digital literacy scholar, van Deursen (2010) considered the correlation between literacy and skills; literacy is related to specific competencies and knowledge, whereas the technical aspects of these competencies and knowledge depends on practice-oriented skills. Van Deursen (2010) initially identified four types of practice-oriented skills, and in later collaborative work, van Deursen, et al. (2014) identified two additional skills (Table 3).

Table 3

van Deursen’s Literacy and Skills (2014; 2010)

Skill Category	Competency
1. Operational Skills-	Button familiarity, or knowing how to operate hardware and software

Table 3 Continued

Skill Category	Competency
2. Formal Skills-	The ability to understand the characteristics of digital media, like moving within and between websites or using hyperlinks
3. Information Skills-	The ability to search, select, manage, and critically evaluate digital media content
4. Strategic Skills-	Using digital media to one's personal advantage, like setting and reaching goals
5. Communication Skills-	The ability to participate in online communities
6. Content Creation Skills-	Practical skills necessary to create and disseminate digital content

Operational and formal skills are what van Deursen (2010) classified as medium-related skills.

Both information and strategic skills are classified as content-related skills.

Digital Literacy Lenses

Reviewing the literature reveals three distinct lenses through which digital literacy is studied and their corresponding models (Table 4): the functional model, the socio-cultural practice model, and the intellectual empowerment model (Belisle, 2006). The functional model views literacy as proficient, simple cognitive and practical skills; in other words, knowing how the internet works and how to navigate it (Belshaw, 2012). In the socio-cultural practice model “the concept of literacy is only meaningful in terms of its social context and that to be literate is to have access to cultural, economic and political structures of society’ (Belisle, 2006, as cited in Martin, 2008,

p.156). Specific attention is given to the disenfranchisement of illiterate or low-literate individuals or groups within a given context, as well as how literacy tools are manipulated and weaponized to attain or maintain hegemonic power (Belshaw, 2012). This model is often used when researchers are concerned with social justice and emancipation.

Table 4

Digital Literacy Lenses and Models

Model	The Functional Model	The Socio-Cultural Practice Model	The Intellectual Empowerment Model
Lens	Views literacy as proficient, simple cognitive and practical skills;	Literacy is only meaningful in terms of its social context; to be literate is to have access to cultural, economic and political structures of society	Intellectual empowerment happens whenever mankind endows itself with new cognitive tools, such as writing, or with new technical instruments, such as those that digital technology has made possible
Purpose	Knowing how the internet works and how to navigate it	Concerned with social justice and emancipation	Literacy is used to empower and transform people
Shortcoming	Lacks consideration of context and personal growth	Lacks cognitive aspects	Makes no mention of the creativity aspect of digital environments

Lastly, the intellectual empowerment model deals with new tools or technologies and resultant new ways of thinking (Belisle, 2006). Literacy research through this lens views “intellectual empowerment happen[ing] whenever mankind endows itself with new cognitive tools, such as writing, or with new technical instruments, such as those that digital technology has made possible” (Belisle, 2006, as cited in Martin, 2008, p. 156). Through this lens, literacy empowers and transforms people (Belshaw, 2012). Individually, each lens lacks important aspects found in the others. The functional model lacks consideration of context and personal growth; the socio-cultural practice model lacks cognitive aspects; and the intellectual empowerment model makes no mention of the creativity aspect of digital environments.

Considering the three lenses of literacy and the abundance of definitions for different literacies, Belshaw’s (2012) seminal work, *What is “Digital Literacy”: A Pragmatic Investigation*, suggested that research should not separate the lenses but combine them. Doing so resulted in Belshaw’s list of core elements for digital literacies: (1) cultural; (2) cognitive; (3) constructive; (4) communicative; (5) confident; (6) creative; (7) critical; and (8) civic. The combination of these elements inspired Belshaw’s comprehensive definition:

Literacies involve the mastery of simple cognitive and practical skills. To be literate is only meaningful within a social context and involves having access to the cultural, economic and political structures of a society. In addition to providing the means and skills to deal with written texts, literacies bring about a transformation in human thinking capacities. This intellectual empowerment happens as a result of new cognitive tools (e.g. writing) or technical instruments (e.g. digital technologies). (p. 90)

According to Belshaw, the problem with previous definitions was that they only drew from and attempted to define one type of literacy. By drawing elements from different types of literacies,

as well as combining the three lenses of literacy research, Belshaw’s definition of digital literacies is inclusive and widely applicable.

Moreover, Belshaw’s definition and elements reflect his position that digital literacies are based on skillsets and mindsets. While skillsets change over time, such as with the emergence of new technologies, mindsets are the ways in which people approach and conceptualize technology (Panke, 2015). Using the concepts of skillsets and mindsets, Parker (2016) further applied and refined Belshaw’s (2012) core elements and divided them into four skillsets and four mindsets (Table 5). According to Parker (2016), the skillset elements of digital literacies are cultural (“discerning appropriate behaviors”), creative (“Improving upon existing content and media”), constructive (“Producing new content and media”), and communicative (“connecting and sharing”), while the mindsets are demonstrated in confident (“seizing upon the advantages of digital media”), cognitive (“Thinking systematically”), critical (“Remaining intentional and secure”), and civic (“Strengthening communities”) (“Digital Literacies at King”).

Table 5

Parker’s Core Elements of Skillsets and Mindsets (2016)

Skillsets	Mindsets
Cultural-discerning appropriate behaviors	Confident-seizing upon the advantages of digital media
Creative-improving upon existing content and media	Cognitive-thinking systematically
Constructive-producing new content and media	Critical-remaining intentional and secure
Communicative-connecting and sharing	Civic-Strengthening communities

What is interesting about Belshaw's (2012) work is that it establishes digital literacies as plural, not made up of a single skillset or mindset, context-dependent, and co-created, meaning researchers should "feel empowered to create their own definitions and ... remix other people's work" (Belshaw, as cited in Panke, 2015, para. 10). This could explain the evolving and sometimes contradictory research on digital literacy, as well as the need for further investigations into digital literacies.

The Digital Intelligence Framework

As part of the conceptual framework for this study regarding digital literacy, the Digital Intelligence (DQ) Framework (Figure 2) begins with eight broad areas of a person's digital life, depicted around the outer rim of the circle in the illustration: "Digital Identity, Digital Use, Digital Safety, Digital Security, Digital Emotional Intelligence, Digital Communication, Digital Literacy, and Digital Rights" (DQ Global Standards Report, 2019, p. 13). Competencies within these eight areas are further differentiated into three levels of maturity, beginning with the lowest and moving to the highest level: "Digital Citizenship, Digital Creativity, and Digital Competitiveness—allowing learning to proceed based on what may be most relevant to an individual's life at the present moment" (p. 13). The result is an 8 x 3 matrix of 24 competencies (Figure 3), all of which are supported by universal moral values.

Figure 2

Digital Intelligence (DQ) Framework (Reprinted with permission from DQ Institute, 2019, p. 12)

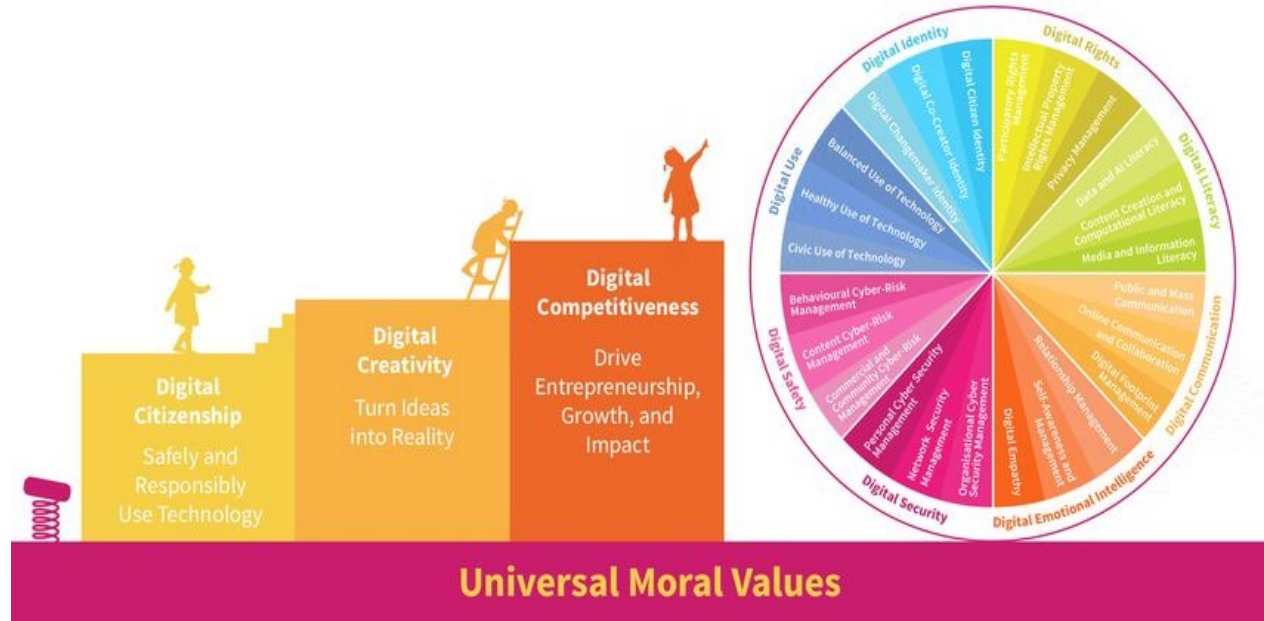


Figure 3

24 DQ Competencies (Reprinted with permission from DQ Institute, 2019, p.12)

	Digital Identity	Digital Use	Digital Safety	Digital Security	Digital Emotional Intelligence	Digital Communication	Digital Literacy	Digital Rights
Digital Citizenship	1 Digital Citizen Identity	2 Balanced Use of Technology	3 Behavioral Cyber-Risk Management	4 Personal Cyber Security Management	5 Digital Empathy	6 Digital Footprint Management	7 Media and Information Literacy	8 Privacy Management
Digital Creativity	9 Digital Co-Creator Identity	10 Healthy Use of Technology	11 Content Cyber-Risk Management	12 Network Security Management	13 Self-Awareness and Management	14 Online Communication and Collaboration	15 Content Creation and Computational Literacy	16 Intellectual Property Rights Management
Digital Competitiveness	17 Digital Changemaker Identity	18 Civic Use of Technology	19 Commercial and Community Cyber-Risk Management	20 Organizational Cyber Security Management	21 Relationship Management	22 Public and Mass Communication	23 Data and AI Literacy	24 Participatory Rights Management

Research with the Digital Intelligence Framework

Building on the evolution of digital literacy research, Park's (2016) introduction of the digital intelligence (DQ) framework was the product of many previous researchers' digital intelligence theories and frameworks. Gardner (1983) was the first to propose the notion of multiple intelligences: linguistic-verbal, logical-mathematical, musical-rhythmic, bodily-kinesthetic, visual-spatial, intrapersonal (internal), and interpersonal (social). He later added spiritual intelligence to the list (Gardner, 1999). Park (2016) supplemented Gardner's (1983; 1999) typology with what she coined digital intelligence. Although Park's (2016) concept of digital intelligence might appear to refer to only skillsets, review of the DQ framework indicates that it is actually a combination of skillsets and mindsets, specifically "technical, cognitive, meta-cognitive, and socio-emotional competencies that are grounded in universal moral values and that enable individuals to face the challenges and harness the opportunities of digital life" (DQ Global Standards Report, 2019, p. 8). These abilities are classified into eight interrelated areas: digital identity; digital use; digital safety; digital security; digital emotional intelligence; digital communication; digital literacy; and digital rights. Park's (2016) DQ framework is still relatively new; therefore, there is a dearth of empirical research using this framework. Despite this, two studies are worth mentioning, as they explored the usefulness and applicability of the DQ framework in educational contexts.

In their research on digital intelligence frameworks, Dostal et al. (2017) focused on one of the two spheres in digital education: teaching content. Their argument was that education had not adequately responded to the digital proliferation in everyday life and was not adequately

preparing students to succeed in digital ways of life. They argued that this was due to the way educators view “thinking digitally:”

Let us distinguish it from thinking about digital technologies. To think digitally means that inference judgements are reached through the processes when the operating of information, ideas and concepts is influenced by digital technologies. These can influence the processes associated with thinking, the resulting form of judgements, or the time required for reflection. (Dostal, et al., 2017, p. 3709)

Therefore, digital intelligence is obviously more than simply knowing how to operate different forms of digital technology; it is a way of thinking and an approach to solving problems through using digital technology.

As a result of this view and the need for teaching digital intelligence, the researchers (Dostal, et al., 2017) analyzed emerging and prominent digital literacy and intelligence frameworks to determine their merits in educational practice. They determined that “the needs of today's education are best met by the concept of digital intelligence development that includes [the] eight interconnected areas” (Dostal, et al., 2017, p. 3706) outlined in Park’s (2016) DQ framework. Compared to other frameworks, the DQ framework (DQ Global Standards Report, 2019) is structured in such a way that it could easily be applied to a wide array of educational curricula in all subject areas. Dostal, et al. (2017) concluded that educational reform regarding digital intelligence could not wait, nor could it be based on certain digital technologies; rather, the DQ framework (DQ Global Standards Report, 2019) could be immediately applied by educators in all subject areas at all educational levels to teach digital intelligence to learners.

Skoda and Luic (2019) researched the DQ framework to determine if its components could be implemented into English educational curricula to increase students’ digital

intelligence. Using a mixed-methods approach, Skoda and Luic surveyed 33 high school students between the ages of 17-19, then conducted interviews to gather the students' perceptions regarding their experiences. The students studied a short story and were required to create digital extensions of the story through a specific learning platform. Their digital extensions were analyzed using an adapted version of the University of Houston's Digital Narrative Rating Scale, the Transmedia Narrative Rating Scale (Skoda & Luic, 2019). The adapted scale assessed the "linguistic quality of the students' work, the transmedia features of the text extension, and the development of digital intelligence" (Skoda & Luic, 2019, p. 9866) using the DQ framework. Skoda and Luic concluded that transmedia curricula supports independent learning and develops digital intelligence. The implication for educators is that applying the DQ framework to existing and new educational content creates a link between teaching methods and digital intelligence.

While more research is needed using the DQ framework, the studies by Dostal, et al. (2017) and Skoda and Luic (2019) are a promising beginning. They demonstrate that the DQ framework is easily applicable in education and that applying the framework to teaching does not detract from necessary course components but complements them to teach digital intelligence.

Digital Literacies and Self-Directed Learning

Although the literature supports SDL and digital literacies research, I have not yet established a link between the two concepts. Consequently, in this section, I will connect digital literacy research to lifelong learning, self-regulation/direction, and social equality, all core tenets of SDL, in order to demonstrate how they are interrelated.

Digital Literacies and Lifelong Learning

When researching digital literacy from a practical standpoint, van Laar, et al. (2017) asserted that "digital literacy is a key component of 21st-century skills, i.e. the digital skills that people should

acquire to enter the workforce of 21st century” (p. 2), but digital literacy, as has been argued, goes beyond executing tasks or learning to use devices. The rapid pace of educational and workforce technology development means that merely learning to complete tasks while using certain technology quickly becomes outdated in the workplace. Instead of focusing solely on technical skills, digital literacy, “is also related to communication, information evaluation, problem solving, gaining experiences, and understanding of risks, given that all these take place in digital environments” (p. 2). The current information age requires a digitally literate populace, as most information is only digitally accessible (van Laar, et al., 2017). As a result, digital literacies research has benefited from drawing from information literacy research.

Previously relegated to library studies, information literacy is now considered relevant in digital literacies studies. The American Library Association (1989) provided the following description of information literacy:

The ability to recognize when information is needed and the ability to locate, evaluate, and use the needed information effectively ... Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand.

(para. 3)

The emphasis on learner autonomy and lifelong learning clearly connects information literacy, and subsequently digital literacy, to SDL.

Closely related to information literacy’s description, SDL is recognized as learning “in which people take the primary initiative for planning, carrying out, and evaluating their own

learning experiences” (Merriam, et al. 2007. P. 110). The lifelong learning noted in the information literacy description is echoed in Schrader-Naef’s (2000) work on SDL, which asserted that lifelong learning should be emphasized in formal and nonformal education to teach people that learning is their own responsibility. Indeed, lifelong learning skills developed in SDL are necessary to stay competitive in the workforce, as many professions require members to continually learn (Williams, 2001). The increasingly digital nature of the workforce and higher education means that SDL, digital literacies, and lifelong learning are inextricably linked.

Digital Literacies and Self-Regulation/Direction

In addition to lifelong learning, digital literacies and SDL are also connected through self-regulation/direction research. Digital literacy research often relies on various terms that encompass SDL, such as self-regulation, learner autonomy, self-efficacy, and learner independence. For example, in their digital literacy study, Greene, et al. (2014) asserted that a major step toward developing digital literacy was the requirement that people develop self-regulation skills. Pintrich (as cited in Greene, et al., 2014) described self-regulation as “a series of actions that help learners in directing their learning processes” (p. 2). This is similar to SDL’s first goal, which is “to enhance the ability of adult learners to be self-directed in their learning” (Merriam, et al., 2007, p. 107). Greene, et al. (2014) identified four actions necessary for self-regulation/direction: (1) cognitive regulation, which involves mental strategies such as memorization, problem solving, and how to learn; (2) motivation and emotional regulation, managing beliefs and emotions to increase motivation; (3) behavior regulation, controlling learning behavior by managing time and implementing effective learning strategies; and (4)

contextual regulation, creating an environment to facilitate effective learning. Previous studies, while noting the importance of self-regulation, indicated that learners struggled to regulate in digital learning environments (Azevedo & Jacobson, 2008; Azevedo, et al., 2008).

In an effort to understand and identify why learners encounter increased difficulty regulating in digital environments, Azevedo, et al. (2008) considered the hypermedia environments in which learning is expected to occur. They found that learners often struggled to combine different media of information, figure out how to proceed with learning, and where to find help. In virtual learning modalities students are expected to manage multiple sources of information while also being responsible for keeping up with their own learning (Wang, 2011), all essential components of SDL. Donelan and Kear (2018) considered that the insular, often isolating nature of digital learning environments might affect self-regulation, but their study found that even when online interactions and collaborative team processes were implemented, learners still struggled with self-regulation. SDL and self-regulation in digital contexts research connect because the term self-regulation used in the research describes the first goal of SDL.

Digital Literacies and Social Equality

Another goal of SDL—“to promote emancipatory learning and social action as an integral part of self-directed learning” (Merriam, et al., 2007, p. 107)—aligns with digital literacies. The National Skills Coalition (NSC) (2020) studied digital literacies through a racial equity lens using data from the Organization for Economic Cooperation and Development (OECD) Survey of Adult Skills (PIAAC). Agreeing with the assertions of previous research, they concluded that digital literacy is necessary for success and that it is a combination of both technical and cognitive skills, or, as Belshaw (2012) argued, skillsets and mindsets.

According to the NSC (2020), of all African American workers in the U.S., 17% had no digital skills and 33% had limited skills. Startlingly, 32% of Latinx workers possessed no digital skills and 25% had limited skills. Of all Asian American/Pacific Islander workers, 10% had no digital skills, while only 26% possessed limited skills. The NSC (2020) noted that some of these workers had what is called fragmented knowledge, or the skills and knowledge to manage some aspects of digital life, like using a mobile device to text or send a photo, but they did not know how to operate a mouse, trackpad, or upload documents, such as a job application.

Fragmented knowledge is most often present in people who do not own a personal computer, whether desktop or laptop, and who have smartphone only internet access (NSC, 2020). The Pew Research Center (2019) reported that this was true for 23% of African Americans and 25% of Latinx, compared to 12% of white Americans. These findings shed light on the dangers of assuming that someone is digitally literate simply because they own a smartphone. As the NSC (2020) concluded, “workers with fragmented knowledge may be adept in navigating certain digital tasks they use in their daily lives, yet also be held back from advancing in their careers due to lack of digital problem-solving skills” (p. 2). This underscores the understanding that technical skillsets, even basic ones, do not translate to cognitive mindsets developed through SDL that are necessary for digital literacies.

Studying digital literacies through a racial equity lens aligns with Collins’s (1996) assertion that investigations into SDL’s third goal should use a critical theory and interpretive and participatory lens. In her autoethnographic study of her experiences designing and teaching undergraduate writing courses that focus on racial topics, Thorsteinson (2018) turned to SDL models to encourage students’ growth and unlearning of racial biases. Thorsteinson’s inclusion of SDL concepts resulted in a multi-faceted course, merging racial, political, and gendered

topics. She concluded that an SDL approach was beneficial to students; they found their voices and developed a sense of community. However, she urged future researchers to consider how discomfort affects SDL, especially when focusing on racial inequalities and other power structures.

Teaching Digital Literacies and Self-Directed Learning in Virtual Courses

Since the literature has established a clear connection between the goals of SDL and digital literacies, it becomes necessary to identify how SDL and digital literacies can be developed in virtual courses. Adams-Becker, et al. (2017) cautioned that “without meaningful integration in teaching-learning processes, digital tools and ubiquitous technologies can be ineffective” (p.1). In other words, virtual courses must have a solid pedagogical or andragogical foundation to be effective for learning.

Peer Collaboration

The first component of online course pedagogy that supports SDL in the literature is peer collaboration. The connection between developing SDL skills and collaborative learning can be traced to social constructivism, an orientation founded by Vygotsky’s (1978) sociocultural theory. According to Vygotsky, all learning occurs within social contexts; therefore, learners and social contexts cannot be treated as separate entities but should be considered as existing in tandem. Collaborative learning joins learners and social contexts, and makes learning a social activity.

At first glance, collaborative learning seems the inverse of SDL; the former depends on working with others, while the latter seemingly relies on solitary learning. Nevertheless, researchers have determined that the social interactions that take place, even in digital contexts, significantly impact learner success. In one study, Lin, et al. (2016) found that SDL and self-

regulation skills were developed and supported in digital courses through the intentional inclusion of learning communities. Likewise, Rienties and Toetenel's (2016) study of learning analytics from over 110,000 Open University students concluded that the chief predictor of retention in virtual courses was the time spent on collaborative communication activities. In their study of the impact of peer support on the development of self-regulation skills in digital environments, Chang, et al. (2013) determined that collaborative learning aids students' development of SDL skills by increasing their motivation to deal with learning tasks and by providing opportunities for peer feedback.

The increased SDL skills of motivation and self-regulation, English and Kitsantas (2013) suggested, might be due to the beneficial exposure to other students' learning strategies and learning outcomes that learners can adopt. These beneficial exposures are possible when educators implement teamwork in their online courses. Research described three teamwork levels: 1) information sharing, in which team members exchange information; 2) cooperation, dividing tasks amongst the team members; and the highest level, 3) collaboration, in which team members plan how to meet learning outcomes and construct demonstrations of those outcomes (Dillenbourg, 1999; Blau, 2011). Collaboration is the highest level because it requires that learners engage more deeply with course content, their peers, and their cognitive resources (Blau & Shamir-Inbal, 2017). Online courses that are focused on supporting SDL development aim for students to reach the third level of teamwork: collaboration.

Despite the positive research findings, even online courses with intentional, pedagogically-grounded teamwork can still negatively affect student SDL development. Walther (2012) concluded that the text-based communication in online courses may result in students having more difficulty understanding and connecting to written messages in online learning

communities, as opposed to non-verbal social cues in f2f interactions. This is especially true for students in fully remote courses, who reported feeling isolated from their classmates, a feeling that negatively affected student motivation (Deng & Yuen, 2010). Blau and Shamir-Inbal (2017), and Weiser, et al. (2018) found that educators could mitigate this by including synchronous interactions amongst students through teamwork and active learning activities.

Despite the benefits of peer collaboration, studies have indicated that it is often difficult to achieve peer collaboration in online courses (Blau & Caspi, 2009; Davies, 2004) because of students' reluctance to engage in collaborative activities. For example, peer editing studies by Davies (2004), Meishar-Tal and Gorsky (2010), and Wang and Beasley (2008) found that students were reluctant to edit or comment on editing suggestions left by their peers on written work. Instead, students would add subsequent comments or simply ignore the editing suggestions, rather than delete or revise them. Caspi and Blau (2011) provided a possible explanation for these findings: Learners avoid collaboration so that they can maintain a sense of ownership of their work or so that they do not offend their peers' sense of ownership.

This sense of ownership, Pierce, et al. (2003) explained, stems from a cognitive-emotional structure. In the case of students, they perceive their work, ideas, and academic contributions as belonging to them alone. Online educators who endeavor to implement collaborative learning are challenged with figuring out how to help students who want to maintain ownership of their ideas and work, learn to share knowledge with peers, learn from them, and work together (Caspi & Blau, 2011). Blau and Shamir-Inbal (2017) offered that educators could bridge this divide through teaching, or modeling, how to collaborate. In this instance, Grow's (1991) SSDL model serves as an applicable framework for educators. As

students learn to collaborate and move toward SDL, educators can transition to a facilitator role, designing their course with a scaffolded structure.

Scaffolding

In addition to peer collaboration, research indicates that online course design should include scaffolded learning to encourage SDL. Scaffolded learning reflects Vygotsky's (1978) Zones of Proximal Development, which states that lower skilled or less developed students' learning will occur when in close proximity to more skilled or developed peers or instructors, such as allowing peers to guide learning or provide feedback. Vygotsky advocated for "instructional concepts such as scaffolding..., in which a teacher or more advanced peer helps to structure or arrange a task so that a novice can work on it successfully" (McLeod, 2020, para. 65). In virtual courses, greater guidance might be needed as student discussions progress deeper into the material, and as students encounter and work through complex problems.

As suggested by Grow (1991), faculty must balance the student-centered approach with effective facilitation when necessary (Adams-Becker et al., 2017), a balance that is challenging for educators to strike. McLoughlin and Lee (2008) concluded in their study of scaffolded learning that "the challenge for educators is to enable self-direction, knowledge building, and learner control by providing options and choice while still supplying the necessary structure and scaffolding" (p. 17). To equip educators with tools to overcome this challenge, Mamun, et al. (2020) studied the use of the instructional design approach known as predict, observe, explain and evaluate (POEE) to build multiple scaffolding strategies in an online undergraduate chemistry class in Australia. Using qualitative methodology, the researchers thematically analyzed data from interviews, observational notes, student activities, and students' written

responses and found that the multimodal scaffolded learning strategy they studied enabled student SDL.

Reflection

Not only is scaffolding effective in developing student SDL in online classes, but allowing students the time and space to critically reflect on their learning is also an effective online teaching method to develop SDL (Paris and Winograd 2003). Research has found that “the capacity to critically reflect is associated with the higher order cognitive processes of self-regulation and metacognition” (Coulson & Harvey, 2013, p. 401). Reflective practices must be intentionally and thoughtfully integrated into courses. Students need support to develop reflection skills, “as this capacity may be innately present in only a small proportion of students” (Coulson & Harvey, 2012, p. 401). However, when implemented well, “practice of critical reflection will assist students to move through their Zones of Proximal Development to a deeper level of reflection” (p. 401). Several studies illuminated the possibility of positive outcomes in student learning when reflective methods are employed.

In one of the few studies considering the instructors’ perspective in supporting student SDL in online courses, Zhu and Bonk (2020) found that metacognitive processes, like reflection, were valued by educators. In their mixed-methods study focusing on online instructors’ perspectives, Zhu and Bonk collected data from 198 surveys and 22 semi-structured interviews. The interviews revealed that, among cognitive processes, like quizzes and tutorials, the instructors intentionally prompted students to engage in reflection activities to encourage SDL development. The researchers also concluded that the way instructors approached and designed their online and blended courses was significantly influenced by their previous f2f classroom teaching experiences.

Zhu and Bonk's (2020) conclusions are supported by earlier research on reflection and SDL. Boud, et al. (2013) stressed that reflection was instrumental in learners transferring their learning to other settings and situations. Likewise, Parker, et al. (1995) and Schraw (1998) determined that metacognitive processes, like reflection, improved learners' SDL. Based on the findings from these studies, further research into online teaching practices and SDL developments is necessary.

Summary

In this chapter, I presented an overview of SDL in adult education, an overview of digital literacies, and the connection between SDL and digital literacies in order to establish how research has progressed and demonstrates the relationship between these concepts. Following that, I provided research on promoting digital literacies and SDL in virtual courses. A review of the literature revealed that SDL, digital literacies, and virtual course teaching methods are disproportionately researched within quantitative or mixed-methods paradigms. Additionally, the existing literature has predominantly focused on the learners' point of view. As a result, the literature review indicates a need for future research to follow qualitative methodology and focus on educators' points of view in order to increase our knowledge of SDL and digital literacies. In this vein, the following chapter outlines and justifies the qualitative methodology I will employ and how this methodology informs my study's design, sample selection, and data collection and analysis.

CHAPTER III

METHODOLOGY

The purpose of this study was to examine community college faculty perceptions of teaching in virtual modalities during the Covid 19 pandemic, focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences on student SDL skill development. To explore community college faculty perceptions of teaching in different virtual learning modalities during the Covid-19 pandemic, I investigated the issue using the conceptual framework of Grow's Staged SDL model (1991) and the DQ framework (Park, 2016). The DQ framework is relevant because faculty were required to teach in virtual modalities, bringing into question their level of digital literacy, as well as their students'. Faculty digital literacy is just as important as student digital literacy, so the DQ framework provides a useful tool with which to gauge digital literacy.

In addition to the DQ framework, Grow's model is applicable because of its focus on teaching and how teaching practices can promote SDL skill development. While other models and frameworks are focused on the learner, Grow's model meets two needs for this study: (1) the model is focused on educators; and (2) the model reflects the position that SDL orientations can be taught. The mission of American higher education is to produce lifelong, self-directed learners, and Grow's model provides faculty with a strategy to accomplish this goal.

Using Grow's model in conjunction with participants' perceptions and experiences offered insight into how their teaching practices during the pandemic promoted or reduced students' opportunities to develop SDL skills. While some research has been conducted from the

same epistemological orientation as this study, further qualitative SDL research is necessary in order to build additional knowledge.

Moreover, a qualitative approach was most appropriate for this study since the research questions required data in the form of detailed interviews. Further, little empirical research has been conducted on faculty experiences teaching in virtual modalities during the pandemic. This research study provided the opportunity to understand the experiences of these faculty members, as well as contribute to the field's research and practice.

Four research questions guided this study:

1. How digitally ready were faculty to teach in virtual modalities?
2. How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities?
3. How did instructors' personal feelings and experiences during the pandemic affect their teaching?
4. How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?

Each of these questions were intentionally framed as open-ended to elicit participants' responses of their perceptions and experiences teaching in virtual modalities during the pandemic.

In order to answer the research questions, I employed a basic qualitative research design. The adherence to a specific methodology within the research paradigms determines how researchers come to understand the world and humanities' place in it. Merriam and Tisdell (2016) provided a succinct explanation of this mode of inquiry: "Qualitative research is based on the belief that knowledge is constructed by people in an ongoing fashion as they engage in and

make meaning of an activity, experience, or phenomenon” (p. 23). As a methodology, qualitative research is not an easy or straightforward approach; qualitative researchers readily admit that it is a messy process (Markham, 2018). Perhaps one explanation for the messiness is that methodologists have yet to provide and agree on a standard definition (Creswell & Poth, 2018). More likely is the fact that qualitative researchers get into the thick of things; they go into natural settings and attempt to interpret and relate the meaning of people’s experiences. Yet for all the messiness and confusion, qualitative researchers “make the world visible [and] transform the world” (Denzin & Lincoln, 2005, p. 3). On the path to transforming the world, embracing the messiness is but one part of qualitative research.

This chapter provides a detailed description of the research design for this study. The first part of the chapter offers an overview of qualitative research characteristics, followed by the rationale for a basic qualitative approach for this study. The last half of the chapter outlines this study’s research design, including participant selection, data collection, data analysis, robustness of research design, and researcher positionality. A summary paragraph concludes the chapter.

Overview of Qualitative Research Characteristics

The availability of different qualitative methodologies allows researchers the flexibility to determine which approach best fits the purpose of their study. Although each approach possesses individual characteristics, researchers have identified characteristics common to all qualitative approaches (Creswell & Poth, 2018). The decision of which approach to choose depends greatly on the purpose of the study, which is determined by the research questions shaped by the researcher’s worldview:

The way a researcher ‘sees’ the world influences the type of questions he or she asks

and the techniques chosen in order to answer such questions. A researcher with a positivist ‘world view’ or ‘orientation’ sees truth as an objective reality that can be measured or quantified... Although important, this approach has some limitations. It cannot explain, for example, why individuals behave in the way they do in different contexts. (Astin & Long, 2014, p. 93)

Using Creswell and Poth’s (2018) *Qualitative Inquiry and Research Design* as a primary guide, the following explains qualitative research characteristics.

To Answer Why and How Questions

A qualitative approach works when researchers want to explore an issue or problem. This exploration seeks more than to determine *if* something happened, or *what* the problem is; rather, a qualitative exploration desires to understand *why* something happened, and *how* the problem or issue affects people’s lives. Denzin and Lincoln, (2018) were careful to note that researchers will never be able to fully explain the world; however, further understanding comes through studying representations of the world by interpreting people’s experiences in their own words. To investigate the why and how of a problem, researchers talk directly to people and consider multiple perspectives on an issue.

To Value Individual Experiences

Qualitative research also allows researchers to empower individuals and value their experiences. Participants have space to tell their stories in their own voices. The interview, for example, “is not an interaction between disembodied intellects but a joint accomplishment of vulnerable, embodied persons with all sorts of hopes, fears, and interests” (Brinkmann, 2018, p. 998). Qualitative approaches humanize issues in a way that quantitative measures simply cannot. Creswell and Poth (2018) argued that quantitative measures lack sensitivity regarding people’s

individualism. For that reason, “to level all individuals to a statistical mean overlooks the uniqueness of individuals” (pp. 92-93) and their experiences. Qualitative research focuses on individuals and how they make meaning of their experiences.

To Understand Contexts

Qualitative researchers know that problems exist within specific contexts; therefore, qualitative research does not separate participants and their settings (Creswell & Poth, 2018). Ahmed and Rogers (2017) succinctly explained the importance of context: “What is thought to be, or constructed as ‘true’, is shaped by the particular contexts in which it occurs, and phenomena have different meanings depending on when and where they occur (p. 226). *When* something happens is just as important as *where* and to *whom*. Another major component of contexts that qualitative research addresses is power structures. Torre, et al. (2018) found a qualitative approach was best suited to understand the oppression of certain communities. They quickly realized that their understanding depended on acknowledging and exploring the power structures that contributed to communities’ subjugation (Torre, et al., 2018). Context is dependent on time, place, and power. Investigating these facets is an essential part of qualitative research.

To Have Flexibility in Writing Style

Researchers who want to exercise flexibility in their writing style find that qualitative research is accommodating. Qualitative research is for those who “want to write in a literary, flexible style that conveys stories, or theater, or poems, without the restrictions of formal academic structures of writing” (Creswell & Poth, 2018, p. 92). An example of this flexible writing style is found in Ahmed and Rogers’ (2017) narrative analysis of a trans-gendered participant. Their analysis is organized following a traditional literary plot structure (Ahmed &

Rogers, 2017). Sometimes researchers will analyze photographs to construct a photo narrative (Riesmann, 2008). As is evident, qualitative approaches provide researchers the flexibility to present their research in ways that are appropriate for their specific studies.

To Develop Theories

Researchers use qualitative approaches when they need to further develop theories. At times, “partial or inadequate theories exist for certain populations...or existing theories do not adequately capture the complexity of the problem” (Creswell & Poth, 2018, p. 93). Qualitative research is a means to fill in the gaps and advance new directions for research. Moreover, qualitative research effectively continues where quantitative research ends, by using theories to understand why people responded or behaved in a certain way (Creswell & Poth, 2018). Qualitative research studies are framed by and help further develop theories of human behavior and power dynamics.

Rationale for a Basic Qualitative Approach

Through planning out each aspect of the study, detailed in this chapter, I strengthened the robustness of my inquiry so that I could contribute to what is known about my topic. The questions posed in this study were best addressed employing a basic qualitative research approach. Creswell & Poth (2018) stressed the importance of researchers identifying an approach to qualitative inquiry: “We need to identify our approach...in order to present it as a sophisticated study; to offer it as a specific type so that reviewers can properly assess it, and...to offer some way of organizing ideas that can be grounded in the scholarly literature of qualitative research” (p. 120). Multiple approaches are available with qualitative research with their own research aims, but a basic qualitative approach was most appropriate to fully answer my research questions.

Of the five approaches to qualitative research, a case study approach did not align with my research because the complexity of the multi-faceted topics under investigation in this study--digital literacy, SDL skill development, teaching methods, and personal experiences--did not rely on inquiry within a specific case's bounded system. With regard to phenomenology, because this study is concerned with the intersection of teaching, digital literacy, and SDL, my research questions aimed to pursue more than understanding the essence of the participants' experiences of a phenomenon. In the same way, answers to the research questions in this study did not warrant understanding the narrative components of participants' responses, rendering the narrative approach impractical. Ethnography was also an inappropriate approach since my research was not concerned with understanding a culture-sharing group. Finally, basic qualitative is a better option than grounded theory because my aim was not to develop a new theory by investigating this issue. After considering each approach and finding that they were insufficient for this study, it became clear that my research questions could be fully investigated with a basic qualitative approach.

Further, I chose basic qualitative as my specific approach because I was interested in "how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences" (Merriam and Tisdell, 2016, p. 24). Unlike the others, this approach is appropriate since my "overall purpose is to understand how people make sense of their lives and their experiences" (p. 24). Basic qualitative inquiry is grounded in the assumption that people build their own realities through making meaning of their experiences, also referred to as constructivism. Crotty (1998) explained that in constructivism, meaning "is not discovered but constructed. Meaning does not inhere in the object, merely waiting for someone to come upon itMeanings are constructed by human beings as they engage with the world they are

interpreting” (pp. 42 – 43). The basic qualitative research approach in my study provided valuable insights into educators’ experiences as they taught in virtual modalities during the pandemic.

Coinciding with constructivism, interpretivist research “assumes that reality is socially constructed; that is, there is no single, observable reality. Rather, there are multiple realities, or interpretations, of a single event” (Merriam and Tisdell, 2016, p. 9). As such, researchers in interpretivist, basic qualitative inquiry seek to construct knowledge, not merely find it. Creswell (2013) explains:

In this worldview, individuals seek understanding of the world in which they live and work. They develop subjective meanings of their experiences.These meanings are varied and multiple, leading the researcher to look for the complexity of views. (....) Often these subjective meanings are negotiated socially and historically. In other words, they are not simply imprinted on individuals but are formed through interaction with others (hence social constructivism) and through historical and cultural norms that operate in individuals’ lives. (pp. 24 – 25)

Merriam and Tisdell (2016) asserted that as the most common approach in educational research, basic qualitative inquiry interprets and constructs knowledge through data collected in interviews, document analysis, and observations.

This approach makes the most sense for my research. As pointed out in the literature review, there is a dearth of qualitative research focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences, on student SDL skill development. Additionally, the literature exemplified the limitations of knowledge regarding this topic because most of the research has been conducted from the students’ perspective; research

from the educators' perspective adds to our knowledge of facilitating SDL in virtual learning modalities. Moreover, this study investigated how educators' experiences in their personal lives, their digital literacy levels, and their teaching practices in virtual modalities intersected to either support or hinder student SDL skill development during the pandemic, a line of inquiry that has not previously been explored.

Methods

Having established that this study employed a basic qualitative approach, the details of the methods--participant selection, data collection, and data analysis--follows.

Participant Selection

I selected the participants for this study using purposeful sampling. Purposeful sampling is generally understood as "the selection of specific data sources from which data are collected to address the research objectives" (Gentles, et al., 2015, p. 1775). Patton (2015) more deeply explained the importance of purposeful sampling:

The logic and power of purposeful sampling lie in selecting information-rich cases for in-depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry. Studying information-rich cases yields insights and in-depth understanding. (p. 264)

My participants were selected using criterion-based selection, defined as determining crucial attributes and finding people and sites that meet those criteria (LeCompte & Schensul, 2010). I planned to select between 7-10 individuals if they met the following criteria: community college faculty member, instructor of record of a Hyflex or fully online course during the Covid-19 pandemic (Spring 2020-Spring 2021), and willing to sit for a virtual interview.

Limiting the participants to this number allowed me to conduct in-depth investigation of faculty perceptions and experiences. I initially invited over 30 individuals from institutions that implemented Hyflex and fully online modalities during the pandemic to participate, with 8 ultimately participating. The selected participants, all from the same institution, expressed their willingness to participate by responding to my email inquiry. The unprecedented pressure under which community college faculty operated and the increased workload during the pandemic likely contributed to so few respondents; however, the 8 participating faculty provided me with rich data to analyze and understand their experiences in detail.

While it was not part of the initial research design, all of the participants in this study taught at the same institution. One explanation for this could be because of the snowball or chain recruitment approach I used (Creswell and Poth, 2018; Lincoln and Guba, 2018). A form of purposeful sampling, snowball or chain sampling involves “locating a few key participants who easily meet the criteria you have established for participation in the study. As you interview those early key participants you ask each one to refer you to other participants” (Merriam and Tisdell, 2016, p. 98). The first participant interviewed suggested 2 additional faculty members for me to contact at their institution, a process which continued with each subsequent interview. The result was that all of my participants taught at the same community college, while none of the faculty from the other institutions I contacted replied to my recruitment email.

Data Collection

After selecting my participants, I followed the typical methods of interview data collection in basic qualitative inquiry (Yates & Leggett, 2016). Interviews are a specific research method in qualitative inquiry that has been used for many years to collect data and was the best method to obtain data for this study. Usually, everyday conversations are simply “the

spontaneous exchange of views,” but “a conversation that has a structure and a purpose” (Brinkmann & Kvale, 2015, p. 5) is a research interview. As such, Merriam and Tisdell (2016) noted that “interviewing for research purposes is a systematic activity” whose “popularity as a data collection technique is attested to by dozens of books on interviewing” (p. 107). DeMarrais and Lapan (2004) define a research interview as “a process in which a researcher and participant engage in a conversation focused on questions related to a research study” (p. 55). The focused nature of the interview conversation and the rich data it yields make the interview an effective method of inquiry for qualitative research.

My decision to use interviews as a data collection method was based on the value that interviews lend to understanding phenomena that cannot be observed by researchers, such as the faculty perceptions and experiences relevant to this study. Patton (2015) clarified the usefulness of interviews:

We interview people to find out from them those things we cannot directly observe ... We cannot observe feelings, thoughts, and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot observe situations that preclude the presence of an observer. We cannot observe how people have organized the world and the meanings they attach to what goes on in the world. We have to ask people questions about those things. The purpose of interviewing, then, is to allow us to enter into the other person's perspective. (p. 426)

Asking faculty about their experiences teaching in virtual modalities during the pandemic, as well as their perceptions of how those changes to learning have affected students and how they are supporting students during that time, was the best way to obtain data for this study; interviews illuminated unobservable “behavior, feelings, [and] how people interpret the world

around them” (Merriam and Tisdell, 2016, p. 108). Additionally, the circumstances in the Spring 2020 semester that precipitated the sweeping changes from traditional to virtual learning could not be replicated for direct researcher observation (Merriam & Tisdell, 2016); therefore, interviewing faculty was necessary.

The on-going precautions of social distancing and avoiding unnecessary contact compelled me to conduct all interviews virtually through video-conferencing media. Merriam and Tisdell (2016) insisted that “the most common form of interview is the person to person encounter, in which one person elicits information from another” (p. 108), and acknowledged that person-to-person encounters are still possible through synchronous video conferencing tools. The synchronous video component of virtual media makes it more like in-person interviews (Merriam & Tisdell, 2016). Conducting online interviews has recognized strengths, such as eliminating geographic limitations and broadening the participant pool (Merriam & Tisdell, 2016); however, another strength of conducting interviews through video conferencing media during a pandemic was that it also allowed both the researcher and participant to remain as safe as possible without hampering qualitative research inquiry.

Selected faculty participated in individual interviews via Zoom. Each interview lasted approximately 60-180 minutes, depending on how much they shared. I remained flexible with time limits so that participants could fully share their experiences. One of the challenges to video interviewing is the additional effort researchers must put forth to build rapport with participants, since the medium of the interview may cause participants to feel shy or less articulate than they otherwise would be in an interview (Merriam & Tisdell 2016; Creswell & Poth, 2018). As part of the interview protocol, I took care to create as comfortable an environment as possible, regardless of the interview mode (Creswell and Poth, 2018). I built rapport by engaging with the

participants and practiced active listening through maintaining eye contact and through offering verbal cues (Merriam & Tisdell 2016). One of the strengths of using Zoom to conduct interviews is that it allowed me to record the interview (with participant and IRB approval), which meant that I was able to actively listen to participants without worrying that I was missing crucial data (Merriam & Tisdell, 2016), since I could go back and rewatch the interview during data analysis. Creating a safe, comfortable virtual interview environment was also accomplished by protecting the identity of my participants. I strove to protect their identities by requiring a different password for each Zoom meeting, using pseudonyms for each participant, and storing all data on a password protected computer.

The research questions for this study focused on faculty digital readiness, teaching methods, student performance and engagement, and faculty feelings and experiences. Since interviews were the primary method I used to gather data, I crafted semi-structured questions that originated from the research questions and would elicit the richest responses from participants (see Appendix A). Basic qualitative research offers several types of interview structures, which Merriam and Tisdell (2016) noted “varies from highly structured, questionnaire-driven interviews to unstructured, open-ended, conversational format” (p. 109). Within this range of options, I chose to follow a “semi-structured interview” (p. 110) type for this study.

Questions in the semi-structured interview are more flexibly worded and open-ended to allow the participant to share as much as possible (Merriam & Tisdell, 2016). Because of this structure, “the interview is guided by a list of questions or issues to be explored, and neither the exact wording nor the order of the questions is determined ahead of time” (p. 110). This structure released me from the rigidity of predetermined, ordered questions and allowed me to respond to the interview as it unfolded and make adjustments in the moment (Merriam & Tisdell, 2016).

While I did create a list of topics and questions to guide me before I began the interviews, I practiced adaptability during each interview to ask additional questions as necessary. This is a technique known as probing (Lincoln & Guba, 1985; Merriam & Tisdell, 2016; Patton, 2002). Essentially follow-up questions, probing required active listening in order to know when additional responses were necessary. Generally, the probing that I did in the interviews included questions like, “What was that like?” “How did that make you feel?” “What do you mean by that?” “Could you please elaborate?” Such follow-up questions served two purposes: (1) they helped me build rapport with my participants through active listening; and (2) they resulted in richer, more complete data.

Data Analysis

After completing each interview, I transcribed the recording, making sure to include any additional notes I collected during the interview. Analysis occurred from the bottom up (Creswell, 2007), allowing me to fully immerse myself in the data. Analyzing the data from the bottom up meant that I used transcribed interviews and worked through participant responses individually, dividing data into units and categorical themes using color coding and theme tables for data extraction and organization (Astin & Long, 2014). Analyzing data while still in the process of conducting additional interviews was a recursive process that allowed me to modify emerging themes and adjust subsequent interviews based on those emerging themes (Lincoln & Guba, 1985).

The purpose of qualitative data analysis is to make meaning of a phenomenon by “consolidating, reducing, and interpreting what people have said and what the researcher has seen and read” (Merriam & Tisdell, 2016, p. 202). In order to make meaning, coding and categorizing data is a necessary process that begins with identifying units of data. Merriam and

Tisdell (2016) advised identifying units of data that respond to the research questions that are in the form of a single word a participant utters to convey their feelings of an experience or lengthy excerpts of descriptions. While individual researchers adopt their preferred method of coding (Merriam & Tisdell, 2016; Creswell & Poth, 2018), I preferred color coding units of data and organizing them into coding tables to aid me in easily retrieving data and identifying emerging patterns. The units I coded were data that pertained to my research questions. Initial coding produced 9 data sets containing data of similar topics. Reviewing the patterns and grouping similar units of data together was how I began to construct categories or themes. Merriam and Tisdell (2016) described the process of coding and categorizing data:

The construction of categories is highly inductive. You begin with detailed bits or segments of data, clustered data units that seem to go together, then “name” the cluster. This is a category or theme or finding. As you move through the data collection – if you have been analyzing as you go – you will be able to “check out” these tentative categories with subsequent interviews, observations, or documents. At this point there is a subtle shift to a slightly deductive mode of thought - - you have a category and you want to see whether it exists in subsequent data. (p. 210)

This step in the data analysis process requires that researchers possess the skills of inductive and deductive reasoning and simultaneously working with abstract concepts and concrete data units (Merriam & Tisdell, 2016) to understand, interpret, and make meaning.

After thematically analyzing each interview, I cross analyzed the data to identify overlapping themes and combined the data into a master theme table (Astin & Long, 2014). From the 9 data sets, I combined related data to form 4 major themes, then identified appropriate subthemes for each major theme. This step required me to rework theme names and

categorization of data. The new themes cut across all of my data and were clearly abstract concepts gleaned from the data, not direct quotes of data themselves (Merriam & Tisdell, 2016). The purpose of this, according to Glaser and Strauss (1967), was to ensure that the themes could stand alone as support for the data that inspired them. Data collection and analysis ceased and reporting began when my data reached the point of saturation, or when no new insights or information were gathered from additional data collection (Merriam & Tisdell, 2016). I recognized saturation when I began to hear the same answers during interviews and when no new insights were derived from data analysis.

Once the themes were identified and organized and saturation had occurred, I presented my findings using three elements of qualitative study reports: General description, particular description, and interpretive commentary (Erickson, 2012). General description, or “patterns discovered in the data,” is used when researchers need “to tell the reader whether the vignettes and quotes are typical of the data as a whole” (p. 1465). Particular description, “the raw data ... consist[ing] of “quotes from people interviewed and quotes from field notes and/or from documents pertinent to the study” (p. 1465), is used to support the experiences of individual participants. The third element, interpretive commentary, “provides a framework for understanding the particular and general descriptions” (p. 1465). Merriam and Tisdell (2016) noted that the interpretations are when researchers make meaning of participant’s experiences and understanding of the researched phenomenon, or situate participants’ experiences within the phenomenon. Providing general and particular descriptions with interpretive commentary balances the findings and gives the report substance. In my final interaction with the findings, I analyzed my interpretations of the data within the specified conceptual framework of the study.

Robustness of Research Design

Another consideration for my research design was planning for the robustness of the study, which is informed by my chosen methodology. Firestone (1987) explored the different terms and approaches used to establish trustworthiness in the quantitative and qualitative paradigms. In quantitative studies, researchers rely on faithfully reporting that proper procedures have been followed. Conversely, qualitative studies provide enough detailed descriptions to support researchers' conclusions. In my qualitative study, I planned for credibility, consistency, and transferability to strengthen the trustworthiness of my research.

Credibility

As previously stated, qualitative research is concerned with the how and why of phenomena: understanding people's experiences, uncovering "the complexity of human behavior in a contextual framework, and ... present[ing] a holistic interpretation of what is happening" (Merriam & Tisdell, 2016, p. 244), not necessarily proving an objective truth or reality. Wolcott (2005) stated that qualitative researchers build their credibility through "the correspondence between research and the real world" (p. 160). Of the strategies available in qualitative research, I used member checks and researcher position, or reflexivity, to establish credibility in this study.

A common strategy I used to ensure credibility was member checks (Merriam & Tisdell, 2016, Lincoln & Guba, 1985). Member checks are when researchers seek feedback on initial findings from some of the participants, not to be confused with transcript checks. Maxwell (2013) asserted that member checks are "the single most important way of ruling out the possibility of misinterpreting the meaning of what participants say and do and the perspective they have on what is going on" (p. 126). Additionally, member checks are "an important way of identifying [a researcher's] own biases and misunderstanding of what [was] observed" (p. 127).

During member checks, participants informed me if my initial findings accurately portrayed their experiences or if my findings required any revision in order to more precisely convey their perspectives.

The final strategy I employed to strengthen the credibility of the study required me to practice reflexivity. This strategy, “related to the integrity of the qualitative researcher, ... is how the researcher affects and is affected by the research process (Probst & Berenson, 2014, as cited by Merriam & Tisdell, 2016, p. 246). The interactive nature of conducting qualitative inquiry requires researchers to explore and state how their characters, experiences, assumptions, values, and biases influenced their views of the research topic and their interpretations of the data. I regularly practiced reflexivity throughout the course of the study. Reflexivity “demands steady, uncomfortable assessment about the interpersonal and interstitial knowledge-producing dynamics of qualitative research, in particular, acute awareness as to what unrecognized elements in the researchers’ background contribute” (Denzin & Lincoln, 2018, p. 277). Reflexivity also entailed continually checking the themes I identified and my interpretations against the data. Part of my research plan had included revisiting any assertion not supported by data and starting again; however, it was not necessary. Altogether, my commitment to member checks and practicing reflexivity lends itself to ensuring the credibility of my study.

Consistency

In addition to credibility, I also ensured that this study was consistent. Merriam and Tisdell (2016) explained that quantitative inquiry is concerned with reliability, or “the extent to which research findings can be replicated” (p. 250). Reliability in quantitative research means that the replications of the original study will have the same results. This clinical, traditionally experimental research design assumes that single realities exist in the form of laws and can be

repeatedly explained through the same experiment. Qualitative researchers, on the other hand, “seek to describe and explain the world as those in the world experience it” (p. 250). The innumerable interpretations of a phenomenon mean that there is no way to reach the exact same conclusions and ensure reliability by repeating a study. Instead, qualitative research is concerned with consistency: Outsiders can agree that the results of a study make sense, given the data collected (Lincoln & Guba, 1985). One method I used to achieve consistency in this study is an audit trail.

Lincoln and Guba (1985) suggested the audit trail method be used so that outside readers can verify a study’s findings by following a researcher’s trail throughout the course of the study. The audit trail explains how researchers arrived at their results (Dey, 1993). By keeping an account of how a study progressed to reach its results, Richards (2009) determined that “good qualitative research gets much of its claim to validity from the researcher’s ability to show convincingly how they got there, and how they built confidence that this was the best account possible” (p. 143). This account, or project history, comes in the form of a research diary, processes log, or coding tables that details data collection and analysis, as well as tracks how and when decisions were made during the study (Merriam & Tisdell, 2016). During this study, I followed the audit trail method by keeping coding tables that tracked how I reached my conclusions first in individual interviews, then with identified themes, culminating in a master theme and sub theme table.

Transferability

The final consideration to ensure the robustness of this study was to plan for transferability. While quantitative research aims for findings to apply to situations outside the study, qualitative inquiry seeks in-depth exploration of particulars, not generalizations (Merriam

& Tisdell, 2016). Lincoln and Guba (1985) maintained that researchers should not concern themselves with the application of their findings outside of their study because they cannot anticipate every possible site or relevance to future research. Merriam and Tisdell (2016) asserted that “every study, every case, every situation is theoretically an example of something else. The [universal] lies in the particular; that is, what we learn in a particular situation we can transfer ... to similar situations subsequently encountered” (p. 255). As a comparison, Merriam and Tisdell (2016) argued that continued enjoyment and study of art and literature persist because people are able to realize the universal from the particular. In qualitative studies, researchers are obligated to provide sufficient details of the study and its context so that readers are able to compare it with other situations. The strategy I used to enhance transferability was through providing thick, rich descriptions of the data.

Including thick, rich descriptions was originally applied to ethnographic research (Maxwell, 2013), but it has since been adopted as an effective strategy in most qualitative approaches. Ensuring transferability through rich, thick descriptions means including descriptions of “the setting and participants of the study, as well as a detailed description of the findings with adequate evidence presented in the form of quotes from participant interviews, field notes, and documents” (Merriam & Tisdell, 2016, p. 257). Although not aiming for generalization, researchers should make transferability possible by providing “sufficient descriptive data” (p. 298). Doing so provides future researchers with enough detail for them to decide if the original study is transferable to their situation. I adhered to this strategy by incorporating rich, thick descriptions from my data. While still protecting the identities of my participants, I provided descriptions of each individual so that greater transferability is possible. Furthermore, I included details of the research procedures so that readers can follow how the

study was conducted. Finally, my findings portrayed direct quotations spoken by participants, as well as my own interpretations of what they shared. The inclusion of each of these description types helps to ensure the transferability of my findings to future research.

Positionality

A significant consideration of qualitative research is the influence of the researcher's positionality, or research orientation and biases, and how positionality influences the findings of a study. I fully recognize that my background, experiences, and identity position me in any issue I research. My experiences might influence research that I undertake and the findings of that research, especially research in higher education; however, the influence of my background will not necessarily negatively affect my research.

One area of my background that influenced this study was my professional life. I am a full-time English instructor at a central Texas community college, where I have worked for over 10 years. I teach a minimum of 5 sections of first year writing courses per semester with an average of 250 students each academic year. Throughout my years of teaching, I have been committed to the community college mission of providing quality, affordable educational opportunities to mostly nontraditional students. Despite this commitment, I have noticed that some demographics of students struggle more than others, and I am concerned with how to best support these students. I view writing and digital competence skills as inseparable in the 21st Century and as a basic literacy issue, thus, development of writing and digital literacy skills is a social justice issue. Students who do not know how to write well or do not possess digital competency will experience difficulty throughout their lives, not just in college; however, both are skills that can be taught, and I am dedicated to researching and teaching students these skills.

My professional career in higher education meant that I was directly affected by the Covid-19 pandemic. I was forced to convert all of my f2f class content to online courses in a matter of days in the beginning of the Covid-19 pandemic during the Spring 2020 semester. Having never taught fully online before, I found the transition arduous and am still worried that I did not support my students in the ways they needed most or give them the best education. I continued to teach in modified formats for the Fall 2020 and Spring 2021 semesters. My institution offered several workshops for online teaching over the Summer 2020 break, but most of those and the subsequent workshops tended to focus on technical acuity and troubleshooting, not on online pedagogy. I have spent many hours outside of my regular workday researching online teaching strategies that I could implement in my courses. My experiences as a community college instructor impacted my interactions with participants. In qualitative research, insider/outsider access can be a blessing or a curse when it comes to gathering trustworthy data (Denzin & Lincoln, 2018). Interviewing faculty with whom I probably share some of the same experiences, especially during the Covid-19 pandemic, possibly minimized negative power dynamics and gave me insider access.

Upon critical self-reflexivity, I acknowledge that some of my personal experiences may influence how I approached and interpreted this study. I am a first-generation college graduate, who earned a Bachelor's and Master's in English and is currently earning a PhD in Adult Education at a leading research university, all while receiving no guidance from my family regarding my education. I also had an undiagnosed learning disability that was not discovered until well into my undergraduate studies. Despite these challenges, I persisted, mostly because of my love of learning. I have always excelled in literary and writing studies, which influenced my career choices. I realized early on that my love of reading and writing greatly impacted my

success in college. One of the most valuable skills that I have learned is self-direction; I learned how to identify what I need to learn and how to find information that I do not know and use digital technology as a tool in my education. Altogether, my life experiences helped shape the design of this study and colored how I interpreted my findings.

Summary

In this chapter, I detailed my chosen research methodology and design, as well as provided justification for choosing to pursue a basic qualitative study based on my inquiry's purpose and research questions. Further, I explained my participant selection process and how I collected and analyzed the data. I also discussed how I would ensure credibility, consistency, and transferability regarding the robustness of this study. Finally, I explored the influence of my life experiences on the study by stating my positionality. The next chapter details the findings from my interviews as I seek to answer the research questions of this study.

CHAPTER IV

FINDINGS

The purpose of this study was to examine community college faculty perceptions of teaching in virtual modalities during the Covid 19 pandemic, focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences on student SDL skill development. Neither instructors nor students had a choice of teaching and learning in virtual modalities during the pandemic. This fact raised questions about the digital literacy of both groups and their experience with digital technology. Additionally, the virtual modalities caused instructors to change almost every aspect of their courses, from their teaching methods to how they communicated with students, with little time to prepare and transition to digital spaces. Further, the instructors' perceptions and experiences during the pandemic were potentially influential in what they changed, how they changed, and how they perceived their students. Moreover, many people assumed that students would develop and exhibit increased independence in virtual courses; however, students' self-directed learning skill development could have been hindered or helped by the changes implemented by instructors, as well as the instructors' physical and mental health. The interconnectedness of all of these facets was the focus of this study, bringing together digital literacy, teaching methods, student SDL skill development, and the influence of teachers' personal lives on their teaching.

The following research questions guided this study:

1. How digitally ready were faculty to teach in virtual modalities?

2. How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities?
3. How did instructors' personal feelings and experiences during the pandemic affect their teaching?
4. How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?

In an effort to investigate these research questions, I used a basic qualitative method. The basic qualitative method was the most appropriate for this study because of the complexity of the interworking issues indicated by the research questions,--SDL; digital literacy; teaching methods; and feelings and perceptions--which could not be fully explored with another approach. In this chapter, I first provide an overview of the participants, followed by the presentation of major themes and their respective subthemes.

The participants for this study comprised 8 Texas community college faculty members. They all teach at the same institution, which implemented emergency fully remote courses in March 2020 and a combination of fully remote and Hyflex modalities during the 2020-2021 academic year. Additionally, the institution also restructured the 16 week semesters into an 8 week format for most subjects, meaning that faculty taught 2 rounds of 8 week courses in a semester. Each participant has been given a pseudonym, and all other identifiers have been changed to ensure participant anonymity. The overwhelming alterations to their teaching requirements during the academic year left many instructors little time and energy to participate in this study; therefore, I was only able to collect data from 8 participants.

In addition to pseudonyms to protect participants' identities, the participants requested that their respective departments and subject areas be omitted for fear of retribution from the institution. From the 8 participants, Becky and Jane, both instructors with PhDs, have taught at the institution for over a decade. Luke also holds a PhD and has taught for over 25 years. Similarly, Esther has taught for over 22 years. She entered PhD candidacy many years ago but did not complete the degree. Bonita has taught in her department for over 17 years. At the time of the interview, she was completing her last semester of coursework toward a PhD. The remaining participants are Mitch, Lisa, and Joe. Both Mitch and Lisa are PhD holders and have taught for 31 and 20 years, respectively. Joe has taught for over 14 years and holds a Master's degree. All of the participants, except Esther and Luke, taught a combination of Hyflex and fully remote courses during the 2020-2021 academic year; Esther and Luke taught only Hyflex classes. The following table (Table 6) organizes the participants' details:

Table 6

Participant Details

Pseudonym	Education Level	Years Teaching	Course Modality during '20-'21 year
Becky	PhD	10+	Hyflex and fully remote
Bonita	PhD student	17+	Hyflex and fully remote
Esther	PhD-ABD	22+	Hyflex
Jane	PhD	10+	Hyflex and fully remote
Joe	MA	14+	Hyflex and fully remote
Lisa	PhD	20+	Hyflex and fully remote
Luke	PhD	25+	Hyflex
Mitch	PhD	31+	Hyflex and fully remote

Each participant was interviewed one-on-one via Zoom. The interviews lasted from 1 to 3 hours, depending on how much the participants shared, and followed a set of predesigned questions to guide the conversation. Participant answers often prompted additional questions that were not prewritten but resulted in richer data. Each interview was recorded with participant permission and promptly destroyed after transcription.

Major Themes and Subthemes

From the interview data, I developed major themes and subthemes to present as findings. Four major themes and their sub themes were generated when analyzing the interview data and were supported by data in the form of participants’ own words. A table of major themes and subthemes (Table 7) follows:

Table 7

Major Themes and Subthemes

Major Theme	Subthemes
Digital Readiness	Prior Experience Institutional Training Informal Personal Research Digital Comfort Level
Changes to Teaching and Courses	Teaching Methods Content Delivery Resources and Communication Major Assignments and Homework Teaching Style
Instructor Feelings and Experiences	Personal Life Mental and Physical Health Professional Life
Student Engagement and Performance	Engagement with Peers Engagement with Instructor Engagement with the Course Overall Performance

Digital Readiness

During pandemic teaching, instructors had no choice but to teach their classes in virtual modalities, regardless of their experience or comfort level with digital technology. Since many of their perceptions and the decisions they made in their classes were likely the effect of their digital experience, I scoured the data, searching for responses to answer the first research question: How digitally ready were participants to teach in virtual modalities? As a result of this inquiry, I was able to identify the major theme of Digital Readiness. Further analysis determined the development of the sub themes Prior Experience; Formal Institutional Training; Informal Personal Research; and Digital Comfort Level. The following sections explore each subtheme in detail.

Prior Experience

Among the participants, five had previously taught some form of virtual modality; one participant had experience teaching blended courses; and the remaining two participants had never taught any modality of virtual courses before the pandemic. None of the participants had experience teaching Hyflex courses. Lisa had the most experience teaching in virtual modalities, beginning with her first one in 2001; “I’ve spent a lot of years, *a lot* of years teaching online.” When asked about her experience with teaching blended classes, Lisa explained:

I can't remember when I started doing that. I used to do a night class, ... and then that got switched to the blended. And I think it was probably four or five years that I did the blended, up to last spring. And that was fine. The blended is fine for [that subject], and I did it as a flipped class.

Like Lisa, Joe began virtual teaching several years ago: “I've done the blended and online since [the college] has had it. I was the first crop to be trained in teaching blended.” Becky was also

among the first at the college trained in blended and online teaching: “I have taught hybrid courses for about seven years and I've taught fully online courses for about, maybe six years. I made the switch to fully online really fast after teaching hybrid courses.” The substantial experience these participants had teaching in different virtual modalities would, seemingly, position them to succeed in any modality during the pandemic.

At her current institution, Jane stated, “I actually had taught [one specific course] online for several years prior to the pandemic,” but before that experience “ I had also taught, at a prior institution, a couple of blended courses where we met once or twice a week and then the rest of it was online.” Similarly, Luke shared that he has taught fully online classes during the summers for several years at another institution. While he enjoyed teaching fully online courses for the other institution, Luke had very strong feelings about teaching blended courses:

Maybe seven years ago was my first time [teaching blended] and I hated it so much that I never wanted to do it again. And then I got roped into it [again] four years ago, which turned out really bad. It was a terrible thing.

Although his two courses were technically blended courses, Luke had to conduct his f2f meetings via Interactive Video Course (IVC), with dual credit students viewing from classroom locations at rural high schools:

One school had all video but no audio, and the other school had only audio but no video. So the dean said, “We’re shutting this course down, and we will send you to one school or the other.” But then, within a 24 hour period, they were miraculously able to resurrect the course and give it to someone else. So I have no idea how they magically fixed the technology problems.

Luke was not disappointed when the courses were passed on to another instructor. His negative previous experience teaching blended courses could contribute to his feelings about teaching the Hyflex format in his courses during the pandemic.

Unlike the other participants, Mitch's prior experience was limited to blended courses: "I've never taught a fully online class before, but I had been doing a blended ... class for 6, 8, 10 years, maybe. I kind of lost count. Quite a number of years." Mitch explained how he optimized the blended structure of the course to teach a skills-based subject:

They [the college] call [it] a flipped class, where all the lectures are online. When they come to the classroom, the class sessions are basically big tutoring sessions where they practice [applying skills], and I circulate around to give them hints and check their work and stuff like that.

Noticeably, the participants used different terminology to describe a similar course structure: Jane, Luke, and Joe referred to them as "blended" classes, Becky called them "hybrid," and Lisa and Mitch called them "flipped." Becky credited this confusion to their college administration's "lack of understanding regarding the non-traditional classroom, so they use different terms interchangeably, when those terms, in fact, refer to specific pedagogical approaches, as well as course modality." When asked to elaborate, Becky explained:

Blended courses mean that classes are divided into f2f and online activities: a *blend* of both online and in-person. So, the online materials act to supplement what is learned in the classroom. Hybrid means that the online component *replaces* some of what would take place in class, and the online stuff is usually asynchronous, with discussion boards and things like that. Flipped means that students learn content at home and then practice or apply what they learned at home when they are in the classroom. But the

administration doesn't know this or doesn't care to learn this, so they just use whatever term they want without thinking about the implications.

Becky was frustrated that her college's administration did not care enough to learn the basic definition of the modality they were telling her to teach. Her recognition and explanation of her college's confusion of virtual course modalities suggests that the participants' confusion about and resistance to Hyflex courses during the pandemic is simply the most recent in a long line of disconnection between the realities of teaching virtual courses and the perceptions of the administration. It is unlikely that the administration's non-consideration of fundamental pedagogical knowledge specific to each modality before the pandemic suddenly changed when they implemented the Hyflex modality during the pandemic. The institution's absence of pedagogical focus left faculty unprepared and ignorant of useful theory and best practices that would have been useful when teaching Hyflex courses.

The confused terminology used for these blended courses never bothered Esther and Bonita, who had never taught any type of virtual course before the pandemic. They did, however, have experience using some functions of the institution's Learning Management System (LMS) in their f2f classes. Bonita recalled:

I used it for my face to face classes as a way to complement the ... worksheets and placing PowerPoints so that the students can use them. I never did the other components.

I never did any testing or the dropboxes or discussion forums and things like that because ... my classes are already interactive so I did all of those, you know, in my face-to-face.

But I was pretty familiar with ecampus in those very basic functions.

Bonita thought that relying more on ecampus in her traditional courses meant that she would lose the interaction that she loves, so she did not incorporate or have much experience with many

functions of the LMS. Likewise, Esther's use of the LMS options was limited. She shared that she only used it "for grading, for posting news announcements, and for posting copies of handouts. That was it." Their inexperience teaching virtually and limited experience using the LMS tools made the move to emergency remote learning in the Spring of 2020 much more difficult for Bonita and Esther.

At the time of the interview in Spring 2021, Esther had been teaching in virtual modalities for over a year. When I asked her to explain her comfort level with virtual teaching, Esther replied, "Very comfortable in the sense that I feel proficient now, but not even remotely comfortable at the beginning [of the pandemic] because there was no way to practice." The implementation of emergency remote learning forced Esther to learn how to use virtual educational technology as she was teaching with it. Bonita recognized that her lack of virtual teaching experience was a problem during the emergency remote teaching: "With the pandemic, in [a few days], we had to begin courses... and I had never taught completely online, so that was so stressful!" In addition to limited knowledge of how to use the LMS, these instructors had a more difficult time transitioning to virtual teaching because they also lacked resources and materials for online courses.

The transition to emergency fully remote courses in Spring 2020 was easier for those instructors who had previously taught their courses virtually. Becky remembered adapting her f2f courses:

By and large, when the pandemic started, it wasn't that awful for me in that I was only teaching [different sections of the same course] last spring. And because I already teach [the course] online ..., it was easy for me to adapt. I actually [already] had the resources I had online. I've had lectures recorded and, essentially, it was more like I just took my

traditional class and they got pushed into an online modality, which I already knew how to do. That wasn't hard.

Lisa also found the transition easy because of her prior experience:

Let me start by saying that I didn't have to go through a lot of the stress that a lot of people went through when we switched to fully online, having been fully online already and having taught the blended class, so none of my classes required preparation to go online. Everything was already ready.

Joe's experience transitioning to online classes was similar to Becky and Lisa's:

When we had to do the hard switch in spring of '20, I had everything already ... I mean, I had to create the courses, but I had all the material there. I have lecture videos already.

So, the transition wasn't bad ... I wasn't freaking out about it.

Joe added that transitioning his traditional classes online was “a piece of cake” because he already had everything he needed. Already having online teaching resources made a difference for Mitch, too: “I did have written lectures, and I had videos of all my lectures ..., which was very helpful when the pandemic began. I didn't have to do much work for that.” The participants' experiences moving all of their classes online at the start of the pandemic was not as harrowing for them as it was for inexperienced instructors.

While it is clear that predeveloped materials and content would benefit instructors when they rapidly transitioned online, the same may not be true for instructors who had not previously taught their courses online. Even though it was easy for Becky to transition courses online by using materials from when she had previously taught virtually, she struggled to adapt courses that she had never taught in virtual modalities: “Changing my [other course] was harder. I'm dealing with that this semester, too ... I'm having a harder time.” Understandably, creating

learning materials and content in a new modality in a short timeframe proved troublesome for Becky, who was still struggling to catch up a year later. Unlike Becky, Jane's sudden transition to emergency remote learning in Spring 2020 was not fraught with anxiety, even in the courses that she had never taught virtually:

Honestly, last spring didn't bother me as much as this year. Because last spring, it was just, I had five courses and two were already online. So, I just was responsible for moving three courses online, which, honestly, wasn't as bad as it sounds. I think teaching online previously helped me with that process.

Jane credits her previous online teaching experience with equipping her to make the necessary changes because she knew how to create and run an online course, even if the subject matter changed. It was clear from the data that participants' prior experience with virtual teaching or virtual teaching technology was worth noting with regard to their digital readiness, as was the next subtheme, Formal Institutional Training.

Formal Institutional Training

In order to obtain opportunities to teach regular, fully remote and blended classes before the pandemic, the experienced participants indicated that they were required to undergo formal training offered by the institution. Becky recalled her training: "All that training meant is I knew how to use the machine ... No pedagogy whatsoever for that. No, it was truly about learning how to use the things." Becky felt that the institutional training did not prepare her to teach well in online classes, which leads me to wonder if she ever learned effective online teaching pedagogy, despite her years of teaching online. Becky was adept at navigating and using technology before the training but lacked knowledge of how to teach online well. Mitch found the emphasis on technical functions in the training overwhelming:

The training is mostly technical stuff. It's all, how to make a video, which buttons you have to push, and all the different options. On eCampus, there's always different options. Like in the tests, you have to remove this and click on that. But don't click on that! And that was what was overwhelming. There are so many options! I didn't know how I was going to remember all these different things! It was just terrifying.

Like Becky, Mitch did not recall learning anything about online teaching practices.

Though not for online teaching, Bonita remembered attending a training session when the college adopted its current LMS: "I immediately started taking training on how to use the electronic grade book and how to input content." Bonita did not attend the detailed, days-long training to teach online, but she appreciated learning the technical aspects of the LMS, which served her well when she used eCampus to complement her traditional, f2f classes, even in a limited capacity. Having never taught a fully online course before, Bonita recalled being asked to teach one, only two days before fall classes began and wished that she had more training and materials that would have helped her teach online for the first time.

As one of the first trained in online instruction at his institution, Joe remembered that the training initially focused on good teaching. He described it as, "more about generating your own online environment that is useful for students, but also aids in getting the material or the content across. That's very much changed with the Quality Matters." When the college adopted Quality Matters, a set of standards for online courses, Joe saw vast differences in the training:

Now it's very much about, does your presentation meet these specific standards and requirements? So it's not so much about creating something; it's more about meeting these standards and guidelines. So it's become far more standardized since Quality Matters.

According to Joe, the training was less about technical skills than meeting prescribed standards, and those standards did nothing to actually improve the online learning experience for students:

The focus is very, very different. They want a very linear structure [for] an outsider, not [for] students in the class. If someone from outside ... were dropped into your class on day 45, could they navigate it? Is [the course] presented in such a way that it's absolutely clear? I think it's positive in some respects, but it loses something for the instructor who goes into creating it. Because at the very beginning, it was kind of wide open. You had the LMS, you had what you could do with that software and ... you had to generate everything.

The Quality Matters standards not only negatively impact online students, but also the creative expression of instructors when it comes to developing online courses. Joe's is a well-informed perspective on formal institutional training because he has pursued every opportunity that the institution has offered to learn about online teaching: "You name it, I've done the training. I've more certificates than I have room for. I've just started shredding my certificates because I have so many." Despite all of his training and experience, Joe stated, "I didn't know what to expect with the Hy-flex courses." Nothing in all of his years of training and teaching equipped him to teach Hyflex classes during the '20-'21 academic year.

In an attempt to prepare for Hyflex teaching, several participants attended institutional training, specifically focused on that modality. Jane took some of her summer vacation time to attend the training:

Last summer [2020], I attended a couple of online seminars put on by the college. I think one was specifically on bimodal instruction, which is, I guess what they're calling it, where we have Zoom going and students in class. I didn't attend any week-long things,

just a couple of seminars that were put on by the college. Another one was a Zoom training.

Jane's willingness to forgo some of her own vacation time indicated her dedication and desire to succeed in the new modality, but she thought her time was wasted because the seminars did not address pedagogy, only how to navigate the technology. Lisa attended the same training as Jane and shared the humor she found in the training modality:

I went to one of those Zoom meetings *about* Zoom ... sometime last summer or at the end of last summer ... They showed us how to use the classroom technology. It might have been that or something like that.

Lisa found it comical that she attended training via a program in which she was supposed to learn about that program.

Unlike Lisa, Esther did not find anything humorous about the preparation, or lack of preparation, for implementing Hyflex classes:

Preparation? ... Most of it was technical, meaning telling us how to use the programs. "Here's a template...use it." I did as much online training as I could, but most of it was focused on the technical side of things. How to physically do things. There was very little if any discussion of how to do this well, of how to use this new modality effectively. It was just the mechanics, which is important, but we would have benefited from learning about how to teach this way well ... It would have been helpful to know what works and doesn't work about teaching in this modality. What's the theory behind these things? Or is there even a theory or is it too new?

Esther not only wanted to know how to *use* the technology, but she also wanted to learn how to teach well with it and not have the online part of her course become, as Joe put it, "a giant

syllabus with hyperlinks ... that doesn't resemble a classroom.” Luke attended the same training, but, like Esther, did not think it was as comprehensive as it should have been:

It was just how to use the program. The [idea] was that we wanted to disseminate the in-person experience as much as possible, so the mechanism wasn't taken into consideration as far as how you need to adjust your pedagogy to this platform.

For professionals whose primary career responsibility is teaching, many of the participants found the Hyflex structure needlessly challenging because it was implemented without any training focused on pedagogy or teaching best practices.

Informal Personal Research

Beyond the formal training offered to participants before and during the pandemic, few of them communicated that they sought out resources on their own in an attempt to prepare for pandemic teaching. Joe shared that he had allowed the formal training sessions to take the place of informal learning: “Early on I did a lot of [personal research], when I was putting the courses together. But it's been a long time since I've done anything outside of what's been required.” Joe decided that the combination of his early personal research and the formal training provided enough knowledge and skills for him to successfully teach in virtual modalities, and he simply did not have enough time to continue with the formal training in addition to conducting personal research.

Instead of relying on the institution to provide knowledge, Mitch and his spouse, who also teaches at the college, sought out resources to meet their specific needs:

My partner and I have done some things on our own that we've kind of figured out.

When I first started in the blended classes, I found an app for my iPad called Show Me, which allows you to make videos on your iPad. So almost all of my videos were not

made using the ecampus video program; I made all my videos using my iPad, just sitting in my office and lecturing.

Mitch thought that the video software provided by the college was too complicated to use, so he researched a more user-friendly app with which to record and edit his lectures, using a device with which he was already familiar.

Other participants' personal research consisted not of seeking out more educational technology, but the advice of experienced colleagues. Esther, who desired pedagogical advice, turned to colleagues for best practices:

I talked to experienced online teachers. They gave me concrete advice. They told me why and how to do a discussion board online, which I'd never done before. And I was really worried about it, like, practically, how to set it up and how to make it actually work in the class.

The informal conversations were more helpful and convenient for Esther because they did not require attendance at a specific time and place, like the formal training offered by the institution. Similarly, Bonita chose to speak with colleagues in lieu of formal training offered by the institution:

In the beginning [of the pandemic], when we first had to do online, I had just one time gone to [a colleague], and he showed me how to do the technology before they put the cameras in the room. And I managed that pretty easily ... I learned how to do the breakout groups, and then hop in there so that I can check what they're doing. So in terms of the technology, I think I've never been afraid of using it.

Gaining competence with the technology allowed Bonita to concentrate on her goals for the Hyflex course and think of strategies to meet those goals:

One of the things that has been different is ... communicating with [students], and having them communicate with me ... Thanks to [a colleague] because he has shared some of the things that he's been doing to get them to talk more ... This semester in particular, I was able to make them speak more ... So in terms of pedagogy, I have switched to an even more interactive class than in the past

Bonita was concerned that the virtual component of the course would reduce the connections that she makes with students, but she was pleased that the strategies she learned from her colleague mitigated that possibility.

In addition to interaction, Bonita also considered the organization and layout of her course content on ecampus, using an online class she took during the pandemic as an example:

I took a class [in my doctoral program], and I love the way that my professor had everything structured by the week. She didn't have any other tabs for anything else. It was just like, you go to that week and you have everything you need for that week. I have one tab for reviews, one for my videos, one for information about prepositions. I have other YouTube, funny videos. I have so many tabs! And I think that is just not a good way to organize it. I need to work on that organization.

The disorganization of her ecampus content meant that students often had difficulty finding relevant material, and even Bonita struggled to direct them to the resources they needed.

Conversely, when Luke attempted to get advice from all of his colleagues, he quickly encountered a flaw in that mode of informal communication:

We just don't seem to have a structure to address specific problems that come up. I think I posted something to the listserv asking if anyone knew how to do peer reviews on Zoom in small groups. Crickets! And I spent at least an hour, probably more, online trying to

find out how to do that by consulting Rabbi Google, but ... you know, then you see something that will say, “Go to our frequently asked questions.” I’m pretty confident in saying that FAQs have never helped anyone in the history of the world.

Unfortunately, Luke abandoned his search after two failed attempts to get help.

Unlike the others, Jane did not seek out advice from colleagues; rather, she researched sources online:

I kind of just looked at different articles in the *Chronicle of Higher Ed* and *Inside Higher Ed*. I did a little bit of research about student engagement and online courses, or bimodal, I guess, we would call them. And, honestly, I don't know that any of those things [research or previous trainings] helped much.

Jane and the other participants revealed their desire to expand their knowledge and broaden their teaching practices, with varying degrees of success, thus supporting the subtheme of Informal Personal Research.

Digital Comfort Level

After over a year’s worth of experience teaching in virtual modalities, either Hyflex or fully online, when they were interviewed, the participants shared their comfort levels with educational technology and teaching in digital spaces. Lisa and Joe both stated that they were very comfortable with the technology necessary to teach fully remote, blended, and even Hyflex classes; however, Joe noted that “the Hyflex thing was tough, simply because I had to figure out how to actually teach, essentially, two separate classes at the same time.” During the ‘20-’21 academic year, Esther taught all of her classes in the Hyflex structure and shared that she began to use many more tools available in the LMS during pandemic teaching: “I do feel proficient at this point ... I constantly use [ecampus] now because I have to. We are paperless. So discussion

boards, online quizzes, dropboxes, news items, videos, all of it.” In spite of her new proficiency, Esther tellingly revealed her reluctance to embrace virtual teaching with the words “because I have to.”

Reflecting on a year of teaching Hyflex courses, Luke concluded: “I’m comfortable using [the technology], but I hate it. The outcomes aren’t anywhere near what you have in f2f classes.” Both Luke and Esther have endured teaching Hyflex classes, despite their loathing of the modality. Although Becky does not loathe Hyflex teaching, she did indicate her feelings about it:

I’m actually pretty comfortable with [Hyflex teaching]. I mean, you’re having to do both at the same time. It’s, basically, synchronous. I’m comfortable because there’s only one person in the classroom. Yeah, I like it when nobody comes to class because then I can just look at the computer screen.

During her year of teaching Hyflex courses, Becky learned that she preferred to teach either fully f2f or via Zoom but found that she struggled to manage in-person and Zoom students simultaneously.

Mitch’s response revealed how much his skills and confidence had grown over the course of the academic year:

To tell you the truth, when I first had to learn to use ecampus, I felt overwhelmed and terrified. I thought, “This was a big mistake. I shouldn’t have even volunteered to do this” (laughs). It seemed so complicated! I thought, “Oh my God, how can I possibly master this?!” ... So how comfortable do I feel with it? I guess I feel pretty comfortable with it now. I’m not too scared of it anymore, at least (chuckles).

Only through the opportunity to practice using the tools did Mitch learn what he needed to successfully teach virtually. Mitch recognized that his confidence using the tools grew, but

acknowledged his limited skills regarding technical troubleshooting: “I still find it frustrating at times because of problems that pop up that I don’t know how to resolve, so I have to contact somebody.” The inability to resolve problems himself when they arose during Hyflex class meetings proved especially stressful for Mitch because of the responsibility he felt to provide his students with a quality education, regardless of the modality. Bonita, too, quickly learned how to implement the learning tools in her classes and grew in confidence:

I can learn ... the technology pretty quickly, not as quickly as some millennials, but, you know, I'm not a millennial. But once I learn it, I'm good, and I would love to teach anybody who wants to learn it.

Bonita felt so confident in her proficiency that she wanted to teach others how to use the technology.

Even with her new-found proficiency level, Esther shared what she felt was her biggest challenge during pandemic teaching:

Finding entirely new ways to do my job. Completely rewriting and restructuring *everything* about the way my job is done ... Learning so many different technologies so freaking quickly! I still don’t know how I did it during the pandemic. I'd never done a dropbox or a discussion board or an online test, which is really hard to do and do well without screwing it up. I had so little time to learn all of that and do it. I still don’t know how ... I go back and look at all of that work I did during those last 8 weeks and all of these videos and long documents that I had created for them and I thought, “How did you do that?! You insane person!”

Esther and the other participants' willingness to confront technology with which they were not experienced or comfortable indicated their dedication to their jobs and confidence in their own ability to learn.

Changes to Teaching and Courses

Understanding the instructors' digital readiness was necessary to explain the changes that they made to their teaching and in their courses when moving to virtual modalities. These findings suggest that the instructors' digital readiness directly informed their teaching decisions in virtual modalities. All data pertaining to the major theme of Changes to Teaching and Courses were extracted and organized to address the second research question: How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities? Within the context of this major theme, the participants elaborated and offered detailed descriptions of the changes necessitated by the pandemic to their teaching in virtual modalities. Throughout the process of coding and organizing the data, several subthemes were developed: Teaching Methods; Content Delivery; Resources and Communication; Major Assignments and Homework; and Teaching Style. Exploration and support for each of the subthemes follows.

Teaching Methods

The first subtheme identified from the data involved the participants' experiences making changes to their teaching methods. One of the most prominent teaching methods mentioned by the participants was collaborative learning. When instructors taught in virtual modalities during the '20-'21 academic year, they felt they had to find other ways to encourage collaborative learning, an important component of their traditional classes. One of the most frequent methods to promote collaborative learning that the participants mentioned in the data was using the

breakout rooms feature in Zoom. While most of the participants interviewed shared that they had attempted to use the breakout room feature in Zoom, few found it beneficial.

Becky is one who incorporated breakout rooms but did not like them: “I can put people on Zoom into breakout rooms, but I can't be there in each room.” Going in and out of the breakout rooms was frustrating for Becky, who preferred floating around the room, observing, and answering questions as students work in groups. Lisa also expressed frustration over the breakout rooms:

My biggest problem was that I didn't know how to do the group things. I mean, my ... class is heavily, you know, they work in groups, and I walk around the class and I help them. I didn't know how to do that [in the new modality], and I started out trying to do something similar with the breakout rooms, but I didn't like that I couldn't address everybody in the breakout rooms at the same time. I had to pop in and out, and that just didn't work.

As a result of her frustration, Lisa explained, “I just dropped the whole group thing entirely. I just said, “Okay, I can't do the group thing. Y'all are on your own doing these [activities].” So that wasn't good for them.” Although Lisa knew it was not in the best interest of her students, she felt like she had no other choice but to do away with all collaborative learning because of what she thought were restrictive technology options.

Likewise, Esther communicated the loss of collaborative learning and her ability to immediately assist students:

Because of the bimodal [structure], I do have a few students in the classroom. I found that breakout rooms don't work well. That was the only thing I could think of to replicate the group work, but I can't be there to help monitor them. I can only pop in every now and

then. And the students who are physically in class are inevitably left out. And the sound was an issue. When I would pop into a breakout room, all of the students in the class could hear the ones on Zoom, so it was noisy and would interrupt [learning]. I ended up not using breakout rooms.

So much of Esther's teaching approach relied on creating a collaborative learning environment, but she thought the breakout rooms and inevitable technology-related issues did more harm than good. Another participant, Mitch, optimistically tried incorporating breakout rooms:

The few times I've tried to use them, they were kind of confusing In a normal class, I circulate around while the students are working ... and I check their work and give them hints. And I was trying to figure out how to do that [virtually]. I thought, maybe we could do that in breakout rooms where I'll have them go into breakout rooms and I'll meet individuals or small groups in a breakout room and check their work that way. Have them share their screen with me or have them hold their work up and show it to me. Somehow it just didn't work out very well. The students kind of freaked out when I put them in a breakout room. They'd get scared and the other students would be by themselves when I'm off in a breakout room. They didn't know what to do. So, eventually, I abandoned that.

Mitch's experience echoed that of other participants who did not like the separation from students when they tried to manage multiple breakout rooms. Joe's experience with using breakout rooms was similar to Mitch's:

I did make use of the breakout sessions. But, even then, I had no way to know if they got [the material]. I went into the breakout sessions with the best of intentions. [I thought], it's like during group work: They'll go talk to each other, and I'll just pop into their groups

to talk with them. But it's ridiculous ... I pop into the breakout session and ask, "How are things going?" (monotone) "Fine." "Okay, let me know if you need anything." Pop out. In class, I can look at their piece of paper, and, if there's nothing on it, I can say, "Okay, where are you hung up?" But in the breakout sessions, again, unless they come to me with those questions, I have no way of knowing if they need help.

Not knowing if his students actually understood the course material was grating to Joe and reason enough for him to do away with breakout rooms altogether. The participants' attempts to incorporate collaborative learning environments using breakout rooms in Zoom was, seemingly, thwarted by their inability to relinquish control over the environment. Participants found it frustrating that they could not monitor all of the students at the same time, unlike in a traditional classroom environment, where they are free to walk amongst the student groups, listening in on their discussions, and interjecting redirection or input when they felt it was necessary. This loss of control was too foreign for the participants to comfortably continue using breakout rooms.

Jane was unimpressed with breakout rooms, as well, but for different reasons than those expressed by the previous instructors:

I found that students did not participate very well in the breakout rooms.

So, when I would put them in breakout rooms, ... I would jump into the breakout rooms and they really weren't engaging with each other at all.

The entire purpose of using the breakout rooms to promote collaborative learning was defeated because Jane observed that the students did not engage with one another. Despite the breakout rooms proving ineffective, Jane still used them in her classes:

I feel, gosh, if you're not going to see anyone, we should have *some* peer-to peer-interaction here ... I don't use them for big, long chunks of time. I like to just send them

to various breakout rooms for 10 minutes, or so. That sort of thing.

Jane found the idea of moving completely away from communal learning difficult, but the thought of students suffering due to social isolation was worse.

Bonita is the exception; she found that the breakout rooms worked well in her class, even with some students physically present, as well as on Zoom:

When I do the breakout, I don't like to make them too long, too big, or too small.

Because sometimes ... there's one person that doesn't even do anything, so I like to have at least four, especially, if they're [on Zoom]. I was able to have the ones that were in the classroom work together, even though they were distanced, and they could talk to one another.

Perhaps it is because of the discipline that she taught, or because of Bonita's systematic, well-planned execution of breakout room activities, but she was the only one among the participants to successfully accomplish collaborative learning in breakout rooms.

Luke is the only participant who did not incorporate any methods to encourage collaborative learning in virtual modalities. When he emailed to ask his colleagues for advice about doing peer reviews on Zoom and did not receive any responses, Luke decided to completely do away with the activity:

I didn't do [peer reviews] for the Hyflex classes. I did it for the [dual credit] classes, but I didn't do it for the Hyflex classes, primarily because I don't know how to have peer groups using Zoom. I think there is a way you can do it, but nobody seems to know.

Luke was open to embracing the breakout room feature but felt ill-equipped to do so without first finding out how other instructors had made them effective. It is possible that Luke did not receive a response to his query because his colleagues were also struggling, if Becky's reflection

on why she thought breakout rooms and discussion forums were not effective learning tools is any indication:

[The virtual modality] has drastically reduced the opportunities for students to share their reflections in the classroom. There are conversations that I want to have that I can't write properly into a prompt for an online discussion forum. They don't fit for that, but they do if I say, "Sit in a group. Here's a [text]. I want you three to annotate it ..." They have to draw on it; they have to touch it and work with it, and they add the layers as they pass it around Round Robin, and that doesn't work on the internet. It really doesn't, or I just don't know how to do it.

Becky, as well as most of the other participants, were confronted with the reality that they simply did not know how to conduct collaborative learning in virtual environments. This hindrance to collaborative learning had a clear impact on how they delivered course content in class and required the participants to change how they taught their discipline.

In addition to altering collaborative learning, another common topic in the interviews was how to best present the material. Participants noted that, before the pandemic, they often presented the course material to their students through modeling or PowerPoint presentations and had hoped to continue using those methods in their virtual courses. Becky's teaching relied heavily on a combination of resources before the pandemic:

I have always used PowerPoints and [white]boards, and I use them together. I literally have in my lecture notes... I'll have a direction that says, "This information is on the board. This information is on a slide" so that I don't have very much on the slide, but I engage them. I give them something to look at. The notes that I write on the board, I put the regular lecture notes on there, but I also record [student] responses on the board when

we build our analyses [in class] .

Not having access to the whiteboards due to the Hyflex format negatively impacted Becky's view of her teaching:

I know that my notes suck right now. That's not very professional of me. Because I can only write so much on the board [now]. And I just can't use the whole board. (sighs) I miss the board; it makes it easier. Students get miffed when I write on the board. They want it to be a slide that they can take a picture of ... I like to do a lot of modeling, and I can't do very much when I can only go from here to here (indicates a foot of space) and then I have to erase.

Becky had difficulty adapting her teaching methods, necessitated by the limitations of the camera angles for students attending via Zoom. Esther, too, previously used the whiteboard in her teaching:

I ... think it's one of the best ways you can signal, "Hey, this is important. Write this down. Something is happening here." I would notice that when I would go to the board, students would take out their notes and start immediately writing. It was unfolding in front of them. But now...that was something I had to find a way to quickly adjust.

Her inability to use the whiteboard as a visual aid for students prompted Esther to present material in other ways:

I've made my presentations visually richer because I have to. It's the only way in which I am communicating with my Zoom students. They are constantly seeing the screen. I don't use the board at all. I haven't been able to find a way to do that effectively where they can really see it. I have to find ways to compensate because I'm not embodied in the

classroom. I have to do a lot more in terms of enriching the screen. It's taken a lot of time.

Esther recognized that the students on Zoom could easily feel disconnected, so she relied on visual aids to try to maintain their interest.

Despite the limited access to classroom whiteboards, Mitch recognized the continued importance of modeling his subject content for students, which cannot be accomplished with a predeveloped PowerPoint lecture, so he found an alternative solution: "I have a whiteboard that I bring up [on my laptop]. And I write all of my stuff on the whiteboard and share the screen with the students." He felt he must use the whiteboard software program because much of the discipline's symbols are not available on a traditional keyboard and must be handwritten.

Lisa also continued to use the whiteboard, but adapted to the whiteboard feature offered in the LMS and the screen sharing option in Zoom:

The way that I do my class is, I share my screen, and then I write on the screen. So the students just see me writing on the screen and hear me talking. It's kind of like writing on a whiteboard [in the classroom]. They don't ever actually see me; they just see my screen. Lisa would have preferred her students to see and hear her at the same time; however, she had to choose and thought it was more important for her students to see her modeling the work rather than see her face.

Another teaching method the participants determined required alterations involved how to effectively conduct in-class discussions. Esther found that the chat feature in Zoom worked well for her:

If I ask them a question and there's dead silence, then they all have to send me a direct chat message, and they have a limited time to respond ... They know that I do this, so it

keeps them alert. They get points for responding and deducted points for not responding. They don't even have to respond correctly! And it's amazing that they will actually have answers; they just aren't saying them aloud. So, I can quickly copy and paste it and put it on the screen. I can point to the good answers and say, "Look at this...this is a great point. Can you [student name] comment on this further?" Now they are willing to comment on it aloud.

Esther was pleased to have found a method to get some interaction with students, even if they likely only participated because they were being graded.

Joe also used the chat feature, but did not think it was an effective learning tool. He wanted his students to use it as a way to participate in the course discussion, but was disappointed with the reality:

The majority of the chats that I received were in the middle of class. Like, "I have to be at work at one" or "Hey. Did you get me on attendance?" I mean, no one's like, "Well I see your very serious point there Mr. X, but I was really wondering about this ..." It's rarely content related questions, even though I say, "That's the place [to ask questions] if you don't want to turn on your microphone."

Instead of forcing his students to engage in verbal discussion, Joe attempted to adapt, hoping that the chat feature would encourage more engagement with the material. Joe reflected on how live video communication could affect learning and used the interview as an example:

The unfortunate thing is, I've noticed that a lot of the natural breaks in communication get lost, where you might pipe up and ask but you don't. Even you and I talking, you don't get the cues when I am done talking. You're not quite sure, so you're more hesitant to maybe jump in. You wouldn't want to because maybe I'm not done, and, by the time I'm done,

that moment has well passed, and so you're not going to ask the question or ask for the clarification.

Joe understood why students were not participating, but his understanding did nothing to mitigate his difficulties teaching in the Zoom modality.

Content Delivery

In the interviews, the participants noted changes in the ways that they delivered content to students in class and in the LMS, not only because of the new virtual modality, but also because the college decided to move the majority of classes to an 8 week course structure beginning Fall '20. While some participants had all 8 week courses, some were teaching 8 week, as well as 16 week classes simultaneously, with a combination of Hyflex and fully remote classes. Joe shared the differences he experienced teaching an 8 week Hyflex class for the first time during a pandemic:

For the in-class Zooming, I had to figure out how to navigate the material that they needed to do ... I had to reimagine the timing of an hour and 15 minutes. I had to figure out what to do when I have an extra 10 minutes or 15 minutes that I need to fill. So, kind of navigating the material, especially in the fall, was really tricky because I didn't know exactly how moving [material] out and moving some students on Zoom ... would impact the timing of an hour and 15 minutes. And it had a *huge* impact! In the fall, things were so radically different in the classroom that it took me a while to really adjust because I just went in with the attitude of, "Okay, I've never done this before. I'm just going to go in with how I would teach an hour and 15 minutes, or a summer session. Every day, I'll just line the material up where I have this content for each day." And it just didn't... it didn't work the same. It was very different.

Joe quickly realized that the changed modality, more than the shortened duration of the class, greatly affected the timing of how he delivered material to his students. He had taught the courses for years and credited most of the struggle to no student interaction:

The lack of interaction, that affects the timing of the material. There are certain spots where questions come up from students every time, *consistently*, and I have an opportunity to re-explain or to explain differently based on feedback. And once that feedback is gone, now I am essentially my pre-recorded online lecture. I'm just talking ... until the material runs out. No one has asked me a question. No one has given me a quizzical look. I've got nothing. And so, it's only been in the spring that I've decided just to, in those areas, to just re-articulate. Even though I know no one's asked a question. No one's interacted with me at all.

Although Joe knew that the students probably did have questions about the same parts of the material as previous students, he found their silence jarring:

It's an odd feeling because I would *never* do that. If I had 25 nods, I would never waste our class time doing it again if there's no need, but I had no idea how to navigate that. And I wasn't going to create little polls. "Oh, do you get this? Please select yes or no." I'm not prepared to go to the polls for that sort of thing. This is a strange environment, for sure.

It was rare that Joe, after teaching for so many years, felt awkward in his delivery; however, that was a persistent feeling during pandemic teaching. He was also opposed to incorporating more Zoom features into his classes when the breakout rooms had proven ineffective to him.

In addition to timing, the instructors also had to quickly adjust to having live video technology in the Hyflex classroom for students attending class via Zoom. All of the participants

were challenged by this required change and shared how they dealt with it. The participants' decisions regarding cameras could be divided into three groups: those who required student cameras on; those who did not require students' cameras on; and those who did not care. Becky was part of the first group who required students to keep their cameras on during class:

I've made it fairly clear to my students that we have a policy: You have to have your camera on ... I tell them it's school policy, but I try to explain to them that none of us like it.

Despite the college-wide policy, Becky still had issues with student non-compliance, so she got creative in one of her classes:

I started class, and I didn't have my camera on ... I had a couple students in the classroom, but everybody else was on Zoom. None of them had their cameras on, so I didn't turn mine on. I started talking, and I told them to think about what it feels like as a professor to talk to a bunch of little empty boxes on a computer screen, that it's really tiring and hard to do this. It's a school policy that they have the camera on because we need to be engaged with learning, but they need to think a little bit more about what it feels like to be the person staring at an empty screen. And then I turned my camera on, and all of them turned their cameras on.

After Becky's demonstration, she shared that she did not have any more issues with cameras in that class. Like Becky, Esther required cameras on, but had to appeal to her students when all she saw were ceiling fans:

I found a picture of a ceiling fan and created a graphic with it xd out saying, "NO CEILING FANS!" I told them, "It's really hard for me to talk to a ceiling fan. I've tried and the ceiling fan never responds." That was intended to be my way of using humor to

address the problem.

Esther tried to appeal to her students' empathy when justifying her requirement to actually see her students' faces. After that, Esther said that she no longer saw ceiling fans but, instead, saw foreheads.

Unlike Becky and Esther, Jane did not require students to keep their cameras on during class: "My philosophy for this year has been, Whatever. Don't ask, don't tell, or what is the other one? It's easier to beg forgiveness than ask permission. Done." In fact, Jane did not just not require cameras on, she actually hated when students had their cameras on:

I can't stand it! I feel like I'm watching an ant farm. It's very distracting to me ... I don't like a lot of movements, and I just can't stand it. And my students don't like it. So, for the most part, they have their cameras off ... I know the college policy is that they had to have it on.

Regardless of the college policy, Jane explained why she hated the cameras on:

Just the amount of time and energy that has to be put into saying, "Turn your camera on." Then I could see when they're not paying attention, like when they're laughing at someone or something there with them ... That's what I didn't want to know: I did not want to know if they were paying attention or not. I know that sounds dumb.

Jane would have rather not seen her students and hoped they were paying attention than have cameras on and know for sure that they were not engaged. On that subject, Jane seemed unbothered by her students not participating or listening when their cameras were off: "If they're not doing what they're supposed to be doing then that's on them."

When it came to cameras, Joe expressed his similar classroom policy:

A lot of instructors mandate the cameras be on, and I didn't want to do that. So I get a lot

of black rectangles, ... but, I couldn't bring myself to mandate that they have their cameras on.

Joe's decision was not reached arbitrarily; he shared that he had given the topic a great deal of thought. Given the opportunity, Joe further explained his position:

It seems a little invasive to me ... I mean, on the one hand, I'll have to figure out how I'm going to navigate students that don't have access to a webcam. How do I hold them accountable? Is it such an *egregious* offense that they should be told to take an Incomplete in the course because they don't have a webcam?

When he was considering enforcing the policy, Joe questioned the necessity of requiring cameras if it could derail a student's academic progress. He also had concerns about the technology:

We've got a webcam, but now I expect you to not only be able to use the webcam function--which we all say is obvious in Zoom--but no, no, I also need you to have a comprehensive knowledge of how to access the camera and microphone functions in your laptop.

Joe wanted to avoid the almost certain technical issues that would arise by requiring students to access cameras and microphones. Moreover, he had to assess his expectations of students:

I don't believe all students are sitting at a table or a desk prepared for class with a notebook and their laptop open and some very pleasing background. I just didn't want to have to deal with all of that. And what if a student is like, "I don't *want* my camera on today, like, I'm still in my pajamas. I want to be in your class; I just don't want my camera on." Do I have to say, "Well, I'm sorry? You're going to be absent for today." So for those reasons, I didn't require cameras to be on. It felt like another petty expectation.

Although he had valid reasons and concerns to support his camera policy, Joe still considered

changing it:

Now, this spring, I thought, “Well, is it better for students if I mandate those cameras be on? Is there an increase in accountability? Or am I going to see a lot of nose picking, things that people would maybe do?” I don’t know.

Ultimately, Joe decided to maintain his position of not requiring cameras, mostly because he wanted to avoid all of the problems he foresaw. He did not want to add enforcing a camera policy to everything else he was expected to do during pandemic teaching.

Mitch admitted that he did not care if students kept their cameras on:

I’m a little bit lax about it ... It’s not so much that I don't want them to, it's just that, maybe I'm just lazy ... I'd probably like it if they had their cameras on, but I don't care that much, I guess. I’m pretty comfortable just talking ... In some ways, I've come to enjoy the Zoom teaching environment for [some of my] courses.

Mitch then explained why he liked teaching via Zoom:

One of my pet peeves in the classroom has always been students who want to play with their phones during class and I have to tell them to put them away. I don’t have that problem online or on Zoom, but that’s mainly because I can't see them (laughs). That's a blessing in a way. Ignorance is bliss.

Not requiring cameras meant that Mitch did not have to be aware of his students’ distractions, leaving him to focus on delivering the material.

As previously indicated, the camera policy was tied to attendance, records that instructors were required to keep for each class meeting. It was easier for instructors to keep track of attendance when they could actually see students’ faces. Joe explained:

If you don't require cameras, then it becomes an attendance game, which I dislike very

much. They sign in on Zoom and then they do their grocery shopping and then come back. So I played the game for a little while. I'd take attendance at the beginning, then some days I'd take it in the middle of class. (sarcastically) So sneaky! I'm going to get them! Anyway, it just became very silly to try to catch them not attending.

Tired of “playing the attendance game,” Joe sought a solution to try to make tracking attendance easier and turned to the technology he was already using:

In the fall of '20, I started using the Zoom attendance thing. Everybody made a big deal out of it. If you want to do attendance, you can go through the Zoom thing, and click on this and click on that and click on that and click on that, and then you'll get the whole report of who was there and how long. I'm not doing it! For every single class period? I mean, it was more work than I thought.

Joe quickly realized that the technology did not make his job easier when it came to tracking attendance. As a result, Joe reverted to what he referred to as “the Ferris Bueller roll call”:

Now, what I've done when I call roll--and it is *brutal!* It takes, like, five whole minutes to call roll, is I just go through the names. (aggressively gesturing down to a pretend piece of paper) “*Amanda*” (in a gruff tone). “Fer fer fer” (muffled student response because the sound is terrible). And then you get halfway through and then someone chimes in, “ Ah, Mr. X, I'm here. My microphone wasn't working.” It's absolute *misery!* But I do it every day. *Everybody* suffers.

Taking attendance aloud by calling every students' name was not what Joe wanted to do, but he had to find a way if his students were not required to turn on their cameras or be physically present in class.

Finding it too overwhelming to have cameras on, Jane also had to come up with an

alternative way to take attendance: “I’ll call on them sometimes, and I tell them if they don’t answer after a couple of times, then I’ll count them absent.” Cold calling on students was awkward and took up time, especially when they did not answer, but Jane felt that between distractions and silence, silence was the lesser of two evils. Mitch also stated that he would cold call on students to track their attendance:

Even in the classroom, I’ve never been comfortable with calling on students and putting them on the spot to answer questions or get their attention. I actually probably do it more now on Zoom than I used to, just because I want to make sure they are actually there.

While Jane had no problem randomly calling on students to check their attendance, Mitch felt uncomfortable with it, but did it anyway. Regardless of their decision, all of the instructors had to grapple with the new reality of having cameras in their classrooms.

Resources and Communication

Along with content delivery, the changed modality of their courses prompted the participants to think of various ways to effectively communicate with students and provide helpful resources to assist students in their learning. The instructors felt it was necessary to find alternative ways of communication because they did not see the majority of their students in person any longer, even in the Hyflex classes, and their students rarely asked questions or sought clarification while in class. Using the GroupMe app is one way that the changed modality altered how some of the participants communicated with students. Lisa recalled that her introduction to this mode of communication began early in pandemic teaching and was initiated by students:

In a class last fall, ... somebody invited me to their Groupme. So, I [agreed], which was great for them because they had access to me a lot. I tend to go to bed way too late and [will] chat with the group until pretty late at night.

When asked to elaborate on her experience using the app in a professional capacity, Lisa explained:

I'd see pop ups on my phone right when the students would write to me at three in the morning, and I would just respond to that ... So I had this constant conversation going back and forth with some of the students who really took advantage of that access ... That worked fairly well, I think, for them. So, even though [they weren't] necessarily coming to office hours ..., it was like they just had me whenever they needed me.

The success of Lisa's experience using GroupMe to communicate with her students encouraged Mitch to try it with his students in the Spring '21 semester. Interestingly, Mitch considered the social needs of his students on the app:

I encourage them to have two groups. Have a private one where I'm not there so you can talk about me. You can complain about me without hurting my feelings. But then there's one that I'm on, too, which I check daily. I'll answer questions. That's been really helpful, I've found. I might keep doing that, actually, after the pandemic.

Mitch recognized that the modality of the class diminished his students' opportunities to build community with one another. His prompting for them to create an additional group in which they can connect with each other, even if that is accomplished by criticizing or complaining about Mitch, speaks to his insight into students' needs.

In addition to the GroupMe app used by other participants, the tools that Becky and Esther relied on and altered their use of during the pandemic were email and Zoom office hours meetings. One of Becky's courses was a paired Hyflex course, meaning that her students were not considered college-ready and were co-enrolled in what used to be taught as a developmental course. These students typically require more assistance from instructors, even though they are

enrolled in regular, credit-level courses. Becky elaborated on how her workload increased, merely because she had to communicate with these students mostly through email: “I’m supposed to teach and treat them as a traditional college student. It’s just that, since I know they need more support, it means I have to explain [subject matter] three times rather than one time.” Although these students were attending class and receiving the information, they still required additional explanation through a medium that Becky felt was inadequate for students with low literacy skills.

Esther explained that a major change she noticed in her communication with students was the amount of time she dedicated to it:

I’m finding other ways to connect with them. Being really, super available through the Zoom office hours for the people who take advantage of it, even more so than I normally would have been. [I’m] spending a lot more time answering emails off-hours during the week and weekends. Normally, I would have more boundaries.

The decreased opportunities for in-class communication meant increased communication through email; therefore, not only was Esther still obligated to spend the same amount of time in the classroom, but she also had to dedicate more of her time off to answering emails. Before the pandemic, Esther would occasionally receive challenging emails that required a long response, but the majority of problems were avoided because she focused so much class time on assisting students.

Relying less on email, Bonita primarily communicated with students using the news feature in ecampus: “I send emails every once in a while, but I post on ecampus almost every day, telling them ... the office hours for the day, etc.” Bonita was not confident that students would receive or read her emails, but she was able to track student views if she used the news

item in the LMS. Through this feature, she could be sure that students were informed. Jane also increased her communication to students through the news feature but was worried that it was detrimental to her students' developing independence:

I feel like I'm maybe hand holding too much. I always post a news announcement at the beginning of the week that has the assignments that are due that week, and I have attached some prompts and documents there, and they do have to go into the content modules later to access things, but I just put that up there at the beginning of the week. And I think that has decreased the number of questions I get, significantly, by just putting that news announcement up there up front. I know some people don't like that strategy because they want to force them to go into the modules, but they ultimately have to. So, I [haven't] had as many questions as I anticipated about where things were located, but that's probably because I kind of just put it right there up front.

Although she acknowledged the possible negative impact on her students' independence, Jane thought that a reduction of banal questions from students was a worthwhile trade-off.

Jane also brought up a department-mandated course requirement: "So, we're required in some of the courses to have individual conferences with students." When I asked if she still held them during the pandemic, Jane's reply was emphatic: "No! (laughs) Forget it! And I don't feel guilty because I give them very substantive feedback on their [work], so that's fine. There's no way I was going to do [individual conferences] this year. I just don't have the energy." Usually a straight-laced rule-follower, Jane's approach to her job responsibilities was significantly different during pandemic teaching, an approach that she felt was necessary but also reduced the opportunities for one-on-one interactions with the students.

Major Assignments and Homework

Along with communicating with students, the participants also shared how they had changed major assignments, like tests, essays, and quizzes, and homework. Esther reluctantly accepted her department's decision to change the final exam requirements:

For the final exam, it was normally an essay and multiple choice test. We've been given the option to do one or the other--just to survive--and I've taken advantage of that option because I don't know how I can get 75 final exams graded in 24 hours to get the final course grades submitted on time. To me, that diminishes the final exam greatly because it has to be weighted at least 15%. So 15% of their grade is this multiple choice test, which I don't think really tests them that well.

The department's decision was based on the time constraints instructors faced due to the 8 week course duration. As Esther stated, the new structure left instructors with only 24 hours from when the final exam closed to when final course grades were due to complete all grading. Esther was sure that the shortened final exam was not in the best interest of her students' learning but still chose to alter the exam simply because she knew it would be impossible for her to meet the deadline if she did not make the change.

Beyond the time constraints, the most significant change to exams and quizzes during the pandemic was that all of them had to be administered online through a test proctoring program. Mitch was forced to make changes to the exams in his course when he realized the problems posed by the virtual modality:

There were two problems: The first is that we use special symbols, which are not readily available on the keyboard, and the students have to type their exams online ... The second problem was how to prevent the students from cheating ... [Students] need

scratch paper to brainstorm and experiment with different possible solutions and stuff like that. That's the way we teach the class, so we need to allow the students to have some sort of paper to work on while they are doing the test.

Having never taught the course fully online or blended, Mitch worked to first solve the problem regarding students cheating on digital exams:

To solve this problem, what we ended up having to do is create question banks for the exams. This ... kept me busy for the first half of the summer last year, seven days a week. I went through all of my test files from the last 30 years, and I collected all the exam problems I'd used, sorted them into categories--easy problems, moderately difficult problems, and hard problems--corresponding to the different sections of the textbook that they were using, and created these question banks online ... I had the tests set up so that it randomly selects questions from the question banks. So, no two students were getting the same test.

Confident that the random question selection would minimize the possibility of cheating, Mitch then considered the problem of keyboards not having the necessary symbols:

We did have a new idea just this last semester. One of the students suggested it ... Instead of paper, what we now allow them to have is a dry erase board for an exam. We require them to show it, front and back, to the camera at the beginning of the exam and again at the end of the exam to show that they've erased whatever they've written on it. That works reasonably well.

Mitch knew that it would be impossible to prevent all cheating, but, forced to implement a solution in a short timeframe, he was pleased with the outcome.

Not only with major exams, but Esther's approach to weekly reading quizzes was also

altered because of the modality:

[Testing students] radically changed, just because everything has to be online. No more paper tests or quizzes. That means I can't test them on a daily basis the way I used to ... I used to ... give a quiz ... at the beginning of class, which was a really strong incentive for them to read that day. And because it now has to be online and can't really be in class for a range of reasons, I do an *online* weekly quiz that's open book. I think it's good, but it's really not as substantial.

Unable to consider eliminating daily reading quizzes, Esther adapted the assessments to the new modality; she felt the open book option was necessary but questioned the efficacy of the altered quiz format in student learning. Esther's questioning the effectiveness of the online quizzes was based mostly on the fact that they were no longer in-person and on paper, indicating her propensity to doubt digital learning tools and methods' usefulness or her unpreparedness to teach using such tools and methods. When reflecting on the changes brought about by the Hyflex modality, Joe mentioned reading quizzes:

I am a nerd for reading quizzes. I love them! But for the half Zoom, half in class, I couldn't do reading quizzes as I had done in a traditional class. So I had to have reading quizzes taken online prior to coming to class ... Some instructors have had all their reading quizzes online since they've had access to ecampus, but I always liked having the in-class reading quizzes. So having to go to the online reading quizzes was very different.

Joe's pedagogical stance regarding the benefits of in-class reading quizzes was challenged by the digital transformation of the assessment tool, which indicated his hesitancy to embrace virtual teaching practices in courses that he had always taught f2f.

Not all changes initiated by the switch to virtual modalities were negative. When

planning quizzes and exams, Bonita remembered a different approach introduced to her by a colleague and realized during pandemic teaching that she needed to change what she was doing:

I've always said, "I gotta give students this review" and he said, "I don't give them anything." And ... for the longest time, I started thinking, and his stance resonated with me. I understand where he's coming from. I started thinking about how I was with students. They ask, "When are you going to give us blah blah blah?" You know the way they ask you for things, like it's a demand. I started thinking, ... I made my own reviews every time that I studied for a test. I built my own reviews. I wrote everything! You know, [creating reviews for my students] is just handing them everything on a silver plate. I decided that I have to stop.

The sudden increase of her workload during pandemic teaching caused Bonita to question if all of her teaching practices ultimately benefited students. She realized that removing some of what she had always previously done would potentially promote increased student independence.

Jane's decision to adjust her essay assignments was based more on what she thought students could learn during pandemic teaching:

I did change the essay, but it had more to do with the eight week format than the Zoom modality because ... they had to submit an essay every two to three weeks. And I felt like I had to ... gosh, I hate to use the words "dumb down" ... simplify! I simplified the first essay because they weren't really ready to write the kind of essay ... because we hadn't covered enough ground. Normally, we're a month, maybe five weeks into class, when they submit that essay, and, because of that eight week format, I ended up making the first essay more of a summary and a little bit of analysis.

Likewise, Luke sheepishly admitted to changing his essay requirements, though “not officially.” After assuring him that I would do everything possible to protect his identity, Luke proceeded:

So, we are supposed to assign two essays with minimums of 750 words each and a 2,000 word research paper? (laughs) Ho ho! No way! What I did was, I assigned a 750 word essay and made the revision of that essay the 2nd 750 word essay. Then the research project is like a “900” word research project. But I only said that in person, not recorded it to my classroom ... I didn’t do that until the second 8 week session of the fall semester because the students in the first 8 week session just could not do that. Plus, by the time you got to your second major essay, it’s week 6 and you only have a few more classes left. There’s just not enough time to do it all.

Jane and Luke believed that the 8-week class format was more of a hindrance to students’ capabilities than the Zoom modality; however, if the participants’ observations of student disengagement in Hyflex classes is any indication, it is possible that the students were not prepared to do well on the essay because of their lack of involvement during class time, as well as the accelerated pace of the course. Essentially, students would not do well on an essay assignment if they had not listened to an instruction about it.

While it is unclear exactly why some participants felt the need to lower essay standards, what is clear is that the 8 week format, coupled with the challenges of teaching in virtual and Hyflex modalities, undoubtedly caused pronounced changes to instructor grading, especially when it came to homework and daily assignments. Mitch admitted that the accelerated course format forced him to reduce student work: “You know, I’d *like* to give them lots of practice work, make them do practice work and grade it all, but I don’t have time to grade that much homework.” Mitch was forced to confront his own limitations at the expense of his students’

learning. Becky also confessed sacrificing crucial learning exercises because of the 8 week format: “I’ve had to reduce reflective work, like writing short passages. I don’t have time to grade them. So I cut back on that.” Reflection is an important part of learning, something that Becky valued but could not continue during pandemic teaching.

Additionally, the accelerated course structure caused some participants to lower their grading standards. Luke elaborated this point:

I’ve been much more lax. The way I graded before was, they had to do a two-paragraph writing assignment every class period. And I would get those graded and returned to them the following class period. There’s no way I can do that now. No way. There are literally not enough hours in the day for me to do that. So, what I’ve done is cut their writing assignments more than in half. The daily assignments are now twice a week assignments.

The almost immediate feedback his students received on their work was an integral component of his students’ success but that Luke sacrificed because of the accelerated format of the course.

Lisa shared that her attitude toward student work also changed because she was consistently behind in her grading: “I stopped enforcing a hard deadline. I just take it at whatever time, just that everything has got to be done by the end of semester. I was very lax about that after that whole ice storm thing.” Already struggling beforehand, the disruption to normal life caused first by the pandemic then made worse by the historic and deadly ice storm in February of ‘21 across all of Texas pushed Lisa past her breaking point.

Further, Becky altered her grading practices with electronic essays:

The grading online is not line editing. A lot of people are against line editing, but line editing is one of the best ways for a new writer to learn because they need to see every

time they make the same mistake. And, it's nigh on impossible to grade that way in an online essay. It really is impossible. Plus, you can't guarantee that students are reading the comments at all. At least when we grade on paper, you know they're reading the comments out in the hallway before they come back and want to argue with you.

Becky blamed the virtual modality of the courses and subsequent digital assignments as part of the reasons why her grading was not as thorough. The other part was due to the 8 week format:

I had to cut back, not just because of [the modality], but I don't have the time with teaching online all the time and ... the eight week problem. I don't have enough time, at the right time, to give them feedback. I can't be timely to tell them about their outline, because they already have to work on their rough draft.

Becky believed that it was not worthwhile to provide substantive feedback on electronic essays if she could not give her students the timely feedback they needed.

Moreover, Luke aired his frustrations about electronic grading:

The biggest change for me is that I'm not able to grade paper documents, which makes my job 4 times more time consuming. Online grading takes 4 times longer than paper grading. It's because of the software. Here's an example...let's say a student writes in an essay an open quote close quote comma ("open quote",). Online, I have to choose the comment icon; click. Position my cursor to just below that comma; click. Type in "This comma goes before the closed quotation (you dumbass). -1 point." On paper, I take my pen, my blue pen--I don't believe in red ink--and draw a little mark that shows where the comma goes, which takes all of a half a second. Whereas online, that might take 10 seconds.

Although Luke knew electronic grading took much longer, he still dedicated a great deal of his time to assessing student work. When I asked if he still did line-by-line grading, he responded with some surprise: “Heavens yes! How can you not?! I tell my students, you need to have one person in your life who is just not going to look the other way. And that’s me.” The change in modality did not diminish the responsibility that Luke felt to use his expertise to advance his students’ skills. Even though so much else was changed because of the modality, Luke’s attention to detail in his grading did not change.

Jane, too, identified changing her feedback on student work as a way to adjust to the virtual component of her classes:

One thing I think I did more frequently than I would have this semester is I really provided very thorough comments online. So my electronic feedback grading-wise, I tried to be very personal and give very specific comments because I didn’t get that one-on-one-interaction with them in class like I normally would.

Providing specific and more frequent feedback took up more of Jane’s already limited time, so I inquired as to whether she noticed her efforts making a difference in her students’ work:

I think so. I honestly do think that it was pretty helpful. However, it was also kind of taxing because I looked at everything! I looked at thesis statements, I looked at rough drafts, I looked at final drafts. For one paper, I looked at an outline, too.

Some participants, like Jane, continued to provide students considerable feedback, while others could not justify it with the additional time electronic grading required.

Teaching Style

The alterations to participants' teaching left many feeling like their entire teaching style was changed. The participants often compared their style before the pandemic and during. All her life, Bonita had defined herself as a teacher:

I was a natural born teacher because my mom was a kindergarten teacher and I grew up in a school ... So, pedagogy and the love of teaching ... came from my experience growing up with my mom and in the school. And so I knew what a good teacher would be ... I put in the work. How can I do this, and how can I make it fun for my students? I think it's because I love to be in there and have fun myself. I'm always looking for resources. What else can I do? How can I make them laugh? That's where my teaching comes from.

As a natural teacher, Bonita dedicated much of herself to assisting students, even during the pandemic:

I will go the extra mile if they need my help and they seek my help. I will help them. I will spend hours with them if I have to. Very seldom do they look for that help, believe it or not, very seldom.

Bonita's willingness and availability to help her students was not sought out by her students, leaving Bonita feeling like she was not acting in ways that came naturally to her.

In addition, Esther explained a revelation she had about her teaching style in the midst of pandemic teaching in virtual modalities:

I never realized how much--and I don't know how else to put it--I rely on my embodied self to connect with students. Meaning, on a human level, looking people directly in the eye and speaking with them and seeing how they are doing. See who's engaged. Who's

looking at their phone. Seeing who's focused. Having them being able to off-the-cuff speak to me. Being able to walk around and connect with people in a direct way. That's been taken away from me.

Esther's natural way of teaching was not possible with her classes taking place on the internet. She no longer felt like she was engaging her organic style of teaching and relying on her intuition and emotional intelligence. She felt stymied because she could not read micro expressions or body language via Zoom.

Jane acknowledged the toll virtual teaching took on her normally energetic style in the classroom:

Definitely, to me, my teaching style is less, I don't want to say less enthusiastic, but ... I'm not as engaged, I think, in some ways.

Teaching throughout the pandemic chipped away at Jane's enthusiasm as an educator, leaving her feeling like she was just going through the motions. When I asked how she felt about this, Jane simply replied: "It is what it is." Her resigned attitude speaks to how much the pandemic has taken from her. She elaborated:

That's kind of what the shift has been. Before, I did feel like a coach, and it could get quite tiring, too. You're walking around telling them, "Oh look at this thesis statement, do this, make these changes." But at the same time, you get the give and take, the feedback from the students. You see them, and they're responding to you. Now I felt kind of like a disembodied voice that is just lecturing. Now, I definitely lean harder on the lecture style of teaching.

Alarming to her, Jane's formerly facilitation style of teaching was changed to lecturer only. Becky described this style:

I feel like I'm teaching like somebody from the 1970s ... All they do is lecture. I feel like those old teachers where they talk but students don't say one thing versus the way that I was taught to teach, the way I have been teaching, the decentered classroom. It's not decentered [now] ... Yeah, you're just giving information and they're passively receiving it. And when I try to offer questions, if they don't answer the question, then I have to answer the question because I can't let them leave without having some sort of answer to something I pose. I mean I *could* do it. Maybe say, "Well, I guess we're not gonna talk about it because you won't talk", but I can't really do that all the time.

Without any time to research or any training to adjust to pandemic teaching and the lack of student interaction, Becky's struggle to find a way to effectively present content caused her to change to lecturer-centered classes. The result was not a way that Becky relished or thought was effective.

Joe shared Becky's experience of reacting to the silence from students:

It's more... I don't even know if it's a teaching style. This spring I've really noticed that the lack of interaction in the classroom has really started to change my approach to even speaking in a classroom. I know now that no one's going to ask me a question. I mean, I have to stop and ask, "Does everyone still hear and see me?! Do we still have a connection?!"

Like Becky, Joe negatively responded to student disengagement, questioning whether it was him or the technology that made the task of pandemic teaching so difficult. Reminiscing, Lisa described a typical class time before the pandemic: "I would give a lesson at first and then they work in groups, and I would walk around and, basically, help them and they would help each other." She contrasted her previous style of facilitation with a typical pandemic class meeting:

Pretty much just lecture. I would lecture and show them the [material] and then I would do the [work], so there wasn't a lot of interaction. Actually, there was *no* interaction. It's like pulling teeth. After a while, after these dead silences, you feel like you gotta do something, so I just start talking. So yeah, it's been awful.

Echoing Joe's earlier quandary about how to fill time, Lisa found that her response to the student's silence was to simply continue talking, a response that altered her teaching style completely. Becky mused about the virtual modality and how she thought it changed the way instructors taught:

It's online! This whole setup has basically, I think, reverted all of our classrooms to traditional lectures, because we can't force them to communicate with us ... Ultimately, if students won't engage in a dialogue, it's a monologue. And so, I mean, it horrifies me to think about all these brand new teachers whose first experience is the traditional: I will stand at the top of the classroom and I will tell you what you need to know. They're going to keep doing that and they're going to have a harder time applying the knowledge that they're learning in school right now, which is probably in the same format-- on a Zoom screen, receiving the knowledge, without working on communal learning.

Becky brought up her concern not only for current instructors, but also for first-year teachers and those who were graduating, concerns that indicated Becky's worries about the long-term effects of the pandemic on learning.

All of the participants noted making changes to their teaching as a result of the virtual modalities implemented during the pandemic and their corresponding digital readiness. Although those changes had varying levels of success, the fact that all of the participants made adjustments is evidence of their adaptability.

Instructor Feelings and Experiences

The next theme, Instructor Feelings and Experiences, focused on how the participants dealt with the personal and professional challenges brought about by the pandemic. This theme and its sub themes--Personal Life; Mental and Physical Health; and Professional Life--provided answers to the research question: How did instructors' personal feelings and experiences during the pandemic affect their teaching? Just as the participants' digital readiness informed their teaching, the participants' environmental contexts profoundly affected them on personal levels. These personal feelings and experiences determined their willingness and motivation to pursue digital readiness, as well as their teaching decisions. These findings indicate that there exists an interrelationship between digital readiness, teaching decisions, and physical and mental health within the external environmental context.

Thankfully, all of the participants were candid and generous about sharing their feelings and experiences, often responding to my interview questions with stories, which resulted in rich, descriptive data. I wanted to faithfully represent the participants' thoughts; therefore, I present many of the participants' responses in their original, large data chunks. Doing so paints a more vivid picture of the participants' feelings and experiences, which would have been lost had I condensed or parceled out their words. Accurately presenting their stories and words authenticates the profound alterations the participants experienced in almost every area of their lives, which is detailed in the following sections.

Personal Life

Participants had to deal with more than just their jobs during the pandemic. Within their personal lives, the pandemic impacted the relationships that were most important to them, contributing to the development of their personal feelings and experiences. Some of the

participants discussed the ways in which their relationships with their spouses were affected. Lisa and her spouse are both faculty members at the same community college, so they often experienced similar situations. Lisa explained the benefits of these shared experiences: “It helps because we can complain about the same things. If I have a problem student or if he has a problem student, we both understand where the other is coming from.” Lisa and her spouse were sources of help to the other as they adjusted to emergency remote teaching in Spring ‘20 and then when they were planning their classes for the ‘20-’21 academic year. Despite the common ground and support they gave each other, the prolonged necessity of working from home proved challenging:

Unfortunately, having us both be in the same small space--our house is pretty small--and the two rooms that we consider our offices are full of crap, so we can't really go in there ... In our small living room, we've been together, trying to work at the same time, and that has been a little stressful. Now, luckily, he actually goes to campus ... his regular hours, and he has evening classes. So, if I stay home and he's at work, then there's at least periods of time where we're not constantly in each other's faces.

Lisa appreciated the common ground that she shared with her partner, but the cramped working conditions at home became a source of stress in their relationship. Thankfully, her husband alleviated some of the stress by choosing to work from his office on campus.

While Lisa and her spouse saw too much of each other, Joe expressed having the opposite problem with his wife: “My spouse, her work never stopped. Her work never closed ... So she was working even more last year ... She was working a ton.” Joe’s spouse was working so much that he often did not see her, as their working and sleeping hours overlapped. Joe was not only missing time spent with his wife, but he was also worried about her when she was at work: “The

mask mandate came way, way, way, way, way, late. They really treated it like [Covid-19] has been a hoax the whole time anyway.” Both Joe and his spouse took the pandemic seriously, but he felt she was in danger each time she left for work because her employer did not prioritize employee safety.

Another important relationship impacted by the pandemic that participants discussed was the one they shared with their children. Jane thought her relationship with her early elementary-aged daughter suffered from her working from home and trying to homeschool:

It kind of strained some things because my daughter had to do some virtual school, obviously ... So, I'm trying to work and then she's bouncing around back there. I'm not focusing, and, of course, it's natural for a six year old not to focus on a screen or virtual instruction. But I felt ... we were just griping at each other or bickering and short tempered. And that goes for all three of us.

The demands of work and homeschool not only negatively impacted Jane’s relationship with her daughter, but they also caused strain in her relationship with her husband. Jane articulated her feelings about meeting the demands of her job while also trying to care for her family:

It's just taking so much out of me ... I feel that's just sucking me dry, and then I don't have anything left. I don't have the energy. It's been very consuming and, at times, it feels like there's not energy left to deal with other things that are going on, whether it's my daughter needing help with her homework, or a lot of that, because, “Hey, I'm teaching these people, but I'm also teaching you, sometimes.”

Jane found that meeting the increasingly demanding and ever-changing responsibilities of her job educating college students during the pandemic left little energy for her to also educate her daughter. Jane simply was not prepared, nor were any resources available, to make the situation

manageable. She just had to make do.

Like Jane, Joe was also confronted with the additional responsibility of homeschooling his two young children:

We had a whole learning management system for their school, as well. So not only were we responsible for the content and the material, but we were also responsible for submitting their work or for teaching them how use a Dropbox. And my youngest was in kindergarten! ... I mean, it was not hard work, but it was a lot to do.

Joe had already shared that his spouse was still required to be at her office every day, so he was the one left at home and in charge of his children's and students' education: "We had to come up with a coded schedule so we could get in school and my work, and it was a lot to take on ... That was a real struggle ... trying to do that *every single day*." Joe shared how that his children's education was not his only concern: "They've been doing pretty well. We've still been able to do some extracurriculars. The boys play baseball and T-ball Little League. So we've been able to do things ... outdoors. We've been able to maintain some of those things." In addition to trying to ensure that his children did not fall behind in school, Joe was also concerned with their emotional and social development, as well as maintaining some sense of normalcy.

Although his children were grown, Luke shared that the pandemic still presented challenges to those relationships:

My kids--two are in their 20s and one is 19--they live away, and that was true before Covid ... They were just here for a couple of days, and that was lovely. Otherwise, we might be having this interview with me lying on the floor crying and drooling (laughs). That was quite lovely. And they appear to be handling it reasonably well, with the exception of my oldest daughter who actually lived with me. She moved here from

another state in the fall and part of the spring, but she was so miserable that she moved back. That's how bad it is!

Luke's light-hearted tone belied his true feelings of dearly missing his children and fearing that he would not get to see them very often. He later elaborated on his comment about his daughter moving in, sharing that he was deeply worried about the mental health problems his daughter was experiencing, made worse by the pandemic, which left Luke feeling powerless to help her.

Bonita also had grown children, whom she did not see often during the pandemic:

I don't spend a lot of time with my family, so that also has taken a huge toll on me because I feel guilty about ... not calling my family, not visiting my daughter, not visiting my son. I saw him once at Christmastime. He came to town because I didn't even have time to go out of town because I was working on stuff.

Bonita spent all of her energy trying to keep up with the demands of her job and doctoral studies that she had no time left to maintain important relationships, resulting in feelings of guilt.

Other important relationships that the participants discussed were their friendships. Lisa prioritized this in her life: "I do get out, like, once a week. I go downtown to a coffee shop and have a cup of coffee with a friend. So I've been, for the most part, I've been fine." Recognizing the importance of socializing was what motivated Lisa to continue meeting her friend, even if it was inconvenient. She felt it was necessary because so many of the social interactions she had before Covid were naturally woven into her day but ceased during the pandemic:

I like talking to my partner, but you know what I really miss? Talking to my colleagues in the hallway! I miss that. I had my office door open all the time. People would walk by and I would say, "Hi." I miss talking to my colleagues down the hall. I used to go down and walk with a colleague to her car. I used to hang out with Jesse [a colleague] after my

class. I'd hang out with him in his office and I miss that. I miss talking to Jesse or Janet [another colleague]. So, I really miss my colleagues a lot.

The missed interactions with her colleagues prompted Lisa to revive her use of social media:

That's one of the reasons that I got back onto Facebook. I haven't gotten on Facebook for so long, but I needed to find out what's going on with my colleagues. So, you know, being on Facebook and connecting with my colleagues that way, I guess, is what I get now.

Lisa acknowledged that social media connections were better than nothing, but they could never come close to the in-person interactions with her colleagues that she enjoyed so much.

Bonita expressed how the loss of her social life affected her:

I felt isolated. I'm an extremely social person. I love to talk to people ... I talk to my office neighbor. I've worked every weekend, so sometimes I come here on Saturdays and I'm like, "Why isn't she here? Where is she?" So that's the social level that we often overlook. Like, don't get me wrong, I also like to be where I can work and not have 1,000 interruptions. That is precious time to me, but not having that social component, it's very tough.

Bonita realized the importance of socializing in her life and missed the opportunities to connect with people. Becky also expressed how the pandemic changed her friendships:

Socially, it sucks. Part of this has to do with having a young child because I don't really have the ability to socialize outside of work. And it's so convenient that I really like the people that I work with. They're my friends. But we're not really at work.

The change to everyone's schedules and the implementation of virtual office hours meant that Becky rarely saw any of her colleagues on campus, a fact that left her feeling disconnected from

her friends.

The pandemic did more than challenge relationships, it also forced one participant to reconsider her family planning. Becky could not take her daily ADHD prescription medication while she was trying to conceive. She contemplated resuming taking her medication because of the demands of her job and personal life during the pandemic:

[The decision] is bigger than just deciding to start taking it again because if I go back on, that's it, just because of my age. So it's a very big thing. It's not just putting [pregnancy] off. It's like saying, that's it.

Becky was really struggling without her medication and knew that her life would be somewhat more manageable if she took it; however, the decision to resume taking her medication meant that she was deciding not to have another child. Essentially, Becky had to choose between her own mental health and having another child. She knew that she would not have been forced to decide before the pandemic because she could function in a normal world without her medication.

Mental and Physical Health

Another area of their lives the participants thought was impacted by the pandemic involved their mental and physical health. Jane described her emotional state by comparing it to a roller coaster:

Let's say that, emotionally, this year was full of 1s and 10s on a scale. 1 is the lowest point and 10 is the highest point. It wasn't like most years where you kind of have this middle range. Maybe you're going at a seven or something, and you're cruising along. This year felt like it was just an emotional roller coaster because of having to deal with personal things but also just with teaching. One minute, things are going well; you're up

here [at an 8 or 9], but then you're down here [at a 1 or 2]. So it's a roller coaster.

When I followed up and asked where she felt she had spent most of her time on the emotional roller coaster that year, Jane replied, "I think my roller coaster was on the ground." Drawing from her analogy, the significance of Jane's reply becomes apparent: Her year was spent at the lowest emotional level possible. Luke put his mental health into perspective by comparing how he felt during the pandemic to how he felt during major events in the past:

We have certain traumas that we've experienced, like 9/11, the Vietnam war, the Cold War, those sorts of things. Take 9/11, for example. That was a trauma that was probably worse than Covid in terms of intensity of the trauma, but a week later, it's over. So you might have a little bit of PTSD (Post Traumatic Stress Disorder) after that, but there is no "P" (Post) in Covid. It's *still happening!* We are in the midst of this trauma. When it's after the trauma, we can talk about the PTSD, but there's no "P" yet.

Luke indicated the inability to process the events of Covid and assess the potential mental health effects because the pandemic is ongoing. The sustained stress and, as Joe stated, trauma that people are experiencing is unlike anything he could recall.

While Luke was concerned with the present, Joe expressed his uncertainty about the future:

Probably the greatest challenge has been navigating through everything, being able to back off the hyper-vigilant accelerator pedal. How much interaction is good? Is not good? What is a life or death situation and what is not? So now there's the newness that vaccinated people can get together, and, like, I don't know how to understand that. So I don't think I'm not there yet, in terms of understanding, socially, where we are and what I need to do. This time last year, I totally knew what I needed to do, which was bolt the

doors, and buy lots of board games online. I knew what was asked of me, but right now, I don't. And I won't in the fall, either, when they plan on bringing back fully traditional classes. I don't, I don't know what to make of that.

Joe revealed that he was finding it difficult to plan from one day to the next when he did not know what to expect. Mitch echoed Joe's feelings:

One thing the college has done--I'll commend them for this--they organized a session where they had some of the school's counselors talk to us [faculty] about mental health and stress. That was good, but I remember most of us expressing similar feelings--this was early spring, February, maybe--we were all expressing the same sentiment of "What's next?" "What's going to happen next?" First the pandemic, then BLM protests, then the election, then the insurrection, then the freeze. It was like, "Oh my God! What's next?!"

The heightened perception of on-coming danger that Mitch described negatively impacted his mental health and was an issue for his colleagues in the meeting.

One of the most frequent topics that the participants spoke about was their stress levels. Esther described how her stress manifested itself in physical symptoms:

I can show you my Fitbit. It gives my heart rate, and I can look at the week/month/year and during last summer, it immediately plunged. Then, as soon as the semester started, you can see it physically, my resting heart rate, it spiked up. Normally, it goes up the last week of each semester, then goes back down. Over this past year, you can see that it is significantly higher. It worries me because I can see what's happening to my body, even while I'm sleeping. It's still with me, even while I'm sleeping. It feels like chronic stress.

Esther expressed her concern about the possible long-term effects of chronic stress on her body but did not know how to lower her stress level when she was still living with the reasons her stress elevated in the first place.

Joe acknowledged the unprecedented stress level he experienced during the pandemic: Last year, totally out of control stress. Yeah, absolutely. Absolutely. Well, I mean, everything was kept together ... all of that stuff we navigated. I mean, you make do, I guess ... But [my stress] is ... still there, but it's not nearly as high as it was at the end of last year. It doesn't even compare to the kind of crazy shit we were doing at the end of March in 2020. I mean, yeah, it was heightened stress for 10 months. Eight months.

Joe had previously shared that he did not find switching his classes to emergency remote learning stressful because he already had all of his digital teaching materials prepared; instead, Joe's stress was due to the abrupt fear and uncertainty that he encountered when the state of Texas went on lock down in spring 2020, and he was desperate to protect his wife and children from a virus that was not well-understood at that time. He described his stress level as spiking in spring '20 and remaining high until late spring '21.

Their stress levels were so high and uncontrolled that several participants shared that they either began taking medications for mental health or increased the dosage of mental health medications that they were already taking. Luke elaborated:

Stress? Off the charts! All the time. I was on all kinds of medication before Covid, so all those issues have just been exacerbated during Covid. I've had to up my meds. I'm sorry, I kind of overshare. I've been on antidepressants and anti-anxiety meds for over a decade, so this [the pandemic-induced stress] has just made everything really, really bad.

For some reason, Luke felt the need to apologize for being candid about his mental health issues

and the necessity of increasing his medication dosage. Luke stated that he had always dealt with stress and anxiety, but noticed a difference during the pandemic: “Covid has made acute the level of chronic. I feel like my stress spiked last spring and has just stayed up. There’s not been any relief.” Even with the higher doses of his medications, Luke still felt like he was suffering from unrelenting, chronic stress.

The phrase “chronic stress” was repeated by many participants, including Jane, who identified the cause as the pandemic’s impact on her personal life, as well as her job:

It's been intense at certain points. Because of this eight week format, my stress level has been very, very high. The first eight weeks of this spring '21 semester were a nightmare because we had the eight week session, and then we had that winter storm that meant we lost, not one week, but two weeks in an eight week class. And that was a very stressful period, so I would say my stress level, overall, over the last year has been higher than usual ... For the duration of the year, it was chronic stress.

In the aftermath of the historic, deadly winter storm that devastated the entire state of Texas in February '21, Jane’s college administration cancelled a week of classes. Although this decision was wise--the facilities on campus sustained structural damage--it effectively caused instructors to further condense an already condensed schedule in their 8 week classes. This requirement, in addition to the damages sustained in her own home, made Jane’s dangerously high stress level skyrocket. Jane was often without power due to the rolling blackouts throughout the state and the damage the freezing temperatures did to the woefully inadequate state power grid. When the college administration expected them to update their course calendars in ecampus and stay in contact with their students, Jane and the other participants spent much of the week sitting in the dark, without heat or internet service, in their homes.

Esther blamed the onslaught of unexpected changes to every area of her job and life as the reason for her sometimes out-of-control emotions:

I've been, sometimes, just really sad. Sometimes I angry cry on a Saturday night because I still have work to do, even though I've been at the computer all day. Like an *angry* cry. And sometimes I've, not screamed *at* my husband because of things he's doing, but screamed about the situation *to* him. That's *not normal*. I don't normally cry or scream.

Esther had worked 7 days a week for a year and a half and was barely keeping up with everything she had to do. She felt like she could never relax and not work. Her stress would build until it exploded out of her as anger and sadness aimed toward her husband, not because he was at fault, but because he was nearby and she needed to express her feelings to someone.

The participants acknowledged that stress is a regular part of their lives, often brought on at the end of each semester when grading increases, but it usually decreases significantly or disappears after final grades are submitted. Bonita explained how her stress had changed during the pandemic:

I've had stress, but it hasn't been like this. And I have been tired on all those levels [emotionally, mentally, and physically], but it has not been like this. I don't know how to explain ... And then everything else, ... feeling guilty about so many things. I have not been able to keep up with the housework, and my family, and I don't know, teaching online. It's just been exhausting. I have not been able to take a break in a long time, either.

Bonita's stress was accompanied by intense feelings of guilt because she was not able to balance her priorities any longer. Additionally, Bonita's stress contributors differed from the other participants' because hers also included the demands of pursuing a PhD:

Even during Christmastime, I was working, working, working and trying to prepare. I just didn't expect for these things to be right in the middle of my doctoral program, which has added so much more. It is enough to have a full time job and be doing your PhD program, but now I have to completely turn my classes online and learn all this technology using my own time, out of the blue! So it has been a huge stressor.

The demands on Bonita's time and energy left little room for much else, but she never considered pausing her doctoral studies. She did, however, postpone her preliminary exam and subsequent proposal defense until the following academic year ('21-'22), a decision that she felt was necessary but difficult to make, as it will delay her completion of the degree.

Mitch shared how his mental health was negatively impacted by the series of historic events that occurred in rapid succession:

I've felt depressed a fair amount. Not just this spring, but even back in the fall, I did not do as good of a job as I normally do ... Of course, some anxiety was caused, not just by the pandemic, but also by the election and the aftermath of the election--all of the protests and things that have been going on. Sometimes I'd just want to turn off the news. Do I really need to know this?! I can't take it anymore. I don't want to know what Donald Trump is saying now.

The national unrest only exacerbated the feelings of anxiety and depression that Mitch was already struggling through because of the pandemic.

The participants did share some of the outlets they had to help maintain their mental health. Lisa stated that she had started a new hobby:

I've been working on writing a book, and that's, in fact, what has gotten me through this, I think. It's fantasy fiction. I am 500 pages in and we haven't even gotten to the main story

(laughs). I'm not looking to have this published. Honestly, without this, I think I would have gone crazy. That's what I do in my spare time, and it makes me feel good to do that. It got me through.

The creative outlet Lisa discovered in hobby writing helped her cope with the unprecedented challenges she faced during the pandemic.

Other participants noted that their inability to participate in their hobbies and interests negatively affected their overall wellbeing. Mitch expressed:

I've been depressed about different things ... I usually do a big camping trip sometime during the summer, but I didn't get to do it last summer. I usually travel north to visit my family, but I didn't get to do that. Yeah, some amount of depression.

Canceling his annual camping trip went beyond just not getting to camp; it represented an aspect of normalcy, of familiarity. The inability to participate served only to remind Mitch of one more thing that was beyond his control. He did not, however, simply accept his declining mental health: "I've been going to counseling for the past year and a half. Just sharing your thoughts with someone, even if they don't have great insights, is really helpful." Mitch began counseling at the beginning of the pandemic, an action that he felt had helped him.

Becky also missed the opportunities she previously had to pursue her interests:

I want to go to a conference so bad ... The only time that we really have in the community college system to reinvigorate ourselves on that intellectual level is to go away and be at a conference where you're surrounded with other people having the thoughts. And I haven't done that, and I feel very stunted because I haven't had time to go somewhere and sit and think about learning or about ideas. Instead, I'm spending all my time just teaching and teaching and trying to do stuff at home and teaching and teaching.

Becky did not find her job intellectually stimulating and felt mentally desolate because she could not attend academic conferences to inspire or challenge her mind, a state made worse by the fact that she was not able to have even short chats with her colleagues while at work during the pandemic.

In addition to their mental health, the participants also expressed how the pandemic had affected their physical health. A common symptom that the participants stated indicating decreased physical health was weight fluctuation. Lisa shared how her changed lifestyle during the pandemic affected her weight:

I lost a ton of weight since last March, so physically I think I'm doing better ... Over the summer, I lost about nine pounds, just because, when you're waking up at four p.m., you don't feel like eating. And I actually went to a nutritionist last November and started going on a low carb diet. That's when most of it has come off, since last November.

Joe reported his weight gain and loss: "I'm about the same. Yeah, maybe up like in September, October, maybe 10 pounds, but now on the other end, I'm back to normal." The fall months that Joe mentioned were when he was experiencing more stress than he ever had in his life, causing him to gain weight. His stress had by no means lessened by the spring, but he thought he had gotten used to living with it.

Becky also noted changes to her physical appearance and her efforts to combat it: "I was just talking to another colleague this morning about how we have all gained weight through this, and it isn't muscle! So I bought a treadmill. It was delivered yesterday. It's still sitting over there in the box." Becky elaborated: "Okay, this is actually not that bad. I've gained five pounds, and I know, I know, five pounds isn't a whole lot, but it's a lot when you're already a lot." Becky already had weight issues before the pandemic, so she felt like the few extra pounds she gained

were significant. Bonita, who usually boasts a trim physique, noticed changes in her weight, as well:

I have gained weight. Usually, my weight was around 122 ... for many years. I have gained, probably, about eight pounds. And now I'm starting to lose it again because I decided this semester, in particular, that with everything that happened I'm not gonna lose control of my weight, too.

Bonita could have easily given in to her circumstances and continued to gain weight, but she grasped onto one of the few things she could actually control during a time of such upheaval and worked to lose the weight she had gained.

Another aspect of physical health discussed by the participants was frequent pain. Several participants noted an increase of physical pain, whether it was headaches or body aches. Jane shared her new experience with back problems: "I had a lot of back issues, probably from sitting at the computer a lot ... All that really intensive grading and being hunched over spending more time on technology than standing and walking around the classroom affected me." Back pain was not an issue for Jane before the pandemic because most of her day was not spent sitting at a computer but walking around campus and throughout her classrooms.

Unlike Jane's more recent back issues, pain was something with which Mitch had long dealt: "Apparently I've got arthritis in my hip and arthritis and degenerative discs in my back (laughs) ... I knew I had back arthritis. I was diagnosed with that years ago, but it's been much worse lately." Though lengthy, he recounts a series of events that significantly increased the pain he endured during the pandemic:

This has been, physically, one of the worst semesters of my life. Back in January, a week before classes started, I went to the coast for a couple of days off. I was just going to

enjoy relaxing on the beach, strolling, and reading some books. My first half hour there, there was this jetty ... made out of big boulders. My first step onto the jetty, I fell. It was a bad fall ... I went straight to the hospital. They did an Xray--there were no breaks--but for the next couple of weeks, I was on crutches and then a walking stick for a while.

While one would think his ankle injury was bad enough, Mitch continued with his story:

Somehow this led to a back injury. I like to do yoga. I couldn't really do any standing postures because of my foot and ankle, so I was doing stuff on the floor. I was twisting, just gently twisting, and my back snapped, and then things just got even worse. I started having hip pain and back pain. Basically, I haven't been able to walk normally in the past few months since that accident in January ... So I've been having quite a bit of pain. I'm taking various medications. All of the shots and medications have been making me feel bad.

To complicate Mitch's already trying physical injuries, he shared that he also began having heart problems:

A month ago I had a Taki cardio event ... This is something that I've experienced for decades but it has gotten worse. My heart suddenly skips into high gear. 140 bpm ... I went to the ER ... and they were able to measure it and run tests. So, in less than a month, I'm going to have a heart operation. So I've got all of this stuff going on in addition to the pandemic.

Mitch, understandably, thought the pandemic year was the most difficult of his career. His constant pain, made worse by being forced to teach on campus, required much more of his energy to make it through the day. The pain, coupled with the fear and anxiety of his looming

heart surgery, meant that the physicality of daily teaching took a greater toll on his body. Bonita spent the entire pandemic enduring a personal health crisis and daily pain of her own:

I had biopsies done. It took more than six months to finally give me a diagnosis, and say, “Oh, this is just sort of some normal process that you're going through.” But in the meantime, I was hearing that I was going to have to have an operation or I had cancer.

Thankfully, Bonita’s condition was not potentially fatal, but it was serious. She still had to do her job under intense stress while living every day in pain.

In an attempt to quell the negative effects of stress on their physical health, some participants shared that they either began exercising regularly or increased the intensity of their workout regimens. Luke knew he was struggling with his mental health, so he took action: “I’ve got some coping mechanisms that really help me, and I try to make use of those a lot. My girlfriend and I go kayaking every Saturday and Sunday. Getting out in nature is healthy.” Being in nature and exercising his body helped Luke cope with the intense stress and pressure he was feeling. Jane explained what she did: “I ended up buying a treadmill and starting to run because I had to do something, and it did help.” Jane’s decision to purchase a treadmill was not merely because she cared about her physical fitness, but also because she needed a healthy outlet for the stress and anxiety that were physically harming her body.

Esther also turned to running in an attempt to counter the mental and emotional strain she experienced. For Esther, it was necessary for her to increase her workout from running 5 miles per day to 10:

I discovered my neighborhood has a really great, safe area to run. It really saved my mental health and also my physical health ... It’s because of the stress. During that time running, I’m working things out [in my head] ... I think I’m in better shape than I was

before the pandemic because I have to be. Once I get back from the run, I have to get back on the computer because I spend my life on this computer. I think [running] allows me to come back to it refreshed.

Running more miles than normal in a natural outdoor setting allowed Esther the release she needed in order to return to the stressors of her job. Bonita shared how she returned to a physical activity that she had previously loved: “I stopped doing a lot of things, especially exercising and things like that, because of lack of time. This semester I started going back to dance because I was going to lose my mind.” At the beginning of the pandemic, Bonita felt forced to sacrifice her interests and hobbies in order to make time for the increased workload, but she quickly realized that work alone could not sustain her. Bonita found that she could quiet her mind during her dance classes and focus only on the required steps.

Becky had never realized the amount of physical activity she had while doing her job until it was taken away: “This is seriously a physical impact because I don't go anywhere. I mean, I *go* places, but I'm not walking around campus anymore, and you can't even *move around* in the classroom.” Becky missed the opportunities she used to have to get up and walk around while at work and noticed a difference in her overall health when those opportunities were no longer available.

Just as stress manifested itself as physical pain, the participants also saw a connection between their anxiety levels and their sleep. Luke explained:

I can't even remember the last time I had a full night's sleep. Insomnia! ... Every night, sometime between midnight and 3 am, I'm going to wake up and be up for 3 hours ... That never happened before. I've always been a [night owl], but once I got to sleep, I could stay asleep. That's gone.

Luke explained the cyclical relationship between his stress and inability to get quality rest but did not know how to solve the problem. He straightforwardly communicated how he was doing: “Insomnia is a symptom, not a problem. So I do...I’m struggling, you know? It’s bad. Things are really bad.” Luke insightfully realized that his insomnia was the manifestation of the struggles he was having.

Also finding it difficult to sleep, Becky shared her need for medication to help her control her thoughts:

It's weird. I get tired during the day, but then I can't stop worrying at night ... If this is going to be the way it is, I need to go back on my [ADHD] medicine because it's a lot of wheels spinning, and I don't have the time for it now because *everything* takes so much time.

Not taking her medication meant that Becky was unable to quiet her thoughts in order to fall asleep. Mitch, too, needed medication to help him sleep: “Back in the fall I actually asked my doctor to prescribe me some Xanax. I don’t take it all the time. I take it occasionally to help me sleep. That was back in November. I was feeling stressed.” Jane did not indicate needing medication, but she said that she “spent some time tossing and turning” due to stress.

Lisa shared a story of how her sleep patterns changed during the pandemic:

All last summer my clock switched, so I was going to bed at 8 am and getting up at 4:30 pm. I was like a vampire ... Some days I didn’t see a sun at all ... That was not good. That was not normal ... Normally, I mean, I do get to bed a bit too late, and I probably don't get enough sleep, but not like that, not going to bed when the sun is coming up. But that started when we switched over because I didn't have to go into school anymore, you know? So it was like I was just staying at home ... With the summer-- not having to teach

and not having children-- I don't have people that rely on me for anything, so I embraced that vampire life. I do not want to do that anymore because it was kind of depressing. I didn't get as much done as I wanted to, because, despite the fact that I go to bed too late, I am actually a morning person in that I do my best work in the morning. So if I'm waking up and the day's already over, ... I'm not going to do anything.

Lisa's night owl tendencies developed into an unhealthy sleep pattern that diminished her quality of life.

The loss of sleep or changes to sleep habits inevitably led the participants to feel tired during the day, but what they shared went further than simply being tired. Joe explained:

I am able to do everything that's required of me ... I have the energy to complete the tasks that I must. But if you were to sit me down and say, "Okay, you've got a free day. What are you going to do?" I'm not going to do anything. Whereas, maybe 18 months ago, I might have done a little project that I wanted to do, a new little something I wanted to try. Now, it takes every bit of effort just to do the things that are necessary to keep things moving along.

It took every last bit of Joe's energy for him to keep up with what he absolutely had to do--go to work, teach, grade, pick up his kids, and take care of them--that there was nothing left for Joe to do anything for himself. Bonita expressed her fatigue in a similar way:

Being at this level of stress, I think it has absolutely affected my job. I think because [the stress] is draining a lot of my energy. Usually, I have a lot of energy. Now when I go home, many times, I'm like, "Okay, I gotta do this this and this." I get there, and I have all these plans, but I sit on the sofa and I'm not able to get up. I think I'm physically

exhausted. That is the word that defines it all: super, super exhausted. Physically, mentally, and emotionally exhausted.

The plans, however small, that Bonita made each day for when she got home were not accomplished because she could not will her body to get off of the couch.

Luke connected his exhaustion to the exhaustion and trauma he saw in his students: “I’m tired all the time, and then having to look into the eyes of all these traumatized students every day. It’s a shitstorm! It’s really, really bad.” Luke’s inability to help his students through their trauma and the fact that he felt like he was barely coping himself contributed to his feelings of exhaustion. In an effort to help me understand her experience, Esther provided a detailed description of a typical pandemic teaching day:

I am tired every single day. Physically, it’s grueling to teach these Hyflex classes ... I would spend an hour and 15 minutes (yelling) TALKING LOUDLY INTO THE CEILING! And some of them still couldn’t hear me. Nuances are lost. I can’t make little jokes and little asides because I’M TALKING LIKE THIS! “OK, I’M SHARING THE SCREEN. ARE YOU ALL SEEING THE SCREEN?” I’m constantly looking here and there and talking to the couple of people in the class and adjusting things on the screen and going back and looking at Zoom. Seeing, Oh my God! That guy doesn’t have clothes on! Sending a chat message to him. Turing his video off. Coming back to the screen. And then class is over and I’m answering questions and I suddenly realize I have another class in 5 minutes, so I’m running out the door, but I can’t go out the right door because of the adjusted exits, so I realize I have to go completely around the entire building, and I just really have to go to the bathroom, but I don’t have time. So I go up to the next floor classroom. Sometimes the computer isn’t working, so I have this horrible stress because I

never know if it's going to be working, and then I DO IT AGAIN! What is that? Three hours of talking loudly at the ceiling? And I am physically tired after that. There's never any down time in there, either. I'm putting all of my energy into trying to do those classes well. I get, maybe, an hour break where I try to bolt down something to eat, but I'm constantly working, trying to get work done because it's an 8 week class and something always needs to be done. So I have 15 minutes to eat and am on the computer during my office time, then I go to another class and do it all over again for another 75 minutes. And I'm *exhausted!* Literally. It's mental because of the constant focus it requires, but it's also physical ... It's physically draining.

From her description, Esther affirmed that her chronic state of exhaustion was a combination of the mental and the physical effort she exerted all day, every day.

Professional Life

Along with their mental and physical health, the participants also indicated their feelings and views about their careers, which contributed data to support the last sub theme of Professional Life. Some of the topics mentioned by participants regarding their professional life centered on the altered modality and timeframe of their courses. Reflecting back on the year and a half of pandemic teaching, Lisa concluded:

I think the Hyflex coupled with the eight weeks just made things much, much worse for them and for us ... It's basically turned into, as did all or most of our classes, just a Zoom class because, if they aren't showing up in class, you're just teaching online on Zoom. But, even with that, you feel like that doesn't work because you don't know if anyone is even there or paying attention.

The participants already felt unprepared to teach in person and virtually during a deadly pandemic, but their task was made more difficult by the restructuring of the academic year into many accelerated 8 week classes that they were expected to teach without any breaks in between sessions.

Like most of the other participants, Becky expressed that she did not think the Hyflex modality was effective, even without the 8 week structure:

It's limiting. It changes, in many wrong ways, the way that I teach ... Our courses are based on more of a communal learning environment--having group activities where they gain knowledge and share knowledge with each other. You can't do it when you have one person in the classroom and 18 people on Zoom.

Esther stated a similar opinion: “Do I think it’s a good way to teach? No.” When prompted to explain further, Esther expounded:

I don't think it does anything well. It doesn't serve the students at home well because I'm teaching from a classroom. They tell me that the sound goes in and out. I'm not physically there to help them or check in on them. It doesn't serve the students who are in the classroom, either ... It keeps me from doing group work in a substantial way
It's just difficult to do anything well. What works in a Zoom class doesn't work well when you have students in class. Teaching from the classroom to a bunch of people who are on Zoom... it just doesn't work well.

Esther's dislike of the Hyflex modality could be because she had limited prior experience incorporating virtual technology in her teaching. Another reason could be that it forced her away from her natural teaching style and associated methods. Jane also found it difficult to manage both in-persona and Zoom students:

You are trying to implement these things to engage the people on Zoom at the expense of the people in the classroom. Zoom, I think, can work ... if it's the only modality for the class. I still have some issues with a fully online Zoom class, but it's more workable than trying to teach, basically, two different classes at the same time: in the classroom and on Zoom. If I was doing a lecture-based course, just getting up there and expounding, and then posting all of my notes online, and it doesn't really matter if they can hear me ... Zoom might work. Classes where you want people to interact and where you want them to discuss things, the Zoom just doesn't seem to work well.

Jane clarified the feelings that many of the participants shared: much of their difficulty with the modality was because they felt that they had to teach two separate classes simultaneously, or focus on one at the expense of the other.

In addition to the limitations of the modality, Becky lamented the extra time it took to plan and make changes to classes in the LMS:

I can't just plan class. If I plan a class, then I have to go program the class. I mean, you could spend 20 minutes coming up with a new idea and 20 minutes preparing it. Now you have to spend *40 minutes* trying to figure out how you're going to put it on ecampus. So the busy work has increased.

Becky and the other participants repeatedly noted how they did not feel like they had enough time or they were working all of the time. Becky's statement of the time required to work in the LMS supports and explains the shortage of time experienced by the other participants.

Out of all of the participants, only Bonita had any positive views toward virtual modalities:

I feel like I have learned so much ... this past year. I think that there are many things that can be done well in an online class, provided that the [instructor and student] has the interest in doing that. I can see how an online class can be, you know, very crappy if they don't have any interest or cannot manage the technology ... But there are many tools to help. To be clear, I don't feel like they [virtual classes] are the same as interacting face-to-face with the students ... It's not the same.

Bonita's thoughts revealed that she never had the expectation that the online or even the Hyflex classes would be the same as face-to-face classes, which might explain why she had a more positive view of the virtual modalities.

The participants' mostly negative feelings about the modality and timeframe went beyond the difficulty they had teaching those classes and also impacted their feelings toward their students. Overwhelmingly, the participants felt a great distance between themselves and their students, with the exception of Mitch. He found that he was still able to connect with his students, especially when they were all meeting via Zoom:

In some ways, being on the computer, instead of in the empty classroom using the camera system the college installed, ... I can sit here like this (sits forward and fills the screen).

It's actually kind of intimate. I feel pretty connected to the students.

Mitch viewed his teaching time as an opportunity to escape the stress, pressures, and other challenges brought on by the pandemic. His positive feelings about teaching produced positive feelings about his students. Essentially, he did not have to think about all of the negative things in his life while he was teaching, so he enjoyed it and everything associated with it.

Unlike Mitch, Lisa felt that the virtual component of her courses created distance:

I've been very disconnected from all my students. I feel like they don't know me, and I don't know them. I mean, in a regular 16 week class, I get to know my students fairly well and they get to know me. As I'm walking around helping them, they're chatting with their group members, and I overhear their conversations, and it's all very cheerful and fun. This has all been just awful. I mean, I feel like I could be just doing a telecourse or something, you know?

Even Bonita, who felt like the online and Hyflex course formats could be effective, still experienced a changed relationship with her students:

I look forward to having the face-to-face classes again. I have not lost my love of teaching. I am frustrated with the way things have been. The lack of engagement of the students, the disinterest, that breaks my heart. And that has been frustrating and disheartening. That just makes me so sad. And *mad*. It's like all these feelings at once.

One thing that helped Bonita cope with her disappointment and difficulties during pandemic teaching was the hope that her job would one day soon return to normal. Likewise, Esther had not yet given up: “Even though I feel significantly less connected to them, I'm still *trying*.” Though Esther continued to put forth effort in the changed modalities, she, too, longed for a return to normalcy: “I just want to do my job. I want to do this pure thing where I'm really focusing on the academic discipline that I'm supposed to be teaching them. Not this technical stuff that's kind of taking over.” Unfortunately, Esther harbored fears that, even after the pandemic, nothing would be as it was before.

Jane noticed how the disconnection from her students affected her investment in them and in her job:

But what can you do? That ship has sailed. I don't have the energy to really care.

I care to the extent that I'm going to help them and give them good comments, and I want to keep my job. But, I feel less emotionally invested, and maybe it has to do with the modality. I don't see these people. I don't know who they are. I know previously there would be at least a few students every semester who you really connected with, and you felt you had a purpose and were making a difference. Now, I don't have it at all. I haven't had that at all this year.

Jane felt so defeated that she gave up and accepted that she had no power to improve the situation. As a survival mechanism, she withdrew, emotionally, from her students and job. Becky echoed Jane's feelings:

It's been long enough into this that I'm exhausted by students who won't work. So, I just have to not care as much about it because I can't do anything about it. I can't.

... There aren't any sort of adaptations I can do to my classroom to make them want to read a text or to make them want to answer these questions, or to even sit and have a think about something ... There's nothing I can do to make that happen ... So, I can't care too much ... They're not personally trying to attack me. They're just not engaged. And so I just can't take it too personally, I guess.

Becky recognized that her students were not intentionally trying to *disengage*, but they were not trying to *engage*, either. Their indifference deeply affected Becky; she concluded that she was inept at making changes that would inspire them to learn and engage. Her feelings of uselessness resulted in her reciprocating her students' apathy.

Like Becky indicated, the disengagement from students often left the participants feeling differently about themselves and made them question their effectiveness as educators. Luke expressed his deep concern that he was adding to the damage being done to students:

If I had time to sit back and be miserable all of the time, I would, because these 8 week courses have gotten me so down and so angry and so frustrated ... I mean, it's traumatizing to me, professionally, knowing that I'm performing a malpractice. *We* are performing a malpractice by pretending that we can do a full course in 8 weeks. And I'm participating in this! So it's damaging my psyche, but I love my students and I try to do the absolute best that I can to help them succeed and help get them actually where they want to go.

While Luke's concern was that he was participating in educational malpractice, other participants did not feel like they were making any impact at all. Esther described how she felt about her teaching during the pandemic: "I feel impotent." Likewise, Jane shared her feelings about teaching:

I just found it really isolating. I'm thinking, "Why am I here?" because they don't show up to class. So, if all of them are on Zoom, but I can't see any of them, I might just be talking [to nobody]. I don't want to just talk for the sake of talking if nobody's there.

Similarly, Joe expressed, "Looking out [at the students], I feel superfluous." Becky remembered a colleague who had passed away before the pandemic and hoped that her colleague died feeling like she made a positive impact on the world, thoughts that made Becky question her own importance:

It just makes me think about me and the impact that we make on the world. I have always felt that vocationally, teaching at a community college. I felt that I'm making the best impact on the world that I can by helping all of these people who don't have good communication skills--and they need it to get a better job, to get up to a better salary by negotiation, to convince people of anything, any type of communication--but I feel like

there's a pause button on all of that right now ... I'm not getting any feedback from students that I'm helping them, and I used to. And it's not their fault that they don't care. They're talking to a computer ... The computer is in the way. They're not engaged, which means that I don't get the emotional feedback that I need to support me.

Without meaningful connection with her students and the surety that she is helping them, Becky lost all sense of purpose and motivation.

Further, pandemic teaching resulted in Jane taking stock of her career and whether it was still worth pursuing:

I'm no longer as fulfilled ... As teachers, we all have this idealistic view, and every semester our expectations get shattered. So it's nothing new to feel a sense of disillusionment, but I feel it's more profound this year than it usually is. I feel like education is becoming something I don't like, meaning the goals of institutions and the way that we are perceiving education or that certain people are thinking of education. It's no longer focused on learning, so the joy of it's sucked out. It's become just a means to an end. Just get the diploma or get the grade that you need and move on. That's how my students are definitely seeing it ... There was always that mentality, but I feel like the online classes and the Zoom and the eight week format, everything has definitely exacerbated that.

Jane was never under the impression that she would make a profound mark on all of her students, especially on those who were uninvested or did the minimal amount of work necessary to pass, but she knew that she made a difference for some. During the pandemic, the opportunities that Jane had to feel fulfilled in her career were stripped away. In the same way, Joe found that the pandemic revealed new feelings he had about his career:

In the beginning, I was teaching all traditional, all the time. And that was a ton of work, but I was enthusiastic ... But now, especially with the Zoom Hyflex thing, it really takes on that feeling of an education factory ... I still enjoy doing the work ... But, I think, the students are seeing something that maybe I'm not *feeling*, at least right now, which is good. What I don't know is how long I can keep it up.

What Joe could not sustain for much longer was faking it every day--faking that he liked his job, liked his students, was enthusiastic about the subject, and felt that his role was meaningful. Joe further expressed that although he had previously felt fulfilled in his career, he was absolutely devoid of any feelings of fulfillment or purpose during pandemic teaching. Lisa likened her role to a small piece in a large machine:

That's part of the problem; I enjoy my students and I haven't been able to enjoy my students this past year ... Since all of that is now gone, I just feel like I'm just a cog in a machine and not really doing anything important. They don't need me. If they were just to watch the videos, they wouldn't need me. So yeah, I feel a little frustrated with that and unfulfilled.

Lisa had never felt that teaching was the lifelong dream that she passionately pursued, but she did enjoy her job and the opportunities to connect with students and help them. Like the other participants shared, Lisa did not see the point of her as an educator any longer.

Becky found that she was no longer excited about teaching a subject she had previously loved:

The hardest thing is that I don't care enough right now. I don't know if it's like a self-preservation type thing. But I noticed this because of one of my courses. I only get to teach it in the spring ... I love that class. It is engaging to me. I love to teach it ... But I

don't prepare for it anymore. I'm like, "Why?" I've got some stuff from last year, so I just use that. And I'm not rereading, and I used to always reread the text because it's been a whole year since I last read it and talked about it. But I, honestly, just don't care. I mean, I have stuff that I've prepared in the past. It's good enough. It's not great, and I know I could be better, but I don't care right now.

Not only did Becky experience diminished enthusiasm for teaching, but she also was unmotivated to engage with the subject content she loved. Becky acknowledged that, although the increased reliance on technology was a factor, it was not the sole reason for her feelings: "It's upsetting to know that it's not just students who are not bringing their A game anymore. It's also me. I've got limits to technology, but there are also limits to patience and emotions, and all that stuff." Clearly, Becky felt she had reached her limits.

While many of the participants internalized the challenges of the pandemic, feeling like they were partly to blame, Jane took a different view. She concluded: "I'm not happy about it, but at the same time, I'm not necessarily disappointed in myself because I feel like we all kind of did the best that we could."

Along with altered their views of themselves and their careers, the participants recounted their feelings about their institution and the decisions made during the pandemic, but it became clear that some of the participants' views were colored by their previous feelings toward the administration. For example, Joe felt that faculty were not fairly compensated, so he had volunteered to teach several overload classes each semester for years in order to earn more money:

I mean, in this business, there's no way to make money. I mean, that's it. I will *never* get a raise for doing superior work. So the only way [to make more money] is to teach more classes ... Look at our base salary. How could you survive on that?

Joe already harbored ill will toward the administration before the pandemic because of the disparities between administration and faculty salaries. He was resigned to the fact that his compensation would never be based on merit; therefore, he found it futile to strive beyond the minimum expectations of his job duties.

Mitch, who saw his time teaching as an enjoyable escape, held different views of the additional obligations imposed by the institution's administration:

I used to joke when I was young that teaching would be a great job if it weren't for the students. Now I've changed it. Now I say that teaching would be a great job if it weren't for the administration. I tend to think that a lot of the extra stuff they make us do, like assessments and evaluations, is just a bunch of bullshit.

Mitch's negative feelings toward the administration existed before the pandemic. During the pandemic, he was *annoyed* that the administration still expected him to complete assessments for each of his students, but he was *angry* that the administration was still going to conduct evaluations of each faculty member for the '20-'21 academic year. Esther also shared her previous views of the administration:

We've always had administrators who imposed things universally, while pretending to seek faculty input then, ultimately, disregarding it. That's probably endemic to higher education in general ... I think that *they* think they know what we need because there's no real effort to seek input ... They value evaluation of employees with assessments, and I think it's interesting that we are never allowed to assess them.

The inequality of evaluation procedures rankled Esther and caused an unfavorable and untrusting attitude toward her college's administration.

Like Mitch and Esther, Lisa had taught at the institution for many years:

I feel like the institution has changed from the way it used to be. I've been teaching here for a long time, and I feel like it used to be more of a family ... Ever since the college reorganized a few years ago, I feel like it's not a family anymore ... It's a business, and there's a big disconnect between the upper administration and the rest of us.

All of the participants, including Lisa, were careful to state that they felt very connected to and supported by their immediate supervisors: department chairs, assistant dean, and dean. Despite this support, Lisa felt like she did not know the upper administration, nor did they know her or were interested in knowing her.

Even if participants held a favorable opinion of their administration before the pandemic, none of them were pleased with the decisions that were made or how those decisions were reached, particularly the implementation of the 8 week class format in fall 2020. Luke expounded:

I'm a little cynical about my job in the sense that I feel like we are just part of a conveyor belt and that the institution really doesn't care about student learning. That was true before Covid. So it's been really hard on me, seeing how the 8 week format has irreparably damaged so many students, and it's clear that the institution does not care. They *do not care*. They'll just take your money! I'm hoping that [transfer universities] take it seriously and tell [the college], "We're not taking your courses. You want your students to transfer? Give them a real education." But you know, if the college was

serious about giving these students a real education, they would have capped these courses at 15 students. And I mean before Covid.

Luke was already slightly jaded before the pandemic, but their decision to arbitrarily implement the 8 week format solidified his negative opinion about the administration.

More than anything else, the participants expressed annoyance, or outright anger, and confusion about the administration's decision. Lisa explained:

I felt a lot of annoyance with the switch to the eight weeks. I would have felt that even without the pandemic. Just the whole blanket decision that everybody should be teaching eight weeks, I thought that was stupid. I still think that ... I always get the impression that the administration are doing stupid things. They don't know what's going on, and they just make these stupid decisions.

To illustrate her point, Lisa shared a story:

I went to a Zoom last summer meeting with the people from the college where they were talking about eight weeks and what they did. So, in the meeting, they were talking about how they implemented the eight week format and how it worked for them. They were saying, "One thing that we learned is that we should have done this more slowly. We should have prepared better to do this. It's important that with the eight weeks that you give your faculty members time, in between, to rest." And what did my institution do? They just jumped straight into it! There was only, what, two days off between the two sessions? So that just annoyed me. I think, "What was the point of even meeting with those people if you're not even going to listen to anything they say?" I always get the impression that no matter what they decide, it's always just to make money. They don't have the needs of the students or the faculty members in mind when they make these

decisions.

Lisa thought it was maddening that the college imposed the 8 week structure soon after the meeting with the other college members, leaving faculty only a couple of weeks to plan their classes in the new format. In Lisa's opinion, the only reason faculty and students were forced into the 8 week structure is because some administrator wanted to justify his position and feel important. Otherwise, she did not understand why the experienced and knowledgeable advice from 8 week structure practitioners invited by the college was ignored.

After teaching in the 8 week format for almost a year, Jane still had questions:

I do not understand why they changed the course format from 16 weeks to eight weeks, and I've heard various reasons why, but I think that was a very poor decision on their part. It definitely gave instructors double the things to worry about. Not only do we have to worry about the modality, and, I don't know, getting sick while we're teaching in the classroom, but now we've also got to worry about paring things down to an eight week format. And I think it also completely overwhelmed and stressed all the students out. So I guess my problem is with the poor decision. I don't know who it was an advantage to. It certainly didn't help the students out and it didn't help the faculty.

Jane would have possibly supported the 8 week format if there were valid reasons for it, like benefitting student learning. She was embittered that their decision caused her to have more work and stress for no apparent reason. Esther shared Jane's views:

I feel like the higher administration says nice things but makes decisions unilaterally for reasons that are unclear to me. I cannot imagine that they considered faculty at all in the decisions that were made this academic year. For example, imposing this travesty of an 8 week format without any discussion about it at all. Just imposing it universally.

Jane articulated the problems that she and many other instructors had with the 8 week format:

It is what I call fast food education ... We pare it down to the bare bones and remove all the fun stuff, the stuff that was enriching, because I don't have time to do any of that in these 8 week classes. It's just giving the content, and it's not as enjoyable for me, or probably for the students, both due to the eight week and due to the modality switch. With the eight weeks, the number of hours are still the same. I don't know why, but I know it *feels* so different. I don't really know why because we are meeting the same number of hours, but it doesn't feel like we do. I think it's those missing gaps of time, like a cushion. We had a little bit of a cushion in our 16 week classes if something came up, like you got sick, or there was a freak winter storm, whatever. And there's none of that in the 8 week. It's, Go, go, go, go, go at a fast, fast pace.

The participants felt that the learning was stripped from their classes to accommodate the 8 week format. Learning takes time, it takes reflection, it takes development, and it takes sustained thought. Jane and the others saw how the 8 week format eliminated any chance for real learning, simply because of the accelerated pace. They questioned the motives of the administration if the goal was not learning.

The implementation of the 8 week format was not the only problem the participants had with the administration's decisions. They also negatively viewed the administration because of the implementation of the Hyflex structure. As with the 8 week format decision, participants did not receive any explanation for the Hyflex structure. Joe wondered about the decision:

I'd like to know what the justification was for bringing faculty back into the classroom. Maybe the justification is simply, "We need students back in town." That's what I'm afraid of. I don't even know why that would be. I mean, it's really just the first day of

class, right? Do we need students to be in town on the first day of class? Because after that they're gone. They're remote, so it doesn't matter.

As previously stated, participants often taught in empty classrooms after students found out that they did not have to attend in person. Joe did not think the possibility that students would attend in person justified forcing faculty to be on campus. He continued:

I'd be interested to know why it was so important ... So right now, everyone's talking about, "Oh, we're getting back to normal." There was no talk of that involved then. There was no talk of, well we're doing this so we get a sense of normalcy. No, those conversations weren't happening, so I don't know why they would make that decision. And if I don't know why they would make that decision, then I'm left to my own ideas about why they made it.

When left to his own ideas about why the college administration forced faculty into the classrooms, Joe could only assume the worst.

Since faculty were left without any explanation of the administration's decision, they were all left to form their own ideas. Jane tried to remain positive:

I feel like they made some decisions that were poor choices. I tried to give them some grace and think, "Well, I wouldn't want to be in an administrative position right now." Geez, talk about stress. But their decision to not only modify the modality to Hyflex, which I see the necessity of doing. I understand that. I understand the need for it. It may not have been ideal, but I can see why they did it. They wanted us in the classroom, I guess, so that students would have the option of being there or doing class from home, so I understand changing the modality. What I don't understand is why they also decided to reformat the semester to 8 week sessions.

Even though Jane did not understand and agree with their decision to do the Hyflex modality, she tried to give the administration the benefit of the doubt; they were thinking about the students if not the faculty. However, the administration lost Jane's grace when they also implemented the 8 week format at the same time.

Giving the administration the benefit of the doubt was not possible for Joe, not when the administration completely ignored faculty-voiced concerns:

At our college-wide meeting in the fall, there were real honest questions like, "Listen, I'm scared of this, and you're still just going to put me back in the classroom?" The response was very much like, "Yes. Yes, we are." Now, looking back we say, "Well everybody turned out okay," but at the time, I remember thinking, "Holy shit! You're just gonna force them? This is a person with a real fear and health concern and you're just going to ignore them?" Because everybody was trying to mitigate exposure. Everybody was scared.

Joe shared that it reminded him of a similar situation from a few years before:

I remember having the same kind of thought when they were discussing concealed carry and the regulations about where you could conceal carry on campus. They were like, "No no, you can conceal carry in faculty offices, but you're not going to be able to do it in the dean's office or the president's office, but you guys [the faculty], you guys will be fine. *We're* insulated. But you guys, you guys will do great!" Same thing here with Covid, "You guys will be fine! You can't come to my office because I don't even have to come on campus, but you do. We're going to chain you in the classroom."

Joe had long ago accepted that the administration did not value faculty enough to fairly pay them, but the administration's blatant callousness toward faculty safety removed any doubts he

had about their real concerns. They were forcing faculty to risk their lives and the lives of the people they love for no reason, when they, the administrators, comfortably worked from home. Joe found it strange that they recognized that there was enough danger for them to work from home, but there was, apparently, not enough danger to offer the same protections to faculty.

Participants were not only upset by the administration's disregard for their safety, but also the administration's disregard for faculty workload with the implementation of the Hyflex structure. Becky explained: "Along with this [the decision to implement the Hyflex structure] affecting the classroom, it's also affected collegial stuff. What was absolutely tiring to me and exhausting throughout the whole pandemic was helping my colleagues." The administration's solution to the problem of too few employees in academic support was to force faculty to step in: "All of us who had experience with online teaching were assigned three to four people last spring. We were put into their classes so that we can help them catch up and get used to the LMS." Becky was put in charge of assisting faculty who were woefully unprepared to teach in virtual modalities: "They were people who had never done the training for ecampus, or maybe who had only done basic training. I mean, there were *literally* people who had *never* done the most basic ecampus training, so they didn't know how to do *anything*." The responsibility of helping her colleagues during the entire pandemic proved challenging for Becky:

The most draining part is, I'm watching people try to learn the thing and do the thing at the same time, and I'm trying to help people do that, but I'm also trying to deal with my own classes at the same time.

Naturally, her colleagues' questions, which occurred all year, included pedagogical inquiries, as well as technological:

There was a point where I just said, "I don't know how you're going to do that. You really

do have to come up with something” because I ended up giving pedagogical advice. I wasn't supposed to do that. I was supposed to be giving technology advice ... I mean, it was an inevitable problem. We were trying to figure out how deal with this technology, and that turns into, let me ask you about how the teaching will work out. I mean, *none of us* got pedagogical training for any online stuff. And I felt it was draining because I don't want them asking me. I'm not an authority on how to teach online.

The institution's decision to make faculty, who were already having to transition their own classes, teach in a new virtual modality at an accelerated pace, and learn how to live in a pandemic, mentor and advise people who did not know how to use the technology, instead of hiring more course designers or relying on Academic Technology. Becky was resentful toward the administration because they did not consider or care how forcing her to take on, unpaid, several technologically-challenged mentees would negatively affect her.

Lastly, participants communicated how they felt about how the administration's decisions impacted participants' families. Jane shared what she thought would have been a better approach for administrators:

They should have given faculty more of a choice as to whether they wanted to go into the classroom or whether they wanted to do Zoom only classes. We didn't have any choice in that, either ... I think the reason that one bothered me the most is because of my daughter. I felt pushed into a corner for the fall because I felt like they were basically saying, “Okay, you *have* to be here in the classroom.” Well, what do I do with my kid? I've got to send her back to school! That felt wrong in some ways that I had to jeopardize my kid's health by going back into the classroom.

Jane shared that she and her husband decided that he would stay home with their daughter for the

first six weeks of the fall until his sick time ran out. After that, they were forced to send her back to public school:

I was very angry about that at the beginning of the fall, because we were still in the middle of it. We still are, but there was still so much unknown. People were still dying every single day. I didn't want to send her back ... So I'm standing in there, in an empty classroom, because they were forcing me to be there. I'm standing there, teaching on Zoom, which made me resentful that I had to be there because their decision forced me to send my child to school.

Jane's resentment only built throughout the academic year as more and more positive Covid cases were reported on campus. She felt that the risks she was forced to take by the administration were completely unnecessary.

Joe recalled feeling similarly angered:

Every time I walked out of the house, it was a risk, and not just to me, but I was risking my kids and my wife. We had home protocols that we had in place where you would sanitize before you came in with shoes off. I mean, we had *frickin protocols!* Anytime I left the house it felt like a risk to the people that were important to me. So, I'm not sure if college administrators generally understand the sort of choice that people actually made in fall of 2020.

When I asked Joe what he meant, he elaborated:

I mean, the decision to come back to campus and teach in class, how weighty that decision was for faculty members. It's very easy when you don't have an obligation, when all of your work can happen on Zoom from your comfortable house, when your life, eight to five, is meetings. Anyone can handle that, right? But to tell us to be in class and to not

recognize how significant that decision was, I think it was a very, very cavalier approach: If you don't have a health condition or you're not over 65, you need to be in class! I just think that's not supportive. And, of course, they've offered no justification. Maybe they thought that faculty need to work because working people go to work. That's, that's messed up.

It appeared to Joe and the others that everyone else at the college, including students, were given choices intended to keep them safe, yet faculty were not given any choice. Students, administrators, and staff did not have to be on campus if they were worried about their safety, but there was no alternative for faculty who felt unsafe. Joe's parting words that he explicitly asked me to include in this study were what he wanted to say to the administration to try to get them to understand the gravity of what they did:

There has to be a recognition of the interconnectedness of all these different parts of our community. I mean, in the fall of last year, the college told me I needed to be back in the classroom, but what does that mean for my children, who need a place to be during the day and there are no care centers operating during the day? The college put me in a position where I had no choice but to send my kids back to in-person classes if I wanted to keep my job. That was really the only avenue. I don't have a grandparent where I can be like, "Hey, quit your job and come watch my kids for six months." I'm just not in that sort of position. So, I think what often goes unrecognized is that it's not just about my job, but it's what my spouse's work expectations are, what my kids are going to do, all of these things. For the college, it's just one decision, but for us, the choice to go back into the classroom has these residual impacts on other people in other parts of our lives.

It is unclear whether the college administration can or would do anything that will ever improve

Joe and the other participants' feelings toward them. As important as the participants' jobs are to them, their work is not at the center of their lives. They care about their students, but, as Becky articulated, "My students are not more important than my life, my kid's life, or my husband's life." The participants felt that the administration expected them to prioritize their jobs and students over everyone else in their lives and left them no other option but to comply if they wanted to remain employed. Faculty felt that it was, literally, a life and death situation, and they were told by the administration that their lives did not matter. If the participants are correct, the administration has no idea of the resentment and anger that administrative decisions made during the pandemic have sown.

Student Engagement and Performance

After examining the interrelationship between instructors' digital readiness, changes instructors made to their teaching and courses, and their feelings and experiences within the external environmental context, it was then necessary to consider the participants' perceptions of how students engaged and performed in virtual course modalities. When seeking to answer the last research question regarding students--How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?--I analyzed the data and developed the third major theme: Student Engagement and Performance. Within this theme are several sub themes that are intended to isolate specific aspects of engagement and performance. The sub themes are: Engagement with Peers; Engagement with Instructors; Engagement with the Course; and Overall Performance.

Engagement with Peers

As established in the Changes to Teaching and Courses theme, most participants' preferred collaborative learning before the pandemic and many attempted to incorporate learning

activities and technology that they hoped would encourage students to engage with one another during virtual pandemic teaching. One of the challenges that participants noted was the physical presence of students in the classroom, as well as the virtual presence of students online, whether in synchronous Zoom class meetings or in fully online classes. Becky considered how the physical presence and online presence of her students impacted engagement with one another:

I've got the same students who ... come in person on their class days, and they don't see their classmates [on Zoom] because they're in the classroom. Then, the ones at home don't really interact with each other outside of what I try to make them do.

Becky felt that students in the Hyflex classes interacted very little because of the separation they felt due to the physical and virtual components of the class, and her fully online students did not seek to engage with one another beyond the course requirements.

Luke mused upon the reasons that students did not engage with one another much during the pandemic and what he felt made a difference for some of his students:

I think [engagement] has decreased because--it just came to me now--I think the secret sauce for this 2nd 8 week Hyflex class is that on the first day of class, in the chat feature, I could see them building communities with each other. So, I think that they figured out over the last couple of semesters being in their peer group that "if we're going to survive this class, we've got to make friends with several people here." Then they are going off doing their own Zoom sessions together. I've got no control over that. I think that's why the performance is better [in that class], which bears witness to their expertise with various forms of technology.

In addition to Luke, Becky also recognized the initiative that students must take in order to build the classroom community. When comparing her students in an upper-level pandemic course to her students in the same course pre-pandemic, Becky noted a major difference she saw:

I can tell the absolute difference between last spring and this spring just by that class alone. This one, they haven't banded together. Usually, they start to band together because they feel like they're tackling this strange, uncomfortable, lots of [new ideas] subject.

Joe also compared his students, but he focused on the differences exhibited by students in his Hyflex courses compared to his fully online courses during the pandemic. Joe was frustrated by the academic dishonesty resulting from his Hyflex students studying together and sharing answers outside of class and struggled to understand why his fully online students were different:

What's weird is, I don't see [cheating] with my online students. They are not ... getting together and doing it in the same way [as the Hyflex students], so I don't know if it's something about everybody appearing together at the same time that encourages it. And I think studying as a group is great. It's just kind of a new way of doing it. It's weird that they're not interacting in class, but they're finding outside of class time and interacting elsewhere. That's weird.

Joe tried different methods to get his Hyflex students to interact with each other during class and found it strange that, unlike his fully online students, they would use their free time outside of class to engage with each other but not do the same when presented with opportunities to engage during class.

As noted in the second major theme, one of the methods Joe incorporated to encourage engagement was breakout rooms. He shared an anecdote about students' lack of engagement with each other during a breakout room activity:

This spring--this is a silly one--so I broke the class into their little breakout groups, and I went into each group to give them their [problems]. Everybody got a unique [problem]. So, I got through all the groups, and they had about 30 minutes to work on it and then they were going to submit it to a Dropbox. I went back in, probably five minutes before the end of class, so 25 minutes had passed, and I go in and asked, "Are you just about done? Just submit what you've got." That sort of thing. And I get to this one group, and I'm like "Hey, just submit whatever you've got." And they sort of just shrugged and one of them said, "I think you were muted when you came into our discussion group. We never got a [problem]." I'm like, "What have you been doing for 25 minutes?!" That's how little interaction there is. They will just sit there, knowing full well what we were going to do and what I asked of them and what they were going to be turning in, and they just sat there in silence. It was such a strange thing.

Joe was concerned and exasperated that students were so disengaged that they preferred to sit in silence and not complete the assignment rather than collaborate on an activity. Jane also noted the silence that often occurred during breakout room activities:

When I would put them in breakout rooms, you would always have a couple of groups who were [engaged], but a lot of times, they were just sitting there in silence. They could have been chatting, not talking verbally, but I didn't see anything in the chat [box].

The students in Jane's class did not feel connected to each other, so breakout room activities were often ineffective for student collaboration. Both Jane and Joe sought to create a

collaborative learning environment for students during the pandemic, but the methods available to them were unsuccessful in replicating the same experiences as in a regular, f2f class.

Becky mused upon this, as she experienced the same in her classes, and spoke about the importance of accountability when it comes to student engagement in collaborative learning:

There's accountability when...you can feel it when you show up to class, and you didn't fill in the worksheet. Everybody else filled in the worksheet, and you didn't do the work. You feel that. And there's also an investment that they want to do the work because they have to be a part of a group; they have to be there with their peers. When they're online, it doesn't come. They'll skip or...I've had a couple students who seem to disappear from Zoom right before our group sessions where we go into breakout rooms or when they have to create group notes. They disappear. They come back afterwards (shoulder shrug).

According to Becky, accountability is better achieved in a physical classroom setting:

When we're in breakout rooms, for instance, they feel more uncomfortable when I show up than, say, if I was in a room with six groups meeting. They feel more comfortable in the classroom because they're together, it's loud, and they can ask questions, but when it's on Zoom and it's only their voice... They are the only voice, especially when I have them report their findings to the whole class.

Becky assumed that, even though students are meeting virtually, they are still individually isolated. The feeling of isolation affected the overall class environment and made students disinclined to engage in discussion with each other or with the whole class.

Engagement with Instructors

Participants shared that students not only seemed disengaged from one another in class, but also disengaged from the instructors. Outside of class, one of the most common ways that

students engaged with instructors f2f before the pandemic was during office hours. Unable to meet students f2f because of her institution's safety policies, Bonita held virtual office hours but found that students did not engage with her in that medium: "I have not had students come to any office hours. It doesn't matter if there's a test, or if there's a quiz. Nothing. Seeking no help, whatsoever. I don't know what's happening." In pre-pandemic semesters, Bonita was often overrun with students seeking help during office hours, especially before tests. She assumed that making herself available through Zoom office hours would be more convenient for students, but students did not take advantage of her availability and willingness to help them.

Although her students did not engage with her during Zoom office hours, Bonita explained the increased contact she received from students through email and the content of those emails:

I think keeping up with emails is ... It takes a toll on me ... "Have you graded blah, blah blah?" I appreciate it if they are telling me something I forgot to open [in ecampus] or change the date on the drop boxes. I'm always like, "Thank you so much for your email. Thanks for keeping up" and I always apologize to them, and so those I appreciate, a lot.

While Bonita appreciated the students contacting her about pertinent course assignments, she also saw an increase in emails that only served to frustrate and annoy her:

Other ones, ... ask, "Can I have extra credit?" or, "I'm graduating, ... and I need to pass the class with a D." ... What bothers me in those emails is, don't ask me for something that I am not giving to all the other students. Those emails bother me because it's like, you're not special. You're special to your parents, but to me, you're one of my many students. I treat everyone the same.

The increased number of requests for special treatment during the pandemic is perhaps because

students were more isolated due to the modality of the class; their disengagement from each other meant that they did not have their peers as resources for help with due dates and other aspects of the course. More of Bonita's students felt entitled to individualized accommodations, even though many of their issues could have been prevented if they had been more personally responsible.

Esther's students also relied on her to save them from the consequences of their own actions. She detailed her increased anxiety because of the volume of emails from students and the challenging subjects of those emails:

I'm on edge right now because I have a paper that's due today. And I know that my emails are going to start spiking. I'm going to hear from students who I haven't heard from since their last paper who are having really big questions about how to correct their thesis... [Another class] had a paper that was due yesterday ... We met for class at 1:25 yesterday, their paper was due at 5. I was pelted with questions about how to write the paper. *Pelted!* And I don't mind the last minute, small questions, like, "Oh, do I quote or italicize that?" That's easy, but some of them were things that I couldn't address at that point, or the student was having problems just *writing* and they wanted me to solve it for them. It's very frustrating.

Students did not engage with Esther during the class time she devoted to assisting them with assignments; instead, they engaged with her at the last minute through email, but their procrastination left Esther unable to help them.

The inability to adequately assist students also plagued Becky, especially with her students who were paired students (previously considered developmental learners). These students tended to reach out to Becky through email, increasing Becky's workload substantially:

I get a lot of emails, and I have to write a lot of long emails ... They are asking the same questions other students ask, they just don't understand the answer ... "I don't understand; here's my introduction, I don't know what a thesis statement is." So I explain what a thesis statement is, and I give an example and they say, "But I still don't understand."

Becky noted that most of the questions she received from paired students were about their writing, a fundamental skill necessary to succeed in college. The problem of inadequate writing skills was only exacerbated because Becky had to communicate with these students about their writing through written emails:

Yeah, writing. The only way they have to communicate with me is the thing that they have a problem with in the first place. You know, we *can* talk on Zoom. I will say that my paired students were always showing up for class, way more than any other students last fall.

True, Becky's students were seeking help on the course subject, but she doubted that her written emails were of much help to students who struggled with low literacy skills. Interestingly their in-person attendance did not seem to affect the amount of help they required outside of class. Despite her offers to aid students through individual Zoom meetings, Becky's students opted out of her verbal assistance and relied, instead, on email communications.

Jane also saw an increase of students reaching out to her for assistance through email, but their requests for help had nothing to do with the course subject:

Because of the course format or because of Hyflex, I think students just seem to need more direction in terms of pointing them to resources. I've had students emailing me about mental health issues, or other things more, I think, than the typical semester. So, just sending them resources, whether it's counseling services or the library or whatever it

is.

Her students appeared to view Jane as more of an information source for campus resources than as an academic subject-matter expert and felt more comfortable seeking her assistance via email than in person or through Zoom office hours.

Although Becky's paired students overwhelmed her with emails, she was dismayed by her non-paired students' disengagement with her. Very few of them ever contacted her for help, even when she could clearly see that they needed it. To address this problem, Becky devised a solution:

I forced them to make one-on-one appointments with me ... Once I made them do that ... I have noticed ... they're more willing to email me because I forced them to talk to me for 10 minutes on Zoom by themselves.

Before the pandemic, Becky found that she easily connected with students because of the regular f2f class meetings. Students grew more comfortable with her and were more willing to ask for her help. While not ideal, Becky felt that the only way that she could make her students feel more comfortable with contacting her during the pandemic was to mandate an individual Zoom meeting for each student.

Most of the participants' perceptions were based on their experiences teaching Hyflex classes for the first time; however, some shared their perceptions about their fully online students, particularly the ways in which the students engaged or not with the instructor. Becky mused upon the engagement of her fully remote students:

When you're fully online, the only time I ever engage with those students in real time is if they actually come to my [Zoom] office hours, or if they send me an email. Out of the 25 students in class, I'll hear from *maybe* 15 of them. There's always a handful that never

contacts me. Never ... They don't reach out. Maybe they don't need anything. They just get it done and move forward and, presumably, read my feedback. One would hope.

The complete disconnect between Becky and her fully online students was pronounced. Becky's attitude was that it was entirely up to the online student to engage with her. Bonita's fully online students also neglected to engage with her, even when they needed help: "Very seldom, they [the fully online students] are looking for help. I hold office hours. They don't show up. And this semester--and I'm probably being really harsh--this semester has been the worst of all of them." It is entirely possible that the spring '21 semester really was the worst of them all for students, as well as instructors. With the 8 week structure for the '20-'21 academic year, instructors had already taught four semesters' worth of courses, and students had taken four semesters' worth of classes by Spring '21. That pace would be tiring without a pandemic. Students likely needed help, but they were simply exhausted by the structure of the academic year, suggesting that the course format had a greater effect on student engagement with the instructor than the modality.

Even when students did communicate with instructors through email, it was not always appropriate. Bonita recalled a student who had emailed to ask for special accommodations for an exam. The student said she had to attend a funeral that week and wanted Bonita to open the exam several days early. Bonita reminded the student of the course policy stating that exams will not open early in an attempt to prevent academic dishonesty. The student subsequently failed the exam because she cheated and used the Internet to locate and answer exam questions, actions that were recorded by the exam proctoring service used by the college. She then contacted Bonita when she saw that she had received a zero for the exam grade:

She wrote me this nasty email. And I was like, "The grades are what they are. I have the Honorlock video as proof." I'm thinking, if you were prepared to take [the exam] before

[the funeral] happened, you wouldn't have needed to cheat ... It makes me wonder, you know?

Bonita was stunned at the lack of decorum some students exhibited in their communications to her: "How are they able to talk to the professors the way that they talk to us? I've received emails and I'm like, I would never in my life dare to talk to my professor this way!" Perhaps because of the digital distance email provided, Bonita's students felt free to use inappropriate language and tone when communicating with her through email when it is unlikely that they would do the same in person.

In addition to email, another novel way that students are engaging with some instructors is through the chat feature in Zoom. Mitch shared why he thought his students preferred to communicate with him via chat:

We talk about death and things like that. They are typing things in the chat that I think they would not be ordinarily willing to say live in a class. One student told me, for instance, when I was talking about [a scholar] and some of his ideas about death, that the student was more moved by what I was saying than they'd ever been moved by a professor before. They said it in the chat. I don't think they'd say something like that out loud in the classroom.

Whereas Bonita's student felt that the digital distance of email gave her permission for rudeness, Mitch's student found that the digital distance gave him the freedom to say something personal that he probably would not feel comfortable sharing aloud in a traditional classroom setting.

Another reason that Mitch's student felt comfortable enough to share personal thoughts through the chat could be because of Mitch's approach to and use of the feature:

One thing that I find when I put them on the spot, probably half the time, if they do respond, they have no idea *how* to respond ... and I don't like that; I don't like putting them on the spot and them having to say to the class, "I don't know." Or even worse, they try to guess, but their guess is just way off ... So, sometimes, it's just easier to not put them on the spot ... Some of them want to respond. There are some good students who like to talk. They like to speak up. But a lot of them will respond through chat ... A lot of them are uncomfortable talking, or they don't want to interrupt me because they can tell that I'm kind of on a roll, but they'll type questions in the chat.

Mitch's refusal to randomly call on students and require a verbal response eliminated the awkwardness and shame that students often feel when they have to admit to the entire class that they do not know something. The chat feature on Zoom removed the chance for embarrassment, and students were more willing to take chances and answer questions, thus, the chat feature actually helped improve students' engagement with Mitch.

Another way that students engaged with instructors was through texting, a mode of communication that Luke has made available to students for years. Texting made his students feel more comfortable with contacting him, but he grew increasingly alarmed at what his students' messages revealed about them during the pandemic:

I've always given students my cell phone number because texting is just how they communicate, so I've been doing that for years and years ... Most of the time when students would text me before Covid it was, "I'm going through some problems right now. I might not make the deadline." That would happen very rarely ... Now, it's happening all of the time. All of the time ... I'm getting 4, 5, 6, 7 times more texts from students than ever before ... They are just damaged ... The excuses may not be legitimate,

but the fact that those students are damaged is what is legitimate. Covid has really changed the landscape for students.

The messages that Luke received from students indicated to him that the pandemic had taken an emotional and mental toll on students. He might never have gained this insight if his students had not engaged with him through text messaging. Just like email provided digital distance, texting potentially provided enough digital distance for students to be more transparent with instructors.

Although some participants saw their students engaging with them in new ways during the pandemic, students' engagement with instructors traditionally took place in the classroom through students asking questions. Many participants found that student questions were inhibited by the virtual modalities of their classes. Lisa recalled that her pre-Covid students rarely held back their questions, but she had yet to experience the same from students during the pandemic: "They don't talk to me, but I can tell with their grades that they're not prepared for the material. And I think a lot of them just don't trust me." Lisa realized that trust is a major contributor to student engagement, something that she did not know how to build during pandemic teaching.

In an effort to enhance his students' knowledge and skills, Mitch regularly demonstrated and assigned practice work for them to complete during class. Even though he doubted that they all understood the work, his students still did not ask questions, which left Mitch unsure of how well his students were learning:

I'm hoping they'll practice and sometimes they are practicing and asking me if I can show them how to do a problem. But most of the time, I'm pretty sure they are just watching and maybe listening, which is not ideal.

Mitch employed scaffolding in his courses: building knowledge and skills in incremental steps. His students' withholding their questions left Mitch unsure of if they were grasping the material before he moved on to a new concept.

Knowing that students were not going to attend office hours and trying to reduce the number of emails she received, Bonita would use the end of class time to encourage student engagement by answering their questions:

Sometimes I just answer all the questions right after the class, so I stay with the Zoom open. Unless it's a private conversation, I just stay in the classroom and answer their questions ... They don't stay very long to ask me anything.

Even though Bonita made herself available to speak with students, her students rarely seized that opportunity.

Surprisingly, not all of the sparse communication from students was negative; several participants shared the positive feedback they received from students during pandemic teaching. Jane's most positive feedback came from some dual credit students she taught from a local high school:

I had a couple of good students from [a high school] that were really kind. It was funny because they were the ones that showed up to almost every class, and they'd get on Zoom only occasionally, but most of the time, they showed up. A couple of them wrote me some really nice emails and it was neat. I needed that at the end of the semester after their grades were in. They weren't trying to write to get a better grade. A couple of them emailed me and that was helpful because it just, it definitely does seem like that personal connection is not there right now.

The students' regular physical presence in the classroom seemed to have made a difference to

Jane in the students' building a relationship with her. They were so comfortable with her that they were able to express their positive feelings in an email to her.

Mitch is another participant who mentioned receiving positive feedback from students during the pandemic: "The students seem to enjoy just watching and listening to me talk. I guess I'm a pretty good talker because they tell me I am. They say they love me. I don't want to show off too much (laughs)." Mitch's humble-brag about how much his students enjoyed his teaching during the pandemic revealed that positive feedback is reciprocal. The students positively engaged with Mitch; therefore, he had a positive view of them, which bolstered both his and their experience in the course. Becky also shared the reciprocity of positive perceptions she had with one of her upper-level courses:

This is just the benefit of teaching a class that's not a freshman level requirement. My [upper-level] students chose to be there. I do get more interaction from them. I get random emails where somebody says, "I really liked that we were talking about assimilation today. Did you see this person's talk about it on YouTube?"... So, I get that feedback and I know that they're engaged.

Becky attributed student engagement to the fact that they willingly registered for the course, unlike students in required core courses. The same might be true for students who willingly registered for courses in virtual modalities as opposed to those who had no choice. The lack of modality choice could be a reason that students were perceived as less engaged during the pandemic.

Engagement with the Course

As with the participants' perceptions about the overall lack of student engagement with peers and instructors, they also indicated that students showed a lack of engagement with the

course. Jane commented on students' seriousness toward their learning: "They definitely seem distracted and perhaps less engaged or less serious about class than they normally would be to me." The students' attitude about their learning colored how they viewed the course. Becky struggled with the shifting priorities of students during the pandemic:

It used to be that 80% of my class would have some sort of moment, and I was fine with the 20% who just said, "Listen, I'm here to finish this and get done." But now it's more like only 60% of them are trying to be engaged, but none of them truly are.

The "moment" to which Becky referred is when students collectively realize the importance of the class and individually invest in their own learning. They realize that the class is a shared experience for which they are all responsible and of which they all take part. Becky's pandemic students never had that moment, or it was not apparent to her, so they lacked the engagement with the course and material because they lacked engagement with each other.

Joe credited the students' nonparticipation in the Hyflex modality to their confusion about the virtual component of the course:

I would chalk it up to [the students thinking] it doesn't feel necessary. [They behave as if] the lecture part is almost superfluous, and maybe this is just me ... Maybe [students think] that the whole pageantry of the camera and the guy in the classroom, that's all just unnecessary. [They think], "What I need to be able to do right is answer these questions that are going to be on the exam. So, I do my part by having my name show up in the little box on Zoom, and then I'll just figure out how to get the information later on for the exam."

In the past, there was a clear distinction between online and f2f classes. Online classes were less about daily interaction and more about achieving the major objectives of the course on one's

own. The introduction of the Hyflex structure during the pandemic put students' expectations and the realities of the course at odds. Students were expected to participate in daily communal learning, but their disengagement indicated preconceptions about the solitary learning that takes place in online courses.

Esther further explored this notion and shared what she saw as students lacking investment in their learning and the effort that learning takes:

I think they are very focused on getting a grade to move on. That's their goal. They think of this [class] as just a grade that they are earning and they are going through the motions of doing it. This isn't true for all of my students, but I do have those who see this as some transactional thing, and they will endure what they have to endure in order to get a grade.

Esther thought a number of her students focused on the goal, the grade, but did not seem to realize that they needed to invest in their learning along the way in order to achieve that goal.

Beyond student attitudes, participants noted how student engagement with the course depended on something as simple as attendance. In Hyflex courses, students could choose to attend in person on their designated days or they could attend via Zoom. Students, overwhelmingly, chose to forgo in-person attendance, even though instructors stressed the importance of being physically present for class. Lisa, as well as every other participant, stated that most of their students attended class via Zoom:

Very few students showed up in class. Actually, in the first first eight week session in the fall, I did have a fair amount show up every day. Then, I think in the second 8 week they all discovered that they didn't need to show up. So, I think in the designated Monday/Wednesday group, I had one person show up. In the Tuesday/Thursday group, I didn't have any. So, I just stopped having class in the classroom because if they're not in

the class, I didn't need the classroom [or] the classroom technology at all. And then this semester, the first eight weeks in the spring was the same. I had very few people showing up, but at least a couple. In one of my sections, I just never saw anyone, not even on the first day of class.

The 8 week structure meant that class would meet Monday through Thursday, with students alternating the days they were in person and on Zoom. Despite this structure, the majority of students chose to attend class via Zoom. The administration allowed students to choose how they wanted to attend class if they felt unsafe. Mitch elaborated: “Once the students found out that they didn’t need any excuse other than they didn’t feel comfortable in the classroom, they didn’t come. After that, on a typical class day, maybe 1 or 2 students would come.” Jane did not believe that all of the students who attended on Zoom instead of coming to the classroom felt unsafe:

They’re taking the easy way out, honestly. I think a lot of it has to do with that, and I also wonder, because I've talked to some students and my neighbor who has college students, and they're saying that they're really isolated and they're feeling more depressed. I'm thinking, “Yeah!” Number one, why don't you go to class? And number two, why don't you participate and talk to people in the virtual class?

Jane understands that the virtual modalities of pandemic courses increased students’ feelings of isolation and depression, but she does not understand why students snubbed the opportunities to engage with others in the classroom or even online if they had these feelings.

After a year of pandemic classes, some students recognized that Zoom-only attendance was not best for their learning, as Becky explained:

Some of them have gotten used to it and they figured out that they need to do extra. I do have a couple students who have asked--even though we have, you know, all the limits

on rooms and stuff--if they can come every single day. They're like, "I can't do this at home. I have to be here. Can I please come here?" and they're the only one [in the room]. Only after struggling through several 8 week sessions did some students recognize that their learning benefited from being physically present in the classroom.

Students were not the only ones who found predominant Zoom attendance hampering course involvement. Joe shared his experience when none or only one student attended class in person:

The interaction with students... that's disappeared. Because really, after the first day, no one's coming to the classroom anymore. Well no, that's not true. I'd always have one that showed up. But, there was no interaction from that one because that was the one student whose coach told him, "Listen, if you just show up every day, you'll pass the class." And so, good on him. Diligent, there every day, but zero interaction. I'm still having to say, "Could you put your cell phone down?" Like, why are you even here? You don't have to be here!

Instructors already noticed that students did not participate or engage when in virtual modalities, but they also realized that interaction was stunted when in-person attendance is low.

With the majority of students attending virtually, tracking student Zoom attendance was tricky for some participants, like Mitch:

I found that what some students do is come for the attendance check, and then they leave, but they leave their Zoom on, so it looks like they are there with the black box with their name. So, because I don't make them keep their cameras on, I don't really know if they are there.

Similar to those students who stopped attending when they realized that they were not required to attend on their in-person days, students found loopholes and a way to “game the system” when attending via Zoom. With attendance a mandatory college-wide policy, Lisa was empathetic towards students but acknowledged that the attendance policy was easy for students to work around and difficult for instructors to enforce on Zoom:

They're not being held as accountable because they're hiding behind their little black Zoom boxes ... And, you know, I understand that. When I'm in a meeting on Zoom, I might be looking at my phone instead of paying attention. They're doing the same thing.

Lisa's experience aligned with many of the other participants, as they struggled to adjust to cameras in the classroom. During the interview, Becky's thoughts on this issue were expressed in an emotionally laden outburst: “I don't want my students on a computer screen! If they're supposed to be talking to me in real time, they need to be in the same room. They're not paying attention on a computer!” Becky had clearly reached the limitations of her patience with the Zoom teaching. She designed her courses with the expectation that students would still experience 50% of the class in-person, but they did not engage in even half of the course the way that Becky expected and for which she had planned.

Even when participants required students to keep their cameras on, students, like Esther's, still found ways to elude engaging in the course.

I literally don't know what's going on with them because even though I require cameras on, they still find ways to hide in the dark ... So many of them, you only see their ceiling fan.

Esther shared the results of her appeal to students about seeing their fans:

I no longer see the fans, but I still see just the foreheads. I don't know if they are there or not. The chats help a little bit, but there are always a couple of students who don't respond or always lag in their answers, but it's obvious that they don't know what question they are trying to answer. There's a correlation between those students who are not visible and who are not responding. And I think there's a reason they're not visible.

Esther's assumption that students were not visible because they were not actually there was based on her experience teaching during the pandemic and her perceptions of students' utter disregard for the course:

Many of them are completely disengaged. I don't know if it's because of what's going on in the world or the fact that Zoom discourages engagement or they don't think of it as being a real class. Again, some of them are just *not there*. I don't know how else to put it. They are a name on a screen. I don't think they are there. And it shows up in the work that they turn in or don't turn in. Then they tell me they're concerned about their grade. (shrugs shoulders and shakes head). But they're *not there*. If they are in class, I can tell if they are disengaged and can address them individually more easily.

Becky also directly addressed the inability to clearly see her students' faces in one of her classes. She turned her own camera off and left it turned off during her entire lecture. At the end of her lecture, Becky turned her camera back on and asked the students what they thought about her teaching without a camera. The students responded that they did not like it and that it was difficult for them to pay attention. Becky replied that she feels the same way when they turn their cameras off. From then on, her students in that class were more mindful and considerate of her and their classmates when it came to cameras:

I do routinely get emails from ... students ... I have a student who has Coronavirus and I

get those emails before class, “I really don't feel good, so I'm not turning it on.” They *tell* me they're not going to turn it on. And I don't know if that's an awareness that only that one class has figured out, but I don't see it in the other classes. I think it's feeding into why students won't participate. They don't want to talk to empty screens. They don't know what they're [their classmates are] doing behind the empty screens because they know what they do behind the empty screen, whether they're sitting there chatting with their roommates, or watching TV, or sleeping.

Although Becky saw an improvement in student participation in that one class, she noted an overall decrease in student engagement in all other classes.

Joe is more skeptical about the power of cameras in the classroom and did not require his students to turn them on during class:

I don't think cameras on would have improved [student engagement]. I don't think students, all of a sudden, when the camera is on, will feel as accountable as live in person. I don't think they would be more inclined to interact... And also if you've ever actually had students with their microphones on and their cameras on, there is so much stuff going on. I can't tell you how many students will answer a question and I hear children in the background and people talking and music. I'm like, “Oh my God! That's chaos!” We don't want to hear that, nor do we want to see that because that is so distracting.

Joe brought up an interesting possibility to explain student disengagement on Zoom. According to Joe, student disengagement is caused, at least in part, by the distractions present wherever the students are located. If distractions at their locations were a major problem, though, one would think that more students would take advantage of their f2f days that are free from those

distractions.

Lisa's conclusion about who is actually harmed by student disengagement is a realization she wished her students would have had:

I can tell that they're not really there. Some of them are. A few of them are, but I can tell that the vast majority are not. I'll say this to them: "You could be, I don't know, playing video games or whatever. Just keep in mind that this is for you. *I already know this stuff.* This is for *you*, people." And I can tell that they aren't there because in a regular semester, you'll have to repeat yourself over and over again and then you'd be like, "Well, I said that a million times! How could they still not know?!" But now it's like, I'm sure they're not even listening the first time. So then they're making the same mistakes over and over again.

Lisa's position was that students disengaging from the course only hurt the student, something that she did not observe the students recognizing.

An adjacent issue to attendance is student retention. The participants discussed the number of student drops, which is a major indicator of student engagement. Becky shared her perceptions of overall student retention in her class and how it directly corresponds to student support:

The people who can't cut it: they're gone. They, the people who needed support, who would have gotten more support in a physical environment, they're just gone. Because now it's not just a matter of, let me learn about how to be in college, it's also, well, now I have to learn about the computer, too. But the ones who are at the bottom have just fallen off entirely ... The weakest among us are not being served by this and they are gone.

Becky's career consisted of years of teaching under-prepared students whose only chance at a higher education was through community college. These students required, on average, more support and instruction, which Becky observed was not widely available during the pandemic. As a result, the students who needed the support most were unable to receive it and, subsequently, gave up.

Lisa, who taught a challenging course with high drop rates in the best of times, noticed an even higher drop rate in her course during the pandemic:

Now, usually in my ... classes I do have a fair amount dropping in a regular semester. I'll get up to half a class dropping by the end, but it has been even more [this year]. The second eight week session in the fall, I had two students left in the class. Two students! And neither of them came to class, so I just stopped going into the classroom. They were both fairly good students. It was a Korean girl who worked very, very hard, and the other guy was an Indian guy. So that worked well for them.

Lisa's international students were the only ones remaining in the course and did not simply pass, but they did well overall. Mitch, who taught the same course as Lisa, compared drops before and during the pandemic:

I think the [Hyflex] and fully online ... classes, especially, have been a disaster for the students. The drop rate has been really high. [This course] usually has a fairly high drop rate. Typically, I can expect about 1/3 of the students to drop before the end of the semester. But since the pandemic, with the Zoom classes, it's more like 2/3 have dropped before the end of the semester. I'll end up with 6-10 students left in the class. The spring '21 semester has been a little better. They've done better for some reason. But the last couple have been a disaster.

Mitch observed that by the spring '21 semester, fewer students in his courses dropped. Perhaps they had simply gotten used to pandemic classes and knew what to expect, unlike in the fall.

Lisa noticed that even if students remained in the class until the end, they tended to have lower averages:

Those who stick it out, even now, they do worse than the ones who stuck it out in the past because the ones ... in the past tended to have As. At the end of the semester, I tend to have fairly skewed high grades because they all drop. At the beginning of the semester ... they'll ask, "How do students do?" I'll say, "Well, if you're one of the people who's still with me at the end of the semester, you should pass because you didn't drop when you had the chance. So, chances are very high you'll [pass]. But keep in mind that half the class drops."

Lisa's students sought information about their chances for success, but her honest answer might have dashed their hopes and set them up for failure because they then expected to fail.

One explanation for students dropping could be, as Joe noticed, that students did not engage with course material through note-taking:

I've noticed for the spring, that there's less of an obligation or seeming obligation to take notes. Students in a normal, traditional classroom will usually take notes, ... but because all of the quizzes have had to move online [during the pandemic], and all of the exams have had to move online, I don't think students are taking notes at all ... during lecture ... Maybe that comes from the accountability that they *must* have when they're in class, even if it's fake, even if they're just pretending to take notes or whatever. But, they're kind of forced in that environment. I mean, if you're going to pretend you might as well just take notes. Write something! Why not? I don't think they're recognizing their approach as

wrong.

Joe's observation relates back to student attendance. Most of his students opted not to attend class in person, an environment in which they feel obligated to take notes. Instead, his students attended class via Zoom from home and were not conditioned to take notes in that environment.

Becky also noticed a change in her students' learning habits:

They're not studying; they don't have notes to study because they think they'll just download whatever PowerPoints are posted. And since they're not writing the hand notes themselves, they're not even getting that minimal intake of ideas, by repetition.

Joe sought to encourage his students to take notes by limiting their access to lecture material outside of class:

The Hyflex students, I think, lack a willingness to take notes during the Zoom meetings, to have a record of the lecture. I don't know if they think that I'll record the lecture ... I don't record my lectures for later viewing. So, I make it clear that the class meeting is when they're getting the information and they need to get it down. I can only imagine what the classroom experience would be like if I recorded my lectures! Anyway, I don't think they are doing well in those situations. That's also shown by them going to Google for answers to exam reviews. I don't think there's a lot of personal responsibility for learning the information.

Regardless of Joe's attempts to motivate his students to take-notes, they did not appear interested in engaging with the material in this most fundamental way.

Despite participants' efforts through modifications made to their courses, students' lack of personal responsibility and self-discipline was noted when it came to students engaging in the course during in-class discussions. Jane tried to understand why students were disengaged:

Engagement has definitely declined significantly ... I think, for lots of different reasons. One is obviously just the nature of the modality itself. If you're sitting at home, you're just not going to be as engaged, probably. I know when I'm in Zoom meetings, I'm not as engaged as I could be, so why would I expect students to be as engaged? And part of that's just self-discipline, maybe, part of it is just distractions, and then I think maybe part of it is just kind of what we're probably all feeling, which is a sense of burnout and fatigue. We're fatigued, students and instructors-- we had to shift and make all of these rapid changes and acclimate ourselves, and I think we're all just kind of tired.

Students in Jane's classes might have lacked personal responsibility before the pandemic, but the stress and burnout resulting from the pandemic meant that it was unlikely that they had much opportunity to develop. In an effort to also understand her students' disinterest, Becky explored the connection between student engagement and teaching style:

It's very much a conversation based class, and they don't want to chat much ... I feel like they're afraid to ... They are a little scared to share, especially when there are all these different screens, and they know they can't see each other ... It's just a traditional lecture now because they won't talk. They go home and they have the same experience that these online students are having. But because they had me in class, I shouldn't have to give them the extra because they had the conversation the first time around. They just didn't ask questions; they didn't get engaged, and for some of them, probably, just didn't even have the volume turned on.

The lack of student engagement in the course forced Becky to change to a lecture-based teaching style, a change that she acknowledged further diminished student engagement. The students did

not take the opportunity to ask questions during class, so Becky felt that the Hyflex classes were no different than the fully online classes in which she provided recorded lectures.

Another change that potentially affected student engagement with the course involved homework assignments. For the participants who taught fully online classes during the pandemic, they saw decreased student engagement with homework. Joe explained:

The online students, ... for the most part, they're unchanged. They may be doing worse than in previous semesters, but most of them are doing the work: posting to the discussion boards... all the normal things.

Bonita, who had never taught a fully online course before the pandemic, related how her fully online students engaged with the course during the pandemic: “The biggest problem that I have had in [the fully online course] is that they are either not turning in their assignments, or they are cheating.” Bonita’s fully online students appeared so uninvested in their own learning that they simply did not do any assignments, or, when they did complete assignments, they stole from the work of others.

Even the students in Hyflex classes were perceived by many participants to be disengaged from their learning. Becky lamented that her students did not even participate in completing minimal homework assignments, like reading: “They don't think, and they're just not reading at all. Yeah, they're not reading.” Becky wondered if her students' seeming inability to think was because they did not expose themselves to the ideas discussed in course texts. Mitch was dismayed by his students’ disregard for their own learning outside of class:

I tell them, “Look, you need to practice more than what I am having you to do during the class. You need to practice on your own or you’re not going to make it.” ... I’ve often gotten the impression that the students are just blowing off some assignments. They are

just doing the minimal amount necessary to get the grade, but they don't really try that hard.

When I asked if the students' poor engagement was unique to the pandemic year, Mitch admitted: "It's worse than usual." Becky questioned if the virtual component of the courses contributed to students' disinterest in learning:

They don't do their homework. I don't know why. They're really just not doing their homework anymore. It's not difficult. It's not. It's really not difficult homework. And they just don't do it. I think, because we don't mention it in class and it's not turned in in class, it's easier to not feel guilty for not doing your homework, maybe. I'm wondering.

Participants were frustrated by students not doing their readings or homework assignments. For most courses, the readings and homework reinforce classroom content. The instructors relied on students gaining foundational knowledge and practicing their skills on their own so that they could build upon them in class. The instructors struggled to do their jobs because the students did not do theirs.

Only Luke discovered an improvement in student engagement with the course during the pandemic when he significantly reduced the number of homework assignments:

When I made the change in my Hyflex class, I don't know [why], but it's a great class. The numbers in this class are going to be similar if not identical to a regular in person class. The work has been really good and it's making me kind of reconsider going back to daily assignments. I might go to 1 a week or something, instead of every single day.

Luke's students engaged more with the course and performed better, overall, when Luke reduced the number of homework assignments they were required to complete. Interestingly, instead of

maintaining the workload that appeared successful for students, Luke considered increasing the number of assignments again.

In addition to regular homework assignments, Mitch discussed student engagement with their learning when it came to essay assignments:

A lot of the students can't comprehend the [course subject] writings. It's so different. It's not stories, or magazine articles, or something like that ... I see this when I give them the essay questions. I give them essay questions where I'm trying to give them a taste for scholarship: ... To read and interpret and support your interpretation. So I try to give them questions [to see if] they understand what [the writings] are saying. And so often, they don't seem to even understand the questions that are being asked. I'm not sure if this is because of Zoom or if this is because, in general, their reading skills are declining. Yeah, I don't know. And ... they don't follow instructions.

The interconnectedness of course components was clear to Mitch, but his students never appeared to grasp how reading would help them complete their homework, which would enhance the class meetings, and culminate in the fully developed expression of their ideas in an essay.

A change that Mitch implemented during the pandemic that he had hoped would help keep students engaged in the course was the inclusion of posting news announcements in ecampus. Mitch's intention was that students would appreciate this to stay informed, but he was disappointed with the students' response to that change:

There are so many students who don't read the news announcements, and they don't listen to the instructions in class. I will tell them, "Here's what you have to do. Here's when the exam is scheduled." I post news announcements for everything and instructions

for everything, and I'll still have students who don't read the instructions and don't know what to do.

Esther expressed similar frustrations:

I have a note at the top of the screen in every class meeting, and I have to hold them accountable. I'll have it on the screen in *huge* letters: This is how many sources you need for the next paper. Big letters! And I'm verbally saying it, too. "Everybody understand?" Then I'll send out a chat a minute later saying, "I'm just making sure I'm communicating well. I know I just said it, but how many sources do you need for your next paper?" It's *still on the screen*, and some of them still don't know (she grabs her head in frustration). It's literally still on the screen in huge letters! That's what is so great about the chat. It reveals so much. [This modality] is harmful to them because if they were in a class, it would be much easier for me to convey this stuff to them because we are all there in person.

Esther, as well as other participants, tried different methods and tools to improve students' engagement with the course, but they felt their efforts were futile because the majority of students did not engage with the course, even in the most basic ways.

Overall Performance

The participants not only shared their perceptions about student engagement, but also related students' overall performance in pandemic classes. Some questioned the independence or self-directedness of their students. Becky considered the students who were informed and knew what to expect when making their course modality choice:

My students in the past signed up for fully online knowingly and willingly ... They get something out of it, but it's because they came to it understanding what they were doing

and they got something out of it ... There's always a group of students who wanted to be online and now they're online, and they're doing fine. A lot of faculty who do not teach online at all got all the students who don't want to be online, but have to be online.

Students had a choice about attending in person on their designated days, but no student had a choice to opt out of courses with a virtual component because *all* courses had a virtual component. Becky thought that this might explain why students' overall performance in Hyflex classes was poor. Lisa shared a similar viewpoint:

There's an expectation when you're taking classes online that you have to work a lot on your own. The problem with the Hyflex is that I don't think that expectation is there, and so I think the online students might do better. Now, maybe not. I mean, not all of them are, in fact. Now, my 16 week online students are doing worse than my eight week online students because it just kind of depends on the class ... It sometimes depends on the class in the semester, as to whether or not the class is good, ... and I'm almost wondering if because of this Hyflex eight week thing that we've done, if there are some students who are not going to come to campus anyway ... Maybe they just sign up for an online one so that they don't have to have the daily meetings and stuff. That could be, and then they're not really ready for the online.

Lisa did not believe that offering students the convenience of online or Hyflex classes was in their best interest because many students did not possess the self-discipline or self-regulation skills necessary to do well in a fully online course. Additionally, students did not appear to know how to be a student in Hyflex classes, indicated by their ignorance of what to do or how to act.

Jane mused upon the expectations she had as a community college instructor and the types of students she typically taught:

Just teaching at the community college level, I do encounter a fair number of students who always kind of lacked study skills and self-directing. They don't really grasp how to prioritize tasks and manage their time, but I think that the number of students has increased ... with this virtual instruction ... I think they're having some problems with directing themselves and prioritizing tasks.

While students are expected to have self-direction and discipline in online classes, Jane believed that students in Hyflex classes needed these skills, as well, but she did not see evidence of them. Esther recounted the lack of basic student skills she saw in her Hyflex classes, supporting Jane's assessment:

I think this modality is really harmful for students who have not yet learned how to be students. It allows them to sit back and disengage and stay detached and do the bare minimum, which to some of them is simply logging in. I have to work to tell them that this is a *class*, so you want to have your textbook out. You want to have your notebook out or your laptop out typing notes because this is a *class*. I have to tell them this because otherwise they'll just lie down on the couch. Not all of them. But this is literally something I have to say.

Esther felt the need to take class time to try to explain to students the basics of being a student, like opening the textbook and taking notes.

Mitch also felt compelled to explain necessary skills to his students, whom he believed displayed decreased independence during the pandemic:

There are so many cases where they've not followed instructions. I find myself sometimes wanting to say to students, "Look, you need to take some responsibility here. You didn't follow instructions; it's not my fault. I posted this. I said it in class. I've told

you this! I'm taking points off because it's not my fault you did it wrong." ... They don't try to blame me, but it's more like they are blaming the technology. They are asking questions and it's frustrating because the question has already been answered multiple times in various formats. I'm thinking of one student in particular. Multiple times, I've had to remind him of things, things that the rest of the class knows because they've been announced over and over again, and still, he's doing things wrong. I say, "No, that's not what you are supposed to do. This is what you are supposed to do. This is why you are losing points because you didn't follow the instructions." And he just keeps on doing it wrong. I don't know what his problem is, exactly.

Like Mitch, Joe found himself repeatedly showing his Hyflex students course content and instructions, practices that he did not do in his fully online classes:

For the online classes, I assume they're taking an online class because they feel comfortable in that modality. And that's that they have the motivation to educate themselves, I mean that's essentially what they're doing. Now, in the Hyflex, I assume some of that, but not nearly as much. I mean in class I'm still doing a lot of the basic things that I would do in a normal class, like walking through policies in the syllabus, blah blah blah blah blah. I'm still going to go through it, whereas online I don't. There's no video of me reading this, and telling them how many absences they have. So, I still do those sorts of things in the flex class. I'm still looking at the schedule, showing them what's coming up, and talking about those sorts of things that I don't do in the online class. Online, it's all there and it's up to you. So there's still quite a bit of hand holding in that regard for the Hyflex.

Esther acknowledged the students' increased need for her to intervene:

I've always had very needy students who waited until the last minute and expected me to be their salvation in the last 24 hours of the class. Has it gotten worse? Yes, I'd say it is, just because I have less opportunity to directly intercede when there are problems.

Because when you are actually seeing the people in the classroom, you can just monitor what's going on with them and talk to them more often and they feel more comfortable talking to you. I think the people who are not independent, it's becoming more of a problem for them because I have less ways to intercede and encourage them to step up and become more independent.

The modality of the course impeded Esther's tendency to intercede if she saw students struggling; she believed her students behaved more dependently because she was not there to redirect them from the beginning.

Becky stated what she thought were happening to students who lacked self-directedness compared to those who have some of those skills:

Half of them know they need help, and they want the help, so they work. Then here's the other half who know they need help, but they don't really want to do it. And that's the group that's gone. I don't know if that's good or bad because usually in that group, some of them realize they really do want to be here and they really do need the help, but now they're gone, so they don't get to that realization.

Becky explained what she saw as a learning process necessary for learners who lack self-direction to begin to gain those skills. The higher than average drop rates seen in pandemic courses indicates that struggling learners, who might have stayed with it in the past, simply gave up and dropped the class. Luke placed the responsibility of learning independence on students and their previous educators:

What they lack is the stuff that we can't fix ... We aren't in charge of what k-12 does to them. Most of our students are not college ready, but we have to pretend like they are. We have no control over that. So what I think has happened during Covid is that pre-Covid, students were much better equipped to adapt to changes. But now, because of Covid, they're not. So, a marginal student might pull out a C before Covid, but that's not possible now. There's too much else on their plate.

Luke explored the adaptability and coping skills of students, and thought that those skills were not taught or developed in k-12 education. He believed that the pandemic significantly altered students' ability to deal with multiple challenges. Only those students who had extraordinary adaptability skills and knew how to cope before Covid could have done well during the pandemic. Sadly, the participants observed that the majority of their students simply did not have the skills to succeed during the pandemic, which went far beyond just academics.

Part of those necessary skills that students apparently lacked were intrinsic motivation to succeed in their courses. Esther explained:

I've noticed such a difference now that I can no longer give regular pop quizzes on their reading. Unless I can impose something external, I don't think they will do anything. And I don't know what to do about that. They care deeply about missing an online quiz. They care nothing about not doing a reading assignment, when doing the reading assignment is actually much more important to their performance on the paper than doing this little quiz. They respond to external stimuli or something concrete, but it's harder for me to convey to them what they need to do on a daily basis because I can't be there to force them or monitor them.

Going back to Mitch's observation that students did not grasp the scaffolding of course content,

Esther's students seemed to lack the internal motivation and skills necessary to recognize and prioritize important assignments.

Bonita recalled some articles she had about the generation of students she was teaching. She affirmed that the overall performance of students was already sabotaged, long before the pandemic, because of society's concern with "safe spaces," where these students "cannot get hurt, emotionally." Bonita expounded: "The research said, we have created people who are not able to fight ... they're just lacking that grit. I'm thinking, this personal responsibility, it's everything!" Accordingly, their pre-Covid lives did not prepare students for the challenges and disappointments that they would face during the pandemic. Luke shared what his expectations were at the beginning of the academic year:

I expected them to be *more* dependent. I suspected that they were going to be total basket cases. Which was true! They've got to deal with technology that they're not familiar with. Plus, oh, it's the *plague*!

The expectation that Luke had about student dependence going into the academic year proved true.

The virtual modalities of courses during the pandemic meant that students regularly engaged with technology. The participants shared their perceptions of how they thought students handled the increased use of technology. Jane observed that "there's always a handful in each class that can't seem to grasp the technology. It's a bit too much for them." Beyond the skills needed to use technology, Joe indicated that many of his students simply lacked access to necessary technology:

I can't tell you how many students in the chat were like, "I'm on a computer that doesn't have a camera," or "I'm on a device that doesn't have a microphone." And, I tell them,

“You're going to need those things to be successful, to take our Honorlock exam. You're going to need that.” But it never fails, every semester there's at least one per class, if not more, that doesn't have the necessary technology.

Esther encountered students who struggled with the technology and knowing whom to contact for help:

I'm constantly reminding them of where things are and how to get help from the help desk. But they always ask me for help instead. I tell them, “The help desk are the experts if there's a problem. If your arm is broken, would you come to me for help with that or would you go to a medical doctor? Let me know that there is a problem, but I can't help solve it for you.” I don't know why it's so hard for them to do that.

Despite Esther's constant communication with them regarding resources, she still dealt with students who did not know how to seek help when they had problems with technology.

Participants observed that students also struggled with tasks as simple as submitting the correct file type to ecampus dropboxes. Joe had hoped to mitigate these issues:

In all my classes, part of the orientation procedure is for them to go and do these very menial tasks in ecampus ... Other than people being such diehard Mac users that they will only submit Pages files, ... no real issues using any of that stuff.

Joe explained that he contacted students when they would submit incorrect files:

I give them a hard deadline to resubmit for credit, and the essay's worth a quarter of the grade, so they're usually pretty good about getting it. Usually, the Mac nerds, they're on their work anyways. It's the Google Doc people that you got to look out for. They're wily.

Joe had noticed that students would purposefully use Google Docs and submit their assignments incorrectly, claiming that it was the software's fault in order to have more time to complete their work. Luke encountered similar problems:

I do have to spend a lot of time in class explaining those sorts of [submission] issues. You might have students who don't know. So, I have to do it in 2 steps: This is how you upload a Word document. Step 2, Please don't upload a Word document. Please upload a pdf instead. So, I've got to teach them how to do a pdf ... The ecampus software distorts Word documents, so there might be errors on a Word document that were perpetrated by the ecampus software, not by the student.

Luke is not the only participant who used class time to explain to students how to convert and submit assignments. Esther explained:

Some of them still insist on using Pages or Google Docs, even though I'm constantly telling them how to correctly save their files. It hasn't been as bad as it could have been, maybe because I talk about it constantly. It was pretty bad in the fall but is better this spring ... Only one person has emailed me their work instead of submitting to the dropboxes.

Like Esther, Bonita provided explicit directions to assist students when it came to correctly submitting their assignments:

Sometimes they send me stuff in Pages. Sometimes they send me videos in different formats. Every time something like that happens, I think, "Okay, so that this doesn't happen again, what can I do to make it clear?" So I put very big instructions: "Turn it in in mp3 or mp4 format. Other formats will not be accepted. You will get a 0." But yeah,

every once in a while they have [submitted the wrong file formats]. Overall, they have managed technology pretty well.

Bonita felt it was her responsibility to make sure her students knew how to correctly submit their work, meaning that the students did not have to figure it out on their own. Becky was dumbfounded by some of the limitations of students when it came to technology and submitting their work:

They just don't seem to understand how to do things. I have had some submissions come through that are Pages documents or a broken document. I put a zero on it and say, "You're getting a zero unless you submit it correctly." I mean, I say it nicely. "Turn it in following the procedures that are in the syllabus or it's a zero" and then they fix it. And I haven't gotten anybody who said, "I just don't understand."

Her students seemed to not care enough to read the directions before submitting, but felt obliged to follow them after Becky addressed their mistakes. It is almost as if her students were hoping she would not notice, that the file type requirements were merely suggestions, or they did not think correct file types were important.

The introduction of the online test proctoring service used by the participants in all of their classes appeared to cause some confusion for students. Joe shared:

I have had very few issues ... with Honorlock. Now, this time, let's say, in 2019-2020, I would probably get, especially for the first exam, half a dozen problems with Honorlock, but for this past year, I really haven't gotten any issues with using Honorlock. So, they seem to be better. Perhaps it's just because more of their courses and more of their life is interacting in the online environment, so they seem to be more capable, or at least more willing to follow the directions. "Okay, I'll do all that stuff. I gotta download the thing. I

gotta load the thing. I gotta update the thing. Okay.” So maybe they’re more willing to jump through all those technology hoops now.

The students in Joe’s fully online courses pre-Covid seemed to struggle with Honorlock, but Joe credited the frequency of use during the pandemic as the reason fewer of his students encountered problems. The students became more familiar with the technology and knew how to prevent or solve any problems they had. Contrarily, Mitch’s students continually had problems managing the Honorlock program. Mitch repeatedly told them to contact the college’s help desk, but he still received requests for help from students: “There’s always little things popping up with students who have computer problems. They get kicked out of the exam or they click the wrong button and accidentally leave the exam early.” Despite his students using the program in other classes throughout the academic year, Mitch’s students continued to struggle through basic problems.

Students not only struggled with test proctoring software, but also with academic honesty. The participants noted that they saw an increase in academic dishonesty. Even with Honorlock proctoring tests, students still found ways to plagiarize. Esther elaborated:

There’s some cheating going on in spite of Honorlock. I think there’s a lot of collusion. I know that they use Groupme to share information about tests. That’s actually kind of helping raise the final exam grades. But I don’t know what to do about it. On Honorlock, I always go back and watch the videos, and it looks strange. I know that they are supposed to show their whole workspace. I could show you my whole workspace right now, but I could still have some notes back here and it wouldn’t show up on the screen. My ... students have to write an essay as part of their test and I see ... strange things pop up, ... like vague online concepts that we didn’t cover in class. They’re not supposed to do

that. There's stuff that looks like it came from Wikipedia and is very specific. I can't prove it, but I know that it's happening.

Some participants thought Groupme was a useful learning tool, but others, like Esther and Joe, found that students used the app to cheat on their exams. Joe explained:

What they are doing is ... creating GroupMe groups where they can ... share information. What I've noticed ... it's really, really interesting ... I've never seen this before in classes. What's crazy is that it's really more in these Hyflex classes, even more so than with my online classes, that they will set up a Groupme. They will all get together and then, I think what they do is, when I give the final review, they will divvy up portions of the review and people will go off ... will google parts of the review and then distribute their Google results to the class. So, I end up with identical wrong answers from many, many different students. The ideas originate from some garbage website that's inaccurately representing something. It's very odd. And I've tried to encourage them, like, "Don't do this," but they do it, even though you give them the information they need ... and they see the results in the exam grade that the question that so-and-so did everybody got wrong. I mean they should see that and yet, and yet they persist.

Joe's students demonstrated the desirable trait of persistence but applied it in the wrong way.

Some students did not use apps like Groupme, but found other ways to share exam information. Mitch shared an example:

I have some pretty strong evidence that there was some cheating going on ... One student would take the exam, break down the problems, and then pass it on to the next student. I could tell ...when 2 students have the exact same answers to every single problem, that's a pretty clear sign of cheating.

Bonita was initially pleased with her fully online students' performance on exams, until she saw evidence of academic dishonesty:

They are cheating ... Their grades have plummeted ... Once I watched the online test videos, I had to change so many students' grades to 0. I was like, "Seriously?" This is a group thing now, how they are cheating. In the composition, for example, I have one student say everything [aloud] and you can hear the clicks [from someone else's typing]. He's having [help], obviously, so you hear those clicks. He's saying things that are very sophisticated..... I can tell when someone is cheating because I have watched so many of these videos. I know what their behaviors are ... So, there are normal behaviors that I am able to catch compared to when somebody is cheating.

Surprisingly, Bonita saw fewer instances of cheating in her Hyflex classes. She explained what she thought were the reasons:

In the Hyflex classes, I remind them. I'm like, "Remember that when you take the test, I'm going to be watching those videos. You don't want to receive a zero." So, I am constantly reminding them to be honest, and I say, "I don't want to be mean, but I am going to do justice for those of you who are working." I have those conversations quite frequently, so I think they know that I'm serious about it.

Bonita believed that her constant reminders to her students were why they did not cheat on the exams. Joe addressed academic dishonesty in his classes, as well:

So after exam one, I don't see those sorts of weird Google thingsdisappearing. I don't think there's a recognition that they are doing it wrong. And even when I, after an exam, say in the next class period, "Listen, if you guys are studying together, I think that's great, but somebody among your ranks is googling stuff and telling you it's from the notes or

book. So, do your due diligence. Be sure that you find what that dude said in your notes or book.” I tell them, but it persists on the other exams. [Students exhibit] a lack of investment, maybe? I don't know.

Bonita’s students heeded her warnings about cheating, but Joe’s students seemingly disregarded him, which left him unsure of what else to do to prevent his students from cheating.

The participants shared their alarm when they saw more students cheat on homework and essay assignments. Jane expressed her concerns:

I'm just seeing ... more issues with scholastic integrity than I had in prior semesters. It seems like students are either overwhelmed or they're just taking the easy way out, but they're doing things like, not just plagiarism [in essays], ... but I'm seeing plagiarism and scholastic integrity issues that have to do with such minor assignments, things like discussion forum posts. I've never had that before with people, basically, plagiarizing on these little assignments.

Before the pandemic, Jane expected to see a few instances of plagiarism in essays, but pandemic students plagiarizing in minor homework assignments was a new phenomenon.

Esther shared a story about student plagiarism that caused her a great amount of distress: I had something really upsetting happen last [fall] ... It happened right at the end of the semester. One of my good students emailed me and said, “I’m sorry. I feel deeply uncomfortable with this, but something happened that I'm very bothered by. We have a Groupme chat and I took screenshots of two students who were talking about how they bought their last paper.” They were laughing about it and complaining because one of them had made a D. The other one also didn't make a good grade. And it never occurred to them that the site where they bought the papers was maybe just a bad site. To them, it

was just proof of what a hard grader I am because they paid \$60. Well, the other one paid \$100 and got a D. Not everyone in the class was responding to this exchange, but several students who I thought of as good students were laughing and saying, “Sorry dude, that’s tough. \$60 for a 65. When do you want to go out and get a drink?” It was almost like a party. I had just released their grades and it was very upsetting to me. I’ve never wanted to see what goes on in the Groupme chat ... It was difficult.

When I asked what she did about it, Esther replied:

I wrote the students emails, adjusted their grades, and explained that they would receive a 0. One of them immediately dropped the class. The other one actually met with me to apologize and then dropped the class. It was very upsetting, less about them buying the papers than the fact that they clearly didn’t see an issue with it. Maybe other students did have a problem with it, they just didn’t chime in. But I’d say 4-5 students were talking about it in a jovial way.

Esther was disturbed by the nonchalant attitude her students had about the very serious issue of plagiarism.

The participants also saw increased numbers of students who failed their courses. Lisa blamed the new semester structure and modality:

Because it was eight weeks, ... there just wasn't enough time. Some students could do it, but they were already the students who were good at it ... So, it being eight weeks was a problem in that there wasn't as much time for those who needed the time, even those who might be diligent and working. They just didn't have the time. But then that, coupled with the weird Hyflex thing where people weren't really expected to come to class and so who knows what they're doing? That just made it, you know, doubly worse.

Lisa gave her students the benefit of the doubt and assumed that all of the newness--the 8 week structure, the Hyflex modality, and the heavy technology use--contributed to her students' inability to succeed. Joe suspected the 8 week structure, too:

Maybe it's the 8 week thing, ... but student performance, just from my vantage point, seems to be far worse than it's been. And that's not just because of the weird Hyflex ... My online students, as well, seem to be doing worse than perhaps I'm used to ... It's really F heavy, especially this spring. I don't know why. I really don't know ... I have students who take all of the reading quizzes, but take no exams. I have ... some real oddities.

Joe was perplexed by the sporadic performance of his students and the resulting increased number of students who failed. Jane surmised that the increase in student failures in her courses was because they did not know what would be required of them in the new modalities and structure:

I have one section that was set up well before the beginning of the semester, and they're doing fine. Those are the people that had enrolled early on in the class. Then I have one section that was added last minute. Those people are not doing well and it's probably because they decided to take an eight week class at the last minute.

Luke considered students' poor performance:

The course averages just cratered. For years, my course average ... would be, like, 78%. Now, it's in the 60s. The first 8-week session this spring...half my students failed ... They just failed. I might have had, maybe, 4 students drop, but most of them didn't. They just got what they got.

Luke did not understand why failing students did not drop the course or even try to raise their

average; they simply accepted failure as an inevitability. Upon further reflection, Luke concluded:

Poor student performance...that might be directly related to Covid ... I noticed [low performance] before when I was teaching online, but it's worse during Covid. Well, the exception being one of my Hyflex classes this spring ... Out of the blue, you've got this magical class. This is one of those classes, which may just articulate that students are getting better at coping with Covid or they see light at the end of the tunnel or mitigations, but those mitigations did not exist for those first few 8 week sessions. This year sucked.

Although some participants attributed student failure to the 8 week structure, the Hyflex modality, or the outside challenges due to the pandemic, Becky felt that poor performance fell on the students' shoulders:

We're at a point when students are ... just lying about stuff in order to get extensions and to avoid work. And they're playing upon what originally was a really good idea, which was to say, "Listen, I know it's emotionally taxing and it's hard and maybe you can't meet that Wednesday deadline. Fine. Get it to me by Friday." Now they're claiming Covid, is what I like to say. They're claiming covid as an excuse for why they don't want to work. It's not that they're doing the work and missing the deadline-- they're just not doing the work.

Becky did acknowledge that the pandemic introduced challenges that the students had probably never faced before, but she suspected that many students used Covid as an excuse to underperform.

Finally, the participants considered the impact of student performance during the pandemic year upon the students' future. Lisa was concerned about students falling behind in their schooling or dropping out entirely:

I'm not sure about our students this year because I don't know if they just kind of put a year on pause. I'm thinking about all the students who dropped my class. Are they dropping their other classes, too? Are they gonna have to basically repeat this year because they dropped all their classes?

Luke thought about the students he taught during the pandemic:

I'd like to think that the students who passed my courses are going to be relatively as skilled now as they were in the 16 week courses, but I can't guarantee that. But these students are just traumatized! They are much more psychologically damaged. Students are pretty fragile under normal circumstances.

The accelerated pace of the 8 week structure left students with very little time to reflect upon their learning, correct mistakes, and simply absorb the material. Luke questioned the quality of learning his students received, not because he did not try, but because all involved were rushed. He expressed concern that the unnecessary stress students experienced because of the accelerated structure and the unprecedented challenges caused by the pandemic resulted in students who were deeply affected, psychologically.

Lisa wondered about the students who would enroll in her courses in the future:

For high school students, I've heard that it's difficult because they've effectively lost a year of what they really needed to get for college. Now, the good ones probably still were able to prepare, but a lot of people who didn't have the technology might have slipped

through the cracks. And if we're going to get those students, then maybe there could be a problem there.

Becky also expressed her concern for students' futures: "The younger learners are not prepared for what's going to come next because they haven't had the same type of preparation." Both Becky and Lisa were thinking about how the pandemic year slowed student learning and how this delay would affect their teaching of these learners after the pandemic.

Luke offered a more optimistic viewpoint regarding students' futures:

We'd be doing ourselves a disservice underestimating just what a profound impact [Covid] has had on students who were born in the 21st century. This is their 9/11, and it's lasted way longer than one day. But, I think once it's in the rearview mirror, they will bounce back faster than we imagined.

Luke had hope that students possessed resiliency, a trait he was sure would benefit them and be evident after the pandemic ended. The participants overwhelmingly perceived a decrease in student engagement and overall performance in their courses during the pandemic.

Summary

The purpose of this study was to examine community college faculty perceptions of teaching during the Covid-19 pandemic and the resulting effect on student SDL skill development. This study sought to understand the interconnectedness of teaching, SDL skill development, and digital literacy. Four major themes were identified and focused on the instructors' perceptions and experiences teaching during the pandemic. These included the ways they needed to adapt to the virtual modalities (changes to teaching); their experience and comfort level with virtual technology (digital readiness); how they felt and what they experienced (instructor feelings and experiences); and their perceptions of their students (student engagement

and performance).

The findings revealed insights into the participants' experiences and suggested a complicated relationship between teaching, students, digital knowledge, and the influence of personal feelings. All of the participants adapted some aspect of their courses and teaching to accommodate virtual modalities. Although the changes had varying levels of success, it was clear that the participants felt that there was a vast difference between teaching traditional, f2f classes and teaching classes in a virtual modality.

The connection between virtual teaching and digital readiness was another topic explored in the findings. Many of the participants had prior experience teaching some form of online instruction. Their prior experience and the materials they had already developed for online learning served them well when they transitioned to emergency remote classes in spring 2020. Participants without any online teaching experience found the transition stressful and time-consuming. Interestingly, regardless of their level of experience, none of the participants felt prepared to teach in the Hyflex modality.

The challenges that the instructors faced during the pandemic were also included in the findings. They faced challenges in their personal lives, noting the strain on important relationships or the difficulty they had maintaining important relationships. They also shared the struggles they had with their mental health. All of the participants expressed experiencing overwhelming, chronic stress and the impact of high stress on other areas of their lives. Their physical health was mentioned as negatively impacted, evident in their weight fluctuations, exercise regimens, sleep patterns, and pain. Their professional life was also explored, with the participants expressing anger toward their institution's administration for the decisions that were made during the pandemic. The combination of their feelings about and experiences in their

personal lives, their mental and physical health, and their professional life affected their teaching and relationships with students.

In addition, the findings also detailed the participants' perceptions of their students during pandemic teaching. At a time when many people would assume that students would be more independent in virtual modalities, the participants found the students more dependent than in a traditional class. The instructors shared their sense that the majority of students were disengaged from every aspect of the class. Their disengagement led to students' poor performance overall.

The relationship between all of these different facets was not apparent on the surface; however, investigation of the data indicated that all areas detailed in the findings must be analyzed together in order to answer the research questions in this study. The findings provided new insight into the relationship between digital readiness, teaching methods and styles, instructors' feelings and experiences, and student engagement and performance. From these findings, the next chapter will provide a summary, discussion, and recommendations.

CHAPTER V

SUMMARY, DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to examine community college faculty perceptions of teaching in virtual modalities during the Covid 19 pandemic, focusing on the potential impact of digital literacy, teaching methods, and faculty feelings and experiences on student SDL skill development. Neither instructors nor students had any choice to teach or learn in virtual modalities during the pandemic. This fact raised questions about the digital literacy of both groups and their experience with digital technology. Additionally, the virtual modalities caused instructors to change almost every aspect of their courses, from their teaching methods to how they communicated with students, with little time to prepare and transition to digital spaces. Further, the instructors' perceptions and experiences during the pandemic were potentially influential in what they changed, how they changed, and how they perceived their students.

Moreover, many people assumed that students would develop and exhibit increased independence in virtual courses; however, students' self-directed learning skill development could have been hindered or helped by the changes implemented by instructors. The interconnectedness of all of these facets is the focus of this study, bringing together digital literacy, teaching methods, student SDL skill development, and the influence of teachers' personal lives on their teaching.

Four research questions guided this study:

1. How digitally ready were faculty to teach in virtual modalities?

2. How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities?
3. How did instructors' personal feelings and experiences during the pandemic affect their teaching?
4. How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?

To explore community college faculty perceptions of teaching in different virtual learning modalities during the Covid-19 pandemic, I investigated the issue using the conceptual framework of the DQ framework (Park, 2016) and Grow's Staged SDL model (Grow, 1991). The DQ framework addresses digital literacy and identifies notable skills and mindsets. Faculty and student digital literacy was a vital component of this study, so the DQ framework (Park, 2016) provided a useful tool with which to investigate the digital literacy of faculty and students. Grow's model (Grow, 1991) was also used to theoretically frame this study because his model focuses on how to teach students SDL skills in a staged, or scaffolded, format. This model was important to the study, as it illuminated how teaching methods supported or hindered student SDL skill development in virtual modalities.

In order to answer the research questions, I employed a basic qualitative research design because I was interested in "how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences" (Merriam and Tisdell, 2016, p. 24). Unlike the others, this approach is appropriate since my "overall purpose is to understand how people make sense of their lives and their experiences" (p. 24). The basic qualitative

research approach provided valuable insights into educators’ experiences as they taught in virtual modalities during the pandemic.

Using purposeful sampling, selected participants had to meet the following criteria: community college faculty member, instructor of record of a Hyflex or fully online course during the Covid-19 pandemic (Spring 2020-Spring 2021), and willing to sit for a virtual interview. All 9 of my final selected participants taught at the same Texas community college, a fact that was likely the result of snow-ball or chain recruitment.

Data collection from these participants was conducted through individual interviews via the videoconferencing platform Zoom. From these interview data, 4 major themes and a total of 16 sub themes were identified. A table (Table 7) of the major themes and sub themes follows:

Table 7

Major Themes and Subthemes

Major Theme	Subthemes
Digital Readiness	Prior Experience Institutional Training Informal Personal Research Digital Comfort Level
Changes to Teaching and Courses	Teaching Methods Content Delivery Resources and Communication Major Assignments and Homework Teaching Style
Instructor Feelings and Experiences	Personal Life Mental and Physical Health Professional Life
Student Engagement and Performance	Engagement with Peers Engagement with Instructor Engagement with the Course Overall Performance

Discussion

The Covid-19 pandemic ushered in unprecedented changes to many areas of life, including education. The effects of the Covid-19 pandemic upon education are still not fully understood and are the subject of ongoing research. The repercussions of the sudden shift to emergency remote learning in spring 2020 and the introduction of widespread virtual modalities in the 2020-2021 academic year on student SDL skill development have not previously been investigated. The particular focus of this study were the effects of the convergence of digital intelligence, teaching methods, and instructor feelings and experiences upon student SDL skill development. Understanding how each of these areas impacts student SDL skill development is a valuable contribution to SDL research.

Research Question #1

How digitally ready were faculty to teach in virtual modalities?

The level of faculty digital readiness is a core component of virtual course success. Digital readiness is an indication of digital intelligence, understood as the “technical, cognitive, meta-cognitive, and socio-emotional competencies grounded in universal moral values that enable individuals to face the challenges of digital life and adapt to its demands” (DQ Global Standards Report, 2019, p. 12). Digital intelligence is more than simply knowing how to operate technology. To that end, the formal institutional training did not benefit participants or further their digital readiness because, while the training taught them how to operate the technology, it did not provide any discussion regarding best practices or pedagogy of virtual courses. This finding is supported by Rapanta, et al. (2020), who acknowledged that the transition to virtual modalities was made more difficult for instructors due to inadequate training of online course design, activity characteristics, online presence, and adapted assessments.

Contrary to what I had previously assumed, prior virtual teaching experience was only beneficial to instructors during the pandemic who transitioned courses that they had previously taught in some virtual modality. They struggled if they had not previously taught the course in a virtual modality, indicating that prior experience does not guarantee success, nor does it ensure high levels of digital intelligence. This fluctuation of digital readiness is explained by the three levels of maturity in the DQ framework (Park, 2016), beginning with the lowest and moving to the highest level:

- Digital Citizenship (Lowest level);
- Digital Creativity (Middle level); and
- Digital Competitiveness (Highest level)

The competencies of the three levels are not fixed, allowing learning to proceed based on what may be most relevant to an individual's life at the present moment" (p. 13). The varying levels of each participant's digital intelligence suggests that DQ is situational depending on what is required. This assertion is supported by Panke (2015), who determined that digital literacy exists on a continuum or spectrum. Further, researchers have noted that cognitive, rather than technical, adaptability is a key characteristic of digital literacy (Traxler & Lally, 2016; Bennett, 2014; Beetham & Sharpe, 2011). In adult learning, learning and learning transfer are considered context dependent (Candy, 1991; Grow, 1991), demonstrating a shared characteristic between digital literacy and the professional development needs of the participants, who are adult learners.

Not only did participants think the formal training for online teaching inadequate, but the Hyflex modality training did not address the learning theories behind this approach or provide practical strategies for Hyflex teaching, either. Instead, the training focused on teaching

the instructors how to use Zoom and the new cameras and microphones in the classrooms. The training should have addressed the limitations and necessary adaptations to movement that Zoom and cameras pose, as well as how to ensure effective classroom communication and discussions with the addition of microphones and students attending from different locations. Leijon and Lundgren (2019) concluded that the Hyflex environment increases the “complexity of teaching, ... adding new layers to the concept designs for learning; where the teacher in the Hyflex environment must prepare for the somewhat unknown learning spaces and interactions that are out of ... his or her control” (p. 7). As demonstrated in the findings, even the most experienced virtual course instructors felt unprepared to teach in the Hyflex format during the pandemic, suggesting that the Hyflex format requires distinctly different digital intelligence competencies than other virtual modalities. Developing new skills, of any kind for anyone, requires time and practice, neither of which were available to educators or learners.

These factors underscore the conclusion from this study that instructors who have previous experience teaching in one virtual modality may not be adequately equipped to teach in a different virtual modality. This finding contradicts the conclusion of prior research that found that faculty who had received previous formal training in online teaching and had experience teaching online felt more prepared to teach in the Hyflex modality than faculty who had no training or experience (Romero-Hall & Ripine, 2021). The difference between the cited research and this study is that faculty in the cited research had plenty of institutional support, time to carefully plan their Hyflex courses, and the choice of whether they wanted to teach in the Hyflex modality. These differences indicate that support, time, and choice are essential components of implementing a Hyflex course.

The participants in this study demonstrated that simply knowing how to use the technology did not automatically mean that instructors knew how to teach well in virtual modalities. Adams-Becker, et al. (2017) cautioned that “without meaningful integration in teaching-learning processes, digital tools and ubiquitous technologies can be ineffective” (p.1). In other words, virtual courses must have a solid pedagogical foundation to be effective for learning, which should be one of the first learning objectives of training. If courses do not have a solid pedagogical foundation, even the most state-of-the-art technology will not ensure course success. Faculty would have been better prepared and more successful in their pandemic teaching if training had equipped them with the pedagogical knowledge they needed to teach in virtual modalities, specifically Hyflex, not just shown them how to use the equipment or software.

Research Question #2

How did the changes that faculty made to their courses and teaching methods during the pandemic impact student SDL skill development when courses transitioned to virtual modalities?

The lack of pedagogical training and knowledge for virtual teaching had profound effects on the changes participants made to their courses. Teaching methods are foundational to Grow’s (1991) staged SDL model. In this view, self-directedness is a product of person/situation interactions, rather than inherent in either the person or the situation. More directly, Grow’s (1991) model posited that SDL skills can be taught, and environments can be created in support of building self-directedness. Although they willingly tried to adapt their teaching methods to the virtual modalities, many participants found it difficult to move away from their pedagogical leanings, especially in the Hyflex modality, because their teaching pedagogy had previously

resulted in desirable outcomes in traditional f2f classes. While educators thought self-directedness was to be expected or hoped for (regardless of whether they were creating an environment to support it or not), one cannot assume that learners want to be self-directed. In fact, it seemed that under the circumstances, people wanted explicit guidance and help (including the educators) in a time where everything else seemed uncertain.

The disciplines taught by the participants are heavily focused on skill-building, something the participants struggled to teach in virtual modalities. Maintaining their pedagogical roots, most of the faculty interviewed attempted to modify collaborative learning in their virtual classes, which was a major component of their f2f classes. As a teaching method, collaborative learning has been found to promote student SDL orientations (Lin, et al., 2016); Chang, et al., 2013; Blau & Shamir-Inbal, 2017). To their disappointment, the participants found that collaborative learning did not occur in their Hyflex courses. Their position was based on their observations of a lack of student participation and the instructor's inability to control or oversee the learning environment. Most expressed discomfort with not knowing what was occurring in the virtual rooms when they were not present. Leijon and Lundgren (2019) asserted that "teaching in a HyFlex learning environment implies coping with complex learning spaces and letting go of control (p. 7). The instructors' preference for traditional f2f teaching methods and their physical presence in traditional classrooms worked against successful collaborative learning and student SDL skill development in Hyflex classes.

Before the pandemic, the participants were accustomed to moving amongst student groups and observing collaborative learning in f2f classes; they could not accept the limitations of the Zoom breakout room function. Their reaction demonstrates the perspective that if they cannot see collaboration occurring, then they do not have proof that learning is occurring.

According to Grow's (1991) Staged SDL model, instructors should adjust their teaching to the students' appropriate stage of self-direction. The participants' need to direct students and offer immediate feedback aligns with the Stage 1 dependent student (Grow, 1991). It is unclear whether students actually were all dependent Stage 1 learners, or if the expectations and behavior of the instructors *created* dependent students.

In addition to changes to collaborative learning, participants also remarked upon how their use of the scaffolding teaching method, specifically modeling, changed because of the virtual modality of their courses. Modeling, demonstrating the steps of a learning activity or task, was a preferred scaffolding teaching method for many of the participants, especially since their courses focused on building skills. They struggled to think of ways to continue modeling in virtual modalities and could have benefitted from having this modeled to them in their professional development.

Some instructors were unable to relinquish their reliance on the f2f teaching tools they used for modeling, like the classroom whiteboard, in support of digital tools. They had to teach Zoom students in the same classrooms where they had always taught traditional f2f classes, so their preference for the teaching tools in the classroom remained, even though their use of those tools was hampered by the new modality. Beatty (2020) admitted that "faculty often have a preferred instructional mode, and it may be appropriate to assume that every experienced faculty member is equipped and resourced to provide instruction in that mode" (p. 58-59). The opposite, then, can be assumed: Faculty who are teaching in unfamiliar modes that they do not prefer will not be equipped and resourced to provide instruction in that mode.

As a teaching method, scaffolding is crucial to student SDL skill development (Grow, 1991; Adams-Becker et al., 2017). Grow (1991) acknowledged that faculty must balance the

student-centered approach with effective facilitation when necessary, a balance that is challenging for educators to strike, even in traditional course formats. When instructors model how to accomplish a learning objective for students, the students first observe how to approach the learning objective and are able to do it on their own at a later time. This moves students from a dependent to a less-dependent stage of SDL (Grow, 1991). Instructors who eliminated scaffolded modeling in their Hyflex courses potentially hampered students' development of SDL skills.

Additional findings presented the notion that too much communication from instructors would possibly hinder students' SDL skill development. Even when some participants considered this possibility, they chose to continue "hand holding" by providing information that the students could easily locate themselves, like due dates and dropboxes. Schrader-Naef's (2000) work on SDL asserted that self-directedness could be encouraged in formal and nonformal education by teaching people that learning is their own responsibility. Expecting students to take responsibility for locating course content and learning promotes SDL development. Conversely, the findings in this study suggest that overcommunication enables dependency, the inverse of self-direction.

Along with communicating with students, the participants also shared how they had changed major assignments, like tests, essays, quizzes, and homework by lowering their grading standards or shortening essay length requirements. Their change was a likely result of the accelerated course format from 16 weeks to 8 weeks, not pedagogical underpinnings, but their decision significantly reduced the opportunity for students to engage in reflection. As established in the literature, allowing students the time and space to critically reflect on their learning is an effective virtual modality teaching method to develop student SDL skills (Paris and Winograd

2003). Research has found that “the capacity to critically reflect is associated with the higher order cognitive processes of self-regulation and metacognition” (Coulson & Harvey, 2013, p. 401). Instructors had good reason to alter assignments; the accelerated 8 week format left participants without enough time to grade, let alone time to provide students opportunities for reflection. This change, though understandable, hindered students’ opportunities to develop SDL skills through reflection. SDL skill development is an on-going process over time, but the accelerated course format may directly inhibit this development.

The most significant change to their delivery was the introduction of live video cameras in their classrooms for students to attend via Zoom. The faculty felt restricted to a small area of the classroom behind the computer lectern because they did not trust that the motion activated cameras would operate correctly if they moved. McNaughton, et al. (2014) found that educators’ pedagogical goals were often at odds with the design of the physical learning spaces in Hyflex modalities. The limitations of the technology, as well as their unfamiliarity with effective Hyflex teaching, resulted in participants altering their teaching strategies and styles.

Overwhelmingly, the changes to their teaching style in virtual modalities did not support student SDL skill development. Participants who described facilitating student-centered classes before the pandemic admitted that in their Hyflex classes, they changed to teacher-centered classes, where they stood behind the lectern and lectured for the entire class meeting. The lecture-only style of teaching, where the instructor is the expert at the front of the room, encourages student stage 1 dependence (Grow, 1991). Instructors' adoption of lecture-only as their teaching style in virtual modalities prevented students from developing self-direction, as the educators’ teaching never encouraged them to move to other stages.

Many of the changes that participants made to their teaching and courses were impacted by their digital intelligence, including knowledge of online pedagogy. Though willing to test digital tools and other technology, the instructors' overall approach was to force their virtual modality courses to replicate their traditional f2f courses. Many of their teaching methods aligned with best practices in traditional courses but not in virtual courses. They sought to conduct their virtual classes the same way they would a traditional class and had the same expectations for their virtual classes without considering how the introduction of educational technology would alter every aspect of the course. The expectations of teaching in a virtual modality course are not the same as the expectations in a traditional f2f course. Using teaching technology can be effective, but it requires educators to have a different set of expectations for how they should teach that are based on online pedagogy and best virtual teaching practices. The participants may have been more successful had they had adequate time to design and prepare for their new delivery modality.

Research Question #3

How did instructors' personal feelings and experiences during the pandemic affect their teaching?

Participants shared how they came to their decisions to implement changes and the success of those changes in virtual courses while also dealing with personal and professional upheaval. Without question, the majority of participants experienced negative mental health effects, namely stress and exhaustion, while teaching during the pandemic. The link between teacher stress and student performance is well established (Madigan & Kim, 2021); however, I was not able to locate any literature pertaining to the effects of educator stress, burnout, or mental health on student SDL, making this study even more salient. In one of the few studies

focusing on faculty, Kirk-Jenkins and Hughey (2021) reported similar findings: administration gave faculty little choice in teaching modalities; faculty were excluded from decision-making by administration; women and faculty with small children experienced higher rates of stress and burnout; and faculty struggled to maintain any semblance of work-life balance.

The extreme stress and exhaustion that participants experienced had residual effects in other areas of their lives, manifesting in disrupted sleep, weight gain, physical pain, and withdrawal from or strain on personal relationships. Many participants shared that they had started taking medication to help them cope with mental health issues during the pandemic. The participants' descriptions of their mental and physical health indicated chronic stress. Chronic stress has been linked to cardiovascular disease, depression, burnout, and cognitive impairments in adulthood (Hintsa, et al., 2016; Juster, et al., 2011). The American Psychological Association (2019) warns that chronic stress differs from normal stress; chronic stress is constant, heightened, and prolonged. Every mental and physical ailment shared by the participants in this study indicates chronic stress. An unexpected finding in this study is the profound effect that participants' emotional states had on their mental health and subsequently, their teaching. The combination of stressors present in their personal and professional lives were compounded. As a result, many of them did not have the emotional reserves from which to draw in order to perform well in their jobs, a finding that is supported in the literature (Rhew, Jones, Sama, Robinson, Friedman, & Egan, 2020; Singh & Kaur, 2010).

The participants indicated that the decisions made by the college administration were the most significant contributor to their stress and dissatisfaction, a sentiment echoed in other work related to instructor views toward administrations' pandemic decisions (Kirk-Jenkins & Hughey, 2021; Krantz & Fernandes, 2020). The psychological toll already exacted from participants by

the pandemic was exacerbated by feelings of being forced to work in conditions in which they felt unsafe and in which they had no agency. As a result, they became more aware of their position as expendable labor, despite the high level of education required to perform such jobs. Moreover, the participants perceived the disregard that the administration showed for the health of the participants and the participants' families indicated a new kind of callousness. The participants felt that the college had no regard for how administrative decisions exponentially increased participants' fears and stress for themselves and their families.

These decisions caused the participants to feel intense anger toward the administration. They felt that their concerns and responsibilities outside of work, like child rearing, were not considered as part of the administrative decision, but were very real factors in the participants' lives. Even worse, when students ceased attending class in person and attended on Zoom instead, the administration mandated that faculty still come to campus and teach to all of the students on Zoom from empty classrooms. To the participants, every consideration was given to the students' needs and convenience, but the administration had little to no consideration of faculty needs.

The participants' did not understand why the administration made some decisions, such as implementing a novel virtual teaching modality--Hyflex--without offering adequate time and resources for faculty to prepare, while simultaneously imposing an accelerated 8 week course format. These decisions were seen by participants as detrimental to faculty and students and completely unnecessary. The participants' unmanageable stress and exhaustion caused most of them to completely disengage from their work, even while their workload increased. Increased workload is expected when planning and teaching Hyflex classes, so Beatty (2020) suggested that instructors be offered a course reduction or additional compensation. The participants were not offered any resources or support to help them prepare or teach. They still completed the

minimum requirements, but few exceeded what they absolutely had to do. Those who did experienced burnout. One participant expressed that they felt like the administration's attitude was not "sink or swim." They felt the administration said, "Just swim," but did not provide any real resources or support to faculty to make that expectation possible.

Further, the changed relationships that participants had with their students and disappointing classroom experiences negatively impacted faculty mental health. Before the pandemic, participants recalled the satisfaction they got from positive interactions and relationships with their students. They were no longer satisfied or fulfilled in their profession during the pandemic because they felt that all meaningful interaction with students was removed. Part of the reason for this had to do with the challenges of managing a Hyflex class. Hyflex teaching involves intricacies, like simultaneously managing students in different settings and modalities, that are not part of normal teaching and that are difficult to conduct (Romero-Hall & Ripine, 2021).

Another reason why student and classroom interactions negatively affected faculty mental health could be because of the new phenomenon called "Zoom fatigue" (Kuhn, 2022). Frequent use of videoconferencing platforms, such as Zoom, are "psychologically depleting in large part because of nonverbal overload; videoconferencing lacks the more natural synchrony of in-person communication and users must work harder to both send and receive nonverbal signals" (p. 2). Many of the participants discussed how they relied on non-verbal cues from students to know if students were grasping the subject matter, but Zoom made seeing and interpreting non-verbal cues impossible. As a result of the psychological strain, many participants preferred students not turn their cameras on at all.

Participants stated how they felt that some students were neglected because instructors were forced to divide their attention in Hyflex classes. Without intentional design strategies and pedagogical underpinnings, instructors teaching Hyflex classes risk ignoring Zoom students or in-person students because they are, essentially, teaching two separate classes at the same time (Beatty, 2020). The inability to multitask is not a fault of the participants; studies show that only 2.5% of the population are capable of multitasking (Kubu & Machado, 2017). When people think they are multitasking, their attention is really just switching back and forth in rapid succession. Attempting to multitask for prolonged periods, like teaching two modalities at once in a Hyflex class, causes mental fatigue and results in poor performance (Kubu & Machado, 2017).

In addition to the mental strain, faculty had to teach while wearing masks and communicate to students through ceiling-mounted microphones, meaning that they had to speak more loudly than they normally would in class in order to be heard. This caused more strain on their voices and neck and back muscles. In all, the participants indicated that the administrative decisions to foist the Hyflex and accelerated course format on them deteriorated their mental health and caused them chronic stress. Faculty still had to teach students on a daily basis, all while dealing with emotional, physical, and mental health issues.

In education, Grow's (1991) Staged SDL model has been researched with regard to contextual consideration (Song & Hill, 2007). Context, in the literature, refers specifically to where the teaching and learning take place. I posit that the psychological and physical well-being of educators is a crucial component in teaching students SDL skills, as well as learners' ability to work on, practice, and learn SDL skills; educators with poor mental and physical health are not likely to teach students SDL skill development, regardless if the external conditions are right. A

study by Chen (2019) supports this assertion. Using quantitative methodology, Chen surveyed almost 2,000 Chinese educators about their emotional well-being. The results showed that positive teacher emotional states lead to student-centered approaches, while negative educator emotional states result in teacher-centered classrooms. The extreme changes to most of the participants' teaching styles from student-centered to teacher-centered because of negative mental health supports Chen's conclusion. The participants knew that they were not doing the best for their students, but they did the best that they could with what they were given.

Research Question #4

How did faculty perceive student engagement and performance in virtual modality courses during the pandemic?

With few exceptions, the participants perceived a dramatic decrease in student engagement and performance. The relationship between engagement and performance is well established. Astin (1984) asserted that student performance depends on the level of student engagement, or involvement. Involvement, according to Astin, is the "quantity and quality of the physical and psychological energy that students invest in the college experience" (p. 298). The participants' perceptions of the depleted physical and psychological energy that students exhibited during the pandemic illuminates one explanation for students' poor performance and engagement. The participants repeatedly spoke about students simply not doing the work in the class and resisting showing themselves on camera. As with faculty, it could be assumed that students also experienced "Zoom fatigue" (Kuhn, 2022) from attending classes 4 hours a day, on average.

In virtual modality classes, the relationship between engagement and performance continues to come under investigation, with more research regarding the Hyflex modality

necessary. This fact alone underscores the importance of this study. In one study of the Hyflex environment, researchers argued that this novel modality created an environment unfamiliar to students, compared to the familiar f2f environment: “The learning environment provides a natural connection and familiarity to the institution, one’s instructor, and other students. When the pandemic disrupted this familiar atmosphere, it created a sudden gap between what was expected and a new learning environment” (Gonzalez-Ramirez, Mulqueen, Zealand, Silverstein, Reina, Bushell, & Ladda, 2021, p. 40). Students’ unfamiliarity with the Hyflex modality, or even fully online classes, and their confusion about expectations offers one explanation for students’ perceived poor engagement and performance.

In the participants’ view, students did not engage as much with peers, compared to pre-pandemic f2f classes, even when given the opportunity to collaborate. Participants also felt that students did not engage with instructors. Collaborative learning, which is lauded by researchers to encourage SDL growth in virtual course modalities (Beatty, 2020; Lin, et al., 2016; Rienties and Toetenel, 2016; Chang, et al., 2013), was implemented by most participants; however, participants did not think collaborative learning was effective. Indeed, not all collaborative learning is effective in virtual modalities (Blankstein, et al., 2020; Deng & Yuen, 2010; Blau & Caspi, 2009). Ineffective collaborative learning is not solely the instructor’s fault; student behaviors, like engagement and preparation, more directly affect the success of collaborative learning.

Some student behaviors, such as finding loopholes in the attendance policy and academic dishonesty, contributed to their poor performance and loss of faculty trust. The relationship between student behavior and instructor trust is interconnected (Camo & Osmic, 2020). For example, faculty initially implemented collaborative learning opportunities for students by

dividing them into Zoom breakout rooms. Faculty noticed that students did not engage with one another, had not completed the necessary readings before class, or disappeared from the screen during group work. These behaviors caused the participants to lose trust in students, so faculty eliminated group work. Eliminating group work potentially caused students to become even more disengaged, thus the cycle of mistrust and disengagement continued, reflecting a link between trust and engagement (Özer, Atik, Şad, Kış, 2018).

The social aspect of teaching and learning (Vygotsky, 1978) before the pandemic, to which faculty had grown accustomed, was no longer present. They no longer had brief conversations with students before and after class, conversations that make important personal connections. With few exceptions, students did not initiate many connections with each other or with instructors, even when they needed help. Students' help-seeking behaviors have significant connections to SDL; help-seeking is an important learning strategy in self-regulation (Schunk & Zimmerman, 2012). In this study, students who clearly needed help but did not seek it out demonstrated fewer SDL skills. The student-instructor relationship has been found to predict student engagement, self-efficacy, and performance, specifically in underrepresented community college students (Parnes, Suárez-Orozco, Osei-Twumasi, & Schwartz, S. E., 2020). As a result of their disengagement, students' performance was perceived by participants to be worse than before the pandemic.

The findings revealed interesting perspectives regarding the reciprocity of engagement: Engaged students encouraged engaged instructors and engaged instructors encouraged engaged students. The disengagement of either party decreased engagement of the other. Like participants, the students were probably exhausted from learning and living in a pandemic, which negatively impacted their motivation and engagement. Research on college student burnout

during the pandemic, found that students in virtual course modalities had higher rates of exhaustion than students from pre-pandemic studies (Gonzalez-Ramirez, et al., 2021).

Participants did note that the students in their upper level courses engaged more than incoming freshmen. This finding is supported by research in which first year college students had the highest rates of exhaustion and burnout compared to upper level students (Gonzalez-Ramirez, et al., 2021). The upper level students that participants mentioned exhibited characteristics of Stage 3 learners (Grow, 1991):

In this stage, learners have skills and knowledge, and they see themselves as participants in their own education. They are ready to explore a subject with a good guide. They will even explore some of it on their own. But they may need to develop a deeper self-concept, more confidence, more sense of direction, and a greater ability to work with (and learn from) others. (p. 9)

These learners already had experience in lower-level classes. They gained the knowledge and confidence that helped them succeed in the subsequent upper-level course.

In addition to upper level students, the participants offered a breakdown of students who did and did not perform well. One participant mentioned international students who diligently worked to succeed in a challenging course, another participant shared that their dual-credit students performed better than regularly enrolled students, and Luke shared that Hyflex students in his one “magical class” did well, overall. Online students generally underperformed, and co-requisite, or developmental, students demonstrated poor performance, despite regular in-person attendance.

The international students were still obligated to meet student visa requirements during the ‘20-’21 academic year. International students in the U.S. must maintain passing grades in all

coursework or their visa could be revoked or not renewed for future semesters. This external motivation was a potential factor in the success of the participant's international students.

Likewise, the dual-enrolled students still attended their high school classes and continued this habit in the Hyflex classes. They would lose their dual credit status if they failed their college courses. Both groups of students demonstrated the extrinsic motivation found in Stage 2 learners in Grow's (1991) SSDL model.

Extrinsic motivation comes from outside the learner and is an incentive to learn. Stage 2 learners are described as interested in learning, willing to do the necessary work, and a "good student" (p. 8) who is confident in their ability but ignorant of the subject. The international students and dual-credit students described by the participants could be considered Stage 2 learners with some SDL skills; however, the instructional techniques of the participants did not teach these students to move beyond Stage 2. This indicates that these students were already Stage 2 learners when they began the course.

Likewise, Luke's higher performing students showed a level of self-directedness that was not exhibited elsewhere by initiating forming a learning community and meeting together virtually outside of class. These students were enrolled in a Hyflex modality in the last 8 week session of the academic year. It would be beneficial to know if they exhibited the same behaviors in previous classes in the same year, or if their awareness of needing community with other learners grew, perhaps from unsuccessful, isolating learning experiences in previous classes. What is apparent, and acknowledged by Luke, is that he was not influential in their seeking community; they initiated building community on the first day of class, indicating that they arrived in the class with SDL orientations (Grow, 1991). Students with fewer SDL skills benefited from engaging with learners with more developed SDL skills (Vygotsky, 1978).

The performance of online students shows conflicting results in the literature. Carpenter (2011) considered course format in relation to Grow's (1991) model, basing the premise of her research on earlier findings that students who enroll in online courses have higher levels of self-direction (Bell, 2007; Puzzifero, 2006; Hodges, 2005; Bernard, et al., 2004). Carpenter (2011) concluded that students' ability to self-direct interacted with course format: Students with higher self-direction were more likely to succeed in online courses, whereas students with lower self-direction were more likely to succeed in f2f courses than they were in online courses. Other research found that online students typically do worse than f2f students (Donelan and Kear, 2018; Deng & Yuen, 2010). The online students that participants described in this study were largely unsuccessful, suggesting lower-levels of SDL (Grow, 1991).

Despite their consistent attendance, the co-requisite students struggled to succeed, a finding that indicates that f2f attendance does not ensure success. They did not ask for help during class but waited to email their instructors later. Grow (1991) classifies these students as Stage 1 learners who often "lapse into self-defeating habits" (p. 7). Problems arose when the low literacy of the students limited their comprehension of written email responses and directions from faculty. Digital literacy skills are heavily dependent on basic literacy, and in a heavily text-driven format, this creates additional challenges for students who are already struggling. It is safe to assume, then, that they struggle with their reading, including reading the emails with the answers to their questions. This rendered email communication inadequate. Although faculty recognized these students' desire to learn and do well, the students were not college-ready and struggled in text-based virtual communications. The students were clearly motivated, but they did not demonstrate SDL orientations (Cazan & Schiopca, 2014). This finding aligns with Walther (2012), who concluded that the text-based communication in online courses may result

in students having more difficulty understanding and connecting to written messages in virtual courses. Walther's research pertains to regular college students, but it is safe to assume that it would be even more difficult for students at low literacy levels.

Regarding literacy, the participants noted the high levels of digital literacy of their students, citing students' savviness when it came to navigating social media apps on their phones. Yet, the participants also stated that students did not know how to convert and upload documents or know where to find resources in the LMS and library digital catalog. In the context of DQ (Park, 2016), the student skills that participants identified indicated fragmented knowledge. Like others with fragmented knowledge, the students mentioned by participants knew how to navigate some aspects of daily life with which they were most familiar, like social media apps on their smartphones, yet they did not know how to accomplish basic computing tasks, like converting a document from Pages to Word (NSC, 2020).

Digital learning environments are often difficult for learners, specifically regarding self-regulation behaviors (Azevedo, et al., 2008). The literature indicates that learners often struggle to combine different media of information, figure out how to proceed with learning, and where to find help. In virtual learning modalities students are expected to manage multiple sources of information while also being responsible for keeping up with their own learning (Wang, 2011), all essential components of SDL. This study suggests that the additional contributions of the instructor's digital readiness, altered teaching methods, mental health issues, and students' fragmented digital knowledge during the pandemic negatively impacted student SDL skill development in virtual course modalities. Successful students were those who came into the virtual modality courses already in possession of some SDL skills.

Implications for Research, Policy, and Practice

Implications for research, policy, and practice based on this study's findings are presented.

Research

The findings in this study have furthered SDL knowledge by framing the research with Grow's (1991) SSDL model and the DQ framework (Park, 2016) and contributed to the growing body of research on SDL and virtual learning environments. Like previous SDL research using Grow's (1991) model that considered the context, or environment, in which learning occurred (Song & Hill, 2007), this study has provided additional consideration of educator digital readiness, teaching methods, and physical and mental health as important factors in teaching students SDL skill development in virtual course modalities.

As discussed, educators' physical and mental health, namely fatigue, stress, and anger, significantly influenced the decisions they made in their virtual and Hyflex classrooms and teaching. Moreover, their lack of digital readiness contributed to their fatigue, stress, and anger, specifically when it came to teaching in the Hyflex modality. Their lack of readiness had more to do with not knowing Hyflex pedagogy and best teaching practices than lacking technical skills, validating previous research findings that digital literacy was more than just knowing how to operate the machinery or software (Rapanta, et al., 2020; Park, 2016). This finding also challenges the assumption that educators with previous online teaching experience and training can successfully teach in any virtual modality. Instead, pedagogical and technical skills seem to be context dependent.

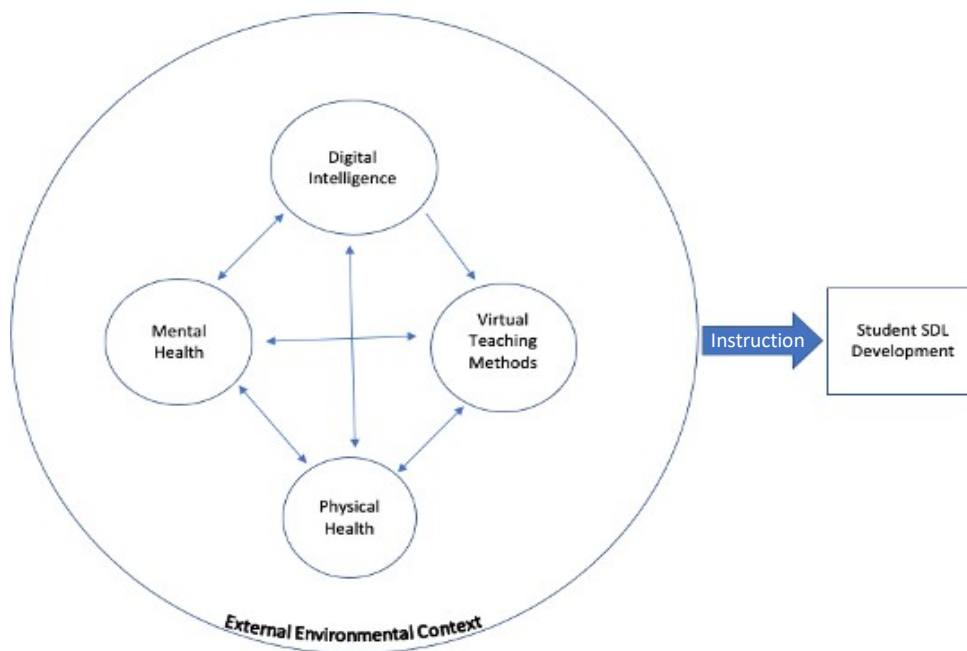
The multiple layers involved in teaching that were identified in this study affirm that the context or learning environment is an important factor in teaching students SDL orientations

(Song & Hill, 2007); however, these complex layers also revealed that the context *outside* of the learning environment *shaped* the classroom learning environment. Previous studies have investigated how external contexts determine classroom environments (Chen, 2019; Song & Hill, 2007), but none of them explored the multiple, complex layers identified in this study.

Assuming Grow’s (1991) position that SDL skills can be taught, this study offered valuable insight into the interconnectedness of multiple factors that impact teaching SDL skills. The findings of this study are that digital intelligence, virtual teaching methods, and mental and physical health are all connected, and all of these factors are situated within and influenced by the external environment. The coalescence of these factors then impacts teaching students SDL skill development. The following figure (Figure 4) provides a visual representation of this study’s findings:

Figure 4

Interrelational Self-Directed Learning Virtual Instruction Model



Policy

In addition to research, the findings from this study also provide the opportunity to influence policy. College administrators are in positions of power. The decisions that they make have far-reaching effects. The rashness of modality and format implementation at the participants' college during the pandemic underscores the necessity of pilot programs. Suggested programs should be piloted for an appropriate amount of time before implementation. Piloting new programs allows time to assess their effectiveness, viability, and faculty training needs.

Along the same lines, virtual teaching training should address more than faculty members' technical skills. This study challenges the notion that teaching in the Hyflex modality is easy as long as instructors know how to operate the technology (Romero-Hall & Ripine, 2021). In truth, implementing a novel modality requires planning and preparation in order to be done well. Learning how to use the technology is important, but it is just as important for educators to have a solid pedagogical foundation and knowledge of best teaching practices so that courses are successfully taught. Participants thought the training resources at the college in this study were misplaced; they focused more on ensuring that virtual courses met a set of standards for external audiences than building course content to improve student learning outcomes. The findings here demonstrated that redesigning training to prioritize pedagogical underpinnings, best virtual teaching practices, and technical skills would be a better use of resources.

Additionally, this study underscores the assertion that accelerated course formats are not appropriate for all subjects and learners. Some subjects, like skills-based disciplines, require longer learning times (Jenson, 1992). If teaching people to become self-directed, lifelong learners is indeed the mission of American higher education, then implemented policies should

encourage course formats that allow learners the time they need for reflection (Coulson & Harvey, 2013; Paris & Winograd, 2003). The participants worried that their students did not learn the necessary skills in the accelerated courses to help them succeed in college because there was no time for reflection. Their worries were justifiable if reported poor student performance was any indication. John Dewey (1933) noted that “we do not learn from experience ... we learn from reflecting on experience” (p. 78). This highlights the necessity of reflection in SDL skill development, which takes time to achieve.

The decisions that administrators make deeply affect faculty and students. Faculty in this study unnecessarily suffered from physical and mental health conditions as a result of the expectations foisted on them by administrators. The resulting anger and chronic stress could cause resignations, poor performance, and increased sick days in the future (Kirk-Jenkins & Hughey, 2021; Hints, et al., 2016; Juster, et al., 2011). Administrators need to embrace shared governance so that faculty have agency in the decisions that affect their health, lives, and careers (Krantz & Fernandes, 2020), unlike the faculty in this study. Likewise, policies should reflect the gravity of faculty mental and physical health in higher education, which the participants felt was dismissed as irrelevant by administrators. Accessible, free mental health resources for faculty should be a priority, as well as access to physical health resources. Participants indicated that on-site exercise facilities, nutritional guidance, group physical activities, like jogging groups or softball teams, will help improve faculty physical and mental health, as well as reduce isolation by meeting their social needs. Dedicating resources and enacting policies that work toward faculty physical and mental health will result in greater employee retention, fewer missed work days, engaging and effective classes, and improved student performance (Madigan & Kim, 2021).

Practice

Finally, this study has implications for teaching practices. Based on the findings, practitioners need adequate training, time, and resources to plan to teach in virtual course modalities (Beatty, 2020). Like administrators, educators should not assume that they can teach in any virtual modality if they have previous online teaching experience because every modality has its own pedagogical foundation and best teaching practices. This knowledge will go a long way in improving teaching experiences and reducing negative mental health effects.

Moreover, this study emphasized the complexity of teaching and the multiple layers of influence that educators take with them into the classroom. If the policies in the previous section are considered and implemented, practitioners should take advantage of self-care opportunities. Even if colleges do not, educators should prioritize their mental and physical health. Improving and maintaining physical and mental health positively impacts the classroom teaching experience and encourages development of new teaching methods (Madigan & Kim, 2021).

Further, this study established that teaching methods do impact student SDL; therefore, educators can employ different methods to teach students to develop SDL skills. The participants' adoption of the teacher-centered classroom method aligns with Grow's (1991) Stage 1 learner; the participants noted their students' demonstrating Stage 1 characteristics. These student traits differ from when participants designed student-centered courses before the pandemic, an effective teaching approach supported by research (Adams-Becker et al., 2017). As noted in the findings, participants who employed a scaffolding structure in their courses before the pandemic found that, on average, their students exhibited Stage 2, 3, and even Stage 4 (Grow, 1991) characteristics by the end of the semester. This is a significant finding for

practitioners because it suggests that teaching methods and course delivery are capable of developing students' SDL skills, regardless of the stage in which students begin.

These implications for research, policy, and practice are inspired by the findings and underscore the complexities of teaching students SDL skills in virtual modalities. Although the participants did what they could during pandemic teaching, there are additional opportunities to further our understanding of SDL in virtual modalities.

Recommendations for Future Research

Several future research recommendations result from this study. First, this study took place in the middle of a pandemic. While the external environment of the pandemic proved influential on teaching SDL skills in this study, it is unclear if this finding would be supported during "normal" times. Future research should investigate the impact of the external environment on the multiple layers of teaching, the virtual modality classroom, and student SDL skill development when there is not a pandemic.

In the same way, the unique circumstances of the pandemic meant that the virtual course modalities were implemented without faculty receiving adequate knowledge of pedagogy or time to plan their courses. The finding from this study is that faculty digital readiness is vital to virtual teaching methods and student engagement and performance. This finding challenges the assumption that faculty can successfully teach in any virtual modality if they have prior experience teaching in one virtual modality. A recommendation for future research is to investigate student SDL skills development when faculty are provided with the adequate training and resources to teach in specific virtual modalities. Researchers could develop targeted faculty training that teaches applied DQ (Park, 2016) principles, pedagogical underpinnings, and best teaching practices for a specific modality.

This study also illuminated the need for more understanding of virtual modalities. Future research should focus on informing best teaching practices in the Hyflex modality, paying particular attention to developing students' SDL skills. As a relatively new modality, knowledge about Hyflex teaching and learning is still developing. Research-supported Hyflex teaching methods that develop student SDL skills would be a valuable contribution to the literature. Lastly, the literature review revealed a dearth of research on SDL in community college virtual courses. Future research that focuses on the community college is greatly needed to further our understanding of SDL. One finding in this study was that the participants' community college students disengaged and performed poorly in virtual modalities. This finding challenges previous research findings that university and graduate students engage and perform just as well or better in virtual modalities as in f2f classes (Carpenter, 2011; Bell, 2007; Puzziferro, 2006; Hodges, 2005; Bernard, et al., 2004). This contradiction of conclusions suggests differences between SDL in community colleges and SDL in universities and graduate courses. Future research is necessary to understand whether differences do exist and to identify those differences so that necessary measures can be taken to ensure appropriate opportunities for students in different learning institutions.

Conclusion

The research was presented in 5 chapters: (1) overview of the problem; (2) literature review; (3) methodology; (4) findings; and (5) summary, discussion, and recommendations. Chapter I introduced the background of the problem, significance of the study, purpose of the study, conceptual framework, and research questions. Chapter II provided a review of the literature pertaining to SDL, digital literacy, and SDL in virtual course modalities. This chapter also explored research concerned with Grow's (1991) SSDL model and the DQ framework (Park,

2016). Chapter III detailed the methodology of the study: overview of qualitative research characteristics; rationale for basic qualitative approach; participant selection; data collection and analysis; robustness of the research design; and positionality of the researcher. Chapter IV provided the findings identified from the data, organized into major themes and sub themes. They are digital readiness (prior experience, institutional training, informal personal research, and digital comfort level); changes to teaching and courses (teaching methods, content delivery, resources and communication, major assignments and homework, and teaching style), instructor feelings and experiences (personal life, mental and physical health, and professional life), and student engagement and performance (engagement with peers, engagement with instructor, engagement with course, overall performance). Chapter V presented a discussion of the findings, implications for research, policy, and practice, and recommendations for future research.

The study contributes to the body of knowledge regarding SDL research in virtual modalities. It fills gaps in the literature by focusing on community college faculty and how they help or hinder student SDL skill development. Student SDL skill development is impacted by instructor digital readiness, teaching methods, educator feelings and experiences, and the external environment. Opportunities for furthering knowledge of SDL in virtual courses abound through researchers, policymakers, and practitioners. In the meantime, this study has illuminated the complexity and multiple layers in teaching and how they impact student SDL skill development in virtual course modalities.

REFERENCES

- Abu-Asaba, A., Azman, H., & Mustaffa, R. (2014). A match or mismatch between learning and teaching styles in science education. *International Journal of Education and Research*, 2(3). 1-13. <http://AMatchorMismatchbetweenLearningandTeachingStyles.pdf>
- Adam-Turner, N., & Burnett, D.D. (2018). Leadership perspectives of digital learning and digital literacy adoption at rural community colleges. *Community College Enterprise*, 24(20), pp. 21-48. <https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=134831541&site=eds-live>
- Adams-Becker, S., Cummins, M., Davis, A., Freeman, A., Hall Giesinger, C., Ananthanarayanan, V. (2017). NMC horizon report: 2017 higher education edition. The New Media Consortium.
- Ahmed, A., & Rogers, M. (2017). Polly's story: Using structural narrative analysis to understand a trans migration journey. *Qualitative Social Work*, 16(2), 224–239. <http://doi.org/10.1177/1473325016664573>
- Alfred, M. V. (2000). The politics of knowledge and theory construction in adult education: A critical analysis from an Africentric feminist perspective. In T. J. Sork, V. L. Chapman, & R. St. Clair (Eds.). *Proceedings of the 41st annual adult education research conference* (pp. 6-10). U of British Columbia.
- American Association of Community Colleges. (2015). *2015 community college fast facts*. AACC. <http://www.aacc.nche.edu/AboutCC/Pages/fastfactsfactsheet.aspx>
- American Library Association. (1989). *Presidential committee on information literacy: Final report*. <http://www.ala.org/acrl/publications/whitepapers/presidential>
- American Psychological Association, (2019). Stress won't go away? Maybe you are suffering from chronic stress. <https://www.apa.org/topics/stress/chronic>
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25: 297–308.
- Astin, F. & Long, A. (2014). Characteristics of qualitative research and its application. *British Journal of Cardiac Nursing*, 9(2), 93-98. <https://doi.org/10.12968/bjca.2014.9.2.93>
- Azevedo, R. & Jacobson, M.J. (2008). Advances in scaffolding learning with hypertext and hypermedia: A summary and critical analysis. *Education Tech Research Dev*, 56, 93–100. <https://doi.org/10.1007/s11423-007-9064-3>

- Azevedo, R., Moos, D.C., Greene, J.A., Winters, F.I., & Cromley, J.G. (2008). Why is externally facilitated regulated learning more effective than self-regulated learning with hypermedia? *Education Tech Research Dev*, 56(1), 45-72.
<https://eric.ed.gov/?redir=http%3a%2f%2fdx.doi.org%2f10.1007%2fs11423-007-9067-0>
- Bates, T. (2020, April 7). What should we be doing about online learning when social distancing ends? *Online Learning and Distance Education Resources*.
<https://www.tonybates.ca/2020/04/07/what-should-we-be-doing-about-online-learning-when-social-distancing-ends/>
- Baumgartner, L. (2003). Self-directed learning: A goal, process, and personal attribute. *Adult learning theory: A primer* (pp. 28-33). Information Series. Clearinghouse on Adult, Career, and Vocational Education.
<https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED482337&site=eds-live>
- Bawden, D. (2008). Origins and Concepts of Digital Literacy' in C. Lankshear, & M. Knobel, *Digital Literacies: Concepts, Policies and Practices*. Peter Lang Publishing.
- Beatty, B. (2020). *Hybrid-flexible course design: Implementing student-directed hybrid classes*. Ebook. <https://edtechbooks.org/hyflex>
- Beatty, B. J. (2007). *Hybrid classes with flexible participation options: If you build it, how will they come?* [Paper presentation]. Association for Educational Communications and Technology Annual Convention, Anaheim, CA, United States.
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.457.495&rep=rep1&type=pdf>
- Beetham, H., & Sharpe, R. (2011). *Digital literacies workshop* [Paper presentation]. JISC Learning Literacies Workshop, Birmingham, United Kingdom. <http://jiscdesignstudio>
- Belisle, C. (2006). Literacy and the digital knowledge revolution. In A. Martin and D. Madigan (Eds.), *Digital Literacies for Learning* (pp. 51-67). Facet Publishing.
- Bell, P. D. (2007). Can factors related to self-regulated learning and epistemological beliefs predict learning achievement in undergraduate asynchronous web based courses? *Dissertation Abstracts International*, 67(09), 3317A. (UMI No. 3233020)
- Bell, S. (1992). Research activities and work satisfaction of community college faculty. *The Review of Higher Education*, 15(3), 307-325. <https://doi.org/10.1353/rhe.1992.0015>
- Belshaw, D. (2012). *What is 'digital literacy'?: A pragmatic investigation* [Doctoral dissertation, Durham University]. Durham E-theses Online.
[http://etheses.dur.ac.uk/3446/1/Ed.D._thesis_\(FINAL_TO_UPLOAD\).pdf?DDD29+](http://etheses.dur.ac.uk/3446/1/Ed.D._thesis_(FINAL_TO_UPLOAD).pdf?DDD29+)

- Bennett, L. (2014). Learning from the early adopters: Developing the digital practitioner. *Research in Learning Technology*, 22, 21453–21466. doi:10.3402/rlt.v22.21453
- Bernard, R. M., Brauer, A., Abrami, P. C., & Surkes, M. (2004). The development of a questionnaire for predicting online learning achievement. *Distance Education*, 25(1), 31-47, doi:10.1080/0158791042000212440
- Bidwell, L.M., Boyle, K., & Boyle, D. (2020). Pedagogy in a pandemic: Emergency remote teaching during COVID-19. *Virginia Social Science Journal*, 54, 65-73. <https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ssf&AN=147376808&site=eds-live>
- Bivens, G.M., and Wood, J.L. (2016). African American student populations in community colleges. In A. Long (Ed.), *Overcoming Educational Racism in the Community College: Creating Pathways to Success for Minority and Impoverished Student Populations* (pp. 11-27). Stylus Publishing, LLC. <https://ebookcentral.proquest.com/lib/tamucs/detail.action?docID=4731313>
- Blankstein, M., Frederick, J. K., & Wolff-Eisenberg, C. (2020, June 25). *Student experiences during the pandemic pivot*. ITHAKA. <https://doi.org/10.18665/sr.313461>
- Blau, I. (2011). E-collaboration within, between, and without institutions: Towards better functioning of online groups through networks. *International Journal of e-Collaboration*, 7(4), 22-36. doi: 10.4018/jec.2011100102
- Blau, I., & Caspi, A. (2009). What type of collaboration helps? Psychological ownership, perceived learning and outcome quality of collaboration using google docs [Paper presentation]. In Y. Eshet-Alkalai, A. Caspi, S. Eden, N. Geri, Y. Yair (Eds.). *Proceedings of the Chais conference on instructional technologies research 2009: Learning in the technological era* (pp. 48-55). Raanana: The Open University of Israel.
- Blau, I., & Shamir-Inbal, T. (2017). Re-designed flipped learning model in an academic course: The role of co-creation and co-regulation. *Computers and Education*, 115, 69-81. <https://doi.org/10.1016/j.compedu.2017.07.014>
- Boud, D., Keogh, R., & Walker, D. (2013). *Reflection: Turning experience into learning*. Routledge.
- Brinkmann, S. (2018). The interview. In N.K. Denzin & Y.S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed., pp. 997-1038). Sage.
- Brinkmann, S. & Kvale, S. (2018). Conducting an interview. In *Doing interviews* (pp. 57-72). SAGE. <https://www.doi.org/10.4135/9781529716665>

- Broadbent, J., & Lodge, J. (2021). Use of live chat in higher education to support self-regulated help seeking behaviours: a comparison of online and blended learner perspectives. *International Journal of Educational Technology in Higher Education*, 18(1). <https://doi.org/10.1186/s41239-021-00253-2>
- Brockett, R. G., & Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice*. Routledge. <https://books.google.com/books?id=LF5DwAAQBAJ&lpg=PT11&ots=tWUHoI7Avq&dq=brockett%20and%20hiemstra%20C%20Self-direction%20in%20adult%20learning&lr&pg=PT11#v=onepage&q=brockett%20and%20hiemstra,%20Self-direction%20in%20adult%20learning&f=false>
- Brookfield, S. (1984). Self-directed adult learning: A critical program, *Adult Education Quarterly*, 35(2), 59-71. <http://doi.org/10.1177/0001848184035002001>
- Brookfield, S. (1986). *Understanding and facilitating adult learning*. Jossey-Bass. <https://archive.org/details/understandingfac00broo>
- Brown, M. G., Wohn, D. Y., & Ellison, N. (2016). Without a map: College access and the online practices of youth from low-income communities. *Computers & Education*, 92-93, 104-116.
- Caffarella, R. (1991). Self-directed learning: Moving beyond description. In A. Blunt (Ed.), *Commission of Professors of Adult Education* (pp. 61-61). <https://eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED333148>
- Čamo, M., & Osmić, A. (2020). The concept and importance of trust in the student -- teacher relationship: Sociological discourse. *Sociological Discourse*, 19, 67-80. <https://doi.org/10.7251/SOCEN20190670>
- Candy, P. C. (1987). Evolution, revolution or devolution: Increasing learner control in the instructional setting. In D. Boud & V. Griffin (Eds.). *Appreciating adult learning: From the learner's perspective* (pp. 159-178). Kogan Page. https://scholar.google.com/scholar_lookup?hl=en&publication_year=1987a&pages=159-178&author=P.+C.+Candy&title=Appreciating+adults+learning%3A+From+the+learner%27s+perspective.
- Candy, P. C. (1989). Constructivism and the study of self-direction in adult learning. *Studies in the Education of Adults*, 21(2), 95-116. <https://doi.org/10.1080/02660830.1989.11730524>
- Candy, P. C. (1991). *Self-direction for lifelong learning*. Jossey-Bass. <http://doi.org/10.5860/choice.29-4017>
- Canipe, J. B., & Fogerson, D. L. (2006). The literature of self-directed learning: Dissertations. *International Journal of Self-Directed Learning*, 3(2), 34-44.

https://www.taosinstitute.net/files/Content/5693976/Scott_International_Journal_of_Self-Directed_Learning_2006.pdf#page=37

- Carnevale, A.P. & Strohl, J. (2010). How increasing college access is increasing inequality, and what to do about it. In R. D. Kahlenberg (Ed.), *Rewarding strivers: Helping low-income students succeed in college* (pp. 71-190). Century Foundation Press.
<https://vtechworks.lib.vt.edu/bitstream/handle/10919/83054/IncreasingCollegeAccess.pdf?sequence=1&isAllowed=y>
- Carpenter, J. (2011). *Self-direction in the online and face-to-face classroom: a new look at Grow's staged self-directed learning model* [Doctoral dissertation, Northern Illinois University]. ProQuest Dissertations and Theses.
<https://files.eric.ed.gov/fulltext/EJ1116384.pdf>
- Caspi, A., & Blau, I. (2011). Collaboration and psychological ownership: how does the tension between the two influence perceived learning?. *Social Psychology of Education, 14*, 283-298. <https://link.springer.com/article/10.1007/s11218-010-9141-z>
- Cazan, A. M., & Schiopca, B. A. (2014). Self-directed learning, personality traits and academic achievement. *Procedia-Social and Behavioral Sciences, 127*, 640-644.
<https://doi.org/10.1016/j.sbspro.2014.03.327>
- Center for Community College Student Engagement (CCCSE). (2012). *Matter of degrees: Promising practices for community college student success*. CCCSE.
https://www.ccsse.org/docs/Matter_of_Degrees.pdf
- Chan, B. S., Churchill, D., & Chiu, T. K. (2017). Digital literacy learning in higher education through digital storytelling approach. *Journal of International Education Research (JIER), 13*(1), 1–16. doi:10.19030/jier.v13i1.9907
- Chang, C., Liang, C., Yan, C., & Tseng, J. (2013). The impact of college students' intrinsic and extrinsic motivation on continuance intention to use English mobile learning systems. *The Asia-Pacific Education Researcher, 22*, 181-192.
- Chen, J. (2019). Exploring the impact of teacher emotions on their approaches to teaching: A structural equation modelling approach. *British Journal of Educational Psychology, 89*(1), 57–74. <https://doi.org/10.1111/bjep.12220>
- Chene, A. (1983). The concept of autonomy: A philosophical discussion. *Adult Education Quarterly, 34*, 38-47.
- Collins-Warfield, A., Marks, J.C., & Parker, D.J. (2019). The digital divide and community college transfer students. In R. Voithofer & M. Nelson (Eds.), *Issues and practices in learning technologies*, Ohio State.
<https://ohiostate.pressbooks.pub/6223ebook2019/chapter/chapter-1/>

- Collins, M. (1996). On contemporary practice and research: Self-directed learning to critical theory. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning: Adult learners, education, and training* (pp. 109-127). Routledge.
- Community College Research Center. (2020). *Community college FAQs*. Columbia University. <https://ccrc.tc.columbia.edu/Community-College-FAQs.html#:~:text=Overall%2C%2034%25%20of%20undergraduates%20were,Latino%2C%20and%2046%25%20White>.
- Coulson, D., & Harvey, M. (2013). Scaffolding student reflection for experience-based learning: a framework. *Teaching in Higher Education*, 18(4), 401-413. <http://dx.doi.org/10.1080/13562517.2012.752726>
- Course Hero. (2020). Faculty wellness and careers. *Course Hero*. <https://www.coursehero.com/blog/faculty-wellness-research/>
- Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P.A., Lam, S. (2020). Covid-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning and Teaching*, 3(1), 9-28. <https://eprints.utas.edu.au/34123/2/138340%20-%20COVID-19.%2020%20countries%27%20higher%20education%20intra-period%20digital%20pedagogy%20responses.pdf>
- Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage.
- Creswell, J.W. (2013). *Qualitative inquiry and research design : Choosing among five approaches* (3rd ed.). SAGE Publications.
- Creswell, J.W., & Poth, C.N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Sage.
- Crotty, M. (1998). *The foundations of social research : Meaning and perspective in the research process*. Sage Publications.
- Danis, C. (1992). A unifying framework for data-based research into adult self-directed learning. In H. B. Long, et al. (Eds.). *Self-directed learning: Application and research* (pp. 47-72). U of Oklahoma.
- Davies, M. (2004). *Multiple voices in the translation classroom: activities, tasks and projects*. John Benjamins Publishing Company.

- Delima, D.G. (2019). Making a case for a funds of knowledge approach to teaching and learning for first-generation college students. *College Teaching*, 67(4), 205-209.
<https://doi.org/10.1080/87567555.2019.1630355>
- DeMarrais, K.B., & Lapan, S.D. (2004). *Foundations for research : methods of inquiry in education and the social sciences*. Erlbaum Associates.
- Deng, L., & Yuen, A.H.K. (2010). Designing blended learning communities. In F.U. Wang, J. Fong, & R. Kwan (Eds.). *Handbook of research on hybrid learning models: advanced tools, technologies, and applications* (pp. 228-243). IGI Global.
- Denzin, N. K., & Lincoln, Y.S. (Eds.). (2018). *The Sage handbook of qualitative research* (5th ed.). Sage.
- Denzin, N.K. (1978). *Sociological methods: A sourcebook*. McGraw-Hill.
- Denzin, N.K., & Lincoln, Y.S. (Eds.). (2005). *The Sage handbook of qualitative research* (3rd ed.). Sage.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Henry Regnery.
- Dey, I. (1993). *Qualitative data analysis: A user friendly guide for social science*. Routledge.
<http://dx.doi.org/10.4324/9780203412497>
- Dhawan, S. (2020). Online learning: A panacea in the time of Covid-19 crisis. *Journal of Educational Technology*, 49(1), 5-22.
<https://journals.sagepub.com/doi/pdf/10.1177/0047239520934018>
- Dillenbourg, P. (1999). What do you mean by collaborative learning?. In P. Dillenbourg (Ed.), *Collaborative learning: Cognitive and computational approaches* (pp. 1–19). Amsterdam: Pergamon.
- Donelan, H., & Kear, K. (2018). Creating and collaborating: Students' and tutors' perceptions of an online group project. *International Review of Research in Open and Distributed Learning*, 19(2), <http://www.irrodl.org/index.php/irrodl/article/view/3124/4585>
- Dostal, J., Wang, X., Steingartner, W., Nuangchalerm, P. (2017). *Digital intelligence: New concept in context of future of school education* [Paper presentation]. ICERI Annual Conference, Seville, Spain.
https://www.researchgate.net/publication/321128357_DIGITAL_INTELLIGENCE_-_NEW_CONCEPT_IN_CONTEXT_OF_FUTURE_OF_SCHOOL_EDUCATION/link/5a0ead5aa6fdcc2b5b5e03e2/download

- DQ Global Standards Report. (2019). *DQ Global Standards Report 2019: Common framework for digital literacy, skills, and readiness*. DQ Institute. <https://www.dqinstitute.org/wp-content/uploads/2019/03/DQGlobalStandardsReport2019.pdf>
- English, M.C., & Kitsantas, A. (2013). Supporting student self-regulated learning in problem- and project-based learning. *Interdisciplinary Journal of Problem-Based Learning*, 7(2). <https://doi.org/10.7771/1541-5015.1339>
- Erickson, F. (2012). Qualitative research methods for science education. In B.J. Fraser, K. Tobin, & C.J. McRobbie (Eds.). *Second international handbook of science education* (pp. 1451-1469). Springer.
- Eshet-Alkalai, Y. (2004). Digital literacy: A conceptual framework for survival skills in the digital era. *Journal of Educational Multimedia and Hypermedia*, 13, 93-106.
- Eshet-Alkalai, Y., & Chajut, E. (2009). Changes over time in digital literacy. *Cyberpsychology & Behavior*, 12(6), 421-429.
- European Parliament Council. (2008). *The European qualifications framework for lifelong learning (EFQ)*. <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF>
- Ferro, E., Helbig, N. C., & Gil-Garcia, J. (2011). The role of IT literacy in defining digital divide policy needs. *Government Information Quarterly*, 28, 3-10.
- Firestone, W.A. (1987). Meaning in method: The rhetoric of quantitative and qualitative research. *Educational Researcher*, 16(7), 16-21.
- Flaherty, C. (2020). Babar in the room. *Inside Higher Ed*. <https://www.insidehighered.com/news/2020/08/11/faculty-parents-are-once-again-being-asked-perform-miracle>
- Fleming, N. (2012). Digital divide strikes college-admissions process. *Education Week*, 32(13), 14.
- Frohardt, R. J. (2019). Engaging community college students in publishable research. *Frontiers in Psychology*, 10, 882-896. <http://doi.org/10.3389/fpsyg.2019.00882>
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. Basic Books.
- Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st Century*. Basic Books.
- Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. *Adult Education Quarterly*, 48(1), 18-33. <http://doi.org/10.1177/074171369704800103>

- Gentles, S. J., Charles, C., Ploeg, J., & McKibbin, K. A. (2015). Sampling in qualitative research: Insights from an overview of the methods literature. *Qualitative Report, 20*(11), 1772-1789.
<https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=111331919&site=eds-live>
- Gilster, P. (1997). *Digital literacy*. John Wiley.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Sociology Press.
- Gonzalez-Ramirez, J., Mulqueen, K., Zealand, R., Silverstein, S., Reina, C., Bushell, S., & Ladda, S. (2021). Emergency online learning: college students' perceptions during the covid-19 crisis. *College Student Journal, 55*(1), 29–46.
<https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=149682585&site=eds-live>
- Goode, J. (2010). The digital identity divide: How technology knowledge impacts college students. *New Media & Society, 12*(3), 497-513.
- Goodfellow, R. (2011). Literacy, literacies and the digital in higher education. *Teaching in Higher Education, 16*(1), 131–144. doi:10.1080/13562517.2011.544125
- Grace, A. P. (1996). Striking a critical pose: Andragogy -- missing links, missing values. *International Journal of Lifelong Education, 15*(5), 382-392,
<http://doi.org/10.1080/0260137960150506>
- Greene, J.A., Yun, S.B., & Copeland, D.Z. (2014). Measuring critical components of digital literacy and their relationships with learning. *Computers & Education, 76*, 55-69.
<https://www.sciencedirect.com/science/article/abs/pii/S0360131514000657>
- Grow, G. O. (1991). Teaching learners to be self-directed: A stage approach. *Adult Education Quarterly, 41*(3), 125-149. <http://doi.org/10.1177/0001848191041003001>
- Grow, G.O. (1994). In defense of the staged self-directed learning model. *Adult Education Quarterly, 44*(2). 109-114.
- Guglielmino, L. M. (1977). Development of the self-directed learning readiness scale. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 38*(11-A), 6467. <https://psycnet.apa.org/record/1979-14573-001>
- Halm, D.S. (2018). Writing success and self-efficacy: The student perspective. *Journal of Education and Social Development, 5*-15. <http://www.ibii-us.org/Journals/JESD/>

- Hammond, M., & Collins, R. (1991). *Self-directed learning: Critical practice*. Nichols/GP Publishing.
https://books.google.com/books?hl=en&lr=&id=iHDm_117Eb0C&oi=fnd&pg=PA3&dq=Self-directed+learning:+Critical+practice&ots=qjIR9DJarA&sig=kYQ2PF-hYBvGnQQfZ3ph8ip-k2s#v=onepage&q=Self-directed%20learning%3A%20Critical%20practice&f=false
- Handel, M., Stephan, M., Gläser-Zikuda, M., Kopp, B., Bedenlier, S., & Ziegler, A. (2020). Digital readiness and its effects on higher education students' socio-emotional perceptions in the context of the COVID-19 pandemic. *Journal of Research on Technology in Education*, <https://doi.org/10.31234/osf.io/b9pg7>
- Harambam, J., Aupers, S., & Houtman, D. (2013). The contentious gap. *Information, Community, and Society*, *16*(7), pp. 1093-1114, <https://doi.org/10.1080/1369118X.2012.687006>
- Hartree, A. (1984). Malcolm Knowles' theory of andragogy: A critique. *International Journal of Lifelong Learning*, *3*(3), 203-210. <https://doi.org/10.1080/0260137840030304>
- Hersey, R.D., & Blanchard, K. (1988). *Management of organizational behavior: Utilizing human resources* (5th ed.). Prentice Hall.
- Hodges, C. B. (2005). Self-regulation in web-based courses: A review and the need for research. *The Quarterly Review of Distance Education*, *6*(4), 375-383.
- Houle, C.O. (1961). *The inquiring mind*. University of Wisconsin Press.
- Hrastinski, S. (2008). Asynchronous and synchronous e-learning. *Educause Quarterly* *31*, 51–55.
- Hunter, J. (1984). Make your students computer literate. *Business Education Forum*, *4*, 45-50.
- Iordache, C., Mariën, I., & Baelden, D. (2017). Developing digital skills and competences: A quick-scan analysis of 13 digital literacy models. *Italian Journal of Sociology Education*, *9*(1), 6-30. http://ijse.padovauniversitypress.it/system/files/papers/2017_1_2.pdf
- Jarvis, (1984). Andragogy, a sign of the times. *Studies in the Education of Adults*, *16*(1), 32-38, <http://doi.org/10.1080/02660830.1984.11730438>
- Jenson, R.M. (1992). Can growth in writing be accelerated? An assessment of regular and accelerated college composition courses. *Research in the Teaching of English*, *26*(2), 194-210, <https://library-ncte-org.srv-proxy2.library.tamu.edu/journals/rte/issues/v26-2/15443>
- Joosten, T., Pasquini, L., & Harness, L. (2012). Guiding social media at our institutions. *Planning for Higher Education*, *41*(1), 125–135.

- Juster, R.-P., Bizik, G., Picard, M., Arsenault-Lapierre, G., Sindi, S., Trepanier, L., & Lupien, S. J. (2011). A transdisciplinary perspective of chronic stress in relation to psychopathology throughout life span development. *Development and Psychopathology*, 23(Special Issue 03), 725–776. <https://doi.org/10.1017/S0954579411000289>
- Kady, H. R., & Vadeboncoeur, J. A. (2019). Digital divide. *Salem Press Encyclopedia*. (online) Grey House Publishing. https://www.researchgate.net/publication/274331246_Kady_H_R_Vadeboncoeur_JA_2013_Digital_literacy_EBSCO_Research_Starters_Ipswich_MA_EBSCO_Publishing_Encyclopedia_Entry
- Kidane, H.H., Roebertsen, H., & van der Vleuten, C.P.M. (2020). Students' perceptions towards self-directed learning in Ethiopian medical schools with new innovative curriculum: A mixed-method study. *BMC Medical Education*, 20(7). <https://doi.org/10.1186/s12909-019-1924-0>
- Kim, J., & Maloney, E. J. (2020). *The low-density university: 15 scenarios for higher education*. Johns Hopkins UP.
- Kirk-Jenkins, A. J., & Hughey, A. W. (2021). Abrupt Adaption: A Review of the Impact of the COVID-19 Pandemic on Faculty in Higher Education. *Journal of the Professoriate*, 12(1), 104–121.
- Knowles, M. S. (1968). Andragogy, not pedagogy. *Adult Leadership*, 16(10), 350-352.
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Follett.
- Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy* (2nd ed.). Cambridge Books.
- Knowles, M. S. (1984). *The adult learner: A neglected species* (3rd ed.). Gulf.
- Krantz, L., & Fernandes, D. (2020, May 20). Colleges plan for on campus classes, even as scientists warn of risk for COVID-19. *Boston Globe*. <https://www.bostonglobe.com/2020/05/20/metro/despiteuncertainty-five-college-presidents-say-theyre-planning-someon-campus-classes/>
- Kubu, C., & Machado, A. (2017). Why Multitasking Is Bad for You. *Time.Com*, 98.
- Kuhm, K., (2022). The constant mirror: Self-view and attitudes to virtual meetings. *Computers in Human Behavior*. 128: 2-7. <https://doi.org/10.1016/j.chb.2021.107110>
- LeCompte, M. D. & Schensul, J. J. (2010). *Designing and conducting ethnographic research: An introduction*. AltaMira Press.

- Lee, M. (2003). A critical analysis of andragogy: The perspective of foreign-born adult learners. *Adult Learning Theory: A Primer. Information Series* (pp. 17-21). Clearinghouse on Adult, Career, and Vocational Education. <https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED482337&site=eds-live>
- Levine, A.G. (2020, September 17). Planning beyond the pandemic: Faculty career development in the age of Covid-19. *Science*. <https://www.sciencemag.org/features/2020/09/planning-beyond-pandemic-faculty-career-development-age-covid-19>
- Lin, X., Hu, X., Hu, Q., & Liu, Z. (2014). A social network analysis of teaching and research collaboration in a teachers' virtual learning community. *British Journal of Educational Technology*, 47(2), 302-319. <https://doi.org/10.1111/bjet.12234>
- Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic inquiry*. Sage Publications.
- MacDonald, K. (2018). A review of the literature: The needs of nontraditional students in postsecondary education. *Strategic Enrollment Management Quarterly*, 5(4), 159-164. <https://onlinelibrary.wiley.com/doi/epdf/10.1002/sem3.20115>
- Madigan, D. J., Kim, L. E. (2021). Does teacher burnout affect students? A systematic review of its association with academic achievement and student-reported outcomes. *International journal of educational research*, 105, 101714.
- Mamun, A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. *Computers & Education*, 144. <https://doi.org/10.1016/j.compedu.2019.103695>
- Marinoni, G, van't Land, H., & Jensen, T. (2020). *The impact of Covid-19 on higher education around the world*. International Association of Universities. https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf
- Markham, A.N. (2018). Ethnography in the digital internet era: From fields to flows, descriptions to interventions. In N.K. Denzin & Y.S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed., pp. 1129-1162). Sage.
- Martin, A. (2008). Digital literacy and the “digital society.” In C. Lankshear & M. Knobel, *Digital Literacies: Concepts, Policies and Practices*. Peter Lang.
- Martinez-Bravo, M.C., Sadaba-Chalezquer, C., & Serrano-Puche, J. (2020). Fifty years of digital literacy studies: A meta-research for interdisciplinary and conceptual convergence. *El Profesional de la Informacion*, 29(4), 1-15. <https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=lls&AN=145425048&site=eds-live>

- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Sage Publications.
- McLeod, S. (2020). *Lev Vygotsky's sociocultural theory*. Simply Psychology. <https://www.simplypsychology.org/vygotsky.html>
- McLoughlin, C., & Lee, M. J. W. (2008). The 3 P's of pedagogy for the networked society: Personalization, participation, and productivity. *International Journal of Teaching and Learning in Higher Education*, 20(1), 10–27. https://www.researchgate.net/publication/284125788_The_three_P's_of_pedagogy_for_the_networked_society_Personalization_participation_and_productivity [accessed Mar 02 2021].
- McMurtie, B. (2020). The worst of both worlds: Hybrid courses, taught in person and online, are being touted as the best option for the fall. Why do they have so many critics?. *Chronicle of Higher Education*, 66(34), 14-19. <http://kidd.blinn.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsgov&AN=edsgcl.632319332&site=eds-live>
- McNaughton, S. M., Westberry, N. C., Billot, J. M., & Gaeta, H. (2014). Exploring teachers' perceptions of videoconferencing practice through space, movement and the material and virtual environments. *International Journal of Multiple Research Approaches*, 8(1), 87-99.
- Meishar-Tal, H., & Gorsky, P. (2010). Wikis: What students do and do not do when writing collaboratively. *Open Learning: The Journal of Open, Distance and e-Learning*, 25(1), 25-35. <https://doi.org/10.1080/02680510903482074>
- Merriam, S. B., Caffarella, R.S. (1991). *Learning in adulthood*. Jossey-Bass. <https://doi.org/10.1177/074171369204200310>
- Merriam, S. B., Caffarella, R.S., & Baumgartner, L.M. (2007). *Learning in adulthood: A comprehensive guide* (3rd ed.). Jossey-Bass.
- Merriam, S.B., & Brockett, R.G. (2007). *The profession and practice of adult education: An introduction*. Jossey-Bass.
- Merriam, S.B., & Tisdell, E.J. (2016). *Qualitative research : A guide to design and implementation* (4th ed.). Jossey-Bass.
- Miller, C. (2019). *College Enrollment & Student Demographic Statistics*. Education Data. <https://educationdata.org/college-enrollment-statistics/>

- Mok, M.M., Long, H.B., & Agyekum, S.K. (2004). University students' perceptions of instructor and learner tasks: Phase two. *International Journal of Self-Directed Learning*, 1(2), 63-81.
- Murphy, L., Eduljee, N.B., & Croteau, K. (2020). College student transition to synchronous virtual classes during the Covid-19 pandemic in Northeastern United States. *Pedagogical Research*, 5(4), em0078. <https://doi.org/10.29333/pr/8485>
- Nasri, N.M. (2017). Self-directed learning through the eyes of teacher educators. *Kasetsart Journal of Social Sciences*, 40, 164–171.
- National Skills Coalition (2020). *Applying a racial equity lens to digital literacy*. National Skills Coalition. <https://files.eric.ed.gov/fulltext/ED607424.pdf>
- Neuwirth, L.S., Jović, S., Mukherji, B.R. (2020). Reimagining higher education during and post-covid-19: Challenges and opportunities. *Journal of Adult and Continuing Education*, 0(0), 1-16. doi:10.1177/1477971420947738
- O’Keefe, L., Rafferty, J., Gunder, A., Vignare, K. (2020, May 18). *Delivering high-quality instruction online in response to Covid-19: Faculty playbook*. Every Learner Everywhere. <http://www.everylearnereverywhere.org/resources>
- Oddi, L.F. (1986). Development and validation of an instrument to identify self-directed learners. *Adult Education Quarterly*, 36(2), 97-107. <https://doi.org/10.1177/0001848186036002004>
- Ouadoud, M., Rida, N., & Chafiq, T. (2020). Designing the self-management space of a new smart learning management system. *International Journal of Advanced Corporate Learning*, 13(4), 26–41. <https://doi.org/10.3991/ijac.v13i4.15363>
- Owen, T. R. (2002). Self-directed learning in adulthood: A literature review. *ERIC*, 1-57. <https://files.eric.ed.gov/fulltext/ED461050.pdf><https://eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED461050>
- Özer, N., Atik, S., Şad, S. N. & Kış, A. (2018). Turkish college students’ “trust in professors and engagement: I trust therefore I engage.” *Kuram ve Uygulamada Eğitim Yönetimi*, 24(3), 553-578. doi: 10.14527/ kuey.2018.014.
- Panke, S. (2015, October 28). *Digital literacy: An interview with Doug Belshaw*. Association for the Advancement of Computing in Education. <https://www.aace.org/review/digital-literacy-an-interview-with-doug-belshaw/>).
- Paris, S., & Winograd, P. (2003). The role of self-regulated learning in contextual teaching: Principles and practices for teacher preparation. *ERIC*, 1-25. <http://www.ciera.org/library/archive/2001-04/0104prwn.pdf>.

- Park, Y. (2016, June 13). *8 digital skills we must teach our children*. World Economic Forum. <https://www.weforum.org/agenda/2016/06/8-digital-skills-we-must-teach-our-children/>
- Parker, D.L., Webb, J., & D'Souza, B. (1995). The value of critical incident analysis as an educational tool and its relationship to experiential learning. *Nurse Education Today*, *15*(2), 111-116. doi: 10.1016/S0260- 6917(95)80029-8
- Parker, T. (2016). *Digital Literacies at King* [Prezi presentation]. Prezi <https://prezi.com/9g7fi7w9m-vq/digital-literacies-at-king/?frame=a0174884d5d4746805a708f12f2efa3cce655872>
- Parnes, M. F., Suárez-Orozco, C., Osei-Twumasi, O., & Schwartz, S. E. O. (2020). Academic outcomes among diverse community college students: What is the role of instructor relationships? *Community College Review*, *48*(3), 277–302. <http://dx.doi.org/10.1177/0091552120909908>
- Patton, M.Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage.
- Petty, T. (2014). Motivating first-generation students to academic success and college completion. *College Student Journal*, *48*(2), 257-264. <https://www.ingentaconnect.com/content/prin/csj/2014/00000048/00000001/art00015>
- Pew Research Center. (2018). *Internet/broadband fact sheet* [Data set]. <https://www.pewinternet.org/fact-sheet/internet-broadband/>
- Pew Research Center. (2019). *Mobile technology and home broadband* [Data set]. <https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/>.
- Pfahl, N.L., McClenney, K.M., O'Bannon, T., Gonzalez-Sullivan, L., and Wilson, C.D., (2010). The learning landscape of community colleges. In C. E. Kasworm, A. D. Rose, & J. M. Ross-Gordon (Eds.), *Handbook of adult and continuing education* (2010 ed., pp. 231-241). Sage.
- Pierce, J., Kostova, T., & Dirks, K.T. (2003). The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology*, *7*(1), 84-107. <https://doi.org/10.1037/1089-2680.7.1.84>
- Pool, C. R. (1997). A new digital literacy: A conversation with Paul Gilster. *Educational Leadership*, *55*(3), 6–11.
- Pratt, D.D. (1988). Andragogy as a relational construct. *Adult Education Quarterly*, *38*(3), 160-181. <https://doi.org/10.1177/0001848188038003004>

- Principles and practices for teacher preparation. U.S. Department of Education.
<http://www.Ciera.org/library/archive/2001-04/0104prwn.pdf>
- Puzzifero, M. (2006). Online technologies self-efficacy, self-regulated learning, and experiential variables as predictors of final grade and satisfaction in college level online courses. *Dissertation Abstracts International*, 66(12), A. (UMI No. 3199984)
- Rachel, J. R. (2002). Andragogy's detectives: A critique of the present and a proposal for the future. *Adult Education Quarterly*, 52(3), pp. 210-227.
<https://doi.org/10.1177/0741713602052003004>
- Rapanta, C., Botturi, L., Goodyear, P., Guardia, L., & Koole, M. (2020). Online university teaching during and after the covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2, 923-945.
<https://link.springer.com/article/10.1007/s42438-020-00155-y>
- Reed, K. L. (2016). Finding More Like Us: Values and Practices for Hiring in Community Colleges. *Journal of Library Administration*, 56(1), 83-90.
<https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=lls&AN=112378928&site=eds-live>
- Rhew, N.D., Jones, D.R., Sama, L.M., Robinson, S., Friedman, V.J., & Egan, M. (2020). *Journal of Management Education*, 45(1), 43–64. doi: 10.1177/1052562920953456
journals.sagepub.com/home/jmd
- Richards, L. (2009). *Handling qualitative data: A practical guide (2nd edition)*. Sage.
- Rienties, B., & Toetenel, L. (2016). The impact of learning design on student behaviour, satisfaction and performance: A cross-institutional comparison across 151 modules. *Computers in Human Behavior*, 60, 333-341. doi: 10.1016/j.chb.2016.02.074
- Riessman, C.K. (2008). *Narrative methods for the human sciences*. Sage.
- Rinesko, A. B. & Muslim, A. B. (2020). Synchronous online discussion: Teaching English in higher education amidst the Covid-19 pandemic. *Journal of English Educators Society*, 5(2), 155-162. <https://journal.umsida.ac.id/index.php/jees/article/view/646/1042>
- Romero-Hall, E., & Ripine, C. (2021). Hybrid Flexible Instruction: Exploring Faculty Preparedness. *Online Learning*, 25(3), 289–312. <https://doi.org/10.24059/olj.v25i3.2426>
- Ross-Gordon, J. M., Rose, A. D., & Kasworm, C. E. (2017). *Foundations of adult and continuing education*. Jossey-Bass.

- Sandmann, L.R. (2010). Adults in four-year colleges and universities: Moving from the margins to mainstream?. In C. E. Kasworm, A. D. Rose, & J. M. Ross-Gordon (Eds.), *Handbook of adult and continuing education* (2010 ed., pp. 221-230). Sage.
- Scheerder, A., van Deursen, A., & van Dijk, J. (2017). Determinants of internet skills, uses and outcomes. A systematic review of the second- and third-level digital divide. *Telematics and Informatics*, *34*, 1607-1624.
- Schrader-Naef, R. (2000). Foundations of self-directed lifelong learning. In G.A. Straka (Ed.), *Conceptions of self-directed learning* (pp. 143-169). Waxmann.
- Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, *26*(1-2), 113-125. <https://link.springer.com/article/10.1023/A:1003044231033>
- Schunk, D. H., & Zimmerman, B. J. (2012). The motivational role of adaptive help seeking in self-regulated learning. In *Motivation and self-regulated learning* (pp. 327–350). Routledge.
- Simon, D., & et al., (2013). Traditional versus online instruction: Faculty resources impact strategies for course delivery. *Business Education & Accreditation*, *5*(1), 107-116. <http://www.theibfr2.com/RePEc/ibf/beaccr/bea-v5n1-2013/BEA-V5N1-2013-9.pdf>
- Simonson, M. (2007). Course management systems. *Quarterly Review of Distance Education*, *8*(1), vii–ix. <http://web2integration.pbworks.com/f/COURSE+MANAGEMENT+SYSTEMS.pdf>
- Singh, S. & Kaur, R. (2010). Stress among teaching community: An alarming signal. *The Journal of Progressive Education*, *3*(2), 43-47. <https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=101787920&site=eds-live>
- Skoda, J. & Luic, L. (2019). *Creating transmedia narratives to enhance digital intelligence in high school students* [Paper presentation]. ICERI Annual Conference, Seville, Spain. https://bib.irb.hr/datoteka/1041150.ICERI_2019_-_Original_scientific_paper_2413_koda_Lui.pdf
- Song, L., & Hill, J.R. (2007). A conceptual model for understanding self-directed learning in online environments. *Journal of Interactive Online Learning*, *6*(1), 27-42. <http://www.ncolr.org/jiol/issues/pdf/6.1.3.pdf>
- Spante, M., Hashemi, S.S., Lundin, M., & Algiers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. *Cogent Education*, *5*(1), 1-21. <https://www.tandfonline.com/doi/pdf/10.1080/2331186X.2018.1519143?needAccess=true>

- Spear, G.E. (1988). Beyond the organizing circumstance: A search for methodology for the study of self-directed learning. In H. B. Long, et al. (Ed.). *Self-directed learning: Application and theory* (pp. 199-221). University of Georgia.
- Tenant, M. C., & Pogson, P. (1995). *Learning and change in the adult years: A developmental perspective*. Jossey-Bass. <https://archive.org/details/learningchangein0000tenn>
- Thorsteinson, K. (2018). Anarchy in the classroom: The efficacy of self-directed learning for critical whiteness pedagogy. *Transformations: The Journal of Inclusive Scholarship and Pedagogy*, 28(1), 38-60. Doi: 10.1353/tnf.2018.0003
- Tinto, V. (2017). Through the eyes of students. *Journal of College Retention: Research, Theory, & Practice*, 19(3), 254-269. <http://doi.org/10.1177/1521025115621917>
- Torre, M. E., Stoudt, B. G., Manoff, E., & Fine, M. (2018). Critical participatory action research on state violence: Bearing wit(h)tness across fault lines of power, privilege, and dispossession. In N.K. Denzin & Y.S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed., pp. 855-896). Sage.
- Tough, A. (1971). *The adult's learning projects: A fresh approach to theory and practice in adult learning*. Ontario Institute for Studies in Education.
- Tough, A. (1979). *The adult's learning projects: A fresh approach to theory and practice in adult learning* (2nd ed.). Ontario Institute for Studies in Education.
- Traxler, J., & Lally, V. (2016) The crisis and the response: After the dust had settled. *Interactive Learning Environments*, 5(SI), 1016–1024. doi:10.1080/ 10494820.2015.1128216
- Tsang, H. W. H., Paterson, M., & Packer, T. (2002). Self-directed learning in fieldwork education with learning contracts. *British Journal of Therapy and Rehabilitation*, 9(5), 184-189. <https://doi.org/10.12968/bjtr.2002.9.5.13630>
- Turk, J. M., Soler, M.C., & Ramos, A.M. (2020). *College and university presidents respond to Covid-19: 2020 Fall term survey*. American Council on Education. <https://www.acenet.edu/Documents/Presidents-Respond-COVID19-Fall2020.pdf>
- Twombly, S. B. (2005). Values, policies, and practices affecting the hiring process for full-time arts and sciences faculty in community colleges. *Journal of Higher Education*, 76(4), 423–447.
- Twombly, S., & Townsend, B. K. (2008). Community college faculty: What we know and need to know. *Community College Review*, 36(1), 5-24. <http://doi.org/10.1177/0091552108319538>

- Ubell, R. (2016, December 13). *Why faculty still don't want to teach online*. Inside Higher Ed. <https://www.insidehighered.com/advice/2016/12/13/advice-faculty-members-about-overcoming-resistance-teaching-online-essay>
- United Nations Educational Scientific and Cultural Organization (UNESCO). (2020, March 19). *Half of world's student population not attending school: UNESCO launches global coalition to accelerate deployment of remote learning solutions*. <https://en.unesco.org/news/half-worlds-student-population-not-attending-school-unescolaunches-global-coalition-accelerate>
- United States Census Bureau. (2013). *American Community Survey 1-year Public Use Microdata Sample (PUMS)*. <https://www.census.gov/programs-surveys/acs/data/pums.html>
- US Census Bureau. (2016). *Computer and internet use in the United States: 2016*. <https://www.census.gov/content/dam/Census/library/publications/2018/acs/ACS-39.pdf>
- van Deursen, A.J.A.M. (2010). *Internet skills vital assets in an information society* [Doctoral dissertation, University of Twente]. Enschede. <https://www.semanticscholar.org/paper/Internet-Skills%3A-Vital-assets-in-an-information-Deursen/8fa095cd6fa32fa4802fbff4a269b4f138a61050>
- van Deursen, A.J.A.M., & van Dijk, J. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media & Society*, 21(2), 354-375.
- van Deursen, A.J.A.M., Helsper, E.J., & Eynon, R. (2014). *Measuring digital skills: From digital skills to tangible outcomes*. University of Twente. https://www.researchgate.net/publication/267037582_Measuring_Digital_skills_From_Digital_Skills_to_Tangible_Outcomes_project_report
- Van Laar, E., van Deursen, A.J.A.M., van Dijk, J.A.G.M., & de Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers in Human Behavior*, 72, 577-588. https://www.myecole.it/biblio/wp-content/uploads/2020/11/2017-The_relation_between_21st-century_skills.pdf
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Walther, J.B. (2012). Interaction through technological lenses: computer-mediated communication and language. *Journal of Language and Social Psychology*, 31(4), 397-414, <https://doi.org/10.1177/0261927X12446610>

- Wang, L., & Beasley, W. (2008). The wiki as a web 2.0 tool in education. *International Journal of Technology in Teaching and Learning*, 4(1), 78–85, https://sicet.org/main/wp-content/uploads/2016/11/ijttl-08-01-4_1_6_Wang.pdf
- Wang, T.H. (2011) Developing web based assessment strategies for facilitating junior high school students to perform self-regulated learning in an elearning environment. *Computers and Education*, 57(2), 1801-1812.
- Weiser, O., Blau, I., Eshet-Alkalai, Y. (2018). How do medium naturalness, teaching-learning interactions and students' personality traits affect participation in synchronous E-learning?. *The Internet and Higher Education*, 37, 40-51. <https://doi.org/10.1016/j.iheduc.2018.01.001>
- Welton, M. R. (1991). What's new in the history of adult education. *History of Social Education*, 3(2), 285–97, https://historicalstudiesineducation.ca/index.php/edu_hse-rhe/article/view/1273/1413
- Williams, B. (2001). The theoretical links between problem-based learning and self-directed learning for continuing professional nursing education. *Teaching in Higher Education*, 6(1), 85-98.
- Wolcott, H.F. (2005). *The art of fieldwork*. AltaMira Press.
- Xu, D. (2020, September 18). Covid-19 and the shift to online instruction: Can quality education be equitably provided to all?. *Third Way*. <https://www.thirdway.org/report/covid-19-and-the-shift-to-online-instruction-can-quality-education-be-equitably-provided-to-all>
- Yates, J., & Leggett, T. (2016). Qualitative research: An introduction. *Radiologic Technology*, 88(2), 225-231, <https://proxy.library.tamu.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=119047675&site=eds-live>
- Zhu, M. & Bonk, C. (2020). Technology tools and instructional strategies for designing and delivering MOOCS to facilitate self-monitoring of learners. *Journal of Learning Development*. 7(1), 31-4.

APPENDIX
INTERVIEW QUESTIONS

1. Please tell me about your educational and teaching background.
2. How much experience do you have teaching in virtual modalities?
3. How comfortable are you with digital technology?
4. What changes did you make in your teaching during the pandemic?
5. To what extent did the virtual modality impact the decisions you made?
6. How has the pandemic affected your personal life?
7. How would you describe your physical and mental health over the past year?
8. What are your feelings toward your institution?
9. How would you describe your attitude about your job?
10. How would you describe your students over the past year? Engagement? Performance?
11. Is there anything else that we haven't talked about that you want to share?