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Examining How the Pandemic Impacted Opinions for Course Formats

Angela Kelling, Nicholas Kelling, & LeeBrian Gaskins
University of Houston – Clear Lake

Previous research has produced mixed results related to online courses with selection often driven by their benefits. However, some students and instructors were avoiding this format because of their drawbacks. Given that the pandemic forced a shift to online education, those reluctant individuals gained experience with online courses. Being forced into a particular format could lead to acceptance because of the experience or resentment because of the lack of choice. Therefore, it is important to examine if the pandemic altered opinions of online courses. The current study was a replication of previous pre-pandemic work (Kelling et al., 2019) and examined opinions of students who are enrolled in online courses and the faculty who teach them. Results were similar but slightly more supportive of a preference for face-to-face courses. Questions were added to address reasons for withdrawal and failure, main challenges of online courses, and how the university could better support online teaching or enhance student success in online courses. Answers to these questions reflected struggles of pandemic teaching and learning along with high levels of self-awareness. As higher education continues to adapt based on the pandemic, research on opinions about course learning outcomes and satisfaction are important. It is essential to examine the challenges and needed support to enhance both student access and achievement are enhanced.

Even pre-pandemic, online courses were ubiquitous and popular with their benefits often outweighing their known drawbacks. Although online courses provide the flexibility needed to increase access for many students, students are often unprepared for the workload (Brown, 2012) and lack the requisite technological skills to succeed in these courses (Bork & Rucks-Ahidiana, 2013; Correa, 2010). These issues are exacerbated by the high level of self-directed learning required (Mahoney, 2009) combined with the appeal of these courses to at-risk students (Aud et al., 2011). Online courses require careful planning to engage and support students (Dumford & Miller, 2018; Murphy et al., 2020). Data on achievement in online courses is mixed with student satisfaction often equal to face-to-face courses (Driscoll et al., 2012), but withdrawals more frequent in online courses (Kelling et al., 2019; Brown, 2012). In terms of course performance, some studies have found a difference, but other variables such as student GPA (Driscoll et al., 2012) or course type (Olson, 2002) may be important factors.

The Covid-19 pandemic necessitated a rapid switch to online courses in the Spring of 2020 and impacted millions of students on thousands of campuses (Kelly, 2020). Online courses went from a choice to a necessity. The suddenness of the required modality change was difficult for even experienced online instructors. Additionally, many instructors and students were novice users of the new technology tools deployed in an attempt to replicate the learning experiences. Student academic success was further impacted by the stress, anxiety, and fear that resulted from the pandemic (Murphy et al., 2020). However, despite the negative emotions, Murphy et al. (2020) did find that students felt supported and communicated with throughout the transition. Other research found a preference for synchronous online classes, especially those with active learning components, perhaps because of the social aspects of those experiences (Nguyen et al., 2021). Toquero (2020) declared that research on best practices is crucial during a crisis like the Covid-19 pandemic to determine how higher education has been impacted and how it was responsive.

Previous work (Kelling et al., 2019) examined pre-pandemic online courses at (University of Houston-Clear Lake), a public university designated a Hispanic-Serving Institution based on its racially and ethnically diverse student body. The institution serves many students who would be classified as non-traditional and potentially drawn to, but also at-risk for, struggling in online courses. Specifically, students are non-traditional in terms of being older, frequently first-generation, frequently employed, returning to school, and mostly living off-campus. When the previous study was conducted, less than 25% of courses were offered in an online or hybrid modality.

The previous study was a comprehensive analysis of faculty and student opinions of online courses. Both faculty and students reported a general preference for face-to-face classes, but did tend to believe that online courses could meet desired learning outcomes. Additionally, performance was compared for courses that were offered online and face-to-face and found that grades were higher and withdrawals were lower in face-to-face courses. Overall, the results suggested a need for better preparation and support for students and faculty before and while taking or teaching online courses. One limitation of the study was the lack of in-depth analysis of why students were failing or withdrawing more from online courses, which suggests that the improved access with online course offerings is not resulting in improved progress toward degree. Therefore, given the shift to online teaching with the pandemic, a replication study was undertaken to examine current opinions and

compare them to previous results. Moving forward, it is likely that online courses will become even more popular. Therefore, it is important to continue to examine opinions of online courses by instructors who teach them and those enrolled in them. A modified survey was sent to faculty and students that assessed opinions of online courses during the pandemic with additional questions to investigate the failure and withdrawal from courses. Specifically, this project was an exploratory analysis of whether shifting all courses to online changed opinions of course formats.

Method

Participants

Participants consisted of a faculty group (n = 49) and a student group (n = 256). Of the 43 faculty who provided their gender identity, most were female (58%). There was some diversity of ages, but most who indicated were between 35 and 65 (85%). They were predominately White (78% of those who indicated). Most (96%) had a PhD or similar (EdD, JD). Respondents included tenured (71%), tenure track (13%), and non-tenure track (17%) full-time faculty. Most had been teaching more than 10 years (77%). Specialties were also diverse, with each of University of Houston–Clear Lake's (UHCL's) four colleges represented: College of Business (23%), College of Education (19%), College of Human Science and Humanities (33%), and College of Science and Engineering (25%). A quarter had taken an online course as a student for credit.

Student participants were mostly younger than 35 (71%) and female (78% of 247 who identified), which is representative of the student population. Additionally, most participants were full-time students (70%). Although the majority of participants identified their dominant racial identity as exclusively White (60%), there was some diversity with representation of Asian (13%) and Black (11%) students. Additionally, there were 30% that identified as Hispanic, Latinx, or of Spanish origin. These numbers also reflect the student population. There was also representation of bachelor's (61%), master's (34%), and even doctoral (4%) students. Participants reported pursing many different majors with the five most common being Psychology (40), Biology (20), Early Childhood Generalist (13), Accounting (13), and Business Administration (11). Students also represented a diversity of pre-pandemic online course experience with the largest portion having taken 2–4 (36%), followed by 0 (23%), 1 (17%), 10+ (13%), and 5–9 (13%).

Questionnaire

The questionnaire consisted of demographic questions, questions about their online course experience before and during the pandemic, questions about their opinions of online versus face-to-face courses, and questions about their opinions on the use of technology in online courses. All opinion questions used a 5-point Likert scale. Students had additional questions about dropping or withdrawing from courses. Additionally, there were two open-ended questions that addressed the main challenges of online courses and how the university could better support online teaching or enhance student success in online courses.

Procedure

The survey was administered through an online survey tool, Qualtrics, from May 5th through May 29th, 2021. Recruitment emails were sent to lists maintained by the Office of Information Technology. A true response rate cannot be calculated for these groups because of the nature of these lists, but there were 8,639 students and a total of 272 full-time faculty, so the response rates were approximately 3% for students and 18% for faculty. Once participants agreed to the informed consent statement, they answered demographic questions. Participants who answered no questions or only demographic questions were removed from the study. Participants who completed the survey were eligible to be entered in a drawing for one of six (four for students, two for faculty) gift cards valued at $25. The study was approved by the committee for the protection of human subjects (#21-088).

Data Analysis

Quantitative

Mann-Whitney U comparisons were made between archival data from (Kelling et al., 2019) pre-pandemic and data collected for this work. Comparisons focused on survey opinions on whether online courses can achieve student learning outcomes that are at least equivalent to those of face-to-face courses and specific questions regarding opinions of specific course characteristics (see Tables 1 and 2 for a list of questions). A Wilcoxon signed-ranks test was run to examine differences of opinions between online and face-to-face course formats during pandemic. Additionally, a descriptive analysis was utilized for self-reported student opinions before and during the pandemic.

Qualitative

For the open-ended questions, the focus was on content analysis and responses were examined for themes and extracted to illustrate some of the main points. Themes were developed by engaging in an initial reading of all answers to gain an understanding of the range of the answers. After the initial reading, preliminary themes were developed, and the answers were coded using these themes, which were adjusted if needed. Some answers included several statements and thus could be coded into multiple themes.

Results

Quantitative

Faculty

The pandemic did not statistically or meaningfully shift faculty's overall view of the achievability of learning outcomes between online and face-to-face courses (Table 1). However, there does seem to be a trend away from moderate (somewhat disagree and somewhat agree) opinions toward the anchors as well as neutral. A comparison of course characteristics opinions between online and face-to-face during the pandemic can be found in Table 2.

Additionally, no significant changes in course characteristic opinions were evident between the before and during pandemic responses except for a positive shift in the view that online courses can prepare students for additional classes (*mean difference = 0.37; U = 791, p = 0.044*).

Students

The pandemic did not statistically or meaningfully shift students' overall view of the achievability of learning outcomes between online and face-to-face courses (Table 3). A comparison of course characteristics opinions between online and face-to-face during the pandemic can be found in Table 4. However, some differences were found on specific course properties across the before and during pandemic periods. Views shifted to less agreement regarding the satisfaction of the interaction levels with the instructors in face-to-face courses (*mean difference = -0.2; U = 49957, p = 0.007*), recognition of faculty preparation effort for face-to-face courses (mean difference = -0.17, U = 44466, p = 0.033), perceived effort required to learn material in a face-to-face course (*mean difference = -0.13; U = 42989, p = 0.008*), perceived effort required to earn a good grade in a face-to-face course (*mean difference -0.21; U =4 4152, p = 0.025*), and an overall satisfaction with face to face courses (*mean difference = -0.34; U = 39827, p<0.001*). Agreement increases were found for instructor availability in online courses (*mean difference = 0.23; U = 46601, p = 0.002*), recognition of faculty preparation effort for online courses (*mean difference = 0.3; U = 42657, p = 0.002*), and recognition of faculty teaching effort for online courses (*mean difference = 0.53, U = 37957, p<0.001*).

Students who had not taken an online course pre-pandemic (*n = 51*) were asked for the main reason they had not taken one. For the students who selected a provided option, the most frequent answer was quality (*n = 14*) followed by lack of offerings (*n = 9*), difficulty (*n = 6*), time requirements (n = 3), and technology issues (*n = 2*). Another 17 students provided other responses, which included not being enrolled in classes before the pandemic (*n = 3*), preferring face-to-face or disliking online (*n = 7*), along with some individual responses related to student status, not having an option, and fearing online courses. For those who *had* taken online courses (*n = 222*), they were asked why they had chosen to take them. The majority indicated the convenience (*n = 110*), followed by time requirements (*n = 47*). An additional 48 students provided other answers, which included that it was the only option (*n = 28*), along with flexibility/timing (*n = 5*) and other individual answers such as ones related to lack of transportation, childcare, and living out of state.

The majority of students did not drop an online class (*71%, n = 182*), but some students dropped one (*n = 45*), 2–4 (*n = 25*), or 5+ classes (*n = 3*). Students who dropped at least one class were asked to report the reasons they dropped and could select multiple answers. The most frequently selected answer was poor performance in the class (*n = 34*) followed by "too many time demands" (*n = 32*), "class format did not work for me" (*n = 32*), "I did not like the course" (*n = 22*), "I did not like the instructor" (*n = 10*), and "the course was too hard" (*n = 16*). Additionally, 11 students provided other answers, with most related to health, time, or personal reasons. The majority of students did not get a D or F in an online course (*79%, n = 203*), but some students failed one (*n = 29*), 2–4 (*n = 20*), or 5+ classes (*n = 2*). Those who failed at least one were asked to report the reasons and could select multiple answers. The most frequently selected answer was "class format did not work for me" (*n = 35*), followed by "poor performance in the class" (*n = 21*), "I did not like the course" (*n = 21*), "too many time demands" (*n = 15*), "the course was too hard" (*n = 11*), and "I did not like the instructor" (*n = 9*). Additionally, four students provided other answers, mostly related to personal reasons.

Table 1

Percentage of Faculty Reponses for Each Answer Choice by Course Types Before and During the Covid-19 Pandemic. The Question Addressed Whether Online Courses Can Achieve Student Learning Outcomes that are at Least Equivalent to Those of Face-to-Face Courses

	General Education		Upper-Level Undergraduate		Graduate	
	2021	**2017**	**2021**	**2017**	**2021**	**2017**
In general						
strongly disagree	8.5	7.7	12.5	9.6	14.3	9.4
somewhat disagree	12.8	26.9	10.4	19.2	6.1	18.9
neither agree nor disagree	19.1	9.6	14.6	5.8	16.3	11.3
somewhat agree	27.7	38.5	35.4	38.5	32.7	34.0
strongly agree	31.9	17.3	27.1	26.9	30.6	26.4
at UHCL						
strongly disagree	25.5	7.8	12.5	11.8	26.5	13.7
somewhat disagree	12.8	25.5	10.4	17.7	6.1	19.6
neither agree nor disagree	19.1	13.7	16.7	5.9	18.4	9.8
somewhat agree	34.0	35.3	29.2	35.2	32.7	27.5
strongly agree	8.5	17.7	31.3	29.4	16.3	29.4
In my department or discipline						
strongly disagree	12.8	14.0	4.2	7.8	10.2	11.8
somewhat disagree	14.9	22.0	12.5	19.6	12.2	19.6
neither agree nor disagree	17.0	14.0	25.0	5.9	18.4	7.8
somewhat agree	23.4	34.0	29.2	37.3	30.6	29.4
strongly agree	31.9	16.0	29.2	29.4	28.6	31.4

Table 2
Faculty Course Characteristic Opinions Between Online and Face-to-Face During Covid-19 Pandemic

	Online				Face-to-face			Wilcoxon signed rank	
	N	Mean	SD	Mdn	Mean	SD	Mdn	Z	p
Interaction level satisfactory	54	3.43	1.34	4	4.51	0.63	5	-6.597	<0.001
Can be available	54	4.67	0.67	5	4.62	0.68	5	-1.246	0.213
Able to deliver material	54	4.26	1.03	5	4.79	0.71	5	-4.869	<0.001
Assessments are of appropriate difficulty	54	4.35	0.85	5	4.68	0.64	5	-3.897	<0.001
Easy for students to cheat	53	3.62	1.20	4	2.44	0.89	2	-6.002	<0.001
Require more effort to prepare	53	4.42	0.86	5	2.71	0.95	3	-6.972	<0.001
Require more effort to teach	53	3.79	1.20	4	3.23	1.00	3	-2.106	0.035
More effort for students to learn material	53	4.04	0.99	4	2.79	0.84	3	-6.526	<0.001
More effort for students to earn a good grade	53	3.38	1.11	3	3.02	0.87	3	-3.153	0.002
Allow instructors to reach at-risk students	53	3.02	1.32	3	3.79	0.91	4	-4.937	<0.001
Allow instructors to reach exceptional students	52	3.69	0.96	4	3.96	1.07	4	-3.708	<0.001
Prepare students for additional classes in that field	52	3.75	1.06	4	4.12	0.84	4	-3.942	<0.001
Overall, satisfied with my classes	53	3.83	1.22	4	4.54	0.80	5	-5.272	<0.001
Prefer to teach	52	2.92	1.31	3	3.57	1.28	4	-2.842	0.004

Table 3

Percentage of Student Reponses for Each Answer Choice by Course Types Before and During the Covid-19 Pandemic. The Question Addressed Whether Online Courses Can Achieve Student Learning Outcomes that are at Least Equivalent to Those of Face-to-Face Courses

	General Education		Upper-Level Undergraduate		Graduate	
	2021	**2017**	**2021**	**2017**	**2021**	**2017**
In general						
strongly disagree	10.00	5.82	16.00	6.94	14.00	8.67
somewhat disagree	13.00	11.08	13.90	10.83	9.30	10.03
neither agree nor disagree	15.50	18.84	17.30	20.56	37.30	31.98
somewhat agree	33.50	32.96	26.60	34.17	19.50	26.29
strongly agree	28.00	31.30	26.20	27.50	19.90	23.04
at UHCL						
strongly disagree	9.40	5.34	13.90	6.96	12.50	9.04
somewhat disagree	11.60	9.55	14.30	11.70	9.50	12.05
neither agree nor disagree	20.20	25.00	18.10	22.56	38.40	33.42
somewhat agree	30.00	30.34	27.00	31.48	17.70	21.37
strongly agree	28.80	29.70	26.60	27.30	22.00	24.11
In my department or discipline						
strongly disagree	12.40	7.02	16.20	9.52	15.50	11.78
somewhat disagree	10.70	11.52	16.20	13.73	9.90	11.78
neither agree nor disagree	20.50	23.88	17.00	21.01	35.60	31.78
somewhat agree	28.20	30.90	23.40	30.81	17.20	20.55
strongly agree	28.20	26.69	27.20	24.93	21.90	24.11

Table 4
Student Course Characteristic Opinions Between Online and Face-to-Face During Covid-19 Pandemic

	Online				Face-to-face			Wilcoxon signed rank	
	N	Mean	SD	Mdn	Mean	SD	Mdn	Z	p
Interaction level satisfactory	241	3.61	1.28	4	4.19	0.94	4	-5.134	<0.001
Instructors are available	241	3.98	1.18	4	4.25	0.88	4	-2.849	0.004
Instructors able to deliver material	238	3.85	1.19	4	4.34	0.87	5	-5.055	<0.001
Assessments are of appropriate difficulty	241	3.96	1.23	4	4.14	0.92	4	-1.875	0.061
Easy for students to cheat	234	2.85	1.29	3	2.33	1.12	2	-5.265	<0.001
Require more effort for instructors to prepare	235	3.47	1.15	3	3.40	1.00	3	-0.389	0.697
Require more effort for instructors to teach	235	3.29	1.25	3	3.60	0.99	4	-2.888	0.004
More effort for students to earn learn material	236	4.17	1.20	5	3.01	1.12	3	-8.57	<0.001
More effort for students to earn a good grade	235	3.79	1.27	4	3.25	1.12	3	-4.359	<0.001
Allow instructors to reach at risk students	234	3.20	1.29	3	3.57	1.08	4	-2.925	0.003
Allow instructors to reach exceptional students	232	3.29	1.16	3	3.86	0.93	4	-5.852	<0.001
Prepare students for additional classes in that field	232	3.49	1.32	4	4.23	0.87	4	-6.552	<0.001
Overall, satisfied with my classes	233	3.65	1.44	4	3.92	1.05	4	-1.916	0.055
Prefer to take	233	3.23	1.57	4	3.61	1.37	4	-2.435	0.015

Qualitative

Faculty

For Faculty, only 39 of the 49 provided answers to the two open-ended questions. In terms of the main challenges to teaching online courses, almost three-quarters (n = 28) of faculty mentioned challenges related to students, such as struggles with student engagement, responsibility, or expectations. For many of the responses, there were comparisons to face-to-face courses, such as "[s]tudents are just not accountable as they are when they show up to class. Most have not read the material. Most do not watch the lectures. Many forget to do homework." Another stated, "Students don't fully engage in synchronous Zoom lectures. Some don't turn on their cameras so you can't get a feel for how much they are absorbing the material." Another agreed about the lack of facial expressions to judge comprehensions in online classes and also mentioned the problem that "Everyone is in their own silo (distant) and it's difficult to have a shared learning experience with your class, like you automatically have when all together in a physical classroom." Additionally, 12 individuals mentioned challenges with technology, including a consensus of a dislike of the learning management system (LMS). One faculty member was very specific, saying

> It's clunky, hard to navigate, not user-friendly in any way, adds more confusion to courses than necessary, makes the simplest things harder or impossible. It is really and truly awful and, in my opinion, we are actively harming our students and risking their persistence to degree completion by insisting on it as our only platform.

There was also a general sense of frustration with 13 participants mentioning the time and effort required to be trained on aspects of technology or pedagogy or the time and effort required to deliver these courses well. In general, these comments provided a lot of detail. For example, one participant stated that the university provided almost no support and the biggest challenge was "[h]aving to train myself in the technology, and in best practices." Another discussed the never-ending expectations and the requirements to really engage students and teach online courses well and lamented that this massive commitment "is not acknowledged nor respected by mid-management and administrative leadership," which they find "amazingly de-motivating." Another discussed the lack of training to be prepared and, now that trainings were available, they did not necessary apply to the format they needed to teach in and they lacked the time to attend many because they are so "overwhelmed managing all my courses and just trying to stay afloat." Others framed it more positively, but discussed the commitment required:

> Taking the time to invest in oneself to become a great online teacher. I watched a lot of videos and participated in trainings on Echo360, participated in ACUE online courses, attend pedagogy conferences, etc., to learn more about teaching online courses. One has to build oneself up over the years.

In terms of how the university could better support online teaching, there were conflicting views about how good support was in general along with specifically about satisfaction with certain departments or individuals. Four faculty believed that the university was doing a "GREAT job of supporting online teaching" and that "Any faculty that is willing to invest the time and effort to improve their online teaching has all of the resources available." Another felt that the support was good, but face-to-face classes were still better because the technology is not advanced enough yet. Others were not as impressed by the training available, such as one who said they could best be supported by "never pressuring me to teach online again ever." Fifteen faculty mentioned needing better support for technology, including requests for specific software or devices, with several desiring a different LMS, such as one who asked for a "better LMS with more functionality and flexibility." There were also several requests for financial or time-based support. Additionally, five faculty asked for better training for students to be prepared to take online classes, such as one who wanted "some sort of online-competency training and test before students can take online courses." A sentiment mentioned by five faculty was a desire for more autonomy, including one faculty member who wanted "our admins to allow us to take what we learned about online teaching over the last year and keep the parts that work. I feel like we're all being forced back F2F (face to face), but not all students want it."

Students

For the question about the biggest challenges to succeeding in online courses, answers were provided by 206 students. Almost half (44.6%, n = 92) indicated that online courses are not the same as face-to-face courses, such as the student who stated that the biggest challenge was "feeling connected as a student to the other classmates/professor. Online is not the same as in person courses." Another declared, "I feel as if my learning experience was awful being fully online since the pandemic. I truly enjoyed in-person lectures and learned a lot and excelled in my courses, and I've experienced the opposite this semester." Only five made comments

indicating they preferred or liked online courses, such as the student who replied about what was challenging with, "Nothing, I've enjoyed them very much" and another who said they "[p]refer these classes once initial fear is gone." Additionally, three stated that online courses were the same as face to face, such as one who said online courses have "[e]xactly the same challenges as face-to-face courses" or another who said "same for face to face."

Almost half (46.6%, n = 96) mentioned a challenge specifically related to course instructors. The most frequently mentioned sentiment was that the course lacked substantial instruction or that students had to teach themselves (n = 45). The next most frequently mentioned issue was the lack of responsiveness or availability of instructors (n = 32). For many, this issue was framed in the lack of seeing the instructor and having to wait for office hours for clarification.

Many students combined the previous sentiments, such as saying the biggest challenge was "communication from professors. I had an upper-level course where the professor just recycled PowerPoint lectures from another professor. It was upsetting to have a course that was fully self-taught with almost no [personal] communication from the professor."

Many students also mentioned faculty expectations (n = 22), course clarity or organization (n = 13), or some aspect of the course assessment (n = 11). Many of these mentioned feeling that workload increased with online courses. One student claimed that instructors "do not realize the workload they are putting on students" and mentioned that one of their classes had over 100 assignments and quizzes, which was so overwhelming as to disrupt sleep and social connection. The student stated despite their high level of effort, they received low grades and the end result was "extremely disheartening and stressful and every day I feel like giving up."

A few students also mentioned problems with working in groups (n = 9). For example, one student stated it was challenging,

> When a professor requires you to attend or check-in at certain times that you may not be available due to a work schedule. Last-minute changes to due dates, conflicting due dates, or last minute assignments are also very challenging. I choose to be an online student so I can have flexibility around when I do my work, as long as I turn it in on time. Group work can be slightly challenging as well, especially when you have multiple working individuals with conflicting work schedules.

Other students mentioned these same areas but focused on the differences between instructors. Such as one student who focused on the variance in courses and the quality differed by:

> How helpful the professor is in influencing students to learn. When a professor doesn't create quality instructional material, or doesn't cover what is going to be on the exams, that can make online course extremely frustrating because you need to teach yourself the material and the time you dedicate to certain components of the course may be useless. Discussion board is an easy assignment, but no meaningful discussion happens there; it doesn't even compare to how in-person discussions flow. Professors that invest in recorded video lectures and review sessions with students for assignments (homework, mini-projects, etc.) have been the most helpful in ensuring my competency in the subject matter in an online course.

Students also mentioned technology related challenges (n = 20). These included internet/connectivity (n = 6), devices (n = 5), the learning management system (LMS) (n = 5), along with other specific software, such as the student who simply answered, "ZOOM." In many cases, these comments were more general, such as

> Not everyone has access to a web-enabled device during synchronous classes or they may not have access to wi-fi at home. I think recorded lectures can help people handle that challenge because they can watch the lectures back when they have a web-enabled device or can go to a public place that has wi-fi.

But for others, it was related to specific instances, such as the student who struggled with internet connectivity during class exams, but declared that the issue was with the LMS and not internet connection because it happened both at home and on campus.

Students also demonstrated a large amount of self-awareness. Lack of time was mentioned by 12 students. Problems with staying engaged or focused were mentioned by 40 students. Additionally, students discussed problems with time management and the decreased separation between home and school (n = 68) along with insufficient motivation and/or self-discipline (n = 52). For example, one student stated, "I know for a fact I do better in face-to-face classes, I am able to pay attention more, I am forced to spend a certain amount of time in the class to focus on the class, which is the reason I have always signed up for in-person classes. I hate online courses and being forced to take them was very difficult for me." Another simply stated that, "The biggest challenge is making sure that you have great time management skills." Many also related the challenge to the amount of time sitting at a computer, which made engagement and motivation difficult.

Five students mentioned aspects of online classes causing them increased anxiety, including having "Zoom

anxiety." Students also discussed the decreased connectivity and the missing social aspects of attending classes online. This sentiment was captured by the student who answered that the biggest challenge was "creating that relationship with your professor and peers that you can only get during a face to face class."

The second open-ended question addressed how UHCL could enhance success in online courses and answers were provided by 181 students. Thirteen of these stated that UHCL had done a great job with online courses. Such as the student who stated, "Everything was fine with my courses. I prefer online classes more than ever now" and the one who exclaimed, "UHCL actually did a great job!!"

Thirteen students mentioned some aspect of support or resources that would be helpful. These were often very specific, such as more e-books, better wi-fi, quiet places to study, and more financial support for technology. Seven students mentioned a social need, such as a need for connection or a feeling of isolation. For example, one said, "There's not very much interaction with our educators or peers and I believe as a class we should all be learning together." Five made a request related to time management, but these were often framed as a need for other students, such as "I think UHCL could enhance success in online courses by promoting time management and students' ability to organize their time and assignments." Five mentioned some aspect of mental health such as the student who exclaimed "WE ARE STRUGGLING" or another who asked for UHCL to "[i]mprove mental health resources." A few students mentioned some aspect of technology (n = 15), with the majority of these indicating a dislike for test-proctoring requirements (n = 8).

A few students requested more course offerings (n = 5) and almost a third (n = 55) made a comment requesting a specific course format. In order of request, they were synchronous (n = 22), recorded lectures (n = 20), online courses (n = 16), face-to-face (n = 4), and hybrid (n = 3).

Almost half of the students made comments related to course instructors (n = 90). The largest group of comments addressed faculty responsiveness and communication (n = 22) with another portion addressed timely feedback (n = 9). One student said, "It would be nice if more professors responded to emails" and another addressed both of these areas saying, "Make sure the professors are putting grades in, and replying to emails, in a timely manner." Almost as many comments were related to faculty expectations and course workload (n = 21) and course assessment methods (n = 21) with many claiming far too much work, but others wanting different assessment methods such as no discussion boards or assignments to "[b]reak up the monotony of exam-only courses." One student declared that they are "doing twice the work for the same or less amount of gain." Another complained about the lack of quality in online courses and said that instructors in face-to-face courses "would not just hand us a quiz every week and not ever open their mouth in the classroom and this should not be done online either." A third stated that, "Allow instructors to understand that heavily increasing assignments is not a solution or substitute for the lack of face-to-face classes." Eighteen comments were related to lack of instruction or a perception of having to teach themselves. For example, one wanted a requirement that "all professors provide some type of lecture component in their courses. I know that I need to read the book, but elaboration on the topic helps a lot," and another said "Professors should create videos of them lecturing instead of heavily relying on students to read on their own time." Engagement and instructor quality was mentioned by 17 participants, with those asking for more "interactive learning" or "actual participation." Also frequently mentioned were a lack of clear course organization (n = 10) and a desire for more faculty training (n = 5). Some comments overlapped many of these categories, such as "improve communication and teaching so students don't depend on self-learning and stressing out."

Discussion

Overall, it does not seem the shift online due to the pandemic and resulting higher rates of forced experience with online courses dramatically altered opinions of online or face-to-face courses for students nor faculty. For faculty, there did seem to be a slight shift regarding the suitability of online courses achieving student learning outcomes though not in a singular direction. However, this may relate to the pandemic forcing faculty to have more experience adapting courses to teach online. Within the faculty sample, almost half had never or only occasionally taught online before the pandemic. However, the increase in agreement may have also been partially because of efforts made by the university to educate faculty on online pedagogy and provide support for online courses. The shifts were larger for general education courses and significant for preparing for future classes, suggesting that the pandemic increased faculty acceptance of lower-level courses.

While student course characteristic opinions shifted slightly more, these changes seemed fairly muted, and students actually shifted less in terms of course format equivalencies for learning outcomes. Student opinions of the *suitability* of online courses for student learning outcomes became more evenly distributed between before and during pandemic. This result likely stems from the varied and individualized experiences students may have had in particular classes and would lead to noise in the data both before and during the pandemic. For example, students had lower course equivalency

agreement for graduate courses. However, of interesting note was a small negative shift of opinions in some of the characteristics of face-to-face courses including a reduction in the overall satisfaction of face-to-face courses. Although, it is possible that this shift was mainly due to a higher availability of online course offerings given that some online courses offered during the pandemic were previously unavailable online. Another potential explanation would be the difficulty of being a student during a pandemic (Murphy et al., 2020) and attending face-to-face courses could have been seen as a greater burden. Students could have felt even greater need for the flexibility afforded by online courses during the pandemic. Additionally, the data seem to support a greater understanding by students of the effort required of faculty to teach courses online.

Most students surveyed had taken at least one online course before the pandemic, with the main reason being convenience, consistent with previous data. However, those who had avoided online courses reported their main reason as quality, a shift from the previously overwhelming choice of lack of offerings. This shift may reflect the increased online course offerings even before the pandemic. However, this increase in access is not beneficial if students are not making progress toward their degree. With over a quarter of our sample dropping at least one online class and almost a quarter failing at least one online class, the need for student training and support is still evident. Although the withdrawals and failures may have also been related to pandemic issues, such as time demands, health issues, anxiety, and stress, the most frequently reported reason for failure was related to class format, which is consistent with other research that has found that students prefer face-to-face (e.g. Weldy, 2018).

Also evident in the data were the struggles of pandemic teaching and learning. Faculty focused a lot on the difficulty maintaining student engagement and connection, which appears to be a universal struggle (Reinholz et al., 2020). Previous research (Dumford & Miller, 2018; Tomei, 2006) has discussed that online courses often demand more time from the faculty who teach them, which may detract from student-faculty interaction or shift it to appearing more superficial. Perhaps these problems can be ameliorated through more intentional technology use. Technology is obviously fundamental for online courses, but can create accessibility and equity concerns (Banack et al., 2021). It requires time to learn and use, and some individuals may be hesitant (Kalimullina et al., 2020). The current study identified many drawbacks on relying on technology. Both faculty and students highlighted technology issues, time demands, and workload. Students also indicated their struggles with education during the pandemic by frequently mentioning the lack of equivalency of online courses to their face-to-face counterparts. Both groups also displayed a high level of self-awareness, which was less expected from the students. They often discussed a lack of time, but also frequently mentioned problems with time management, staying engaged, and task creep. Several students also mentioned mental health struggles and needed support.

Another interesting finding was that the quantitative ratings differed significantly from the sentiment in the open-ended responses in terms of faculty availability and communication. Although the vast majority of students agreed that instructors were available to support them, in the Likert scale question, the most frequently mentioned issues in the open-ended questions was feeling like they had to teach themselves and a lack of availability of the instructor. Perhaps students rated more globally on the Likert scale, but focused on individual negative experiences on the open-ended or perhaps the ones who filled out the open-ended were more likely to have had these negative experiences.

Although this study is a replication and expansion of previous research, it still focuses on only one university, thus limiting the generalizability somewhat. Additionally, the response rate was low, suggesting that those who filled out the survey may have had stronger opinions. However, higher education around the world experienced a similar shift to online learning and this work adds to the examination of the impact of that shift. Additionally, there was a high level of diversity in the experiences, opinions, and comments. Future work should further examine best ways to support students in online courses to ensure that access is translating into progress toward degree. This study explored why students were withdrawing or failing courses, but the ongoing pandemic may have had an impact (Onyema et al., 2020). Thus, additional research is warranted once course format returns to being more of a choice and less of a necessity.

The pandemic forced experience with online instruction, which may have caused some previously hesitant instructors and students to embrace the format, but also may have caused others to be dissatisfied with being forced into a non-preferred format. The pandemic required extreme flexibility and adaptation. Higher education will continue to adapt based on the experiences of the pandemic and the adoption of new technologies and methods to address instructional needs during the pandemic (Rapanta et al., 2021). It is essential to investigate the impacts of these changes on course-learning outcomes and satisfaction to ensure that both faculty and students are provided the training and support needed for successful course completion. Understanding how needs have changed is a critical goal to prepare for the continued high levels of online course offerings to ensure that both student access and achievement are enhanced, as we apply the lessons learned during the pandemic.

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