Solutions for Distance Learning in Higher Education

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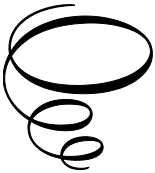
Edited by

Ginger Jones

Cambridge Scholars Publishing



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FOREWORD

KEEP CALM AND LOG ON: A TEACHER LEARNS TO TEACH AGAIN

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LSU ALEXANDRIA

I never underestimated the power of a chalkboard when I first began teaching. I used it to write definitions of familiar words with unfamiliar meanings (like the word "office" in Hayden's "Those Winter Sundays"), I drew chalky triangles to show action rising to a peak before falling to the end of Shakespearean plays, and listed, in uneven letters, the states the Joad family traveled through to get to California in The Grapes of Wrath.

I never underestimated the power of nonverbal communication either. I read controversial passages of novels out loud, emphasizing words so that my voice sounded italicized. I did the same with poems, explaining why I was moved by particular lines. I grimaced, smiled, and laughed while praising and explaining the books, poems, and plays I taught. I walked along the side aisles of classroom desks or lecture halls, turning toward a raised hand as Oprah might when inviting audience members to speak. I put my hands on my hips while I spoke the words of Lucille Clifton's "Homage to My Hips" and crossed my arms like Janie Crawford in *Their Eyes Were Watching God*. When I sat in seminar rooms, I read students' facial expressions to elicit conversations, and to end them.

Gradually, the chalkboard was replaced by a white board, but I continued to read out loud from literature I taught, and to move around the classroom to encourage discussion of provocative or astoundingly beautiful passages.

When my husband was granted a Fulbright to teach overseas, my department head and I discussed my options for traveling with him. I could go if I taught all my courses online—it was simple, he said, to put reading and writing assignments online in our school's course delivery system, then

catch up on my return. So, my chalkboard/white board/body language disappeared into the cloud.

That first semester of online teaching was not entirely a disaster but close to it. My evaluations, of which I had always been proud and had used to revise my courses, complained that I was unhelpful, impatient, and harsh. Every technique I relied on in a classroom was useless in an online course. "I don't know what she wants" was a constant comment. As students got used to the independence online courses require, the next semesters were easier, but not much. Something had to change, or I was to become the kind of English professor I had long disliked.

I read all I could find about online teaching. Early research emphasized the need for interaction with online students, and what was identified as "flow" or design feedback, "learner control," and learner concentration. I had no experience with any of these ideas, in fact, I thought I could upload material and have students take quizzes and write essays, independent of immediate supervision from me.

In the depths of feeling like I needed to quit, I remembered an email exchange between a student and his professor that had gone viral. The student, apparently drunk, emailed his teacher to tell him how sorry he was the teacher was bald, and then asked for an extension in submitting his online assignment. While the professor's reply could have been indignant, and rightfully so, it was instead funny and thought-provoking.

The veteran teacher acknowledged the student's accuracy about the baldness and explained that his salary wasn't enough to cover the cost of hair transplants. He gave the student an extension, and then affectionately cautioned him about his drinking habits. The exchange was short, casual, and tender, written as though the two were continuing a conversation from the classroom. I was caught off guard by the friendliness and compared the exchange with the wordier, more frequent, less friendly emails from my online students whom I'd never met. Online teaching was not something I was trained to do and not something I really wanted to do, but it was what I had to do, considering my circumstances.

I felt I was doomed—my department wanted to experiment with online courses and now that I was "experienced" and had relocated hours away from campus, I was assigned all online courses and enrolled in a "How to Teach Online" program. With the support of a new department head, I was encouraged to design and implement an online English degree. After grappling with the twin challenge of inexperienced students and recalcitrant colleagues, I searched for fresh solutions, many of which you will find in this anthology.

Inexperienced Students

My online courses are short; including a week for finals and posting grades, the courses last eight weeks, which means students must begin their courses immediately. The first assignment is due during the first week of the course. Initially, students who were not used to taking any online courses waited until the second, sometimes the third, week to "come to class." They were under the assumption online courses were easier than on-campus courses. The athletes who enrolled often told me they had an event and couldn't submit their work—they would complete the entire course at one time and submit it in the last week of classes. But I had been advised to maintain a strict policy against accepting late work or many students would submit all their work during the last week. I followed that policy. Another initial problem was that time ran out for quizzes and written exams (were students looking up answers and then taking too long to finish?). The F grades rained down. I had never assigned so many failing grades in my life as I did during my first few years teaching online. I had to figure out whether I was facilitating far too many failing assignments.

I did not accept late submissions because I couldn't have kept up with the grading if I had. And, in my courses, submissions build on each other. But I modified the "late" policy. Now, I ask for reasonable proof that someone could not complete an assignment when she had all the assignments and their due dates at the beginning of the course. And I realize, by reading emails carefully, that sometimes a student just needs a break, that he or she just needs one extra day or maybe two. I wrote encouraging emails and made them as personal as I could for the 80 or 90 students in my courses. I sent emails that said, "You're halfway finished!" or "Assignment Three was complicated, but you completed it." I posted videos that were all under 3 minutes long but focused on one aspect of a piece of literature (finding the videos can take hours, sometimes days). I didn't realize that I was establishing rapport—helping students feel "connected" to the course. But I was.

I introduced creative introductions ("icebreakers") like asking students to tell me which actor or actress would play the student in a movie (any movie) and why. I invited students to post pictures of themselves with pets and family members. That's when they began to respond to each other, creating a sense of camaraderie. I offered weekly, and optional, Zoom meetings to discuss assignments and writing prompts. I make the camera option voluntary for anyone who Zooms in, which means someone can listen and respond in their PJs or while eating dinner. Some days I had only a few, but on other days, half of a large class will Zoom in.

Students complained they had to submit late assignments because the "bookstore ran out of books," so I searched for and found Open Educational Resources (OER) texts that I could upload as PDFs. The volume of OERs grows every semester and has helped students begin and continue their work, even with bookstore delays, and the PDFs are free!

But the biggest change I made was in the way I wrote emails. I learned that, more so than face-to-face students, online students need carefully worded, supportive responses to their emails, usually questions about assignments rather than requests for extensions. Unlike face-to-face students who have a reference point for their teachers' voices and non-verbal behavior, online students rely only on language to assuage doubts and to sustain participation. The emotional reassurance expressed in teachers' voices and facial expressions must somehow be replicated in words alone. I had to rely on and use emails to offer the necessary support online students needed.

I learned that short, direct replies did not provide the reassurance and support online students needed. Such replies worked well with students in a face-to-face course because they were usually part of ongoing conversations—there was a context for the student's question or comment. I saw those students at regular times and days and so knew their names and which classes they were in. I saw them in the hallway and on the Commons. Emails from online students were different. To answer those emails accurately, I needed the student to provide the context including identifying the course and the text or assignment.

I learned to answer emails immediately, capitalizing on the students' interest. As I gained a reputation for answering quickly, I slowed down—students knew they would get an answer if not right away, then in an hour or two. And happily, the number of failing assignments morphed into passing assignments. Making contact with me by seeing me or hearing my voice in a Zoom meeting boosted student retention and enthusiasm for the course. I've learned to send welcome emails early and I volunteer to send out the syllabus early if anyone wants to review it (and get started!).

Recalcitrant Colleagues

None of my fellow English professors wanted to teach online. As one of my younger colleagues said, "[Teaching online] is not what I signed up for!" She and my colleagues believed, as my student athletes did, that online courses were "easy" and that the online courses were not covering enough essential material. But when I was required to teach online and had to go from teaching 16-week courses to 8-week online courses, I learned

how to cut superfluous material. The focus of my online courses was less on presentation of what I knew and more on presenting what they needed to know. For example, I have written critical essays about poems and about poets. My students enjoyed hearing anecdotes of poets I've met. But what was important now was making sure students quickly understood how one poet relied on image while another relied on rhyme to evoke the same emotion. I saved the asides to generate conversation in Zoom meetings.

From the beginning, my online courses were packed. Students seem to appreciate the flexibility of online courses (they can come to class when they want), and the easy discipline it requires. Soon, complaints from colleagues were not about having to learn to teach online courses, but that the online courses were poaching students from the classroom. When I was asked to design an online degree program, senior faculty were angry. They wanted me to teach only freshman comp online, but we couldn't have an online degree unless we had more than general education courses. When the electives came online, enrollment in them soared, exceeding the class limits set by classroom spaces because online courses do not need classroom space and so can accommodate larger numbers of students. The classes were so full that we hired grading assistants, teachers with graduate degrees to help keep up with grading. Their only work was to grade according to rubrics each professor designed—all other course material was the teacher's.

A few colleagues were so angry at what they considered competition from within that I and another colleague who also agreed to teach online needed the direct support of the college chancellor to ensure the program would not be voted out of existence during a department meeting. I think new course delivery programs frightened people; tenured full professors had to participate in reviews from educational technologists and could perhaps be told (as I was) to revise an assignment, or several assignments. Learning to teach online is learning to teach differently. Just as when I was a grad assistant teaching freshman courses, I experienced nervousness and uncertainty. I was lucky that students learned anything from me while I was still learning to teach them in this "new" classroom. I could not ask the usual questions or guide the classroom conversation. I couldn't tell jokes or dress as A Famous Poet or do much more than list the facts necessary to learning more about a poem, novel, or play. I could not be the Sage on the Stage, in fact, I would be as isolated as my students; teaching online would require that I find ways my students and I could create a classroom atmosphere. I had to reinvent the wheel I'd been used to, and perhaps my colleagues who were afraid of teaching online or who had not signed up for it were worried about reinventing that wheel too. But they are not wrong about learning to teach online; it is painful.

I had to learn again how to ask written questions that prompted analysis. I learned to think harder about discussion questions, asking, for example, what would you do if you were King Lear's fourth child? And hoping those kinds of questions kindled insight. I learned scheduled reading quizzes, for me at least, didn't work. They were a method of further separation—a way of saying Aha! You didn't read closely enough! Weekly writing assignments work best. They come with prompts but only as prompts; students can also write about something in the literature that interested them. I learned to answer emails as quickly as I got them, creating exchanges that I hoped connected me to students rather than separating me from them. I learned to commiserate when I got an email about a problem that prevented completing an assignment, and I learned to celebrate when a student discovered a story that she adored.

Do I have as much fun teaching online as I did in the classroom? Now I do. Zoom sessions are a huge help, as are carefully worded, responsive emails. Encouraging students to participate in undergrad research and presentations has helped me and my students work as a team. Online teaching is a team effort. I am still a part of the lives of my students, albeit for shorter periods of time. But the delight and the pleasure are there, and mine.

Solutions

In this book you will hear from sixteen teachers who share their strategies for supporting and improving online education for a rapidly growing number of students. Gallagher and Luttrell discuss the impact the transition to online and hyflex learning has had on both students and educators. Corrine Hinton explains the pedagogical benefits of teaching online, reminding us that it recenters our primary teaching mission. Farrah Hilton recounts years of teaching experience to invite us to "recognize that who we teach is much more important than what we teach." Gennaro and Carozza expand on Hilton's essay by highlighting the value of compassion as a relationship bridge between teachers and students, and a way to establish a learning community. Julian Costa shows that motivating students to embrace online learning formats will help develop practical computing skills that will benefit them throughout the course and beyond. Kevin Ells focuses on the specific challenges of encouraging student interaction and participation during online class meetings. Hatfield and Archiopoli define Universal Design for Learning (UDL) as a practical way to develop a contemporary online environment. Cassandra Robison details the reasons students need a link to their teachers, who can be guides to success in higher

education. Holly Wilson points out the challenges in supervising online and face-to-face degree programs. Sharmila Pixy Ferris supports the idea that online media permit educators to move freely across the orality-literacy continuum and meet students in the happy medium of secondary orality. Crystal Hurdle argues that online teaching may not be for everyone, including her, and finally, Fomichov and Fomichova describe a delightful method for using online interaction with young students. These essays are passionate, informative, and personal, and should serve as a timely and pragmatic guide for navigating the rapidly burgeoning sphere of electronically mediated teaching and learning.

STUDENT-CENTERED LEARNING: INNOVATION, TEACHING, AND ASSESSMENT

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Abstract

In this scholarly essay, we examine the impact that the transition to online and hyflex learning has had on both students and educators alike. Using student survey data (n=1,011) and literature to support our assertions, this essay identifies the varied learning preferences of today's communications students, discusses instructional models (traditional, online, and hybrid), and further connects each to assessment and impact on student learning outcomes. The authors make recommendations regarding pedagogy, assessment, and online learning tools that are suitable for various types of remote learning.

Keywords: Education, Assessment, Online Learning, Alternative Learning, Hybrid instruction, Hyflex, COVID-19

Introduction

The COVID-19 pandemic has undoubtedly impacted education across the globe. In fact, according to the research conducted by the United Nations and published in their policy brief, the "pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents." (*Policy Brief*, 2020, 2). The pandemic thrust students and instructors into sudden – and unplanned – remote-learning situations. At the onset of the outbreak, most colleges and universities quickly abandoned face-to-face instruction, moving hurriedly to online video conferencing technologies such as Zoom. In Fall 2020, and perhaps beyond, the majority of students continued to

learn remotely, or in a hybrid form that requires some remote learning. This unprecedented experience in higher education, combined with a new generational cohort (Generation Z) with different needs, learning styles, and values, calls for new ideas in both teaching and student assessment. Using survey data to support our assertions, this scholarly essay delves into the various learning styles of today's college students, discusses instructional models, and connects each to assessment that has a direct impact on student learning. Our hope is that this essay provides an opening for further discussion surrounding how best to develop, sustain, and assess high-quality methods of education for students no longer immersed in traditional classroom settings.

Instructional Models

Colleges and universities reacted to the spread of coronavirus in March 2019 by closing campuses and pivoting to a fully online instructional model in a matter of weeks, if not days. But a hasty emergency scenario would not satisfy the needs of students, faculty, and staff beyond the spring semester. Institutions began planning over the summer for what would be a fall semester filled with unknowns.

Most campuses chose instructional models that fell into one of three categories: in-person classes, online-only (re-branded as "remote") classes, or a blended model that allowed for students to attend either in-person or online (McMurtrie, 2020a). For institutions that prioritized a return to campus, the blended model promised residential learning opportunities in socially distanced classrooms and attendance options for students who could not or did not want to return to campus. Both blended and online modes also suggested a less disruptive transition to remote learning, in case residential campuses had to close due to outbreaks. This precaution was prescient, as some campuses closed within weeks of the start of the semester (UNC, 2020; SUNY, 2020).

The blended model of simultaneous in-person and remote instruction posed the biggest challenge to instructors and students, as well as the institution's technology infrastructure. To reduce classroom density, half the students in the class would attend in-person one day and remotely another. In this model, the instructor is working with students physically in the room and an audience that is attending real-time via Zoom or another video platform (McMurtrie, 2020b). A common name for this model is "HyFlex," developed in 2006 by instructors at San Francisco State (Lederman, 2020), a portmanteau of hybrid and flexible. The instructional mode is a hybrid of online and in-person learning, and the flexibility was

extended to students -- originally, adult learners -- to determine what mode they would use to attend class.

With the virus spreading and safety guidelines shifting, universities across the globe struggled to grasp what a fall 2020 semester would entail. Cambridge University was one of the first universities to announce eliminating face-to-face instruction for the entirety of the 2020-2021 academic year to help prevent the spread of the coronavirus (Shead, 2020). Soon after, the University of Southern California, along with Rutgers, Harvard, Princeton and Georgetown Universities made similar announcements here in the United States (Inside Higher Ed., 2020).

While best practices for both online learning and residential instruction are longstanding and well known, hyflex learning is an area that is understudied. There were few resources available to aid instructors in designing courses and developing pedagogy around the hyflex model. Articulating this new pedagogy was not easy. Some universities left the decision as to how to return to the classroom up to the faculty senate, others turned to their department chairs, and still others relied on the discretion of individual faculty members. At Syracuse University, a private university in New York, the S.I. Newhouse School of Communications pulled together a committee of faculty representing each department along with staff technology experts to create guidelines for all instructors and classes in fall 2020. Survey data from an unpublished Online Course Transition Survey completed by undergraduate and graduate students in April 2020 informed the committee's decisions and is referenced in this essay.

Methodology

Lacking readily available best practices for this unprecedented situation, the committee instead relied on what the students themselves shared about their own learning in the spring 2020 semester. All data were collected from a population that was geographically close, referred to as convenience sampling. Convenience sampling is one of the most commonly used methods in research. Chosen based on the convenience of the researchers, the respondents are typically "members of a specific target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate" (Etikan et al. 2016). Data from this research was generated using a university-wide student survey with the committee focusing on responses from students enrolled specifically within the school of communications (n=1,011). While this method is not without limitations, for example, lack of variability or generalization beyond the data set, the

researchers chose this method due to time constraints (Acharya et al. 2013) and a desire to learn about this targeted community. Additionally, because these participants were students at this specific university, they are therefore also considered a purposive sampling, meaning participants were chosen because they exhibited specific characteristics that related to this study (Patton 1990). Of the several forms of purposive sampling, the researchers chose a homogeneous sampling which focused on respondents that shared similar characteristics and traits (Etikan et al. 2016). A university-wide survey conducted in April 2020 queried students about their access to technology, learning challenges, and classroom successes. The committee examined responses from undergraduate and graduate students (n=1,011) in the communications school to glean insights about improving the learning environment for fall 2020.

Research Instrument

The surveys administered in this research were both a traditional and specialized form of qualitative research: attitudinal surveys. This type of survey helped address student perceptions of their experiences once moving from face-to-face instruction to fully online learning. The primary goal of this attitudinal survey is to provide educators with information about students' learning styles or preferences for ways of learning. This method allows educators to choose among instructional approaches that would best meet the needs of students. Additionally, educators are also able to discover which components of their course contribute most significantly to students' learning (Oyserman et al. 2002). While students could not have anticipated the implications of the hyflex model, much of what they shared in the Online Course Transition Survey would be applicable to both hybrid learning or any eventual pivot to fully remote instruction.

This investigation looked to measure student perceptions surrounding the migration from in-person classes to online course delivery. The data was collected during April of 2020.

Survey Findings

The survey was designed by the university's office of institutional effectiveness and made available to all enrolled graduate and undergraduate students during a two-week window in April 2020. Survey results from students enrolled in the communications school (n=1,011) were provided to the academic planning committee. The survey asked questions about technology access, quality of communications from the institution and

individual instructors, and course load. The survey also asked open-ended, qualitative questions about challenging and successful remote learning experiences (For a complete list of questions, see Appendix A).

The majority of communications students reported having regular access to a reliable computer or laptop (95.74%) or a smartphone (95.48%). Nearly as many students (85.71%) reported having regular access to a reliable internet connection. Although some issues students reported in spring would be mitigated by a return to campus, such as hectic living situations or a poor internet connection, others expressed by students would continue in a hybrid environment. For students in communications courses, especially, access to specialized technology was a common problem. Many students (62.62%) said they had regular access to needed software, but 30.49% had "limited" or "no access." In open-ended responses, students reported missing camera or lighting equipment or design or editing software from the Adobe Creative Suite. Students rely on lab computers and software licensed by the school to complete many common assignments that involve editing video or designing graphics. While many students have laptops and smartphones, most do not have hardware capable of running industry-grade software or applications. Making technology available to students would be critical to their success in the fall.

In their responses to opened-ended questions about experiences with remote learning, students reminded faculty that a full course load, even one in a partially asynchronous environment, is difficult to track. Students received communications and directions from faculty across multiple digital outlets, including email, social media, the campus learning management system, and third-party messaging apps. This created confusion about due dates, assignment specifications, and even what to prepare for class. When students were asked to describe aspects of their online experience that challenged them, one student noted "keeping track of what classes I need to call into and which are just posting different assignments" while another student wrote "communication with my professors hasn't been easy" (Syracuse University Unpublished Survey, 2020). Students asked for more consistency in communication to make their academic lives more manageable.

For many students who responded to the survey, the spring semester was their first experience with asynchronous content. Students said they appreciated access to recorded lectures that could be watched on their own time or watched repeatedly. "I could rewatch the lecture and understand it better," one student wrote (Syracuse University Unpublished Survey, 2020). Students with connectivity issues found that recorded material helped them catch up on course material at a time that worked for

them. “I like the recorded lectures because I am sure that I do not have problems accessing these on a regular basis,” one student said (Syracuse University Unpublished Survey, 2020). Finally, students in production or other hands-on classes valued the chance to review how something was done as they attempted to do it themselves. “My design class switched to tutorials online which are helpful because we can go back and practice the things we are learning. It is especially helpful to reference these when we are crafting our projects,” a student wrote (Syracuse Unpublished Survey, 2020).

While students who took the survey appreciated the independent learning afforded by asynchronous material, they also craved interaction with other students and faculty. Interactive polls, breakout sessions, and group work allowed students to connect with their peers while isolated at home and away from campus. These interactive learning opportunities also broke up the monotony of passive screen time. “We were able to share screens and offer advice on other students' work. We then split into breakout rooms and had smaller discussions,” one student wrote. “I was able to learn very well in that environment” (Syracuse Unpublished Survey, 2020). Another student praised discussion boards and online polls: “These have been effective methods that don't require a ton of technology, but still allow students to interact with each other” (Syracuse University Unpublished Survey, 2020).

Responses from the 1,011 undergraduate and graduate communications students indicated that their learning preferences aligned with generational characterizations of this cohort.

Teaching and Assessing Generation Z

Research indicates that Generation Z learners, those born between 1997 and 2012, pride themselves on working hard, being bright, and see themselves as agents of change (Luttrell and McGrath, 2021; Kişla et al. 2020; Seamiller and Grace, 2016). This has implications for higher education. Becoming familiar with Generation Z learning styles is critical for educators because each generation exhibits unique characteristics different from previous generations (Luttrell et al. 2020).

Similar to their counterparts, Millennials, Generation Z’s learning styles include fluency in multiple media and simulation-based settings (meaning imitating the behavior of a particular situation or process by means of something suitably analogous), community-driven learning, balance among experiential learning, guided monitoring, and collective reflection, and personalized learning experiences (Seamiller and Grace,

2019; Luttrell and McGrath, 2016; Bouvier, 2012; Luttrell, 2012; Dede, 2002, Dede, 2005). Conventional pedagogic practices emphasizing the acquisition of information and knowledge, rather than building knowledge, have been the foundation of education since the 19th Century (Bereiter, 2002; Scardamalia and Bereiter, 2002). However, over the last fifteen years, educators have had to modify traditional teaching principles to accommodate new ways of learning. Chris Dede, Harvard Professor and a leading researcher on mobile learning initiatives, developed a widely used framework for scaling up educational innovations (2005). His research centers on four pedagogical shifts that educators should implement when attempting to effectively teach both Millennial and Generation Z learners:

- *Co-Design:* Personalized learning experiences developed with both student and instructor;
- *Co-Instruction:* Share knowledge between both the students and the instructor in terms of pedagogy and content;
- *Guided Social Constructivist and Situated Learning Pedagogies:* Incorporating participatory simulations into coursework; and
- *Assessment Beyond Tests and Papers:* Evaluating collaborative, utilizing peer-developed and peer-rated forms of assessment; student assessments provide formative feedback on faculty effectiveness. (Dede, 2005, 2) [italics in original]

According to many theorists, optimum cognitive development is contingent on the full social interaction of the learner (Hackel et al. 2020; Baird and Fischer, 2005; Vygotsky, 1978). Instruction is most efficient when students engage in activities within an environment where they receive appropriate guidance (Dickes et al. 2019; Vygotsky, 1978). From what has been revealed about Generation Z learners, supportive social learning environments support optimum learning in relation to this latest generation of university students.

Modes of Instruction

Based on our understanding of the generational cohort and their learning experiences in spring 2020, the committee considered four potential modes of instruction:

Traditional, in-person: This option was available only to small classes or those that met weekly and would have to be designed for both a socially

distant in-person experience and a completely online course in case the virus forced residential classes to end.

Completely Remote: Courses deemed too large to be taught in a socially distant classroom, or those with instructors who preferred for health reasons to teach remotely, were offered in this singular online modality.

Hybrid A - The Livestream: A livestreamed class was considered an acceptable model for courses that relied primarily on a lecture format. Instructors could simply teach as they normally would and record the talk. Students could attend the synchronous session or watch on their own time.

Hybrid B - Mixed Delivery: This hyflex model incorporates some asynchronous material but uses the live class time as an opportunity for discussion, engagement, and other interactive learning activities. In order to engage all of the students in the synchronous session simultaneously, some activities had to be designed so that students in the classroom could collaborate with their peers on Zoom. A digital device, not proximity, became the medium of engagement, because physical distance required all communication to be facilitated by technology (Kearns, 2012).

Student Assessment Techniques

No matter what mode of instruction faculty chose, traditional assessment methods were challenged by remote learning. According to a survey conducted by the National Institute for Learning Outcomes Assessment (Jankowski, 2020), faculty and administrators were concerned about the validity of traditional assessments like exams in an unmonitored, uncontrolled environment. Indeed, some respondents found that faculty focused too much on traditional assessment - "they reverted to more historical means of testing, proctoring, and reducing perceptions of cheating as opposed to changing assessment to reflect reality" (Jankowski, 2020, 12). Though it will require a major shift in faculty thinking, perhaps this pandemic can be the catalyst for change in the assessment of student learning and education.

Even with synchronous remote classes, all students working in a remote environment must be, to some extent, self-guided learners. Changes in how students are being educated today points to a more self-directed learning style, whereby the teacher encourages and nurtures independent learning (Nicol and Macfarlane-Dick, 2006). While summative assessment plays a significant role in measuring what students have learned at the end of an instructional unit or period (Hargreaves, 2008), formative assessment that monitors learning and assesses understanding (Gikandi, Morrow, and Davis, 2011) enables students to be life-long learners, as it encourages

reflection, self-direction, and an ongoing learning process (Simpson-Beck, 2011).

This is not to say that summative assessment has no value to students or instructors, but rather how it is deployed and how it is weighed could be reconsidered. In a remote-learning environment, summative assessments like electronic polls in a synchronous class or interactive quizzes in an asynchronous environment can offer both instructors and students indicators of gaps in knowledge and understanding (Kearns, 2012). Ungraded assessments can help students judge their own progress and guide their own preparation before a final, summative assessment such as an exam.

Formative assessments offer many more opportunities for student creativity, engagement, and reflection. It can also be perceived by students to be more "authentic" as long-term projects or public-facing portfolio work can mirror real-world practice, or simply involve tools and tasks used by professionals in the field (Gikandi, Morrow, and Davis, 2011; Herrington, Reeves, and Oliver, 2006). Students perceive assessment to be "fair" and meaningful when it is authentic and calls for students to apply their knowledge to real-world scenarios (Struyven, Dochy, and Janssens, 2005). Authentic assessment can also serve a more relevant feedback function that evokes information to improve learning (Knight, 2002). In order to promote lifelong learning, students must learn to discern high quality work and be given the opportunity to practice this skill (Boud and Falchikov, 2006). This can be achieved through the compilation of an individual portfolio, project-based work, or student presentations. Anything that involves collaborative learning, however, requires training to help students develop the interpersonal skills required for successful small-group work (Hassanien, 2006).

Finally, feedback in an online environment is especially critical because of limited physical interactions that may discourage students from seeking help (Wolsey, 2008). Just over half of students (51.2%) surveyed by the American College Health Association in Spring 2019 -- prior to the coronavirus pandemic -- reported finding their academics to be "very difficult to handle." Quality feedback can help students feel empowered to be successful (Hounsell, 2007). Feedback must be given promptly enough so that students can act on it and build upon it, such as rewarding a resubmission (Nicol and Macfarlane-Dick, 2006). The more students perceive feedback to be useful, the more likely they are to apply when revising their own work (Gikandi, et. al, 2011). However, we acknowledge the time it takes for instructors to provide substantive feedback. To aid professors, Kearns (2012) recommends using peer assessment, based on a rubric, to provide initial feedback to students.

Observations and Recommendations

Based on our awareness of student needs derived from survey data and generational characteristics, combined with our understanding of best practices in online/remote and hybrid learning, we offer the following guidelines for educators.

Observation and Recommendation 1: Use a standard platform for communications

By streamlining communication, students can keep track of assignments and deadlines for multiple classes. The institution's learning management system is the best choice of platform, as it is accessible to all students and university supported. However, we recognize there are other options such as Google Drive. Whichever platform is chosen, be consistent to avoid confusion for the student.

Observation and Recommendation 2: Utilize university-supported or web-based tools

Use university-supported or web-based tools to deliver course content and create student work. Students learning remotely are doing so often with their own personal equipment and devices. University-supported or web-based tools and applications are more accessible to students, which helps mitigate the inequities amplified by remote learning. Students should not be required to purchase additional software normally furnished by the institution, nor should they be left without technical support.

Observation and Recommendation 3: Create asynchronous learning materials

Asynchronous learning materials, such as recorded lectures or introductory videos from third-party sources such as YouTube, create opportunities for increased student engagement during class time (Millman, 2012). With students attending class via Zoom or other video platforms, maintaining interest and attention after hours of screen time is difficult. Completing asynchronous materials independently allows students to practice and apply what they have learned during class time (Enfield, 2013). For hybrid courses with multiple sections, encourage instructors to collaborate on the creation of asynchronous learning materials. This helps distribute the workload of unfamiliar preparation and reduces a disproportionate burden placed on part-time instructors.

Observation and Recommendation 4: Assessment

Assessment could possibly be one of the most challenging aspects of remote learning. Alternate forms of assessment create more opportunities for student engagement and alleviate the psychic weight of traditional make-or-break exams. Group projects, student presentations, and real-world scenarios will allow students to interact with instructors and each other in ways that feel particularly productive and meaningful in a socially isolated time. Multiple lower-stakes assessments throughout a semester could help reduce stress surrounding academics, as well as enable students to monitor and guide their own learning.

Conclusion

We see the future of higher education as filled with promise. The coronavirus pandemic may even prove to be higher education's greatest impetus to innovate. By seizing the opportunity to find new ways to address learning, educators can reimagine education. The pandemic has accelerated and highlighted the necessity for more flexible teaching practices and a renewed dedication for funding and resources supporting the professional development of faculty. Additionally, an emphasis on continuous assessment should be embraced. No longer can professors rely on traditional educational practices within the classroom. Our survey results indicate the need for adapting to various learning styles and teaching environments, as well as rethinking assessment surrounding learning and course outcomes. Online and hyflex learning models clearly hold great potential. When designed appropriately, remote learning can be adaptable, stimulating, and inclusive. As these instructional modes become commonplace even after the pandemic ends, new standards and best practices will emerge. We hope this research provides useful insights into the future of teaching and learning.

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