BUILDING INSTRUCTIONAL CAPACITY FOR ONLINE TEACHING AND LEARNING

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Abstract

The goal of this systematic qualitative literature review is to inform building collective instructor capacity in online teaching and learning. Galvan's (2006) framework of searching, reviewing, and writing was utilized as the method for this literature review. Themes related to building collective instructor capacity for online teaching and learning were used to present the results and include: (1) understanding the multiple roles in online teaching, (2) the importance of online presence, (3) intentional course design, and (4) providing targeted professional learning. The literature review begins with an introduction and is followed by the method, results, conclusion.

Key words: building instructor capacity, online teaching, online presence, course design, professional learning

Overview

Purpose: The purpose of this literature review is to synthesize literature that can inform universities in building collective instructor capacity in online teaching and learning.

The overarching question guiding the literature review:

How might universities build collective instructor capacity for online teaching and learning?

Introduction

Impacting 1.6 billion learners in over 190 countries, the COVID-19 global pandemic has resulted in the largest disruption of education in modern history (United Nations, 2020). As governments, policy makers, and school organizations grapple with how to provide safe and inclusive learning environments, instructors are tasked with providing effective learning delivered online, blended, hybrid or face-to-face. Faculty have been faced with adapting face to face courses in short notice to hybrid or blended modes of delivery, and many have little experience in doing so. Yet, this challenge to pivot brings with it an opportunity to re-examine pedagogical approaches as faculty shift to teaching online. Higher education institutions play a key role in mitigating these issues and challenges (Kebritchi et al., 2017). Furthermore, strengthening online learning has been identified as one of the top issues in post-pandemic futures (Educause, 2021).

There is value in prioritizing capacity building to improve collective practice for online teaching and learning. Remote modes of higher education will continue on in the post-pandemic future, and the continual need for flexible socially and emotionally supportive online instruction will persist (EDUCAUSE, 2021). As well, over the course of 2020 - 2021, many aspects of social and professional life have become remote, with some remaining remote after the pandemic ends. Students will need to learn new skills and literacies to be successful in these contexts. However, for online learning to successfully grow, post-secondary faculty need to understand both the value and challenges associated with this approach as well as how to successfully design online learning opportunities. The purpose of this literature review is to build understanding of the multiple dimensions that can support building instructor capacity in online teaching and learning. The overarching research question guiding this review of literature for a design-based

research study is: *How might universities build collective capacity for online teaching and learning?*

Method

Multiple methods for reviewing literature are available for researchers to employ. To select an appropriate approach, several methodological frameworks and sample scholarship were reviewed. To achieve the purpose of the study, a systematic qualitative review of literature was conducted. The review process followed Galvan's (2006) framework of searching, reviewing and writing the literature review.

Searching the Literature

A systematic and in-depth search of literature was employed to search existing research. Search terms and phrases were identified which included *online learning, higher education, capacity building, student engagement, building online presence,* and *instructional design.* Authoritative databases including EBSCOHost, ERIC, ProQuest, and Google Scholar were used. Studies were eligible if they examined the post-secondary context and published between January 2010 and July 2020. Foundational works that provided substantial background but were outside of this time frame or context were considered. Peer-reviewed journal articles, book chapters, and reports were included. Backwards referencing was employed, as well as searching articles that referenced relevant literature.

Reviewing the Literature

Once our search was complete, identified literature was scanned. Pre-reading allowed for articles to be organized and tagged into topics deemed relevant to researchers (online presence, student engagement, professional learning, etc.). This reviewing process was guided by the previously identified research question, "*How might universities build collective capacity for*

online teaching and learning?" Articles were then organized according to themes, which enabled the uncovering of relationships between articles (Efron & Ravid, 2018).

Writing the Literature Review

Writing this review began with the creation of an outline to logically chart the order in which the main components will be discussed. The outline helped guide the progression of elements within the review and made the writing process more effective (Efron & Ravid, 2018). Themes, subthemes, and categories were selected based upon the research purpose and guiding question.

Limitations

While confident in the resulting literature review, limitations to utilizing systematic qualitative reviews exist. First, many systematic reviews rely on a limited number of databases to identify potential studies (Mallett, 2012). This review utilized four scholarly databases. A second concern of systematic qualitative reviews pertains to subjectivity during the screening processes employed (Mallett, 2012) contests, "there is inevitable subjectivity in the screening process, particularly when high numbers of researchers are involved, as each member of the research team interprets inclusion criteria slightly differently." This review included two researchers and scholars, limiting subjectivity possibilities as the team is small. To limit subjectivity, the authors scheduled regular meetings, engaging in reflecting-in-action throughout the writing process.

Results

Based on analysis of literature, four major themes pertaining to building collective instructor capacity for online teaching and learning were identified. Themes include understanding of the multiple instructor roles in online teaching, the importance of online presence, intentional course design, and providing targeted professional learning, and have been

used to provide a framework for presenting results (see Figure 1 and Appendix A). Subthemes were organized to provide greater clarity.

Figure 1

Emerging Themes from Systematic Review on Building Collective Instructional Capacity

Understanding the Multiple Instructor Roles

Building instructor capacity to effectively teach post-secondary online courses requires clear knowledge and understanding of the multiple roles teaching online entails. Kebritchi et al., (2017) identified changing faculty roles as an issue and challenge instructors face when teaching online. As well, numerous studies have researched student perceptions of instructor roles in online and blended learning (Hung & Chow, 2015; Mallinson & Krull, 2013; Gómez-Rey et al., 2018; Wilson & Stacey, 2004). Online teaching requires an instructor to be a c*ourse manager* of structured and organized learning environments (Hung & Chow, 2015; Gómez-Rey et al., 2018). Using an Online Instructor Role and Behavior Scale, Hung and Chow (2015) examined 750 students' perceptions of the instructor's roles in fully online or blended learning contexts. Findings support that the most important role of an online instructor is to design a course with clearly articulated expectations. Additional course management criteria includes an organized layout, direct instruction, and a consistently updated instructor message (Hung & Chow, 2015;

Rayens & Ellis, 2018). Gómez-Rey et al.'s (2018) mixed methods study identified the need for instructors to possess excellent subject matter knowledge. Exploring student perspectives pertaining to the main roles of online instructors, the research team reported the need for instructors to lead and develop effective communication skills within the class. When organizing courses, choice of learning materials is also key. Gómez-Rey et al. (2018) reported "a significant increase in the number of students who are frustrated with dry, textbook studying, and need more effective and audio-visual resources, such as videos and interactive material" (p. 124).

In addition to course management, the online instructor is *a facilitator of learning*. Online learners expect instructors to provide an active, interactive, and reflective role (Hung & Chow, 2015), participating as both a co-learner and co-problem solver (Mallinson & Krull, 2013; Wilson & Stacey, 2004). Building presence as a facilitator begins with initial activities, such as having students use basic tools (Christopher & Hyder, 2015). This can be posting a question to the chat or responding to a poll. From a pedagogical position, one of the most important facilitation roles is the online moderator (Mallinson & Krull, 2013). Body language and gestures cannot be relied on during online moderation, so use of voice is integral. Techniques to consider include varying voice, using clear language, on-screen annotation while speaking, weaving chat responses into live discussion, and deliberately pausing for students to collect thoughts and respond (Christopher & Hyder, 2015). Facilitation also includes managing the course itself, as well as acting as a resource person for students when required (Mallinson & Krull, 2013; Gómez-Rey et al., 2018).

Providing *technology support* for students is a third dimension to the role of an instructor (Mallinson & Krull, 2013; Gómez-Rey et al., 2018; Wilson & Stacey, 2004). This is consistent in both fully online and blended learning contexts (Hung & Chow, 2015), as students expect

instructors to be knowledgeable about the technology they are using to support instruction and learning. Therefore, it is important for instructors to grasp how to use technology, resolve technological issues, and employ strategies to enhance learning through the incorporation of technology (Gómez-Rey et al., 2018; Hung & Chow, 2015). Students perceive effective online learning to include an *instructional social role* from faculty, creating a friendly social learning environment (Hung & Chow, 2015; Gómez-Rey et al., 2018; Keengwe & Kidd, 2010; Richardson et al., 2015). This role is integral as the physical classroom, where relationships between student-student and student-instructor have been traditionally built, is absent (Gómez-Rey et al., 2018). Social instructional leadership is also how communication, teamwork, empathy, and tolerance are fostered (Gómez-Rey et al., 2018). Using a descriptive multiple-case study approach to build an explanation of instructor presence behaviors, Richardson et al., (2015) examined instructor presence of twelve course offerings. Findings suggest an instructional social role can be fostered by inserting emphasis in speaking, using student names, and providing reminders of upcoming due dates. While these have been classified at "low effort behaviours" (Richardson et al., 2015), current research has reported students perceiving this as one of the most poorly implemented roles (Gómez-Rey et al., 2018). Post-secondary institutions can also build instructor capacity for navigating the challenges of the multiple instructor roles and provide "technical support for the content development and delivery of online courses" (Kebritchi et al., 2017).

Building Online Presence

Increasing instructor collective capacity in online teaching requires improving knowledge and understanding of how to build online presence (Devlin & McKay, 2017; Dixson, 2010; Reedy, 2018). Online presence brings a sense of belonging and community to students, assists

with limiting the impact of geographical distance that separates learners, and can positively impact student retention (Devlin & McKay, 2017; Reedy, 2018). Presence is developed by providing multiple avenues of interaction with students such as class announcements on learner management systems (LMS), e-mail correspondence, discussion forums, and online lectures (Dixson, 2010). It is also achieved through the purposeful design of learning environments to include high levels of presence, as community is built through interactions and establishing connections (Czerkawski & Lyman, 2016; Redmond, 2011; Wilson & Stacey, 2004). The Community of Inquiry model (Garrison et al., 2000) can help build online presence. This model suggests learning occurs as a product of *cognitive presence*, the construction of meaning through sustained communication, *social presence*, the ability to share personal characteristics with the community, and *teaching presence*, the teacher's engagement in design, organization, facilitation and instruction within the learning environment (Anderson et al., 2001). Without a physical presence, these three elements shape both student-teacher relationships and connections (Garrison et al., 2000). Examples of tasks that encourage presence and interaction include group projects, completing peer review of one another's papers, and interacting within a discussion forum on a particular topic (Dixson, 2010; Lee & Chan, 2007; Redmond, 2011). Martin's (2019) article targeting how to build relationships and increase student satisfaction levels points to fostering online presence and suggests that building relationships is essential when teaching online and suggests that the use of video (e.g., video conferencing, videos, etc.) can further support online presence and interactions.

Online presence has been shown to be influenced by certain factors (Reedy, 2018; Redmond, 2011). These factors include an instructor's confidence and experience in using chosen communication technologies, simultaneously teaching student cohorts in different modes,

and student engagement and interaction comfort levels with an instructor (Redmond, 2011; Reedy, 2018). Immediacy behaviours can also prove influential, increasing a student's sense of belonging and connection to the institution. Specific verbal and non-verbal immediacy behaviours include voice tone, name and inclusive pronouns use, posture, and facial gestures (Reedy, 2018).

Intentional Course Design

Published research is consistent in identifying pedagogical considerations that have produced positive results for successful online teaching and learning. Building instructor capacity in online teaching and learning includes knowledge-building of digital pedagogies. Numerous instructional design models, such as Strickland's (2005) Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model and the Dick and Carey Model (Dick et al., 2005), have been thoroughly researched for effectiveness. However, as these models were developed prior to web-based learning, they do not emphasize heuristics for aligning pedagogy with a chosen digital medium (Meyer, 2014). Faculty new to teaching online may not be aware of different pedagogical strategies that exist to support these design decisions (Delahunty et al., 2014; Kebritchi et al., 2017), nor can instructors ignore the role multimedia tools has in engaging learners (Arghode et al., 2018). Online pedagogical strategies include designing for student-centered learning opportunities, integrating strategies to build student engagement, and application of technology-enabled design frameworks.

Designing for Student-Centered Learning

Student-centered learning is where students self-direct their learning and decide what they need to know to learn (An & Reigeluth, 2012; Cornelius-White & Harbaugh, 2010; Sesen & Tarhan, 2011). Rooted in constructivist epistemology, the instructor in a student-centered

classroom acts as a facilitator, previously mentioned as an integral instructor role in online learning (Christopher & Hyder, 2015; Hung & Chow, 2015; Mallinson & Krull, 2013; Wilson & Stacey, 2004). Facilitation includes planning and guiding social interactions to create a social learning environment that allows students to build and test knowledge (Lee & Hannafin, 2016; Sesen & Tarhan, 2011). Research is consistent in reporting the positive relationship between student-centered learning and achievement, including increased ownership over learning, student involvement and a willingness to learn; a focus on developing real-life skills, including collaboration, higher order thinking and problem solving, and personalized learning, which resulted in increased student motivation and learning (An & Reigeluth, 2012; Armbruster et al., 2009). Student-centered classrooms are organic learning environments, incorporating activities where learners are knowledge generators and evaluators (Lee & Hannafin, 2016).

Due to the physical separation between instructor and students, creating a student-centered learning environment online can be challenging (Hsiao et al., 2017). Strategies for building student-centered learning online include intentional scaffolding, integration of multimedia-enhanced modules, project-based learning, problem-based learning, case study analysis, and inquiry (Hsiao et al., 2017; Lee & Hannafin, 2016). Conducting design-based research in one hybrid and four online business course sessions, Hsiao et al. (2017) implemented scaffolding and multimedia modules to support a student-centered learning experience. Conceptual, procedural, and metacognitive scaffolds were integrated, such as an audio file explaining how to utilize the instructional resources provided. Multimedia modules followed a standard and organized framework including a front page, table of contents, interview videos, academic literature, content-related literature, and a reflection exercise. Results indicated students perceived the scaffolds and multimedia modules were helpful to their learning (Hsiao et

al., 2017). Conceptual and metacognitive scaffolds were more beneficial than procedural. To improve design, students requested additional multimedia elements such as videos and interactive activities, as well as additional resources, such as annotated instructor notes, for complex topics. In a separate study, Seethamraju (2014) integrated an online discussion forum with the traditional case method pedagogy. Analysing both quantity and quality of online postings, when compared to students' performance in a previous cohort, data revealed this approach "offered students a high-quality learning environment" (Seethamraju, 2014, p. 1). Collaborative learning was encouraged with students perceiving improvement in learning as it enabled deeper understanding of content, appreciation of multiple views, and student self-reflection in learning. Student-centered learning can be achieved in online learning contexts.

Designing for Student Engagement

To build instructor capacity in online learning, intentional instructional design that emphasizes student engagement is required (Arghode et al., 2018; Conrad & Donaldson, 2011; Lester & Perini, 2010; Meyer, 2012; 2014). Kuh (2009) defines engagement as "the more students study a subject, the more they know about it, and the more students practice and get feedback from faculty and staff members on their writing and collaborative problem solving, the deeper they come to understand what they are learning" (p. 5). When a student's involvement in academic and campus activities contributes to their overall learning and sustains further course involvement, engagement is evident (Meyer, 2014). Student engagement is integral to online learning as it provides opportunities for students to build an online community, which acts as a way to overcome a perceived sense of distance students had been accustomed to in face-to-face classes (Meyer, 2014). Examples of how to build online student engagement include designing tasks that promote learner interactions (Arghode et al., 2018), such as through online discussions

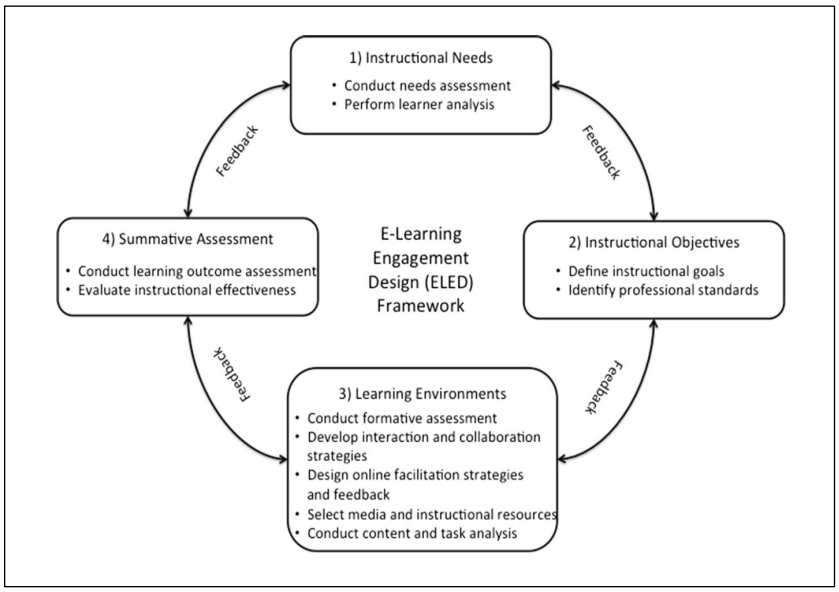
where students participate in problem-solving, share experiences, apply course content, interact in focus groups, brainstorm, blog, analyze case studies, and prepare wikis (Meyer, 2012; 2014). Student engagement can also be fostered through active learning opportunities, such as a debate, collaborative learning, including collaborative exams and comments among students rather than between student and instructor, and resource sharing (Conrad & Donaldson, 2011; Lester & Perini, 2010; Meyer, 2012; 2014).

Designing for Technology-Enabled Learning

Design frameworks that emphasize digital instruction and technological capacity have been developed. These include E-Learning Engagement Design (ELED) framework and Technological, Pedagogical, and Content Knowledge (TPACK). The ELED framework has been proposed by Czerkawski & Lyman III (2016) (see Figure 2). Specifically focusing on designing online learning environments, ELED includes common elements of prominent instructional design models (Strickland, 2005), while also attempting to emphasize interaction, collaboration, facilitation and feedback strategies (Czerkawski & Lyman III, 2016). Sequential and iterative, ELED encompasses determining instructional needs and "moving through a series of steps to summative assessment—which shapes the next iteration of instructional design modeling" (Czerkawski & Lyman III, 2016, p. 533). Emphasis on learner analysis and development of learning tasks is deemed critical as these are viewed as major elements of affecting student engagement. ELED also emphasizes the facilitation skills of the instructor as well as a "balance between instructor-guided and self-guided learning while also providing appropriate communication, instructions, and encouragement in the context of an environment of inquiry" (Czerkawski & Lyman III, 2016, p. 537). Instructors are no longer only content experts, but are also experienced learners and mentors who promote critical thinking and deep learning.

Figure 2

E-Learning Engagement Design Framework (Czerkawski & Lyman III, 2016, p. 534)

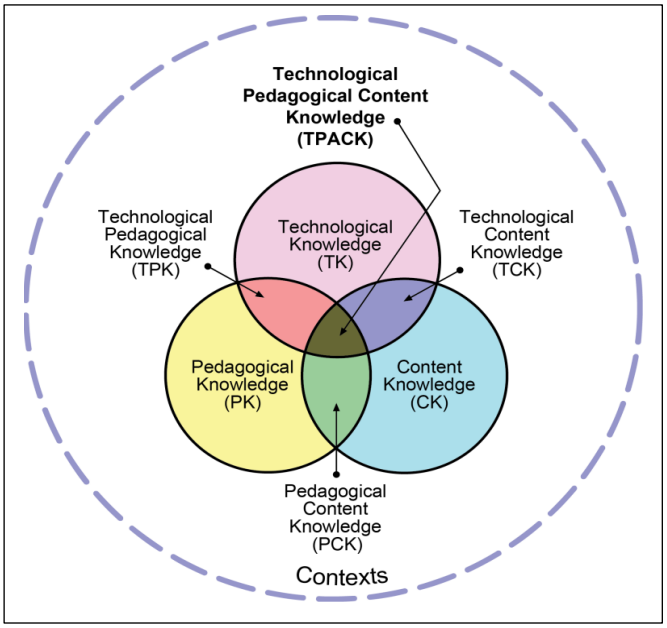


Where ELED focuses on overall course design, teaching online also requires an instructor to both identify and understand a range of skills (Reedy, 2018). Integrating a technology medium also requires specific skills to utilize successfully, which can be overlooked in traditional design approaches. Identifying skills required for an online activity or program can be accomplished with the application of the TPACK (Koehler & Mishra, 2009). As seen in Figure 3, TPACK highlights *technological content knowledge*, knowledge about how technology can be used to teach content (Koh et al., 2013; Mishra & Koehler, 2006), and *Technological pedagogical knowledge*, knowing how technologies are used in teaching and learning settings, and how teaching might change as the result of using different technologies (Mishra & Koehler, 2006). When applied, TPACK explicitly highlights the interaction between technological skills, discipline knowledge, and pedagogical skills required for successful task completion. It also requires one to build understanding of how technology can be used to represent content, pedagogical techniques to effectively use technology, and how technology can improve learning.

(Mishra & Koehler, 2006). For example, if online discussion is utilized for knowledge building, design choices include online asynchronous discussion, a synchronous online chat, or a live webinar. If group work is designed, this could be for the purpose of problem-solving, conducting a case study analysis, or producing a project. The group could use a blog, collaborative digital workspace, or website building platform. Design needs to consider how pedagogical decisions compliment or contrast a technology. Group work strategies for students is recommended. These can include discussing effective group communication methods and integrating regular feedback loops from individual members to evaluate the group work process (Hsiao et al., 2017).

Figure 3

TPACK Framework (http://tpack.org/)



Providing Targeted Professional Learning

Building instructor capacity also requires the development of effective professional learning opportunities for staff (Campbell, 2017; da Rosa dos Santos et al., 2018; Kebritchi et al., 2017; Mallinson & Krull, 2013; Wilson & Stacey, 2004). Foundational literature shows what

constitutes effective professional learning and distinguishes between professional learning and development (Campbell, 2017; Fullan & Hargreaves, 2016; Timperley, 2011). Professional learning opportunities are ongoing with sustained inquiry around professional practices while traditional forms of professional development tend to be short term (Timperley, 2011). Short term opportunities are beneficial but sustained opportunities with a focus on student outcomes are noted as effective practices for professional learning (Campbell, 2017). In a recent Canadian multi-method study, key aspects of effective professional learning were identified from the research findings and included quality content, learning design and implementation, and support and sustainability (Campbell, 2017). The author recommended that "educators require a repertoire of professional knowledge, skills, and practices to be developed through a wide range of differentiated professional learning experiences throughout their careers" (Campbell, 2017, p. 21). Fullan and Hargreaves (2016) recommend leadership create a framework of collaborative professionalism that supports professional learning and development and builds both individual and collective capacity.

A variety of professional learning opportunities can build capacity for online teaching. Workshops, courses, and peer support networks, can be designed to provide definitions of entry-level technical and pedagogical skills and combine online and face-to-face learning opportunities for staff to experience the online experience from the perspective of a student (Mallinson & Krull, 2013). Combined, these design features can prepare instructors for teaching with technology, moving beyond the training of basic ICT skills (Mallinson & Krull, 2013; Reedy, 2018). Instructors can become familiar with the online learning environment, understand the varying roles in online learning, engage students in both individual and collaborative

construction of knowledge, and support learners through the use of asynchronous and synchronous communication tools (da Rosa dos Santos et al., 2018; Mallinson & Krull, 2013).

Numerous projects have sought to build knowledge in how to design professional development opportunities to build capacity in online learning (da Rosa dos Santos et al., 2018; Mallinson & Krull, 2013). Mallinson and Krull (2013) piloted a two-week online learning course at three higher education institutions. The intent of course was to introduce participants with theory and practice of online learning. Response to the interactive sessions was positive, with participants perceiving growth in how to facilitate online discussion and help students engage in knowledge generation. Activities, such as discussion forums, chats, and reflective blogs, were reported as practical in application and resulted in the sharing of ideas among participants, leading to new collaborations within institutions (Mallinson & Krull, 2013). However, participants felt the need for more time to engage fully with all course aspects, and frustration was reported due to connection and audio setup issues. As a result, future workshops were revised to incorporate a mandatory session prior to the beginning of the course to familiarize the participants with technology. From these results, Mallinson and Krull (2013) propose two approaches to designing professional learning opportunities in online learning for higher education. First, to meet varying needs, is a staged approach. In this design, incremental steps are deployed to match instructor readiness levels and "exposing them to a less risky journey moving online" (Mallinson & Krull, 2013, p. 66). Second, establishing a staff community focused on educational technology where peer support and mentoring are utilized. This builds an internal network of idea and experience sharing, minimizing an over-reliance on outside experts. Establishing a community with a focus on educational technology provides opportunities for staff to share experiences, ideas, and reflections (Lautenbach, 2010; Yang and Cornelious, 2005).

Employing a single case study at one Western Canadian higher education institution, da Rosa dos Santos et al. (2018) investigated ways in which instructors developed their capacity to teach online. Three participant groups were included to participate in surveys and interviews: educational developers, academic leaders, and higher education instructors. Results shared three successful strategies in building instructor collective capacity in online learning. First, workshops designed with hands-on experiences to provide opportunities for participants to apply knowledge in context (da Rosa dos Santos et al., 2018; Mitchell, 2012). However, while workshops are commonly used to develop teaching capacity (Beach et al., 2016), differentiation in short-term learning opportunities can be difficult as time constraints can result in prioritization of certain learning needs over others (Frankel, 2015). Second, long-term programs, which can allow participants time to explore pedagogical topics in more detail (Herman, 2012). Participants in such programs reported they were provided with "time to think deeply about the pedagogical issues" (da Rosa dos Santos et al., 2018, p. 147-48), and this time was instrumental to the success of the program. It also provided participants the opportunity to be an online student, and facilitate through an online platform. Third, peer support, which was informally organized. da Rosa dos Santos et al. (2018) found in all interviews from instructors and academic leaders, collegial support played a key role in the development of instructor skills and confidence to teach online. Of importance, "peer support impacted instructors by creating a bridge to new instructors, serving as a safety net to those experimenting with this mode of teaching as well as enhancing the confidence level of online instructors" (p. 149).

Providing a more extensive approach, Wilson and Stacey (2004) focus on achieving a "critical mass of staff that are competent online teachers and to enhance the institution's capability to sustain the integration of new technologies into learning and teaching practices" (p.

37). Such an approach can have significant challenges for the staff developers as this approach is a shift from meeting needs of individual teachers to strategies that "can move mainstream majority to adoption of innovation" (Wilson & Stacey, 2004, p. 38). Wilson and Stacey (2004) proposed five thematic categories to organize staff development for a critical mass. An *innovation* approach emphasizes innovation over technology, and supports providing opportunities for staff to attempt new teaching and learning methods. In an *online facilitation of competencies* approach, competencies required for online facilitation, such as administration, facilitation, technical, and evaluation skills, are used to design a course to build capacity (Wilson & Stacey, 2004). Implementing *accredited courses* results in the design of formal, accredited courses for academic staff to complete certificates or degrees in online teaching (Wilson & Stacey, 2004). A *professional staff development* approach results in providing professional development opportunities delivered online (Wilson & Stacey, 2004). Last, the *localized peer support* approach, where staff provide peer support, such as through mentorship, to colleagues adopting new technologies in teaching and learning (Wilson & Stacey, 2004).

Conclusion

Online teaching and learning will exist in the post-pandemic future of all educational contexts. To successfully build capacity in post-secondary institutions, faculty need to understand both the value and challenges associated with this approach as well as how to successfully design online learning opportunities. Of significance, building capacity in understanding the multiple instructor roles in online teaching, the importance of online presence, and intentional course design are recommended. Targeted professional learning that provides definitions of entry-level technical and pedagogical skills and combines hands-on online and face-to-face learning opportunities for staff to experience the online experience from the

perspective of a student is recommended. Professional learning can be designed through formal professional development courses designed with incremental steps to adjust to participant readiness levels and workshops. As well, providing support for the informal development of peer and community support networks is recommended.

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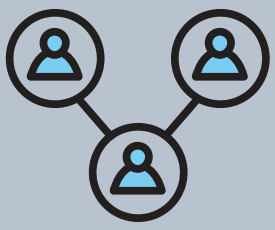
Appendix A: Systematic Review Results Infographic

BUILDING COLLECTIVE INSTRUCTOR CAPACITY FOR ONLINE TEACHING

Systematic Literature Review Results

MULTIPLE INSTRUCTOR ROLES

Building instructor capacity to effectively teach post-secondary online courses requires clear knowledge and understanding of the multiple roles teaching online entails.

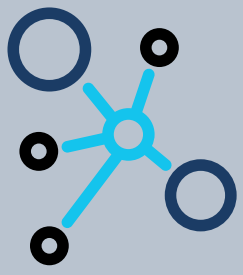


ONLINE PRESENCE

Understanding how to foster online presence and create a sense of belonging and connection for students is important for building instructor capacity.

COURSE DESIGN

Intentional course design is required. Instructors need to learn online pedagogical strategies including: student centred learning opportunities, integrating strategies to build student engagement, and application of technology-enabled design frameworks



PROFESSIONAL LEARNING

Targeted professional learning is recognized for building instructor capacity, and offering a variety of activities with incremental steps and peer support is recommended.

'HOW MIGHT UNIVERSITIES BUILD COLLECTIVE INSTRUCTOR CAPACITY FOR ONLINE TEACHING AND LEARNING?

(Hartwell & Thomas, 2021)