"Like Throwing Darts at a Dartboard": A Literature Synthesis of Higher Education Instructors' Interactions in the Transition to Online Teaching

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Abstract
In this literature synthesis, we reviewed qualitative research studies that captured rich descriptions of instructors' experiences in higher education (HE) as they transitioned from traditional in-person classrooms to online learning environments. We identified articles for review by conducting an ERIC database search that targeted qualitative research since 2010, using terms related to online education, higher education, teacher experience, qualitative research, and change. A careful screening with exclusion/inclusion criteria resulted in 31 articles. The sample represents the lived experiences of more than 200 instructors across various articles representing HE disciplines and contexts. The articles were analyzed for emerging themes in their reported challenges and successes, especially with respect to teachers' interactions with learners and content. The instructor-participants in the research literature experienced varying levels of satisfaction in designing and facilitating online classes and navigating available technology, with most finding the transition process time consuming and effort intensive. They likewise experienced a range of success in their interactions with their online classes and individual students. Some instructors found opportunities for rich connections in online discussions and one-to-one communication while others struggled to feel a sense of community or perceive students' needs. These faculty experiences, though collected from many bounded qualitative studies, suggest that teachers new to online classrooms share many challenges in their interactions with students and content. This synthesis offers recommendations for research and practice in higher education, emphasizing how potential online instructors and their institutions can deepen their understanding of the faculty transition to online teaching and collaborate to provide meaningful support.

Keywords: Online courses; Higher education; Teaching experience; Modality transition; Online teaching

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Introduction

Colleges offer more blended and online courses to meet increased student demand, expand enrollment capacity, and reduce the physical limitations of on-campus space (Goodman et al., 2019; Guppy et al., 2022; Moloney & Oakley, 2010; Singh et al., 2022). Currently, 71% of undergraduate students report enrollment in distance education courses (National Center for Education Statistics, 2022). Although experts in the field of educational technology know that online learning can be effective with intentional digital pedagogy and design (Bas & Kivilcim, 2021; Gonzales, 2014; Luna & Winters, 2017), many instructors remain skeptical of online learning and hesitate to adopt teaching in a new modality (Lederman, 2020; Shreaves et al., 2020). It seems essential to ask why this is true. What do instructors typically experience in their transition to online environments? We need a better understanding of their shared challenges so that (a) instructors can anticipate and prepare for needed adjustments as they transition to online teaching and (b) institutions can provide adequate training and support.

Despite the need to understand teachers' transitions, the literature is spotty, with much more literature devoted to students' online learning experiences and challenges. This calls for research to better understand faculty experiences and needs in this context. Qualitative research is considered the best approach to capture the rich depth of individuals' experiences, but most available qualitative research about instructor perspectives is limited to a specific context, method, or intervention. Researchers of bounded qualitative studies do not typically purport the generalizability of their conclusions and findings. However, synthesizing multiple qualitative studies may reveal common themes and shared experiences across a quantity of research and contexts, thereby increasing the potential transferability to larger HE populations.

Several previous literature reviews synthesized studies about online teaching, but these papers considered now-dated evidence from before 2010. These scholars reviewed a combination of quantitative, qualitative, and mixed-methods research (Baran et al., 2011; Maguire, 2005; Mayes et al., 2011; Tallent-Runnels et al., 2006). Mayes et al. (2011) particularly focused on graduate students in math teacher education and Tallent-Runnels et al. (2006) found more articles about students' needs, outcomes, and characteristics than instructors' experiences. Both reviews considered student and instructor data.

Wingo et al. (2017) more recently reviewed quantitative, qualitative, and mixed-methods research, looking specifically at studies related to the Technology Acceptance Model (Davis, 1989). The model does address transitions toward increased technology use in teaching, however, the lack of demographics about participants' teaching experience makes it difficult to isolate the experience of novice online instructors covered in this review. Kebritchi et al. (2017), meanwhile, also synthesized quantitative, qualitative, and mixed-methods studies that addressed online issues, learner issues, instructor issues, and course design. Though they did not focus their review on instructor experience, they did identify the following online instructor issues: Changing faculty roles, transitioning from face-to-face to online, time management, and teaching styles. Both reviews address some of the challenges faced in online teaching, but they include quantitative research design rather than focusing on qualitative descriptions of teacher experience, and they do not specifically address modality transitions.

The current review expands upon these previous findings by including more recent literature and highlighting qualitative data, allowing us to better understand the nuances of teacher transitions. While studies about student online transition are more common, it is particularly essential to understand teacher transitions and provide support, professional development, and institutional guidance to the teachers who navigate the decisions that arise during their transition to online learning. By better understanding these teacher needs, we can better develop future online learning environments and support the main change agents—teachers.

For this reason, and to better understand how teachers themselves perceive and understand their transition experiences, we analyzed qualitative reports about instructors' experiences across various HE disciplines and contexts as they transitioned from traditional in-person classrooms to online learning environments. We identified common themes in their varied experiences. By studying these qualitative reports, we were better able to hear teachers' voices and empathize with their perspectives, needs, and challenges. In discussing their experiences, we focused particularly on teachers' perceptions of the changes in their interactions with content and students in various mediums. We look at content interactions because new learning environments demand adjustments in media and course delivery methods (Graham, 2021). In addition, we considered student-teacher interactions because this "emotional labor" (p. 811) is often enjoyable for teachers and the reason for their career choice (Hargreaves, 2020).

After diving deeply into the qualitative descriptions of these teachers' transition experiences and focusing on how their interactions with students and content were affected by these transitions, we conclude with recommendations for the support they need in these new modalities. Specifically, we asked the following questions:

As higher education instructors transition from traditional classrooms to online learning environments,

1. What do instructors experience in their interactions with students and content?

2. What changes in those interactions do they find challenging or satisfying?

Method

This literature synthesis seeks to better understand the teacher experience in modality transitions "through integration of multiple, interrelated qualitative studies" (Maeda et al., 2022, p. 1). The synthesis included an ERIC (EBSCO) database search for relevant terms and a subsequent analysis of the resulting sample. The researchers employed line-by-line analysis of the sample and created descriptive codes of the resulting themes (Thomas & Harden, 2008). Details related to the search for articles and the analysis of their qualitative data are provided below.

Literature Search

The lead reviewer began the literature search in the ERIC (EBSCO) database using combinations of more than 70 search terms in five categories: Online, higher education, teacher

experience, qualitative research, and change/transition. Filters were applied to exclude irrelevant contexts such as quantitative design or emergency response teaching during the Covid-19 pandemic. We used the following combined thesaurus terms listed in Table 1 to conduct our initial search.

Table 1

ERIC Database Search Terms and Results

Category/ Theme	ERIC Thesaurus terms	AND additional individual search terms	Results
Online	DE "Online Courses" OR DE "Asynchronous Communication" OR DE "Blended Learning" OR DE "Electronic Learning" OR DE "Virtual Classrooms" OR DE "Virtual Schools" OR DE "Virtual Universities" OR DE "Web Based Instruction"	TI blended teaching, hybrid, digital, distance learning, online teaching, distance education	**53,273**
Higher Education	DE "College Curriculum" OR DE "College Instruction" OR DE "College Programs" OR DE "Doctoral Programs" OR DE "Graduate Students" OR DE "Undergraduate Students" OR DE "Universities" OR DE "Colleges" OR DE "Open Universities" OR DE "Research Universities" OR DE "State Universities" OR DE "College Faculty" OR DE "Graduate Study" OR DE "Higher Education" OR DE "Undergraduate Study"	n/a	**527,384**
Teacher Experience	DE "Teaching Experience" OR DE "Experience" OR DE "Experienced Teachers" OR DE "Expertise" OR DE "Knowledge Base for Teaching" OR DE "Reflective Teaching" OR DE "Teacher Background" OR DE "Teacher Qualifications"	TI ("teacher" or "instructor" or "faculty" or "professor") AND ("experience" or "lived experience" or "perception*" or "interact*" or "attitude*" or "practice" or "participat* or “reflect*")	**50,466**
The three searches above (**S3**) were combined to produce **1,358** results. Those results were then combined separately with the following search categories to yield more specific results.			
Qualitative Research	n/a (Librarian recommended against this thesaurus term because not all qualitative studies are labeled as such)	TI/AB/TX "Case Stud*" OR "Ethnograph*" OR "Evaluation Method*" OR "Field Stud*" OR "Focus Group" OR "Grounded Theory" OR "Interview*" OR "Mixed Method*" OR "Naturalistic Observation" OR "Observe" OR "Participant Observation" OR "Transcript*" OR "journal*" OR "self reflect*" OR “phenomeno*”	TI 81 **AB 507** TX 1,206

Change/ Transition	n/a	TI/AB/TX "Adjust*" OR "transition*" OR "adopt*" OR "adapt*" OR "move*" OR "change*" OR "switch*" or "redesign*" OR "reevaluate*"	TI 65 **AB 414** TX 471

- ➢ S3 + AB (Qualitative Research search terms) + AB (Change search terms) = 174
- ➢ 174 results + NOT ("Covid" OR "pandemic" OR "ERT" OR "emergency" OR "Covid-19") = **129**

The database search, using the combination of terms described in Table 1, returned 129 articles. We then screened titles to remove studies outside our scope—such as non-journal articles, K-12 context, or learner-focused studies—that had not been excluded by the search, likely due to incomplete indexing or database limitations. This initial sorting resulted in 59 titles that aligned with the focus of our review questions. We then analyzed those articles with the specific criteria outlined below.

Inclusion/Exclusion Criteria

After the initial screening of 129 titles, the lead author reviewed the abstracts and content of the remaining 59 articles, using the following inclusion and exclusion standards (Table 2).

Table 2

Exclusion and Inclusion Criteria Applied to Database Search Results

Exclusion criteria	Inclusion criteria
Teachers in K-12, commercial, or informal education contexts	Experiences of instructors in higher education
Technology integration in traditional classrooms	Online or blended classes
Dissertations, conference papers, or literature reviews	Journal articles
Prior to 2010	2010-2022
COVID-19/pandemic/emergency remote teaching (ERT)	Instructors intentionally designing for, and teaching in, typical, representative online environments
Student or administrator experience	Teacher experience

Instructors with < 3 years of online teaching experience	Novice online instructors, or those reflecting on their early experience
Exclusively quantitative or theoretical	Qualitative research methods, appropriate for a qualitative synthesis of research

Note. Where a study included both novice and experienced online instructors, we focused our analysis on novice instructors where possible.

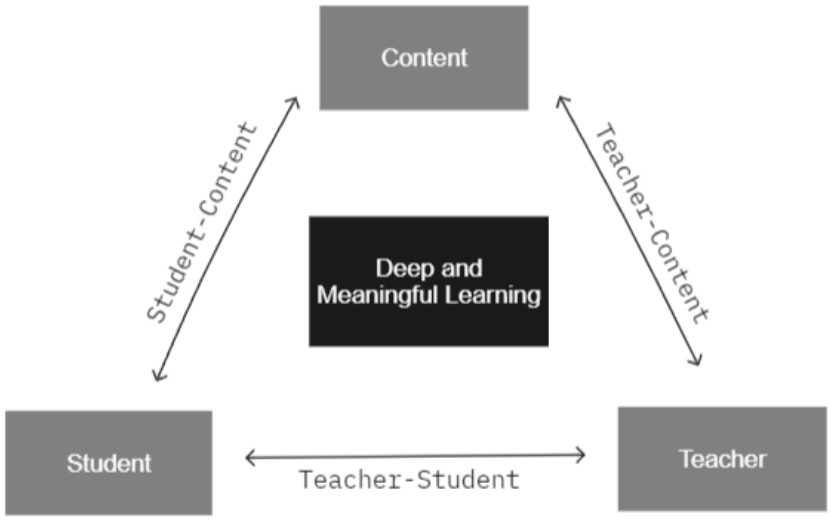
In addition to this process, we added relevant articles cited within the initial findings and other articles discovered outside of the above formal process (e.g., expert recommended or discovered through other methods). The results were 31 articles for review: 22 qualitative studies about HE instructors' experiences in the transition to online environments and nine studies about professional development and support interventions for instructors in that transition. We set aside the nine professional development articles to contextualize their findings in the recommendations section and focused on the 22 instructor experience studies for analysis of the review questions.

Theoretical Framework

We used Anderson's (2003) model of educational interactions in online learning communities to analyze the articles. His model described reciprocal interactions with social and pedagogical impact on distance education, taking place between teachers, students, and content (Figure 1). For the purposes of this literature synthesis and given that the review questions sought to understand the teacher experience, we focused on teacher-student interactions and teacher-content interactions.

Figure 1

Anderson's Modes of Interaction in Distance Education, adapted from Anderson (2003)



An instructor who has taught predominantly in a traditional, face-to-face (F2F) classroom will be accustomed to a variety of methods for interacting with course content and students. When instructors move to an online learning environment, they often experience those interactions with learners and content differently. Their practiced approaches to instruction and communication may not work in the same ways to bring about familiar interactions. A change in modality invites teachers to reevaluate where, when, and how those interactions occur.

Data Analysis

Once a comprehensive body of relevant research was identified, the lead reviewer did line-by-line coding of each article's reported teacher experiences, guided by the research questions, with a lens toward Anderson's (2003) interactions. To focus on qualitative data in the sample of articles, her coding process targeted teachers' quotes in the reported data or researchers' summaries of instructors' experiences. She analyzed the data for any mention of teacher interactions with content or students and applied thematic codes using a combination of deductive and inductive coding (see Table 3). As prescribed by Thomas and Harden (2008), line-by-line codes were compared within and across studies to identify frequency and build themes.

Table 3

Deductive and Inductive Codes Used to Analyze Literature

Deductive codebook	Inductive coding The most frequent themes (with subthemes) that emerged within the deductive categories
Interaction: Teacher-Content	Course design/organization Preparation/planning time Course structure and clear instructions Align content with values Scope of content segments F2F content hard to transfer Preparation/planning time Technology usage Tools used Finding tools to solve problems Learning new tools Frustration with technology Inexperienced with tech/online Inadequate technology Changing technology Learning activity design New content creation Assessment Embracing technology/creativity
Interaction: Teacher-Student	Communicating with individuals and classes Teacher-individual student interactions Teacher-class interactions Feeling connection and community Lack of connection Positive connections Giving and receiving feedback

	Instructor feedback Student feedback Establishing teacher presence Encouraging Discussion
Research Methods Method-Approach Method-Context Method-Participants/ Sample Method-Data Collection Method-Data Analysis	See Table 4 for a summary of these research categories

Note. All codes listed in this table are addressed and analyzed in the Findings section. The teacher-content and teacher-student themes are presented in the order set forth in the table.

Limitations

We synthesized literature about a variety of individual instructors' experiences to reveal trends, but not all findings are transferable to all contexts. Due to constraints in the database thesaurus search terms and subjective decisions about relevant results, other useful studies may have been excluded in our analysis. Approximately half of the articles in this review included both novice and experienced HE online instructors. To best answer the research questions, we attempted to isolate the experiences of instructors transitioning to online teaching. Some researchers did not distinguish teachers' length of experience in their findings; in other cases, we may have coded data from more experienced teachers. Nevertheless, we believe seasoned instructors' challenges are likely to be experienced by new instructors as well and can still prepare potential online teachers or inform the direction of institutional support.

This review was limited to the ERIC (EBSCO) database, a leading source for educational research. While it yielded a sufficient number of relevant studies, similar searches in other databases may have identified additional literature that could enhance understanding of the research questions.

One further limitation of this study is its narrow scope. By focusing only on the experiences of early online educators, prospective instructors may not comprehend the potential for problem solving and success in online teaching over time. Readers will, however, be able to identify and anticipate shared challenges that occur during the early transition to online learning environments.

Results

To answer the review questions about teachers' experiences when transitioning to teaching in online learning environments, we present the findings in two categories: (a) teacher-content interactions, and (b) teacher-student interactions. Within each category, we identify predominant, emergent themes and summarize the related instructor experiences. The reported data represent collected experiences from more than 200 instructors in various articles representing diverse HE qualitative research contexts. See Table 4 for an overview of the

collected research articles for this literature synthesis, including the scope and context of each study, its qualitative approach, and the applied methodology for data collection and analysis.

Table 4

Summary of Research Methods and Context for All Analyzed Literature

Author(s) (date)	Approach	Context	Participants	Data collection and analysis
Andrews Graham (2019)	Phenomenological	Two historically Black colleges and universities in southeastern US	41 participants: 28 full-time faculty members and 13 adjunct faculty	Surveys and interviews over three months, and content analysis to identify common themes and patterns.
Ata (2016)	Case study	School of Management at a UK-based university.	10 faculty members who were teaching a course using Second Life as a platform for blended learning	Observations, semistructured interviews, chat logs, snapshots, and field notes; analyzed using thematic analysis
Baran et al. (2013)	Multiple case study	Large research university in Midwestern US	Six teachers who were the first-ranked nominees from each college/program, reflecting on their transition to online teaching	semistructured interviews and thematic analysis as the method of data analysis
Burke (2021)	Basic qualitative	Australian higher education institutions	Ten online educators who taught creative arts courses	Semistructured interviews, analyzed using thematic analysis
Englund et al. (2017)	Mixed-method	Two universities in Sweden: one traditional and one distance education university	Nine university teachers using technology in their teaching practices, some in blended classes	Qualitative semistructured interviews with the participants, classroom observations, course syllabi, and online learning resources.
Glass (2017)	Post-positivist grounded theory	Major Carnegie research institution in Midwestern US	16 faculty from six departments: six females, ten males; five assistant professors, three associate professors, and eight professors	Two-stage semistructured interviews, coded for emotions, then analyzed for relationships between patterns and subgroups
Huang & Hsiao (2012)	Basic qualitative	a Midwest university	16 instructors from 13 departments in five colleges at the university,	Semistructured interviews, 60-90 minutes; analyzed with

			including 10 females and six males	constant comparative method, organizing categories until themes emerged
Jensen et al. (2020)	Basic qualitative	Three Swedish universities	15 university teachers (equivalent to US faculty) who had online teaching experience, but were asked to reflect on their transition from traditional teaching	Semistructured interviews; thematic analysis, with iterative themes and subthemes to clarify patterns
Kayaduman & Demirel (2019)	Mixed methods descriptive case study	University in Turkey	Nine first-time online instructors assigned to teach online by their administration; they all had previous in-person tec	Quantitative and qualitative data from interviews and questionnaires; two semistructured interviews, one before the semester and after four weeks; two experts did content analysis to identify codes and themes
Kupczynski et al. (2012)	Basic qualitative	Unnamed context, but all three authors are at Texas A&M-Kingsville	Five faculty members, two which were novices in online teaching, four females and one male, three white and two Hispanic	10-week observation, formal interviews and a survey, prolonged engagement via emails, Skype, online and face-to-face conversations; coded deductively and then with inductive patterns
Martin et al. (2013)	Case study	Southeastern university in US	Six instructors: Three participants from the nursing school and three participants from the school of education; they taught graduate and undergraduate courses; five females, one male	Survey, then follow-up interviews; transcripts coded and analyzed for common themes.
Russell (2015)	Phenomenological research	University in Northeast US	Six long-time university faculty members teaching in five departments, reflecting on their experiences designing and teaching online courses, including early transition	Interviews with each participant and member checking. Thematic analysis of transcripts.
Samuel (2020)	Interpretive Phenomenological	Urban, public, four-year, Midwestern	25 instructors across diverse disciplines; 13	Course syllabi, semistructured interviews

	Analysis (IPA)	institution (HE)	experienced in online education, 12 novice instructors	60-90 min., observation of participants' online course sites for 12 weeks; analyzed by IPA with themes identified and clustered, then organized with deductive codes
Samuel (2022)	Interpretive Phenomenological Analysis (IPA)	Four-year public university in US Midwest	25 instructors across diverse disciplines; 13 experienced in online education, 12 novice instructors	Documents collected, interviews, observation of participants; analyzed by IPA to identify emergent themes
Schmidt et al. (2013)	Basic qualitative	Large southeastern university	Online instructors with varied experience (novice to expert) from different programs within the college of education; (N=?)	Three 90-min. focus groups during one academic year; transcripts read and coded for themes, then compared for reliability.
Scott (2016)	Ethnographic multiple case study	Large Australian research university	Six traditional professors teaching online for the first time	Repeated interviews over three years, discussion of artifacts. Iterative analysis throughout to create categories and broad concepts, then final analysis to identify patterns and address research questions.
Seaton & Schwier (2014)	Exploratory case study	University of Saskatchewan	12 instructors outside the field of Education and Computer Science, varied levels of online teaching experience	Collected demographic information, semistructured interviews; coded with deductive codes to identify positive and negative experiences
Smith et al. (2016)	Auto-ethnographic case study	Outdoor and Sustainability education at University of Tasmania	Two tertiary educators required to teach outdoor education online	(Auto) ethnographic semistructured formal interviews; thematic coding with deductive and inductive themes, analyzed by the PI and both participant-researchers.
Taylor & Wright (2020)	Case study	College of Business at a four-year, public, non-profit HE institution in Southeastern US	Experienced business faculty with mixed levels of experience teaching online (N=?)	Interviews and document review, including website and course syllabi, used a document summary form; analyzed by identifying key phrases, organized into themes
Thanaraj (2016)	Narrative case	Teaching-focused	3 academics across	Interviews at three

	study	institutions in England	multiple disciplines, combined 30-years' experience, first-time online teaching. Lecturers in law, language, and business.	intervals and observations of the online platform, written interview notes; then summarized and identified representative quotes based on research questions
Torrisi-Steele (2014)	Mixed-method	Griffith University	8 academics were selected from the 53 survey respondents based on outlier sampling	Survey, semistructured interviews; qualitative data used to enhance quantitative findings.
Tuapawa (2016)	Phenomenological	Tertiary education institutes (HE) in Australia and New Zealand	10 faculty with experience in blended teaching	Phenomenological interviews, semistructured with 27 questions, recorded and transcribed; analyzed using Nvivo to create categories, nodes, groups, and memos.

Note. We labeled a study as "basic qualitative" if the authors did not identify a theoretical framing to their study. These studies all involve qualitative data.

Teacher-Content Interaction

The thematic, aggregated data revealed a variety of frustrations, observations, and discoveries during the instructors' process of repurposing their content and media use for online course delivery. Table 3 showed the most frequent themes related to teacher-content interaction that we used in our coding. We organized our synthesis of these themes into the following two sections: (a) course organization and design, and (b) learning activity design.

Course Organization and Design

Qualitative coding of the data from all collected articles revealed the following emergent subthemes related to course organization and design: (a) preparation and planning time, (b) course structure changes and associated design pedagogy shifts, (c) manageable content segments, (d) aligning content with values and purposes, and (e) the difficulty of F2F content transfer.

Preparation and Planning Time. Participants in five studies mentioned the scheduling advantage of anytime, anywhere teaching (Englund, 2017; Huang & Hsiao, 2012; Samuel, 2022; Schmidt et al., 2013). One instructor said, "Whatever I want to do I can do anytime, even during midnight" (Huang & Hsiao, 2012, p. 18), while another quipped that working in pajamas did not make the work easier (Schmidt et al., 2013). However, participants in more than half of the studies expressed that the time required to plan, prepare, and maintain their courses was more demanding than they had anticipated. One participant in Huang and Hsiao's study (2012) said,

> The only way I found to keep things clear is put a lot of time into it, up front, and before you even start because otherwise…it's so difficult. You are doomed. You don't have everything in place…so that takes a tremendous amount of work (p. 19).

Some participants felt they had to take an extra role as a manager or administrator because of the amount of time needed to organize, plan, grade, and maintain records (Andrews Graham, 2019), One study reported that "the work for the instructors was more cumbersome in the online setting but did not necessarily take longer to complete" (Seaton & Schwier, 2014, p.10). Some teachers complained that the allotted pre-semester preparation time for typical F2F classes was insufficient for online teaching (Schmidt et al., 2013; Taylor & Wright, 2020).

Course Structure and Pedagogical Development. The majority of research participants found that online teaching required significantly more course structure than traditional F2F classes (Burke, 2021; Jensen et al., 2020: Schmidt et al., 2013; Scott, 2016; Smith et al., 2016), including more explicit instructions and organized information for students (Andrews Graham, 2019; Englund et al., 2017; Jensen et al., 2020; Kayaduman & Demirel, 2019; Scott, 2016). One instructor explained his priority was "to plan well, to create a good structure for the course so that it is very clear to the students" (Jensen et al., 2020, p. 1155). Some faculty recognized the need to make content and directions clear and accurate as they were "repeatedly accessible by students throughout the semester" (Burke, 2021, p. 353).

During course organization, faculty experienced changes in their approach to teaching and learning. This pedagogical shift is beyond the scope of the current review, but in summary, instructors' design more carefully considered the physical and psychological distance of online environments (Englund et al., 2017), balanced information dissemination and social interaction (Andrews Graham, 2019; Thanaraj, 2016), and translated experiential or studio learning to digital contexts (Baran et al., 2013, Smith et al., 2016). One instructor described her struggle: "I remember the four days between orientation and classes starting and having index cards [on] my living room floor. And trying to plan out, if I was doing this face-to-face, then this is how I would do it [online]" (Schmidt et al., 2013, p. 135). One instructor recognized, "It doesn't work just to upload a number of Internet lectures and then add an exam at the end" (Jensen et al., 2020, p. 1155).

Aligning Content with Values and Purposes. Glass (2017) found that several teachers in his study struggled to create an online course that reflected their priorities; for example, some felt their creativity and personality were stifled in the online space. Additionally, two participants in Scott's study (2016) did not believe in micromanaging student engagement but found that some of their online content was largely ignored without frequent touchpoints or assessments.

Scope of Content Segments. Many participants discovered that they needed to present their content in manageable chunks for their learners, often in modules or a serial format (Baran, 2013; Burke, 2021; Scott, 2016). One participant created copious instructional materials to compensate for the lack of in-person teaching but later regretted limiting students' autonomy to do their own research (Thanaraj, 2016). Another professor in Glass's study (2017) expressed a similar concern after noticing decreased scores: "I'm wondering if the more smooth the

presentation, the worse they do. They see this stuff; 'I don't have to think hard about that because he's spoon-feeding it to me'" (p. 246).

F2F Content Hard to Transfer. In many disciplines, instructors grappled with translating their face-to-face content to an online setting. Those who considered themselves lecturers or focused on information delivery later realized they had failed to consider design elements like interactivity, community, and student support (Thanaraj, 2016). Furthermore, instructors of highly situated, hands-on courses asked questions like: "How could I possibly replicate [online] the experiential nature of my teaching and the emphasis I put on place?" (Smith et al., 2016, p. 311). Multiple instructors in Baran et al.'s (2013) and Russell's (2011) studies experienced similar tension and agreed that a successful online transition required expertise and confidence in their subject matter. When disproved of their belief that "it would be no different to classroom teaching" (Thanaraj, 2016, p. 44), instructors found themselves adapting their content and course design, at times reacting frantically to student issues or questions (Scott, 2016; Taylor & Wright, 2020; Thanaraj, 2016).

Learning Activity Design

A second emergent theme related to instructors' interaction with content was designing learning activities in the online context, including the following additional subthemes: (a) new content creation, (b) assessment, and (c) embracing technology and creativity. Learning activity design differs from course design because it refers to specific tasks, resources, or assessments within the course that are building blocks of the learning process. Linda, an art and design professor in Baran et al.'s study (2013), described the process:

> I tried to simulate the actual experiences as much as possible, so I just broke it down in tasks…I sat down and said to myself, "What activities must I do to teach you?" And I kind of broke them down. …- And then I realize as an online teacher, I don't need to literally be in the same room with you to do these things (p. 22).

New Content Creation. Across research articles, instructors shared details about their experiences transferring in-person learning activities into an online environment, which required changing the media used for delivery and presentation. They often created new activities or adapted existing activities to available technology. Many instructors prepared videos of lecture content or slide decks and added recordings and notes to their online courses (Baran et al., 2013; Glass, 2017; Martin et al., 2013; Russell, 2011; Tuapawa, 2016; Thanaraj, 2016). All participants in Thanaraj's study (2016) tried to "hold on to the identity and role of a lecturer" or "knowledge expert" but experienced tension knowing that recorded lectures were not the best practice for online teaching (p. 44). Instructors' content creation took on many media forms, including weekly audio announcements, online discussions, digital archives with instructional materials, course websites, webcast field trips, modules, and even some custom-built tools (Baran et al., 2013; Jensen et al., 2020; Martin et al., 2013; Russell, 2011; Scott, 2016; Smith et al., 2016). Notably, one instructor sought student input to collect and submit subject-specific materials to incorporate into the course content (Baran et al., 2013).

Assessment. One design subtheme that emerged across the research was assessment. Scott's participants (2016) often spoke of assessment issues that arose in their online courses. Several experimented with discussion boards and quizzes and struggled to know whether students would engage without graded assessment. One instructor brought case study scenarios from her traditional classroom into online discussions but did not know how to properly assess them in that setting. One e-learning skeptic only made online modules available in his blended class as an assessment-preparation resource. Other instructors' experiences included developing explicit rubrics and self-assessments (Andrews Graham, 2019) and feeling more confident about practical learning outcomes because they were embedded in assessments (Burke, 2021).

Embracing Technology and Creativity. Many instructors found that a new modality and new media tools brought new opportunities for creativity (Englund et al., 2017; Glass, 2017; Russell, 2011; Samuel, 2020). One initially apprehensive teacher later reflected, "It's positive being forced to create material that is more thought-out than usual. I've learnt a lot about how to use the different [technology] tools and what I can use them for in my teaching" (Englund et al, 2017, p. 81). Glass (2017) concluded: "Faculty members described a widening of creative expression, such that online teaching felt more expansive, more open, and freer than their face-to-face classroom experiences" (p. 245). Participants from many different disciplines and contexts described their content creation experiences as "It's kind of fun, It's a challenge," (Samuel, 2020, p. 84), and "It's my way to be creative. . .. This is my Mona Lisa" (Glass, 2017, p. 245). Notwithstanding their increased play and experimentation with tools, content, and media, many faculty found it a time-consuming and sometimes overwhelming endeavor (Baran et al., 2013; Huang & Hsiao, 2012; Seaton & Schwier, 2014).

Teacher-Student Interaction

In addition to experiencing a change in their relationship to the content, instructors with traditional classroom experience, whether lecture-based or student-centered, found that online modalities required new kinds of teacher-student interactions. We identified the following emergent themes in their teacher-student interactions: (a) communicating with individuals and classes, (b) feeling connection and community, (c) giving and receiving feedback, and (d) establishing teacher presence.

Online Course Communication

Teacher-Student Communication. Rather than addressing an in-person student question with all students hearing the response, the instructors now entered a digital world where email was a main communication form and multiple one-on-one email conversations became more frequent and time consuming (Huang & Hsiao, 2012; Jensen et al., 2020; Samuel, 2020). Some felt that this allowed them to experience better communication with more individuals (Englund et al., 2017; Samuel, 2022). In Englund et al.'s study (2017), an instructor explained, "You often have just as much contact with online students as with campus students, since you can communicate with them through the learning platform, through chat, email and so on" (p. 80). One professor pointed out the importance of responsible email communication: "It is just like in face-to-face, there are instructors that don't respond to the students. They never respond. That's just extremely frustrating to students. So, you have to be responsive even if it's a two-sentence email" (Baran et al., 2013).

Teachers used additional communication tools, such as chat (Burke, 2021; Englund et al., 2017), voice or video recordings (Baran et al., 2013), discussion boards (Samuel, 2020; Smith et al., 2016), and LMS features that allowed social interaction (Jensen et al., 2020). One outdoor education professor unexpectedly enjoyed the online discussion boards because she could engage with individual students who were eager to learn more, which in-person dynamics didn't always accommodate (Smith et al, 2016). Other communications like questions and feedback sometimes happened during online office hours or one-on-one web conferencing (Andrews Graham, 2019; Baran et al., 2013; Schmidt et al., 2013)

Teacher-Class Communication. Online instructors communicated with the class as a group by using media and methods like weekly email announcements, recorded videos, or live chat (Baran et al., 2013; Burke, 2021; Englund et al., 2017). Online synchronous classes allowed teachers to "use videoconferencing in place of face-to-face lectures" and communicate in similar ways to traditional classrooms (Schmidt et al., 2013). Some instructors found that synchronous or asynchronous discussions let them respond in ways that could be seen or heard by all students (Baran et al., 2013; Jensen et al., 2020; Schmidt et al., 2017). One teacher stated, "We invest a lot in providing supervision where [the students] get help and where you get to discuss questions" (Jensen et al., 2020, p. 1156).

Feeling Connection and Community

Although technology provided communication tools, an abundant theme in the research was instructors' mixed feelings about how connected they felt to their students. It may be assumed that online learning cannot replicate traditional classroom communities or create genuine connection. Instructors in the collected research did experience such realities, but others felt the modality enhanced connection.

Lack of Connection. Instructors' prevailing grievance about student interactions was the struggle to connect with them. Many felt the physical distance resulted in a sense of psychological distance and fewer opportunities for engagement (Burke, 2021; Englund et al., 2017; Glass, 2017; Huang & Hsiao, 2012; Smith et al., 2016). One instructor explained, "Teaching online is a little bit isolating, maybe more so than teaching in a face-to-face environment. . .. you have to close the door and put up a sign that says, 'Do not disturb, I'm recording a lecture'" (Glass, 2017, p. 248). Two professors in the Smith et al. (2016) study strove to create a class community but felt students stayed distant and were hard to reach. Two participants in Samuel's study (2022) admitted they felt connected to students "individually, yes. Not as a group" (p. 127).

Connections were especially difficult in an online setting because instructors struggled to perceive how students were feeling about course content and online communications (Andrews Graham, 2019; Baran et al., 2013; Englund et al., 2017; Glass, 2017; Huang & Hsiao, 2012; Kayaduman & Demirel, 2019; Martin et al., 2013; Russell, 2011; Samuel, 2020; Samuel, 2022; Seaton & Schweier, 2014; Taylor & Wright, 2020). Seaton and Schwier (2014) summarized the experience of eight of their 12 participants: "In an online course, they cannot see if a student is confused. …This lack of presence made it difficult for the instructors to understand who their students were and if they were interested in the subject…or understood the content" (p. 10).

Baran et al. (2013) summarized the reflections of experienced online teachers about their initial transition from the traditional classroom: "All teachers acknowledged that staying engaged in the online conversation and guiding the discussions required intense effort to create a mental image of the students, especially during the first couple of weeks of the course" (p. 26). Their effort to patiently establish those relationships included interacting daily, tracking performance, and inviting students to be present. A participant in Schmidt et al.'s study (2013) described her effort to connect with students:

> It's like throwing darts at a dart board. You're just trying to find one way to hit a bullseye with each and every student. It is harder (than teaching in a traditional classroom). Someone who is good at distance ed., (they) are finding different ways (to reach each student) and you are spending so much more time and it is hard (p. 138).

Some instructors expressed concern that their online interactions seemed empty and unfulfilling (Baran et al., 2013; Glass, 2017; Huang & Hsiao, 2012; Samuel, 2020; Smith et al., 2016). One instructor felt a loss of self-expression in his personality and teaching style when trying to communicate solely online. Another felt she couldn't mentor in the same ways she had been mentored (Smith et al., 2016). A participant in Glass's study (2017) experienced less enthusiastic interactions because relationships felt transactional. She explained, "I mean, you teach it, you do it, you post it, bleh. They do it; you grade it" (p. 247). Two participants in Samuel's study (2020) pointed out the need for both a teacher *and* a student to have a conversation, and one quipped, "I can't explain something to a wall" (p. 85). All the teachers in one study agreed upon the need for establishing trust (Baran et al, 2013). One professor summarized the problem:

> There is so much when you take a physical person and reduce some down to a piece of email. You've taken away everything. You have taken away their personality, their gender, their culture, their attitudes there, and their spirit. You just rob your student. So online, I think you have to figure out how do I reinvest them in their personhood and their spirit? How do I give them a presence…? So, we have to remake us as persons online (p. 26).

Positive Connections. Many instructors also experienced positive connections and satisfying interactions with their students; in fact, 10 of the articles included examples of good teacher-student synergy. One participant claimed that technology made it possible to feel close to students even when they were far away (Huang & Hsiao, 2012), consistent with findings among many instructors across the research articles (Baran, 2013; Englund et al., 2017; Jensen et al., 2020, Martin, 2013; Samuel, 2020; Samuel, 2022; Smith et al., 2016). Some faculty preferred synchronous over asynchronous online classes because knowing names and faces made it easier to connect and create a community (Huang & Hsiao, 2012; Martin et al., 2013).

Participants shared how those connections emerged in their online classes. An instructor in Smith et al.'s study (2016) described her rich experiences in discussion boards. She said, "In the online teaching space, I found a level of engagement with some students to be at a level I'd never seen before with undergraduates" (p. 9). Participants in Schmidt et al.'s (2016) and

Russell's (2011) studies intentionally showed enthusiasm in their communications and perceived that students caught their enthusiasm for the course material.

In the Jensen (2020) study, eight of the 15 faculty found online student relationships to be closer, with all participants citing more frequent one-on-one interactions than their on-campus classes. One stated, "Those 30 sitting in a classroom [on campus], each of them tends to stay a bit anonymous, but in a distance course it becomes more personal. It is a bit contradictory" (p. 1154). Two instructors in the Samuel (2022) study said they did not experience the same connection with the class as a whole, but when they shifted their one–many teaching approach to one–one, they experienced satisfaction in those interactions.

Baran et al. (2013) reported that participants "put greater emphasis on getting to know their students than they did in their face-to-face classes" (p. 32). Three instructors in the Samuel (2020) study shared that online discussions and assignment submissions helped them connect with students. One explained, "Through their assignments, every week they're saying, 'well here's something that happened to me at work,' 'here's what I'm going through,' 'I'm really interested in this.' So, I'm getting to know them pretty well" (p. 83).

Overall, instructors in multiple studies found ways to overcome the assumption that isolation would dominate the online teaching experience. One instructor experienced "kinetic energy" while watching groups of students engage with his class (Glass, 2017). He stated, "People not in online courses think [that] it's totally disembodied and you don't have any sense of who the student is, but you really get a very interesting, more connected response than I've actually had in some face-to-face courses" (p. 247). In Englund et al.'s study (2017), one participant was eventually able to connect with students on the other side of the technology; in fact, she became as excited about online learning as she was about her subject matter. An instructor in Samuel's study (2022) shared similar enthusiasm: "I love it. I really love it. The odd thing is, I feel like I develop closer relationships teaching online" (p. 126).

Giving and Receiving Feedback

Feedback was a common conduit for teacher-student interaction. Instructors commented on students' work and participation, and also better understood the student experience by welcoming their feedback.

Instructor Feedback. Instructors in various articles discussed the importance of providing commentary when students submitted assignments or sent other communications (Andrews Graham, 2019; Baran et al., 2013; Samuel, 2020; Taylor & Wright, 2020; Thanaraj, 2016). One instructor in the Andrews Graham (2019) study believed that face-to-face students just wanted to be passively spoon-fed, but online students were more actively engaged learners. Because of that increased engagement, they felt online students required more feedback more often. Several instructors agreed that timely feedback to students' concerns and questions was important, in part because it created a sense of immediacy and enthusiasm (Baran et al., 2013; Jensen et al., 2020). A participant in the Taylor and Wright study (2020) expressed the concern that distance-learning class sizes should be capped at reasonable sizes considering that instructor feedback is so important to helping students comprehend educational outcomes. Another teacher explained her attitude toward feedback on student projects, "I need to be able to

give you feedback on what you are doing, and kind of encourage and guide you" (Baran et al., 2013, p. 22). Instructors offered this feedback in a variety of ways: Quick emails, audiovisual recordings, online critique session meetings (Baran et al, 2013), commenting on discussion posts or submissions (Samuel 2020; Thanaraj, 2016), and utilizing rubrics (Andrews Graham, 2019).

Student Feedback. Feedback can be two-way communication, and instructors found that they needed feedback *from* their students as well (Andrews Graham, 2019; Russell, 2011; Seaton & Schwier, 2014). Because nonverbal cues and expressions are harder to read in an online setting, one instructor concluded, "You need to be very inviting in terms of feedback from students" (Andrews Graham, 2019, p. 150). Seaton and Schwier (2014) reported that eight of the 12 participants in the study struggled with the absence of student presence. In part, this was because they did not receive any feedback regarding students' comprehension until assignments were graded, which felt too late for intervention.

Some instructors solicited ideas and resources as they designed learning activities, asking students for suggestions about how to achieve the learning objectives (Baran et al., 2013). Six participants asked students to complete rubrics as self-assessments (Andrews Graham, 2019). In the Baran et al. study (2013), a common practice was midsemester course evaluations to elicit student feedback. Justin, an agricultural engineering professor, found that he needed flexibility in his course structure so he could change direction based on student feedback (Baran et al., 2013). When some teachers in the Jensen et al. study (2020) noticed dwindling participation in the discussion platform, they asked students where they were. They discovered students were communicating with another tool, so they moved the discussions there. Feedback from students helped teachers in many of the reviewed studies improve their instruction and have a better sense of student presence.

Establishing Teacher Presence

Teacher presence in the online learning environment became an important objective for many teachers and a key component to facilitating teacher-student interaction. One instructor made this compelling argument about instructor presence in online teaching:

> The minute you factor yourself out, you've just made your coursebook into a textbook. If there is no role for you as a teacher or you as a human, you are not really teaching, and you don't really exist….Don't let yourself become [an automated grading] machine. You always have to take ownership of your class and ownership of the experience of those people. (Baran et al., 2013, p. 29)

Several instructors felt it was important to consider the role they played in the class (Baran et al. 2013) and tried to take on their preferred face-to-face instructor roles in the online setting, for example, subject matter expert, nurturer, or master lecturer (Glass, 2017). Teacher presence included offering timely support, and making themselves visible (Englund et al., 2017). Jensen et al. (2020) reported, "Respondents described how the most important thing they did for students to learn was to show engagement and make it clear that they as teachers were accessible to students" (p. 1156); this included supervision, providing places to meet or means to communicate, and initiating discussion with individuals and groups.

Finally, instructors in the Samuel (2020) study recommended incorporating essays and open-ended tasks to invite deeper connection with students rather than relying on auto-graded quizzes that establish no teacher presence. Soliciting student feedback and involvement also invited more opportunities for teachers to engage. Samuel (2020) reported, "The instructors' sense of presence was impacted by the level of student participation. When students disappeared, the participants also disengaged" (p. 86).

Encouraging Discussion. An instructor in the Thanaraj (2016) study struggled in his online teaching because his typical in-class skills and strengths seemed less important than coaching and guiding the students through discussions. He concluded that those coaching skills were a greater responsibility in online classes. Many faculty wondered how much of a role they should play in online discussions, fearing that being over-present might stifle honest discussion (Huang & Hsiao, 2012; Kupczynski et al., 2012; Seaton & Schwier, 2014). One respondent said that because of their efforts to connect with students outside of the discussion boards, "students were more involved in the discussions, and thus believed, and rightfully so, that I would be, too" (Kupczynski et al., 2012, p. 90). Thanaraj (2016) surmised from the participants' experiences that online teaching needed "knowledge and skills beyond the content being taught such as monitoring discussions" (p. 45).

Teachers in the combined studies shared many experiences about encouraging discussion with their students, including establishing norms about length and levels of student responses, using asynchronous discussion tools to invite participation from more students, creating prompts that solicited meaningful responses, writing their own posts in discussions to model rich answers, and asking students to submit questions before synchronous class activities (Baran et al., 2013; Burke, 2021; Huang & Hsiao, 2012). In addition to discussion boards, these discussions took place in a variety of digital settings such as asynchronous video, breakout rooms, whiteboards, and screen sharing (Burke, 2021). All the teachers in the Baran et al. (2013) study agreed that in an asynchronous setting, they had to make an intense, mental effort to visualize the students as they guided discussions. Despite some instructors' efforts, they felt unsuccessful in creating meaningful online interactions, but they acknowledged it was an important goal of distance learning (Smith et al., 2016).

Conclusion

This literature synthesis reviewed qualitative studies about the experiences of over 200 HE instructors from a variety of disciplines and contexts as they transitioned from traditional classrooms to digital learning environments. In accordance with the Anderson model of educational interactions (2003), the combined teachers' experiences reflected the modality transition process in their interactions with content and with their students. Some of the changes they encountered were challenging, and others were satisfying.

Overall, in terms of instructor-content interaction, participants experienced varying levels of success in course design and organization, with most finding the transition process to be time consuming and effort intensive. They attempted to align their courses with their own values and priorities and do so in ways that students could reasonably engage with the content. Teachers adapted traditional learning activities for meaningful online engagement and often found themselves creating new content, including assessments to measure learning. Many of the

teachers enjoyed this creative process despite its required time and effort, but others found it overwhelming.

All instructors used technology more frequently and many experienced new uses of technology. They learned about new tools for classroom instruction and communication, some of which resolved problems that arose in their digital classrooms. However, many felt frustrated with technology use, in some cases because of their lack of experience or training in those technologies, and in other cases because the technology was inadequate or changing.

Regarding teacher-student interaction, instructors leveraged the available technology to communicate with individual students and with their class communities. The instructors experienced divergent levels of satisfaction with their sense of connection to their students. Many teachers expressed an increased connection, especially with individuals, while others felt uninspired and isolated. Feedback was a principal tool for initiating interaction: Most faculty recognized the importance of commenting on student work and communications but also benefited from soliciting and receiving student feedback about their course experience. Overall, instructors understood that their presence was an important part of a successful course. Many were able to establish that presence through engagement in discussions and frequent, intentional communications, but other instructors became frustrated and withdrew when students seemed to be unresponsive.

These faculty experiences, though collected from many bounded qualitative studies, suggest that teachers new to online teaching face common challenges in their interactions with students and content. Some instructors felt open to learning and thriving in those challenges and had favorable results, but others felt inadequate for the task and were disappointed with their online experience. In general, it can be said that when the higher education instructors in this literature review transitioned to teaching in online environments, they interacted with students and content in new and challenging ways, and they experienced diverse levels of success and satisfaction.

Recommendations

This synthesis of novice online teachers' experiences draws attention to potential recommendations for practice and for research in higher education, both with the purpose of better understanding and supporting teachers as they transition from traditional classrooms to online instruction.

Recommendations for Practice

The synthesized results of this research can help prospective online faculty members be aware of shared challenges and areas that will demand attention as they transition to online learning environments, such as course design, teacher presence, encouraging interactions, and learning new technology tools. This awareness can inform their planning and preparation, and they can learn from the course corrections of other instructors who struggled. In a similar fashion, novice online instructors may want to collaborate with other online instructors at their local institutions or other education communities to share experiences and solutions.

One instructor in the literature stated that teaching online and trying to connect with students was "like throwing darts at a dart board" (Schmidt et al., 2013, p. 138). This description implies a level of guesswork and lack of direction that can cause frustration for online teachers; thus, it invites more training and support from their sponsoring institutions. Some mentioned helpful interventions and many desired assistance. Here are several examples where the instructors received or wished for specific support: Early and in-depth, face-to-face training (Kayaduman & Demirel, 2019; Schmidt et al., 2013), experience as an online student (Schmidt et al., 2013), access to mentors (Samuel, 2020) or peer groups (Englund, 2017; Samuel, 2020), genuine answers and suggestions when students reach out for help (Schmidt et al., 2013), anytime access to tech support (Samuel, 2020), and more current, updated training modules (Burke, 2021; Schmidt et al., 2013).

Based on the experiences in this review, when instructors transition to online teaching, we recommend that higher education institutions provide (a) professional development to prepare educators with needed skills for technology management and online pedagogy, (b) robust institutional support for the LMS and technical issues, (c) faculty mentorship, and (d) opportunities for problem-solving and collaboration. Regarding the recommended pedagogy training, some of the most shared challenges that novice instructors faced were the facilitation of teacher-student interaction, including when and how to meaningfully participate in discussion boards, and instructional design skills for moving in-person learning activities to online platforms in dynamic ways.

In the database search results for this literature review, there were nine qualitative studies about professional development and institutional support for new online teachers. Based on qualitative data collection and analysis in a variety of professional development settings, these articles provided additional evidence for the positive impact of particular interventions and support:

- Collaborative course design (Burrell et al., 2015; Chao et al., 2010),
- Live observation of instructional conversation strategies (Meskill & Sadykova, 2011),
- Online training courses and resources (Lackey, 2011; Wargo, 2022),
- Feedback from mentors and colleagues (Alemdag & Erdem, 2017; Lackey, 2011; Meskill & Sadykova, 2011, Wargo, 2022),
- The consideration of faculty's perspective about the role of training (Esterhuizen et al., 2013; Kang, 2012),
- IT support (Raphael & Mtebe, 2016), and
- Critical reflection about teaching and learning values and beliefs (Wargo, 2022).

Many of the suggested categories correspond with areas where teacher participants in the literature review expressed a desire for more support: The studies about professional development, together with this literature synthesis of instructor experiences, corroborate some of the most impactful areas of potential support, where institutions could provide teachers transitioning to online teaching with the training and help they need to overcome common challenges.

Recommendations for Research

The collected research calls attention to several areas for further study. Considering the practical recommendations for professional development and institutional support, more qualitative research surrounding their implementation could provide a greater understanding of their benefit for inexperienced online instructors. Future research could focus on the effect of any training and support on the experiences of novice online instructors and also examine the impact of individual training and support strategies.

One interesting theme that emerged across several articles was the potential impact of online teaching on an instructor's face-to-face teaching. Andrews Graham (2019) interviewed and surveyed 41 faculty members who all commented on how their approach to in-person teaching changed after teaching online. In one study prior to the range of this literature review, McDonald (2002) suggested that "distance education formats are increasingly being used to enrich, improve, and expand face-to-face instruction, thus resulting in a 'convergence' of educational practices" (p. 12). This is an area that warrants further research to determine in what ways traditional teaching methods are specifically impacted by online teaching experience.

Additionally, since this literature review only addresses the challenges instructors experience in the transition to online learning environments, it may be useful to capture more seasoned teachers' experiences and perspectives. Qualitative research about their growth and progress could identify in what ways teachers overcome the initial challenges of online instruction.

Finally, the participants in the literature review articles experienced different feelings about their transition to online teaching and learning. Some loved their experience, and some hated it. Some teachers felt distance and isolation while others felt rich connections and engagement. Future research could compare the perspectives of instructors who experience the same modality differently and identify which factors most influence their perception of their successes and failures. In summary, the current authors encourage continued research that will help teachers, administrators, and support staff to better understand the complexities of instructor interaction with students and content in online learning environments, especially where that research can provide insight into improving their experiences and their impact.

Declarations

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