





Special Issue

Education Technologies and COVID-19: Experiences and Lessons Learned

Faculty Making the Emergency Online Transition During the COVID-19 Pandemic: The Effects of Prior Online Teaching Experience and Strategies Used to Learn to Teach Online

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Abstract

Objectives: During the COVID-19 pandemic, university faculty experienced an emergency pivot to online instruction in the Spring 2020 semester. Many had no prior online teaching experience and were given little time to adapt. This study examines pre-pandemic online teaching experience and training strategies used to learn how to teach online during the emergency remote teaching semester, perceptions of change in online teaching ability and the pandemic's impact on teaching effectiveness, and interest in future online teaching opportunities.

Method: Full-time faculty ($n = 455$) from four public regional universities in the southern United States completed a survey at the start of the Fall 2020 semester.

Results: Over 35% had no prior online teaching experience, while 43% had taught several online courses. During the pandemic, in an effort to learn or improve online teaching skills, 13.4% sought peer mentoring, 31.9% completed a training program, and 34.9% both sought mentoring and completed training. Perceived

online teaching skills, impact of the pandemic on teaching effectiveness, and interest in future online teaching were significantly related to prior online teaching experience and training sought.

Conclusions: Faculty with less online experience perceived a greater negative effect of the pandemic on teaching performance and had less interest in future online teaching. Both mentoring and training enhanced perceived teaching skills, lowered the negative impact of the pandemic on teaching effectiveness, and promoted a positive attitude about future online teaching.

Implications for Theory or Practice: The results provide support for the importance of faculty development programs in shaping attitudes and perceived effectiveness in online teaching and add to existent research on university faculty during the pandemic. Evidence from studies such as this provides universities with data that may be used to re-evaluate induction and training to improve instructional delivery in future instances when emergency remote teaching is required.

Keywords: *COVID-19, pandemic, university faculty, online, teaching*

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Introduction

COVID-19 was first reported in China in late 2019. By March 2020, it was recognized by the World Health Organization as a global pandemic and by May was linked to over 5 million cases and 300,000 deaths worldwide (Sarria-Guzman et al., 2021). State and local governments issued “stay-at-home” orders, and mitigation guidelines to prevent further spread of the virus included hand washing, wearing masks in public, and physical distancing from others. The pandemic strained educational systems and public health resources and changed many aspects of daily living across the planet.

In response to federal and state actions, and to reduce risk among faculty and students, universities across the United States sent residential students home, canceled on-campus activities, and moved instruction online (Fox et al., 2020; Johnson et al., 2020; Lee, 2020; Murphy et al., 2020; Quezada et al., 2020; Sahu, 2020; Schmidt et al., 2020). Typically, learning online pedagogy and developing an online course are done over time with the support of distance education professionals training faculty to utilize learning management systems, create and deliver content, assess student performance, and develop strategies to maintain student engagement (McQuiggan, 2012; Meyer & Murrell, 2014; Sahu, 2020). However, the COVID-induced pivot was swift and unprecedented, with little time for faculty and students to prepare for the change (Fox et al., 2020; Hodges et al., 2020; MacIntyre et al., 2020; Quezada et al., 2020; Sahu, 2020; Schmidt et al., 2020). Thus, it represented a semester of emergency remote teaching, a temporary shift to online instructional delivery due to a crisis that will likely return to traditional formats once the crisis has abated (Hodges et al., 2020). Adding to the challenge, prior to the pandemic many faculty and students had not experienced online instruction (Colclasure et al., 2021; Cutri et al., 2020; Fox et al., 2020; Lee, 2020; Roy & Covelli, 2021; Swaminathan et al., 2020).

Literature Review

Much recent research has examined the challenges of U.S. college students during the pandemic, and some interest has focused on their online learning perceptions and experiences. Studies indicate many worried

about the transition, had difficulty with online learning, and reported reduced attention/concentration, interest and participation in classes, fewer opportunities to interact with peers, and a reduction in perceived quality of the learning process (Aguilera-Hermida, 2020; Garris & Fleck, 2020; Kecojevic et al., 2020; Murphy et al., 2020; Reinholtz et al., 2020; Ruiz-Alonso-Bartol et al., 2022). Despite these challenges, students indicated their faculty made changes to course content and deadlines (Murphy et al., 2020) and most were able to successfully cope and achieve grades during the Spring 2020 semester that were consistent with previous semesters (Aguilera-Hermida, 2020; Garris & Fleck, 2020; Hickey et al., 2021). Yet, while students did not perceive the emergency change to online instruction to be insurmountable, the majority reported a preference for face-to-face classes and indicated that, as a result of their Spring 2020 emergency remote experience, they are less likely to opt for online instruction in the future (Aguilera-Hermida, 2020; Hickey et al., 2021; Serhan, 2020).

The university faculty experience during the pandemic has also been examined. Research examining college instructors' experiences during the emergency transition to online instruction has been primarily survey based (e.g., Aubry et al., 2020; Colclasure et al., 2021; Culp-Roche et al., 2012; Delaney et al., 2021; Fox et al., 2020; Johnson et al., 2020; MacIntyre et al., 2020; Roy & Covelli, 2021) and also included interviews with small samples (e.g., Belikov et al., 2021; Colclasure et al., 2021; Cutri et al., 2020; Howe et al., 2021; Manokore & Kuntz, 2021; Rupnow et al., 2020; Stadlander & Sickel, 2021). These studies have revealed several consistent findings. Prior to the emergency transition, between 40% and 52% of faculty had not taught online (Fox et al., 2020; Roy & Covelli, 2021) and many had low online teaching efficacy (Belikov et al., 2021). Among their greatest challenges was the speed of the transition combined with the time-intensive nature of learning and implementing new pedagogical skills, adapting to unfamiliar technology, modifying course calendars, and transitioning content delivery and assessments to online formats (Belikov et al., 2021; Colclasure et al., 2021; Cutri et al., 2020; Howe et al., 2021; MacIntyre et al., 2020). Over half of faculty felt uncomfortable teaching online during the emergency transition, and 42% found the transition difficult (Roy & Covelli, 2021). Distracted work environments at home and caring for others increased the challenge (Colclasure et al., 2021), with these leading to reduced satisfaction with professional life (Aubry et al., 2020). Delaney et al. (2021) reported that over 80% of university teachers indicated that balancing work responsibilities and childcare was difficult.

As they adapted to teaching online, faculty expressed significant concern for assessment of student performance, specifically that related to academic integrity and administering online exams (Cutri et al., 2020; Fox et al., 2020; Howe et al., 2021; Rupnow et al., 2020). Between 50% and 70% reduced the number of assignments and exams, changed grading policies, and lowered expectations (Fox et al., 2020; Johnson et al., 2020; Moser et al., 2021). Communication with students was also an often-reported struggle, as instructors indicated increased time spent communicating via email and reported perceptions of the negative impact of reduced in-person contact (Belikov et al., 2021; Colclasure et al., 2021; Howe et al., 2021; Moser et al., 2021). Faculty also often reported concerns for students, including their access to technology, as well as frustration with the lack of student participation, engagement, and motivation in class (Colclasure et al., 2021; Cutri et al., 2020; Fox et al., 2020; Howe et al., 2021; Manokore & Kuntz, 2021; Moser et al., 2021).

There is relatively strong evidence that those with previous online teaching experience had an easier time during the emergency transition (Colclasure et al., 2021; Manokore & Kuntz, 2021). Pre-pandemic online teaching experience was found to be significantly related to online teaching efficacy (Culp-Roche et al., 2021), online teaching readiness (Cutri et al., 2020), and comfort level teaching remotely during the pandemic (Roy & Covelli, 2021). Research indicates that many faculty, as much as 70%, felt their ability to teach effectively was negatively affected by the pandemic and the emergency remote teaching transition (Aubry et al., 2020; Colclasure et al., 2021).

Purpose of the Study

The COVID-19 pandemic resulted in an emergency pivot to online instruction, and faculty entered this transition with varied online teaching experience and training. How did they learn online teaching skills during the pandemic, and to what extent? To what extent did prior online teaching experience influence training sought by faculty during emergency remote teaching? Did the teaching experience during the COVID-19 pandemic change instructors' attitudes about online teaching? Little research has examined these questions. Two interview-based studies of small groups of teachers in nursing and chemistry revealed, logically, that some sought training through programs/workshops offered by their university (Howe et al., 2021; Rupnow et al., 2020). Additionally, in a large-scale, survey-based study, Fox et al. (2020) reported that faculty indicated their university was the most helpful source of support when making the emergency online transition. This study extends existing research on college instructors making the emergency online transition by examining their previous online teaching experience, strategies to learn to teach online during the pandemic, relationships between previous experience, training during the pandemic, perceptions of teaching effectiveness, and future online teaching interest.

Methods

Context and Participants

Participants in the study were 455 full-time faculty from four universities in the southeast United States that were in the same university system. Institutions were similar in size and scope (mid-sized regional public universities), from the same state, and, because they were in the same university system, had the same COVID-19 closing/opening timelines and policies. All four employed research partners of the lead researcher and provided IRB approval. Enrollment ranged from 8,500 to 19,000 total students, with undergraduates making up 81% to 92%. All four universities offered the majority of their degree programs on campus, but ranged in the number of 100% online degrees offered from 5% to 36% of programs. Each institution provided online teaching training certification for faculty and online learning support for students.

Due to the COVID-19 pandemic, in mid-March of the Spring 2020 semester, all four universities closed offices, canceled on-campus activities, and moved all instruction online for the remainder of the semester. The universities re-opened and on-campus instruction resumed at the start of the Fall 2020 semester, with policies in place to reduce the spread of COVID-19 (i.e., reduced class size and mandatory wearing of a face mask in buildings). During the Fall 2020 semester, courses were delivered through a variety of modes, including face-to-face, 100% online, and hybrid formats.

The sample was primarily female ($n = 290$, 63.7% female; $n = 155$, 33.8% male) and included 202 (44.4%) at the instructor rank, 83 (18.2%) tenure-track, and 170 (37.4%) tenured faculty. Faculty taught in 35 different disciplines including nursing (14.1%), business (12.3%), biology (6.4%), kinesiology (6.4%), and education (6.2%). The majority ($n = 316$, 69.5%) returned to work on campus at the start of the Fall 2020 semester, while 30.5% ($n = 139$) took steps to continue to work from home due to pandemic-related concerns.

Data Collection and Survey

After receiving IRB approval from the universities, we collected data early during the Fall 2020 semester using a Google Forms online survey designed for the study. Faculty were sent an email from the research team seeking their voluntary participation, indicating responses were anonymous and providing a link to the survey. A follow-up email was sent 3 weeks later. The survey instrument included demographic questions and items concerning online teaching experience and training, perceptions of the change in online teaching

effectiveness, impact of the pandemic on teaching effectiveness, and the extent to which their experience had changed their attitude about teaching online (see Appendix).

Demographic items addressed age, sex, academic area/department, and rank. On two items, respondents indicated the number of online courses they had taught prior to the Spring 2020 semester and whether they had completed a training program on online teaching prior to the Spring 2020 semester. These were followed by the item, “During the Spring 2020 semester, how did you learn how to teach online courses effectively (or improve your online teaching)?” Respondents selected from options indicating mentoring by other faculty and university-sponsored or external training programs.

Participants were then presented two items addressing teaching effectiveness. The first inquired, “How has your ability to teach online changed over the past 6 months?” Responses were selected on a 5-point scale anchored by (1) “It is much lower” and (5) “It is much higher.” The second item asked about “the extent to which the pandemic impacted your ability to teach effectively,” to which they indicated it was “not at all,” “slightly negatively affected,” or “greatly negatively affected.” The final item asked, “To what extent did your online teaching experience during the Spring 2020 semester change your attitude about teaching online in the future?” Responses were on a scale indicating the likelihood of voluntarily teaching an online class in the future as (1) much less to (5) much more likely.

Data Analysis

Descriptive statistics (frequency and percent) of item responses for the entire sample were calculated. In addition, several relationships were examined using Chi Square analyses. Faculty were categorized into three groups based on online teaching experience prior to the Spring 2020 semester: (a) No online teaching experience, (b) had taught between one and three online courses, and (c) had taught four or more online courses. Participants were also categorized into four groups based on activities in which they engaged during the spring 2020 semester to learn to teach online: (a) sought mentoring from other faculty, (b) completed training program/workshop to learn to teach online, (c) both sought mentoring and completed an online teaching program, and (d) did not seek mentoring nor participate in an online teaching training program. Activities to learn to teach online during the spring 2020 semester were compared among faculty with varying online teaching experience. Finally, change in perceived ability to teach online, impact of the pandemic on teaching effectiveness, and change in attitude toward teaching future online courses were examined as a function of previous online teaching experience and training/mentoring sought during the Spring 2020 semester. Data analysis was conducted using the Statistical Package for Social Sciences software, Version 25 (IBM Corp., Armonk, New York, USA).

Results

Online Teaching Experience and Training Prior to the Pandemic

Prior to the Spring 2020 semester, 36.5% ($n = 166$) of participants had never taught online, 20.4% ($n = 93$) had taught one to three online courses, and 43.1% ($n = 196$) had taught four or more. Prior to the emergency transition, 73.0% of surveyed faculty had completed a formal training program on online teaching. Of these, more (61.1%) had completed a training program offered by their university than one offered by an agency external to their university (34.1%).

Learning to Teach Online During the Spring 2020 Semester

During the Spring 2020 semester, 31.9% of faculty completed a professional development training program on online teaching, 13.4% sought mentoring from other faculty, and 34.9% reported both seeking peer

mentoring and completing a training program. The remaining 19.8% of participants reported neither activity. Among those who completed an online training program, more (60.9%) participated in one provided by their university than from an external agency (29.5%). Engagement in these strategies to learn to teach online varied significantly with previous online teaching experience [$X^2(6) = 14.83, p < .05$]. As shown in Table 1, faculty with the most previous online teaching experience were least likely to seek peer mentoring, but slightly more likely to complete a training program during the pandemic. In addition, compared to other groups, faculty who had taught between one and three online courses prior to the Spring 2020 semester were more likely to pursue mentoring from others plus complete a training program.

Table 1. Strategies to Learn to Teach Online During the Pandemic as a Function of Prior Online Teaching Experience

	<i>n</i>	Neither mentoring nor training <i>n</i> (%)	Mentoring only <i>n</i> (%)	Training program only <i>n</i> (%)	Mentoring and training program <i>n</i> (%)
Online teaching experience prior to Spring 2020					
No previous online teaching experience	166	31 (18.7%)	34 (20.5%)	46 (27.7%)	55 (33.1%)
Had taught 1–3 online courses	93	15 (16.1%)	11 (11.8%)	29 (31.2%)	38 (40.9%)
Had taught 4 or more more online courses	196	44 (22.4%)	16 (8.2%)	70 (35.7%)	66 (33.7%)
Total	455	90 (19.8%)	61 (13.4%)	145 (31.9%)	159 (34.9%)

Change in Perceived Ability to Teach Online Courses

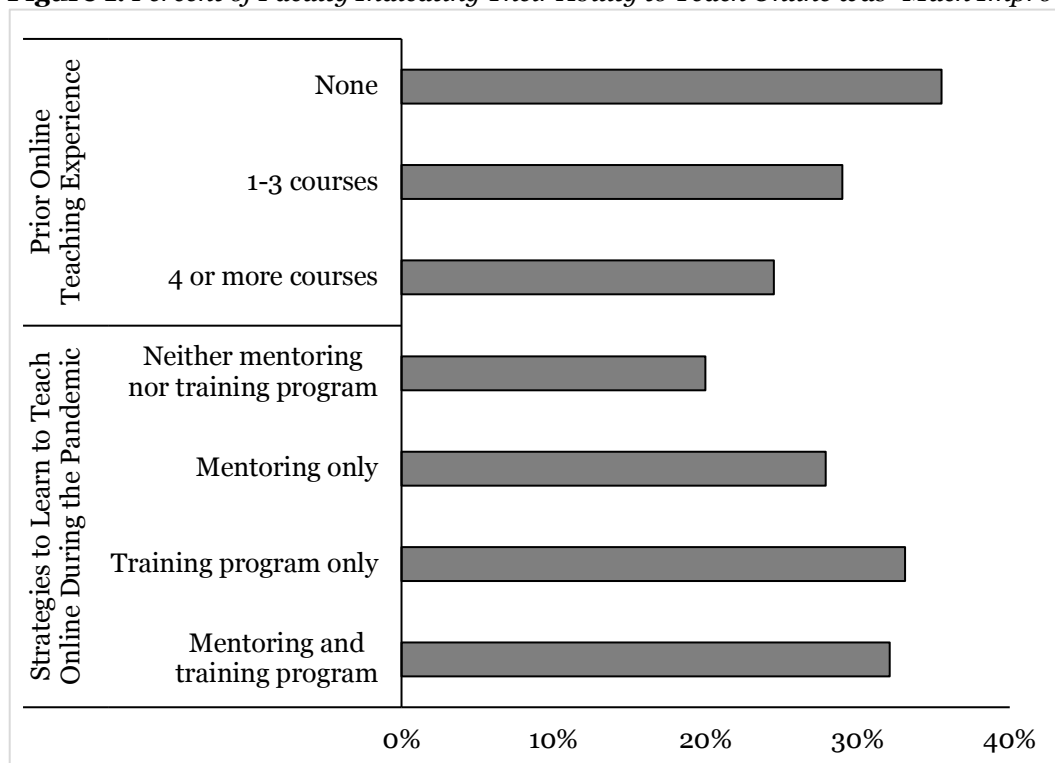
Of the entire sample, the majority of faculty indicated their ability to teach online after the Spring 2020 semester was “Somewhat” (54.3%) or “Much” improved (29.5%). As shown in Figure 1 and Table 2, this perception varied with both previous online teaching experience and activities to learn to teach online. Chi Square analysis [$X^2(4) = 19.10, p < .01$] showed a significant link between previous online teaching experience and perceptions of improvement, with less experienced faculty reporting higher levels of improvement. Over 35% of faculty with no previous online teaching experience indicated their ability was “much improved,” and this percentage declined among those with more online teaching experience.

Perceptions of online teaching ability also varied significantly as a function of training sought [$X^2(6) = 15.24, p < .05$] (see Table 2). Faculty who sought neither mentoring nor formal training were more likely to report their ability to teach online classes was “unchanged” compared to other groups. A rating of “much improved” was reported by a similar percent (approximately 30%) of instructors who sought mentoring, formal training, or both (see Figure 1).

Table 2. *Change in Perceived Ability to Teach Online Classes*

	<i>n</i>	Unchanged <i>n</i> (%)	Somewhat improved <i>n</i> (%)	Much improved <i>n</i> (%)
Online teaching experience prior to Spring 2020				
No online teaching experience	166	12 (7.2%)	91 (54.8%)	59 (35.5%)
Had taught 1-3 online classes	93	8 (8.6%)	56 (60.2%)	27 (29.0%)
Had taught 4 or more online classes	196	43 (21.9%)	100 (51.0%)	48 (24.5%)
Strategies used to learn to teach online during the Spring 2020 semester				
Neither mentoring nor training	90	23 (25.6%)	46 (51.1%)	18 (20.0%)
Mentoring only	61	7 (11.5%)	36 (59.0%)	17 (27.9%)
Training program only	145	16 (11.0%)	78 (53.8%)	48 (33.1%)
Mentoring and training program	159	17 (10.7%)	87 (54.7%)	51 (32.1%)
Total	455	63 (13.8%)	247 (54.3%)	134 (29.5%)

Figure 1. *Percent of Faculty Indicating Their Ability to Teach Online was “Much Improved”*



Impact of the Pandemic on Teaching Effectiveness

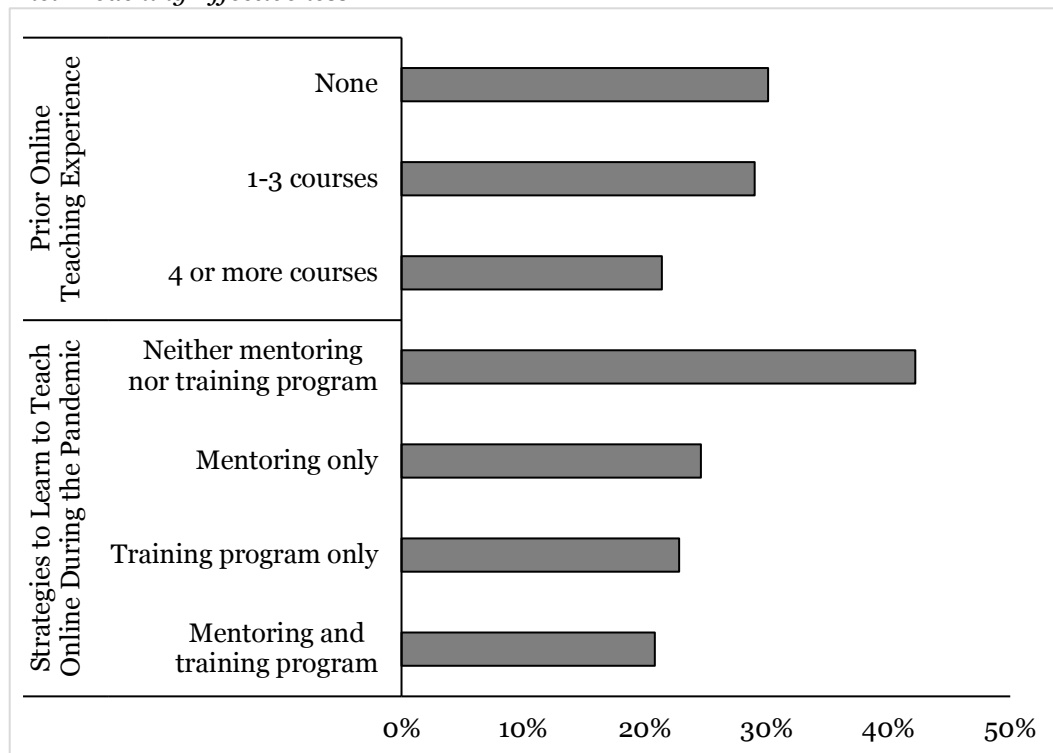
Overall, approximately half (48.6%) of respondents indicated the COVID-19 pandemic had “slightly negatively affected” their teaching effectiveness, with the remainder divided approximately equally between “not negatively affected” (25.3%) and “greatly negatively affected” (26.2%). These perceptions were found to be

significantly related to both prior online teaching experience [$X^2(4) = 35.87, p < .001$] and strategies to learn or improve online teaching skills during the pandemic [$X^2(6) = 14.99, p = .02$]. As indicated in Table 3 and Figure 2, the perceived negative impact of the pandemic on teaching effectiveness decreased with prior online teaching experience. In addition, faculty who did not seek mentoring nor complete a training program to learn to teach online during the Spring 2020 semester were most likely to indicate the pandemic had greatly negatively affected their teaching effectiveness (42.2%). In comparison, faculty who sought mentoring from others, completed a training program, or sought both mentoring and training reported a lesser impact of the pandemic on teaching effectiveness, with responses of these groups similar.

Table 3. *Perceived Import of the COVID-19 Pandemic on Teaching Effectiveness*

	<i>n</i>	Not negatively affected <i>n</i> (%)	Somewhat negatively affected <i>n</i> (%)	Greatly negatively affected <i>n</i> (%)
Online teaching experience prior to Spring 2020				
No online teaching experience	166	20 (12.8%)	96 (57.8%)	50 (30.1%)
Had taught 1-3 online classes	93	19 (20.4%)	47 (50.5%)	27 (29.0%)
Had taught 4 or more online classes	196	76 (38.8%)	78 (39.8%)	42 (21.4%)
Strategies used to learn to teach online during the Spring 2020 semester				
Neither mentoring nor training	90	12 (13.3%)	40 (44.4%)	38 (42.2%)
Mentoring only	61	17 (27.9%)	29 (47.5%)	15 (24.6%)
Training program only	145	40 (27.6%)	72 (49.7%)	33 (22.8%)
Mentoring and training program	159	46 (28.9%)	80 (50.3%)	33 (20.8%)
Total	455	115 (25.3%)	221 (48.6%)	119 (26.2%)

Figure 2. Percentage of Faculty Indicating the COVID-19 Pandemic had “Greatly Negatively Affected” Their Teaching Effectiveness



Attitude Toward Teaching Online in the Future

Over 44% of surveyed instructors indicated being more likely to voluntarily teach an online class in the future because of their online teaching experience during the pandemic. Approximately one in five (21.1%) indicated being less likely to do so, and the attitude of 34.1% was unchanged. Comparison of attitudinal responses indicated significant variation by both previous online teaching experience [$\chi^2(4) = 54.86, p < .01$], and strategies to learn to teach online during the pandemic [$\chi^2(6) = 11.97, p < .05$].

As shown in Table 4, a higher percentage of faculty with no previous online teaching experience (33.7%) indicated being less likely to desire to voluntarily teach online in the future than other groups. By comparison, over half of those who had taught one to three online courses prior to the pandemic (55.9%) were more likely to do so in the future. The most common response among faculty who had taught four or more online courses was that their attitude was unchanged. With respect to strategies to learn to teach online during the pandemic, instructors who completed a training program (53.1%) or pursued mentoring and formal training (45.3%) were more likely to indicate an interest in teaching online in the future than those who sought only mentoring (37.7%) or neither mentoring nor training (35.6%).

Table 4. *Attitude Toward Voluntarily Teaching Online Courses in the Future*

	<i>n</i>	Less likely <i>n</i> (%)	Unchanged <i>n</i> (%)	More likely <i>n</i> (%)
Online teaching experience prior to Spring 2020				
No online teaching experience	166	56 (33.7%)	35 (21.1%)	75 (45.2%)
Had taught 1-3 online classes	93	20 (21.5%)	21 (22.6%)	52 (55.9%)
Had taught 4 or more online classes	196	20 (10.2%)	99 (50.5%)	77 (39.3%)
Strategies used to learn to teach online during the Spring 2020 semester				
Neither mentoring nor training	90	27 (18.6%)	37 (41.1%)	32 (35.6%)
Mentoring only	61	19 (31.1%)	19 (31.1%)	23 (37.7%)
Training program only	145	27 (18.6%)	41 (28.3%)	77 (53.1%)
Mentoring and training program	159	29 (18.2%)	58 (36.5%)	72 (45.3%)
Total	455	96 (21.1%)	155 (34.1%)	204 (44.8%)

Discussion and Conclusions

Previous research on university faculty in the United States during the COVID pandemic has described challenges they faced as they dealt with the rapid and unprecedented emergency transition to online instruction. Evidence suggests that prior online teaching experience influenced faculty experiences and perceptions of the Spring 2020 semester (Colclasure et al., 2021; Culp-Roche et al., 2021; Cutri et al., 2020; Roy & Covelli, 2021), yet limited research has examined strategies in which faculty engaged to learn to teach online and their perceived impact. This study examined online teaching experience and training prior to the pandemic, strategies used during the Spring 2020 semester to learn how to teach online, changes in perceptions of online teaching ability, perceived impact of the pandemic on teaching effectiveness, and interest in future online teaching opportunities among 455 full-time faculty from four mid-sized public universities.

Before the Spring 2020 semester, slightly over one-third (36.5%) of the sample had never taught an online course, 20.4% had taught one to three online courses, and 43.1% had taught four or more. Other survey-based studies of faculty during the pandemic reported that 43% to 51% of faculty had no prior online teaching experience, and approximately 40% had taught several courses (Fox et al., 2020; Roy & Covelli, 2021). Thus, the combined evidence indicates that one-third to one-half of U.S. faculty entered the pandemic-induced online transition with no previous online teaching experience. However, among the 455 faculty in this study, 73% had completed a training program to learn to teach online, suggesting that many entered the transition with some understanding of and skills in online pedagogy.

Strategies to Learn to Teach Online During the Pandemic

Previous research has indicated that many faculty needed assistance during the Spring 2020 semester in managing the online transition, with their primary needs including best online teaching practices, tips for making the quick transition, and assistance with technology and supporting online students (Culp-Roche et al., 2021; Johnson et al., 2020). Interview-based studies indicate that some faculty sought professional development to learn to improve online teaching skills, primarily from workshops/training programs offered by their universities (Howe et al., 2021; Rupnow et al., 2020).

Among the faculty surveyed in this study, 47.1% sought mentoring from colleagues, slightly over two-thirds (69.4%) completed a training program in online pedagogy, and a little over one-third (34.9%) sought peer mentoring and completed a training program. Faculty were twice as likely to complete a formal training program offered by their university than from an external agency. Faculty with no prior online teaching experience were more likely to seek mentoring than more experienced faculty, whereas experienced faculty were more likely to complete a training program. This may reflect a greater need for inexperienced faculty to seek mentoring from their experienced peers, and for more experienced faculty to seek to enhance their skills through professional development programs.

Impact of the Pandemic on Teaching Effectiveness and Change in Perceived Ability to Teach Online

At the start of the Fall 2020 semester, 74.8% of faculty reported their teaching effectiveness was negatively affected by the pandemic, with 26.2% indicating it was “greatly” negatively affected. However, the majority (83.8%) indicated their ability to teach online was “somewhat” or “much” improved over the 6 months of emergency remote teaching. Both findings are consistent with previous research. Previous studies reported that over half of college instructors were uncomfortable teaching online during the spring 2020 semester (Roy & Covelli, 2021), and between 50% and 70% perceived their teaching was negatively affected by the pandemic (Aubry et al., 2020; Colclasure et al., 2021). Yet, 66.4% were more comfortable teaching online by the Fall semester (Roy & Covelli, 2021).

Research also has consistently indicated that online teaching experience before the pandemic played a role in faculty experience during emergency remote teaching. Previous studies have found that prior online experience was a significant predictor of online teaching efficacy (Culp-Roche et al., 2021) and significantly related to online teaching readiness (Cutri et al., 2020) and comfort level teaching online during the pandemic (Roy & Covelli, 2021). Our results add to this evidence. In this study, prior online teaching experience influenced both perceptions of teaching effectiveness and online teaching improvement. Specifically, faculty with no prior online teaching experience were more likely to report their teaching effectiveness was negatively impacted by the pandemic, as well as more likely to indicate their ability to teach online was improved compared to more experienced faculty.

We also found significant relationships between strategies to learn to teach online during the pandemic and these faculty perceptions. Perceived improvement in online instruction was lowest, and a negative perception of teaching effectiveness during the pandemic highest, among faculty who neither sought peer mentoring nor engaged in training programs/workshops. By comparison, faculty who sought mentoring or completed online pedagogy training were more likely to indicate their online teaching ability was much improved and less likely to report their teaching effectiveness was negatively impacted by the pandemic. Interestingly, the perception of online teaching improvement was similar among those who only sought mentoring, only completed a training program, or both. Other than interview-based studies reporting that online teaching efficacy improved as a result of professional development and university support (Howe et al., 2021) and descriptions of training programs utilized by universities during the pandemic (e.g., Reinholz et al., 2020), previous research on faculty in the United States during the pandemic has not examined faculty perceptions of the effectiveness of mentoring or training programs. However, research before the pandemic has shown the effectiveness of training programs in improving online teaching skills in university faculty (e.g., Borup & Evmenova, 2019). In addition, a case study of nursing faculty in India reported an increase in perceived competence in a variety of online pedagogical tasks among those who completed an 8-day online faculty development course during the pandemic (Swaminathan et al., 2021).

Attitude Toward Teaching Online in the Future

The final measure in this study was attitude for voluntarily teaching online in the future, specifically how that may have changed during the pandemic. Over 44% of the sample indicated being more likely to voluntarily teach an online class in the future, whereas 21.1% indicated being less likely to do so. In their large-scale, survey-based study, Fox et al. (2020) similarly reported that 45% of faculty had a more favorable perception of online teaching as a result of their pandemic experience, while 17% had a more negative perception.

In addition, we found that change in attitude to teaching online varied with prior online teaching experience and strategies used to learn to teach online during the pandemic. Faculty with no prior online teaching experience were least likely to desire to teach online in the future, whereas over half of those with a moderate amount of prior online teaching experience indicated being more likely to do so. In addition, a positive change in online teaching attitude was observed most often among faculty who completed a formal training program than those who sought mentoring only or neither mentoring nor training in online pedagogy. These results align with prior research indicating the effectiveness of such training programs in changing faculty attitudes about online teaching (Borup & Evmenova, 2019; Rienties et al., 2013), and that attitude toward online learning during the pandemic was highest among faculty employed by universities with dedicated instructional design staff (Fox et al., 2020). Further, our findings suggest that faculty who had taught one to three online classes prior to the pandemic were those most likely to pursue mentoring and training during the pandemic and, as a result of their experiences and improved skills, have a more positive attitude toward teaching online in the future.

Limitations

Limitations of this study include those related to sampling, survey design, and self-report. While respondents were over 400 faculty from multiple universities, data were collected from those employed at four similar mid-sized public institutions from one region of the United States. Participants were volunteers who elected to complete the survey at the start of the Fall 2020 semester, and their responses may not reflect all faculty. Items included in this report were answered using scaled responses, which may not provide depth of understanding. Finally, assessment of improvement in online teaching skills and teaching effectiveness were faculty perceptions and were not corroborated by student evaluations or other measures.

Implications for Practice

This study adds to existing research on university faculty during the pandemic, aligns with the limited study of their experiences during the emergency online transition, and provides support for the effectiveness of peer-to-peer mentoring and formal faculty development/training programs on enhancing perceptions of teaching effectiveness and attitudes toward online instruction. In addition to adding to the body of knowledge, research about faculty and students during the pandemic is useful for university leaders in understanding their experiences and concerns and in planning for the future.

The spring 2020 transition to online instruction was emergency remote teaching (Hodges et al., 2020). It was unexpected and unprecedented. But this pandemic continues to persist, and there will likely be future public health emergencies and natural disasters, which will create the need for similar pivots to online learning. It is logical that training faculty to make such transitions efficiently and effectively becomes part of induction and professional development and making emergency remote shifts becomes part of a faculty member's skill set (Hodges et al., 2020). Our data suggest that faculty least experienced in online teaching can benefit greatly from peer mentoring and that combining peer mentoring with online pedagogy training has the greatest effect on faculty perceptions of teaching effectiveness.

Conclusions

In their qualitative study of faculty learning to teach online, Schmidt et al. (2020) concluded that those with no prior online teaching experience feel unprepared and apprehensive and realize that teaching online requires the mastery of a variety of tasks. Comfort teaching an online class is usually reached by the third iteration (Hodges et al., 2020). This study indicated that over one-third of college instructors entered the COVID-induced emergency remote pivot with no prior online teaching experience. During the spring 2020 semester, 80% sought mentoring or formal training to improve their online teaching effectiveness, with 35% pursuing both peer mentoring and completing a training program. While three-fourths of faculty perceived that the pandemic had negatively impacted their teaching effectiveness, those who had sought to improve their online teaching skills via mentoring or formal training perceived a greater improvement in online teaching skills and a reduced negative effect of the pandemic on teaching effectiveness. Prior experience teaching online courses played a significant role in strategies sought to improve online teaching skills, as well as perceptions of teaching effectiveness.

References

- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*.
<https://doi.org/10.1016/j.ijedro.2020.100011>
- Aubry, L. M., Laverty, T. M., & Ma, Z. (2021). Impacts of COVID-19 on ecology and evolutionary biology faculty in the United States. *Ecological Applications*, *31*(2), e2265. <https://doi.org/10.1002/eap.2265>
- Belikov, O., VanLeeuwen, C. A., Veletsianos, G., Johnson, N., & Prusko, P. T. (2021). Professional and personal impacts experienced by faculty stemming from the intersection of the COVID-19 pandemic and racial tensions. *Journal of Interactive Media in Education*, *2021*(1), 8. <https://doi.org/10.5334/jime.647>
- Borup, J., & Evmenova, A. S. (2019). The effectiveness of professional development in overcoming obstacles to effective online instruction in a college of education. *Online Learning*, *23*(2), 1–20.
<https://eric.ed.gov/?id=EJ1218368>
- Colclasure, B. C., Marlier, A., Durham, M. F., Brooks, T. D., & Kerr, M. (2021). Identified challenges from faculty teaching at predominantly undergraduate institutions after abrupt transition to emergency remote teaching during the COVID-19 pandemic. *Education Sciences*, *11*(9), 556.
<https://doi.org/10.3390/educsci11090556>
- Culp-Roche, A., Hardin-Fanning, F., Tartavouille, T., Hampton, D., Hensley, A., Wilson, J. L., & Wiggins, A. T. (2021). Perception of online teacher self-efficacy: A multi-state study of nursing faculty pivoting courses during COVID 19. *Nurse Education Today*, *106*, 105064.
<https://doi.org/10.1016/j.nedt.2021.105064>
- Cutri, R. M., Mena, J., & Whiting, E. F. (2020). Faculty readiness for online crisis teaching: Transitioning to online teaching during the COVID-19 pandemic. *European Journal of Teacher Education*, *43*(4), 523–541. <https://doi.org/10.1080/02619768.2020.1815702>
- Delaney, R. K., Locke, A., Pershing, M. L., Geist, C., Clouse, E., Debbink, M. P., Haaland, B., Tanner, A. J., Anzai, Y., & Fagerlin, A. (2021). Experiences of a health system's faculty, staff, and trainees' career development, work culture, and childcare needs during the COVID-19 pandemic. *JAMA Network Open*, *4*(4), e213997. doi:10.1001/jamanetworkopen.2021.3997
- Fox, K., Bryant, G., Lin, N., & Srinivasan, N. (2020). *Time for class—COVID-Part 1: A national survey of faculty during COVID-19*. Tyton Partners and Every Learner Everywhere.
<http://hdl.voced.edu.au/10707/555443>
- Garris, C. P., & Fleck, B. (2020). Student evaluations of transitioned-online courses during the COVID-19 pandemic. *Scholarship of Teaching and Learning in Psychology*.
<https://doi.org/10.1037/stl0000229>
- Hickey, S. E., Hebert, E. P., & Webb, N. (2021). College student experiences of the COVID-19 pandemic: Concerns, preventive behaviors, and impact on academics and career choice. *American Journal of Health Studies*, *36*(2), 76–87. <https://amjhealthstudies.com/index.php/ajhs/article/view/647>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, M. (2020). The difference between emergency remote teaching and online learning. *Educause Review*, *27*, 1–12.
<https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Howe, D. L., Heitner, K. L., Dozier, A., & Silas, S. (2021). Health professions faculty experiences teaching online during the COVID-19 pandemic. *Association of Black Nursing Faculty Journal*, *32*(1), 6–11.

- Johnson, N., Veletsianos, G., & Seaman, J. (2020). US faculty and administrators' experiences and approaches in the early weeks of the COVID-19 pandemic. *Online Learning, 24*(2), 6–21. <https://doi.org/10.24059/olj.v24i2.2285>
- Kecojevic, A., Basch, C. H., Sullivan, M., & Davi, N. K. (2020). The impact of the COVID-19 epidemic on mental health of undergraduate students in New Jersey, cross-sectional study. *PloS one, 15*(9), e0239696. <https://doi.org/10.1371/journal.pone.0239696>
- Lee, K. (2020). Coronavirus: Universities are shifting classes online—but it's not as easy as it sounds. *The Conversation, 9*. <https://theconversation.com/coronavirus-universities-are-shifting-classes-online-but-its-not-as-easy-as-it-sounds-133030>
- MacIntyre, P. D., Gregersen, T., & Mercer, S. (2020). Language teachers' coping strategies during the COVID-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System, 94*, 102352. <https://doi.org/10.1016/j.system.2020.102352>
- Manokore, V., & Kuntz, J. (2021). Replication or reinvention: Educators' narratives on teaching in higher education during the COVID-19 pandemic. *Higher Learning Research Communications, 12* (1). DOI:10.5590/HLRC.2022.12.1.1270
- McQuiggan, C. A. (2012). Faculty development for online teaching as a catalyst for change. *Journal of Asynchronous Learning Networks, 16*(2), 27–61. <https://eric.ed.gov/?id=EJ971044>
- Meyer, K. A., & Murrell, V. S. (2014). A national study of training content and activities for faculty development for online teaching. *Journal of Asynchronous Learning Networks, 18*(1). <https://eric.ed.gov/?id=EJ1030527>
- Moser, K. M., Wei, T., & Brenner, D. (2021). Remote teaching during COVID-19: Implications from a national survey of language educators. *System, 97*, 102431. <https://doi.org/10.1016/j.system.2020.102431>
- Murphy, L., Eduljee, N. B., & Croteau, K. (2020). College student transition to synchronous virtual classes during the COVID-19 pandemic in northeastern United States. *Pedagogical Research, 5*(4), em0078. <https://doi.org/10.29333/pr/8485>
- Quezada, L. R., Talbot, C., & Quezada-Parker, K. B. (2020). From bricks and mortar to remote teaching: A teacher education program's response to COVID-19. *Journal of Education for Teaching, 46*(4), 472–483. <https://doi.org/10.1080/02607476.2020.1801330>
- Reinholz, D. L., Stone-Johnstone, A., White, I., Sianez, L. M., & Shah, N. (2020). A pandemic crash course: Learning to teach equitably in synchronous online classes. *CBE—Life Sciences Education, 19*(4), ar60. <https://doi.org/10.1187/cbe.20-06-0126>
- Rienties, B., Brouwer, N., & Lygo-Baker, S. (2013). The effects of online professional development on higher education teachers' beliefs and intentions towards learning facilitation and technology. *Teaching and Teacher Education, 29*, 122–131. <https://doi.org/10.1016/j.tate.2012.09.002>
- Roy, S., & Covelli, B. (2020). COVID-19 induced transition from classroom to online mid semester: Case study on faculty and students' preferences and opinions. *Higher Learning Research Communications, 11*, 2. DOI:10.18870/hlrc.v11i0.1197
- Ruiz-Alonso-Bartol, A., Querrien, D., Dykstra, S., Fernández-Mira, P., & Sánchez-Gutiérrez, C. (2022). Transitioning to emergency online teaching: The experience of Spanish language learners in a US university. *System, 104*, 102684. <https://doi.org/10.1016/j.system.2021.102684>
- Rupnow, R. L., LaDue, N. D., James, N. M., & Bergan-Roller, H. E. (2020). A perturbed system: How tenured faculty responded to the COVID-19 shift to remote instruction. *Journal of Chemical Education, 97*(9), 2397–2407. <https://doi.org/10.1021/acs.jchemed.0c00802>

- Sahu, P. (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): Impact on education and mental health of students and academic staff. *Cureus, 12*(4), e7541. DOI:10.7759/cureus.7541
- Sarria-Guzman, Y., Fusaro, C., Bernal, J. E., Mosso-González, C., González-Jiménez, F. E., & Serrano-Silva, N. (2021). Knowledge, attitude and practices (KAP) towards COVID-19 pandemic in America: A preliminary systematic review. *The Journal of Infection in Developing Countries, 15*(01), 9–21. doi.org/10.3855/jidc.14388
- Schmidt, S., Hodge, E. M., & Tschida, C. M. (2020). How instructors learn to teach online: Considering the past to plan for the future. *eLearn, 10*, 2. <https://doi.org/10.1145/3429274.3425110>
- Seaman, J. E., Allen, I. E., & Seaman, J. (2018). *Grade increase: Tracking distance education in the United States*. Babson Survey Research Group. <http://www.onlinelearningsurvey.com/highered.html>
- Serhan, D. (2020). Transitioning from face-to-face to remote learning: Students' attitudes and perceptions of using Zoom during COVID-19 pandemic. *International Journal of Technology in Education and Science, 4*(4), 335–342. <https://doi.org/10.46328/ijtes.v4i4.148>
- Stadtlander, L., & Sickel, A. (2021). A qualitative study examining home as faculty workplace during COVID-19 self-isolation. *Higher Learning Research Communications, 11*. DOI:10.18870/hlrc.v11i0.1218
- Swaminathan, N., Govindharaj, P., Jagadeesh, N. S., & Ravichandran, L. (2021). Evaluating the effectiveness of an online faculty development programme for nurse educators about remote teaching during COVID-19. *Journal of Taibah University Medical Sciences, 16*(2), 268–273. <https://doi.org/10.1016/j.jtumed.2020.11.003>

Appendix

Questionnaire

Online Experience and Training Prior to Spring 2020

Prior to Spring 2020, how many online courses had you taught? Response Options:

- None
- One
- Two
- Three
- Four or more

Prior to Spring 2020, had you completed a training program in online teaching offered by your university?

Response Options:

- No
- Yes

Prior to Spring 2020, had you completed a training program in online teaching delivered by an external organization? Response Options:

- No
- Yes

Learning to Teach Online During the Spring 2020 Semester

During the Spring 2020 semester, how did you learn to teach online courses effectively (or improve your online teaching)? Indicate as many as appropriate. Response Options:

- Mentoring by other faculty
- Training programs offered by my university
- Training programs external to my university
- None of these

Teaching Effectiveness

How has your ability to teach online changed over the past 6 months? Response Options:

- (1) It is much lower/worse
- (2) It is somewhat lower/worse
- (3) It is unchanged
- (4) It is somewhat higher/better
- (5) It is much higher/better.

To what extent did the pandemic impact your ability to teach effectively? Response Options:

- Not at all negatively affected
- Slightly negatively affected
- Greatly negatively affected.

Attitude Toward Teaching Online Classes

To what extent did your online teaching experience during the Spring 2020 semester change your attitude about voluntarily teaching an online class in the future? Response Options:

- (1) I am much less likely to voluntarily teach an online class in the future
- (2) Somewhat less likely
- (3) Unchanged
- (4) Somewhat more likely
- (5) I am much more likely to voluntarily teach an online class in the future.

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