Faculty Stress Factors at a Public University During the COVID-19 Pandemic

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Emergency Remote Teaching (ERT) during the COVID-19 pandemic brought many challenges to education systems across the world. Faculty at a public university participated in a survey to aid in defining challenges and stress factors experienced with ERT. Eighty-three percent of faculty participating in the survey indicated they were stressed during the pandemic ERT. Linked stress factors included course organization satisfaction, capturing student learning, energy to move to an online format, translating lessons to online, and online teaching experience. Open-ended survey questions additionally identified faculty frustrations from the lack of student engagement, the amount of time to move to the ERT format, and the desire to decrease student enrollment numbers in courses when teaching in the online format. Clemson University gave faculty the option of utilizing a hybrid model of ERT course delivery during the pandemic, rotating students enrolled in a course for in-person class attendance during a portion of the semester, and this model appeared to elevate some of the issues related to student engagement.

Keywords: COVID-19, Emergency Remote Teaching (ERT), higher education

INTRODUCTION

In 2020, professional educators were faced with unprecedented teaching approaches and unplanned delivery methods because of the COVID-19 global pandemic. Institutions of higher education quickly switched to emergency remote teaching (ERT) as the pandemic resulted in mandated shutdowns and social distancing requirements. Faculty were asked to implement a teaching-learning transformation in their courses with little to no planning, instantaneously shifting courses that were not designed to be delivered

in a remote format (Hodges et al., 2020). According to Hodges et al., (2020), ERT refers to a temporary learning solution implemented to continue education remotely that would otherwise have been delivered in-person or in a blended format. At Clemson University, a public institution of higher learning, administrators decided that no one would return to campus for in-person classes in March 2020 following spring break. This decision came just days after the World Health Organization General-Director declared COVID-19 a global pandemic (WHO, 2020). Access to campus was restricted as faculty scrambled to set up home offices, redesign their course content for ERT delivery, and struggled to balance their work-life situations while businesses, child-care, and publicly supported schools (K-12) shut down or reduced operation schedules.

Clemson University was on target to resume "normal" campus activities for the fall semester beginning in August 2020; however, COVID-19 cases continued to surge nationwide, causing university officials to delay in-person classes by one month. Faculty faced additional challenges of social distancing in the classroom and COVID-contact tracing that hampered the educational system. Clemson University faculty were forced to choose between two-course delivery methods: 1) fully online instruction, utilizing asynchronous or synchronous delivery, or 2) a hybrid model in which students enrolled in a course were divided into groups, and the groups rotated between in-person and synchronous online instruction. The hybrid model allowed face-to-face instruction for all students for a portion of the course; however, it also added to stress and anxiety levels for instructors to manage both modes of instruction.

ERT challenged faculty and students to adapt to new educational strategies and be flexible as faculty navigated what Colpitts and colleagues called the "intergenerational technological divide" (Colpitts et al., 2020). Faculty had to increase their technical proficiency to meet the needs of their students. The present study was conducted to provide insight as to how faculty at a public university responded to ERT, the uncertainty around teaching-learning outcomes, and ERT-related stress factors. The overarching goal of this work was to document the unique challenges experienced by faculty during the pandemic-induced ERT in the hope that the information could be used to implement professional development strategies for handling future crises.

METHODOLOGY

The survey was distributed to 454 faculty members with teaching appointments at Clemson University in Clemson, SC. Only those faculty that were teaching undergraduate students in courses during the Fall semester of 2020 were contacted. One hundred and three responses were received. Data were collected from January 25, 2021, through February 18, 2021. The survey consisted of 26 questions pertaining to teaching and instruction during the pandemic as well as respondent demographics. Qualtrics XM was utilized for survey design and data collection. Administration of the survey was completed online by emailing the participant pool and including a link to complete the survey using the Qualtrics software platform. Participants were informed of their voluntary consent and confidentiality in the email as well as at the beginning of the survey. Responses to the survey were exported as an Excel file, and data was imported into SAS® OnDemand for Academics for analysis. The survey was approved through the Institutional Review Board (#2020-366) at Clemson University before disseminating to faculty. Responses from open-ended questions were grouped into common themes. For determining the faculty stress contributors, Spearman's rank correlation coefficient and chi-square were used. Statistical significance was determined at the 5% level.

RESULTS

For the purposes of this research, it is worth mentioning that the term ERT was established to differentiate between a crisis-induced temporary shift in instructional course delivery and a course that was truly designed from conception to be online with ample preparations in place (Hodges et al., 2020). Our survey was administered before common knowledge of the term 'ERT'; therefore, the term "online teaching" was used in the survey. For this report, the term emergency remote teaching (ERT) was used to

separate and streamline current literature as it relates to teaching during the COVID-19 pandemic. The return response rate for the survey was 23% (103 out of 454 faculty). The median time to complete the survey was seven minutes.

Demographics

Of the 103 respondents, only 69 completed the demographic questions, with the highest percentage of respondents being female (TABLE 1). While the demographics of the entire pool of recipients (all 454 faculty) are unknown during 2020 and 2021, slightly more than half (51-52%) of all faculty at Clemson University were female (Clemson University Factbook, 2023). Thus, faculty teaching during the Fall of 2020, likely included more women than men, and the survey demographics are in-line with the Clemson faculty demographics. Associate Professors (23%), followed closely by Professors (22%), were the highest percentages from the academic ranking choices to complete the survey. Among the entire faculty at Clemson University, females at the Associate Professor rank comprised 38% to 40% in 2020 and 2021, respectively, while those at the Professor rank comprised 24.5% in 2020 and 2021 (Clemson University Fact Book, 2023).

TABLE 1
DEMOGRAPHICS OF SURVEY POPULATION (n= 69)

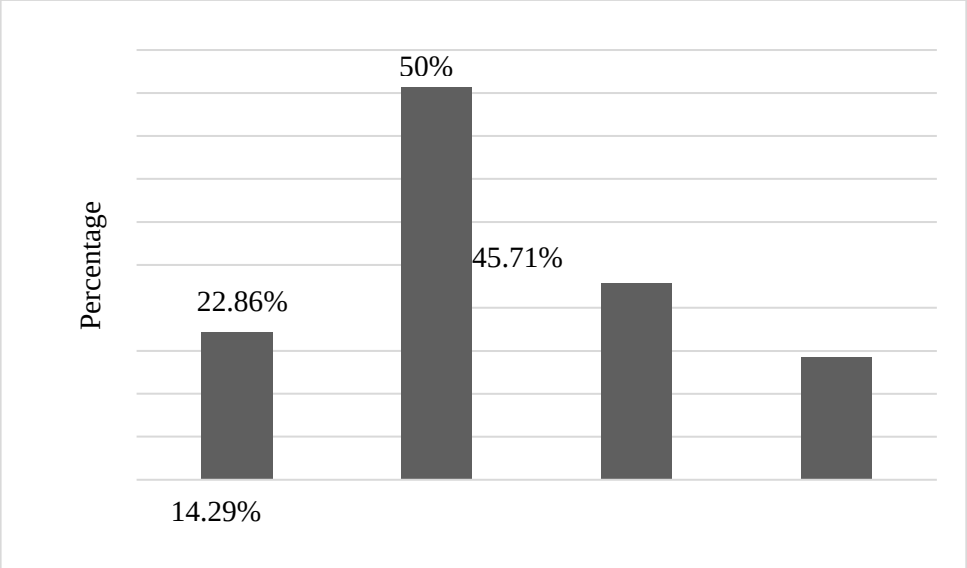
Demographic characteristic[1]	*n*[3]	*Percent Responses (%)*
ler IdentityMale Female		
Prefer Not to AnswerOther	29	42
	36	52
	3	4
	1	2
lemic Rank[2]Lecturer		
Senior Lecturer Assistant Professor Associate	7	10
ProfessorProfessor	8	12
Emeritus FacultyOther	9	13
	16	23
	15	22
	1	1
	13	19

1. Self-identified demographics by survey respondents from January 25 to February 18, 2021.
2. Lecturer and Senior Lecturer ranks are non-tenured and carry 100% teaching assignments. Assistant Professor, Associate Professor, and Professor are tenure-track ranks with varying teaching assignments that are typically less than 100%. Emeritus faculty are former non-tenured or tenured-track that are teaching part-time. 'Other' represents survey respondents that did not fall into the other categories of faculty (for example, teaching assistants).
3. Number of respondents.

Analysis of Stress Factors for Faculty During the Pandemic

Faculty were asked to report their ERT stress level during the Fall 2020 term using a 4-point Likert scale where a rating of 1 was "extremely stressful," and a rating of 4 was "not stressful." Seventy faculty responded to this question with scores of Median=3, Mean =2.66, Standard Deviation=0.93, and Variance= 0.85. FIGURE 1 further shows the respondents' stress levels associated with ERT during the Fall semester of 2020 in percentages. Approximately 83% of faculty experienced some level of stress (n=70) with the online teaching format during the height of the pandemic.

FIGURE 1
PUBLIC UNIVERSITY FACULTY STRESS LEVEL PERCENTAGES ASSOCITED WITH EMERGENCY REMOTE TEACHING DURING FALL 2020 (*n=70)*



Stress Factors Related to Emergency Remote Teaching

Demographic data were analyzed to determine possible relationships with stress levels. Gender as well as academic rank were analyzed utilizing the chi-squared test. There was no statistical association between gender (p=0.1643) and stress level. Furthermore, there was no statistical association between academic rank and stress level (p=0.2639), indicating that there is no evidence that there was a difference in COVID-related stress level with ERT among faculty, regardless of gender and rank. To determine factors contributing to faculty stress, responses to several survey questions were analyzed. The survey question, "How would you rate your experience teaching online?" [during the pandemic] was asked utilizing a 5-point Likert Scale with possible answer responses from "extremely negative" to "extremely positive." Utilizing Spearman's rank correlation coefficient method, a significant correlation (r=0.4242) between stress level and online teaching experience was discovered *(*p=0.0003). Thus, as faculty stress levels increased, there was a corresponding increase in negative feelings toward the online teaching experience. When asked to "rate how satisfied you are with the organization of your courses" during ERT on a 5-point Likert scale from "extremely dissatisfied" to "extremely satisfied," there was a significant correlation (r = 0.2995) between stress level and course organization satisfaction, (p=0.0124). Thus, as stress levels increased, there was a decrease in satisfaction with course organization.

Faculty were also asked to rank the level of challenge they experienced with different aspects involved in the transition to an online teaching format (TABLE 2). The answer choices were presented on a 4-point Likert scale (1 = very challenging; 2 = challenging; 3 = somewhat challenging; 4 = not challenging). Spearman's rank correlation coefficient was used to determine the relationship between online teaching challenges and stress levels. When reviewing the category of comfort as it relates to technology as well as teaching style, all three survey questions resulted in statistically significant correlations, as viewed in TABLE 2. Therefore, the faculty that rated their comfort level with technology and the comfort level of their students with technology as "challenging" also reported a higher stress level. TABLE 2 includes a breakdown of the challenge levels in percentages as indicated by faculty.

TABLE 2
INDICATED CHALLENGE LEVEL AND CORRELATION TO STRESS LEVEL RELATED TO COMFORT

Survey Question	*Indicated Challenge Level %*				*Correlation Coefficient(r)*	*Probability (p)value*
	Very Challenging	Challenging	Somewhat Challenging	Not Challenging		
Students discomfort or lack of familiarity withuse of technology	7.35	14.7	45.6	32.4	0.4066	0.0006
Your own discomfort or lack of familiarity withuse of technology	10.3	7.35	42.6	39.7	0.3727	0.0017
Overcoming my preference for teaching the way I usually teach	16.2	20.6	35.3	27.9	0.4818	<0.0001

TABLE 3
INDICATED CHALLENGE LEVEL AND CORRELATION TO STRESS LEVEL RELATED TO RESOURCE ACCESSABILITY

Survey Question	*Indicated Challenge Level %*				*Correlation Coefficient(r)*	*Probability (p)value*
	Very Challenging	Challenging	Somewhat Challenging	Not Challenging		
Access to reliable communicationsand software tools	2.94	17.6	22.1	57.4	0.3635	0.0023
Access to internet (foryourself)	4.41	14.7	25.0	55.9	0.1932	0.1144
Access to library resources	2.94	2.94	25.0	69.1	0.1879	0.1250
Access to computer/digital learning support	4.41	7.35	29.4	58.8	0.0435	0.7248

TABLE 4 includes survey questions related to the mechanics of teaching and the indicated challenge level. Spearman's rank correlation coefficient was used to analyze these mechanics to stress level. Each question in this category was significantly correlated to higher stress level with the challenge of "finding

the time and energy to effectively adapt to online teaching" and "getting students to adequately participate and respond" being highly statistically significant to higher stress levels.

TABLE 4
INDICATED CHALLENGE LEVEL AND CORRELATION TO STRESS LEVEL RELATED TO INSTRUCTIONAL MECHANICS

Survey Question	*Indicated Challenge Level %*				*Correlation Coefficient(r)*	*Probability (p)value*
	Very Challenging	Challenging	Somewhat Challenging	Not Challenging		
Finding the timeand energy to effectively adaptto online teaching	27.94	19.12	30.88	22.06	0.6057	<0.0001
Determining how to assess and capture student learningin the remote learning environment	20.59	33.82	25.00	20.59	0.3463	0.0038
Translating my lessons or activities to theremote learning environment	17.65	29.41	32.35	20.59	0.5345	<0.0001
Getting my students to adequately participate and respond	33.82	36.76	16.18	13.24	0.4721	<0.0001

Demographics of Stress Level Groupings

Upon reviewing the four different stress level answer choices to the question: "How stressful has teaching with distance digital learning been for you during the pandemic?", it was determined to further group the respondents into two stress categories. Demographics of the stress levels were analyzed based on these categories (TABLE 5). Of the respondents, 38% reported higher stress levels by answering "extremely stressful" or "stressful," and these respondents were grouped together, while 62% of the respondents were grouped in a second category as they reported less stress with answers of "somewhat stressful" and "not stressful." From these two stress groups, gender and academic rank were also broken down, as shown in TABLE 5.

TABLE 5
DEMOGRAPHICS OF STRESS GROUPS (n=69)

Stress Group	Extremely Stressed and Stressed (n= 26, 38%)		Somewhat Stressfuland Not Stressful (n=43, 62%)	
Demographic characteristic	*n*	*%*	*n*	*%*
ler Identity[1]Male Female				
Prefer Not to AnswerOther	11	42.31	18	41.86
	14	53.85	22	51.16
	1	3.85	2	4.65
	0	0	1	2.33
lemic Rank[2]Lecturer				
Senior Lecturer Assistant	2	7.69	5	11.63
ProfessorAssociate Professor	6	23.08	2	9.30
Full Professor Emeritus Faculty	5	19.23	4	4.65
Other	5	19.23	11	25.58
	4	15.38	11	25.58
	0	0	1	2.33
	4	15.38	9	20.93

1. Self-identified demographics of respondents. A total number of faculty (n) responding to the survey was 69 out of 454 survey contacts. The survey was administered from January 25 to February 18, 2021.
2. Lecturer and Senior Lecturer ranks are non-tenured and carry 100% teaching assignments. Assistant Professor, Associate Professor, and Professor are tenure-track ranks with varying teaching assignments that are typically less than 100%. Emeritus faculty are former non-tenured or tenured-track that are teaching part-time. Other represents survey respondents that did not fall into the other categories of faculty (for example, teaching assistants).

Themes From Open-Ended Questions Based on Faculty Stress Level

Open-ended response questions were also considered for providing further detail into faculty stress contributors. To examine possible themes among the open-ended questions, responses were grouped based on indicated stress level from the survey question: "How stressful has teaching with distance digital learning been for you during the pandemic?" TABLE 6 includes the breakdown by stress level groupings and the associated themes for open-ended questions.

TABLE 6
THEMES FROM OPEN-ENDED QUESTIONS GROUPED BY STRESS LEVEL

Open-Ended Questions	*Extremely Stressful and Stressful Themes*	*Somewhat Stressful and NotStressful Themes*
What were the positive aspects of teaching online?	Physical Location Online Format	Physical Location Online Format
What were the negative aspects of teaching online?	Poor Classroom Dynamic Additional CoursePreparation Time	Poor Classroom Dynamic Lack of student feedback
What changes would you make to online teaching?	Decrease CourseEnrollment Increase Student Engagement	Live interaction None

"What Were the Positive Aspects of Teaching Online?"

Reviewing the respondents that stated their stress level as "extremely stressful" and "stressful" for the open-ended question, "What were the positive aspects of teaching online?", comments were categorized into two main themes. The first theme for positive aspects was related to physical location or abilities, such as no exposure risks, ease of parking, and no commute. Examples of comments included "not being on campus" and "do not have to go to campus in unsafe conditions." The online format was the second positive theme identified by the faculty. Comments included "learned some new technology, was able to get students engaged in different ways" and "students like the ability to rewind the lecture and re-watch parts."There were also some mentions related to the no positives of online teachings, such as "I didn't see any advantage to online teaching."

For the second group of respondents that selected their stress level as "somewhat stressful" or "not stressful" for the question "How stressful has teaching with distance digital learning been for you during the pandemic?", responses were reviewed for common themes. Positive themes for this lower stress level group included physical location as well as the online format for both the students and instructors. Comments included "no exposure to COVID-19." and "Flexibility for the professor and students in terms of logistics…".

"What Were the Negative Aspects of Teaching Online?"

Negative aspect themes from online teaching from the "extremely stressful" and "stressful" group included the classroom dynamic, with mentions of the negative classroom dynamic and lack of interaction being the greatest concern for this group. Faculty comments included, "we weren't able to build a strong sense of community as I have been able to create in my in-person classes previously" and "difficult to interact with the class as a whole or to develop better relationships with individual students." This group additionally mentioned the amount of time and labor involved with the online format as a negative aspect, which composed the second theme. Comments included "MASSIVE amount of additional prep required-3x the prep time of an in-person course" and "labor intensive, requires more time to prep."

The common themes from the "somewhat stressful" and "not stressful" groups related to the negative aspects of online teaching questions included lack of feedback and poor student interaction associated with classroom dynamics. The lack of classroom interaction was the most mentioned by this group, including comments such as, "I feel like students engage with each other better in the classroom than online. Toward the end of the semester, students tended to leave their Zoom cameras off during class," "no dialogue or interaction," and "miss seeing students in person." Lack of feedback from the students' comments included "lack of needed feedback" and "sometimes difficult to visually gauge whether students are fully engaged or comprehending the material."

"What Changes Would You Make to Online Teaching?"

Changes to online teaching for the group "extremely stressed" or "stressed" included the common themes of reducing student numbers and having more student engagement. Reducing student numbers for online teaching was mentioned with comments, such as "smaller class sizes would be nice because it's easier for some students to get lost in an online setting." More student engagement was mentioned ten times by faculty with comments, including "increase the interactive activities" and "try to make it more interactive as I develop the resources to do so."

For those that were "somewhat stressful" or "not stressful," more live interaction was a common theme; there were additionally a few comments about the desire to have more time to prepare and transition. Participants in this group also answered this open-ended question for suggested changes as "none."

DISCUSSION

The COVID-19 pandemic forced educators to develop and adapt to new strategies for engaging and instructing students. While stress and anxiety levels were expected with the pandemic, it is important to determine factors or contributors, or non-contributors, of stress during the emergency remote teaching shift.

Tugend (2020) reported on a nationwide survey of over 1100 faculty from two- and four-yearinstitutions in the Chronicles of Higher Education. This survey found that two-thirds of respondents (734)indicated they were extremely or very stressed over the past month (during COVID) while only one-third (367) of faculty respondents reported being stressed (before COVID) in 2019 (Tugend 2020). Survey findings additionally state, "It is not surprising that all faculty members reported an increase in stress and fatigue since the pandemic started…" (Tugend, 2020). Course Hero also conducted a study in which 570 faculty were interviewed at two- and four-year colleges. Their study concluded that the largest stress contributor (74% of surveyed faculty) was transitioning to the new modes of teaching. Additionally, this same study stated, "More than half of faculty reported a significant increase in emotional drain (53%) and work-related stress or frustration (52%), both of which are highly correlated with burnout" (Course Hero, 2021). Alvarenga (2020) conducted a survey on faculty stress that was initiated prior to the pandemicbut continued during the pandemic. He reported that the highest stressors for faculty were time constraints, lack of resources, and high self-imposed demands (Alvarenga, 2020). This same author indicated that faculty stress (r=0.55) and burnout (r=0.52) were positively correlated with work disengagement, and faculty who experienced one stressor were more likely to become either disengaged or to experience anotherstressor (Alvarenga, 2020). During the present study, 38% of faculty reported that the use of digital distancelearning during the pandemic caused them to feel "extremely stressed" or "stressed." Among those facultythat experienced this level of stress, the majority (54%) were among the professor ranks (Assistant, Associate, or Professor), while only 38% were among the lecturer ranks (Lecturer or Senior Lecturer). These data suggest a difference in comfort level with technology from among the faculty ranks; however, this could not be established as statistically significant because of the low response rate. Furthermore, it appeared that faculty who felt that they were unable to efficiently transition their course to online had the highest stress level. Since professors are seldom 100% teaching, often carrying research or extension assignments, the finding of Alvarenga (2020) regarding additional stressors may explain why professor ranks appeared to experience higher stress levels in the present study; however, additional research is needed to confirm this conclusion.

The time commitment to develop an effective online teaching format must be considered. While both stress groups mentioned time commitment moving to the online format, there were more comments about time and labor made by the higher stress group. Tomei and Nelson (2019) examined the time commitment of online teaching versus traditional face-to-face instruction across two universities for seven semesters and concluded that the ideal class size varied with the type of instruction. For face-to-face instruction, the ideal class size was 18 students compared to 12 students for online. In an earlier study, Tomei (2006) calculated that the online format takes 14% more-time commitment than traditional face-to-face. The additional time commitment of online courses is documented in other studies as well (Anderson and Avery, 2008; Worely and Tesdell, 2009; Cavenaugh, 2005). Cavenaugh's time comparison study showed that the amount of effort to teach online was 6 times greater than face-to-face (Cavenaugh, 2005). Furthermore, in Ramlo's (2021) study, they state, "Certainly, this study identifies that the design and implementation of online courses, even when done in a rush, should be differentiated based on discipline, course level, and instructor pedagogy. In other words, online instruction is not a one-size fits all model. Thus, the results of this study indicate that faculty should be the judges about online instruction and its limitations based on their students, the learning environment, and the discipline." In another survey, Lowman et al. (2020) stated, "…faculty also expressed considerable anxiety and stress due to the transition to online teaching. Most often, their feelings were shared as part of their inability to support students, and many indicated substantial increases in workload."

The online learning environment also impacted faculty and their need for classroom dynamic and interaction, with open-ended comments from both stress groups indicating the lack of interaction. Lowman et al. (2020) also found that across all cohorts of their survey, one of the key factors was indeed the lack of interaction during off-campus learning. Findings from Ramlo (2021) are in agreement with those from Lowman et al. (2020), as survey respondents indicated that feeling connected to students was more difficult for faculty with online teaching. Despite the ongoing pandemic, Clemson University faculty were focused on providing students with the best education possible. Yet, findings also imply that administrators should provide mental health support to faculty within this type of unique situation. Auger and Formentin (2021)

completed a survey that investigated the emotional labor on 5,000 teachers while their findings additionally highlighted the added emotional labor strain on females. Colclasure (2021) examined the challenges that faculty faced during the transition to ERT and developed four themes as the main challenges. Their themes, which included pedagogical changes, work-life balance, face-to-face interactions, and physical and mental health, align with our findings. One difference to highlight is in the theme of face-to-face interaction. Our study focused on faculty interactions with students, but Colclasure's study additionally mentions faculty comments about missing face-to-face with colleagues and being able to "bounce ideas."

Additionally, a national survey of undergraduate students, *Suddenly Online*, reviews survey results and provides a playbook of recommendations for faculty to use moving forward. This survey was able to analyze student responses, satisfaction, and success to develop these recommendations (Means and Neisler, 2020). Their study also highlighted the two most important recommendations of their eight, which included reaching out and sending personal messages to students on their progress and check-ins, as well as asking students to summarize what they have learned and where they still need help.

CONCLUSION

Faculty at a public university were surveyed to determine contributing factors to stress levels during ERT implemented during 2020 the COVID-19 pandemic. Instructors that reported experiencing greater stress were those that felt unsatisfied with their course organization and felt challenged by many aspects of the transition to ERT format.

Academic environments everywhere were affected in the Fall of 2020 by the COVID-19 pandemic, which caused abrupt shifts in the mode of delivery and engagement for students and faculty. Not surprisingly, a majority of faculty surveyed at a public university indicated some level of stress associated with this sudden transition to ERT. The main contributing factors of increased stress for faculty stemmed from the added workload and challenge of delivering and modifying course content, assessing student learning, and organizing courses in a fully online format with little to no time to prepare. Consequently, faculty's views on online instruction were negative due to dissatisfaction with course organization. While it is important to know the contributors to stress, the next step is to develop resources to help alleviate these factors. As more research about the effects of the pandemic on higher learning institutions disseminates, the focus should be on how to develop proactive practices to maintain a productive learning environment for both faculty and students during unforeseen circumstances.

RESEARCH LIMITATIONS

While there were 103 responses, the survey design did not force responses for each question, therefore, participant responses varied throughout the survey. One of the questions related to technology could have been more specific since many view technologies differently, the act of physically being comfortable around devices and their main functions versus skill level at being able to operate software effectively. Future studies should aim to retain survey respondents throughout the survey to capture the demographics of participants to aid in statistical analysis.

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APPENDIX

Likert-Scale Survey Questions

#	**Questions**
Q5	If you taught a lab during the Fall 2020 semester, please rate the effectiveness of the following teaching strategies as it relates to student learning. Online instructor-led live demonstrations Online instructor-led recorded demonstrations Students conducting synchronous laboratory assignments Students recording laboratory assignments Video clips from other publicly available sources Data analyses using data collected from previous years or from another source Guest lectures Additional reading assignments Review sessions during office hours In-person problem solving sessions during class time Textbook platforms or Canvas integrated materials Electronic textbooks(s)
Q6	For non-lab component related courses that you taught during the Fall 2020 semester, please rate the effectiveness of the following teaching strategies as it relates to student learning. Online instructor-led live demonstrations Online instructor-led recorded lectures Students conducting synchronous assignments Students posting presentation recordings Video clips from other publicly available sources Data analyses using data collected from previous years or from another source Guest lectures Additional reading assignments Review sessions In-person problem solving sessions during class time Textbook platforms or Canvas integrated materials Electronic textbooks(s)

Q7	Which of the following teaching strategies do you plan to use during the spring 2021 semester? Select all that apply. (If you are not teaching a lab or lecture in spring 2021, pleaseselect N/A for that column.) Online synchronous lectures/labs Online asynchronous recorded lectures/labs Student presentations during synchronous class Students posting recorded reports/assignments Video clips from other publicly available sources Guest lectures Review sessions In-person problem solving sessions during class time Textbook platforms or Canvas integrated materials Electronic textbooks(s)
Q9	How would you rate your experience teaching online?
Q13	How stressful has teaching with distance digital learning been for you during the pandemic?
Q14	During the Fall 2020 semester, how challenging were each of the following in your transition to online teaching? Students discomfort or lack of familiarity with use of technology Your own discomfort or lack of familiarity with use of technology Access to reliable communications and software tools Access to reliable internet service (for yourself) Access to library resources Access to computer/digital learning support Finding the time and energy to effectively adapt to online teaching Determining how to assess and capture student learning in the remote learningenvironment Translating my lessons or activities to the remote learning environment Getting my students to adequately participate and respond Overcoming my preference for teaching the way I usually teach
Q15	Before the pandemic, how would you rate your skill level with technology?
Q16	How would you rate your technology skills now?
Q17	Rate how satisfied you are with the organization of your courses during the Fall 2020 semester.

Free Response Survey Questions

#	**Questions**
Q1	How many undergraduate courses did you teach during the Fall 2020 semester?
Q2	How many graduate courses did you teach during the Fall 2020 semester?
Q3	How many students were enrolled in the largest section of a class you taught during the Fall2020 semester?
Q10	What were the positive aspects of teaching online?
Q11	What were the negative aspects of teaching online?
Q12	What changes would you make to teaching online?

Yes/No Survey Questions

#	Questions
Q4	Did you teach a lab during the Fall 2020 semester?
Q8	During the Fall 2020 semester, did you reduce course material due to pandemic-related course delivery modifications?
Q18	Did you utilize Canvas to create quizzes/exams?

Multiple Choice Survey Questions

#	Questions
Q19	Which of the following approach(es) did you use for administering exams during the Fall 2020 semester? Select all that apply. Use of notes allowed during the exam No notes allowed during the exam Instructor provided formula sheet
Q20	Which of the following method(s) did you use for proctoring exams during the Fall 2020semester? Select all that apply. No proctoring Proctoring using Zoom LockDown Browser Respondus Monitor with LockDown Browser Remote Proctor NOW Other. Please specify.
Q20	What did you dislike about online instruction? Please select all that apply. Lack of face-to-face instruction Hard to reach the instructor Instructor feedback was slow Difficulty in understanding the instructor's expectations Miss interaction with my peers Hard to set up peer study groups Required too much self-discipline Difficult to get into a routine I had to teach the course material to myself
Q24	Do you have any of the following responsibilities? Please select all that apply. Infants, toddlers, or pre-school aged children who live with you at least half of the year Elementary, middle, or high school aged children who live with you at least half of theyear Children 18 years or older who live with you at least half of the year Children away at college for whom you are financially responsible Elders for whom you are providing ongoing care for more than three hours a week A disabled or ill family member None of the above Decline to answer