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Enhancing Novice Educator Confidence to Teach Synchronously Online During the COVID-19 Pandemic

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Abstract

Educators' perceptions of their teaching competence contribute to feelings of wellbeing and teaching effectiveness, which in turn impacts the quality of student learning. In the context of emergency remote online teaching brought about by the COVID-19 pandemic, introductory workshops on educating using Zoom videoconferencing software were conducted at a large Australian university. The workshops sought to equip educators with the skills and confidence needed to make the transition to online teaching, thus reducing educator anxiety and improving their wellbeing. Attendees of the workshops were surveyed (104 responses) to understand what influenced educator confidence development, perceptions of successful online teaching approaches, and advice for new online educators. The Technological Pedagogical Content Knowledge (TPACK) framework was used to analyse educators' open-text responses. The study demonstrated that both professional development and practical experience increased novice online educator confidence and expertise in using videoconferencing software to engage learners. Educators required a foundational level of technological knowledge before they could develop a deeper understanding of how the technology could be used for pedagogical purposes. Short just-in-time workshops were identified as an influential factor in fostering initial confidence and expertise, which worked to reduce educator apprehension about using the technology, ultimately contributing to enhanced wellbeing and student outcomes.

Keywords: Online teaching; synchronous learning; Zoom; professional development; educator confidence; TPACK.

Introduction

Educators' perceptions of their teaching competence contribute to feelings of wellbeing, especially among those new to the profession (Averill & Major, 2020; Hobson & Maxwell, 2017). Research has shown that educator wellbeing is subsequently related to teaching effectiveness, and ultimately the wellbeing of students (Averill & Major, 2020; Trolian et al., 2022). Therefore, equipping educators with the skills to thrive within a virtual classroom environment is paramount for developing educator wellbeing and subsequent student success. Given this context, the present study seeks to explore how novice online educators navigated the process of developing confidence and expertise in teaching online with Zoom videoconferencing software during the early stages of the COVID-19 pandemic. Research participants were invited from attendees of an introductory professional development workshop on educating using Zoom, delivered at a large Australian university. The study aims to provide insight into what educators perceived as beneficial to their success in online teaching, with implications for those seeking to enhance their online learning and teaching practice as well as those designing professional development offerings.

Background

Higher Education Learning and Teaching Context

Online learning experiences have readily become an integral element of higher education practice, but most often centre on asynchronous activities (such as video recordings, discussion boards, and quizzes) where students engage with content at their own pace (Dart et al., 2020; Watts, 2016). Asynchronous-only models have traditionally been used to engage students in fully online courses, but as technology and access have improved, using a mix of synchronous and asynchronous learning opportunities has become more common (Watts, 2016). Synchronous learning is able to take advantage of real-time interaction among participants, making the approach well-suited to building a sense of community, gaining immediate feedback (Watts, 2016), motivating engagement (Jones, 2016), and stimulating higher-order thinking (Moore & Pearson, 2017). These benefits have translated to improved learning outcomes and completion rates for courses incorporating online synchronous learning opportunities (Jones, 2016).

While subject matter expertise (as developed through doctoral studies and professional practice) is expected of those teaching in university settings, formal qualifications in education are not considered essential (Greer et al., 2016). This lack of formal training means professional development plays a key role in developing educators' skills and confidence in teaching (Vaill & Testori, 2012), especially for online environments that tend to be far more unfamiliar (Gregory & Salmon, 2013). However, development does not occur exclusively through formalised channels. Instead, educators often learn through their own teaching context, such as when they decide to try a new technology tool (Anderson et al., 2013), or engage in peer discussions and mentoring (Vaill & Testori, 2012). It is also recognised that most educators only access support on a just-in-time basis rather than planning ahead (Vaill & Testori, 2012).

Capacity Building Opportunities for Teaching Online

The needs of contemporary learners are shifting rapidly, and although components of online education have become routine, there are some educators who continue to resist (Ní Shé et al., 2019; Shepherd et al., 2007). This largely stems from the challenges educators perceive and later encounter when transitioning their teaching from physical classroom to online learning including technostress from learning and implementing new systems and practices (Li & Wang, 2020). Teaching in a virtual environment can be at odds with an educator's established and favoured approaches. In a study of threshold concepts in online pedagogy, Kilgour et al. (2019) found educators needed to deepen their understanding of their existing pedagogical techniques to effectively transform their teaching into the online space. Kilgour et al. (2019) further reported that an educator's capacity to shift their perceptions, practices, and approaches to suit the online environment was a better indicator of success than prior teaching experience. Thus, in supporting staff to transition online, professional development must not try to provide educators with ways to just replicate their face-to-face practices but instead encourage a shift in thinking to the broader possibilities that technology enables (Ní Shé et al., 2019). In addition, novice online educators cannot focus on the needs of their learners without adequate professional development and therefore capacity building activities can be framed as an active solution to improving staff wellbeing and in turn student outcomes (Gast et al., 2022).

Given the complexity of creating online learning spaces that support student engagement and wellbeing, there needs to be a greater emphasis in professional development on strategies for facilitating cohesive and supportive virtual learning spaces. One study noted how "content cannot simply be copied from a face-to-face to an online setting" and suggested that addressing three elements (students, content, and educators) can lead to a more targeted development approach (Kebritchi et al., 2017, p. 11). For instance, developing educators' skills to address student-related challenges like misaligned expectations, lack of preparedness, passive participation, and isolation can set students up for successful online learning. To enable this, educators need assistance overcoming communication barriers, adequate time to prepare and facilitate online learning (Kebritchi et al., 2017), and support to handle the dynamic interplay between technical, pedagogical, organisational, and social aspects of their online facilitation role – otherwise their capacity to provide student-centred learning is greatly diminished (Ní Shé et al., 2019). Educators may also find themselves simultaneously moving from an expert in their previous context, to a novice in teaching through technology which causes stress and negatively influences their work performance (Li & Wang, 2020). These challenges can greatly impact educators' competence perceptions and ultimately their wellbeing (Averill & Major, 2020). Therefore, institutional support needs to acknowledge the complex pressures experienced by educators transitioning to online teaching.

Facilitating Online Synchronous Learning

A range of technologies has emerged for supporting online synchronous learning including Zoom, Blackboard Collaborate Ultra, Microsoft Teams, WebEx, Skype, and WhatsApp (Correia et al., 2020; Jones, 2016). This study focuses specifically on Zoom, which provides functionality geared toward collaborative learning in lecture, tutorial, and student consultation contexts,

although the results are transferable to other videoconferencing software tools. The learner-related features of Zoom include audio and video sharing, recording of sessions, screen-sharing, file transfer, text-based chat, annotation tools, polling, and breakout rooms (where smaller groups of participants engage in parallel sessions) (Correia et al., 2020). The application can be accessed on a desktop computer, tablet, or mobile device, without necessarily downloading the software. The relative maturity of Zoom compared to its competitors meant it was one of the most popular to be adopted during the early stages of the COVID-19 pandemic (Tertiary Education Quality and Standards Agency, 2020) when universities began to introduce emergency remote online teaching (Bozkurt & Sharma, 2020).

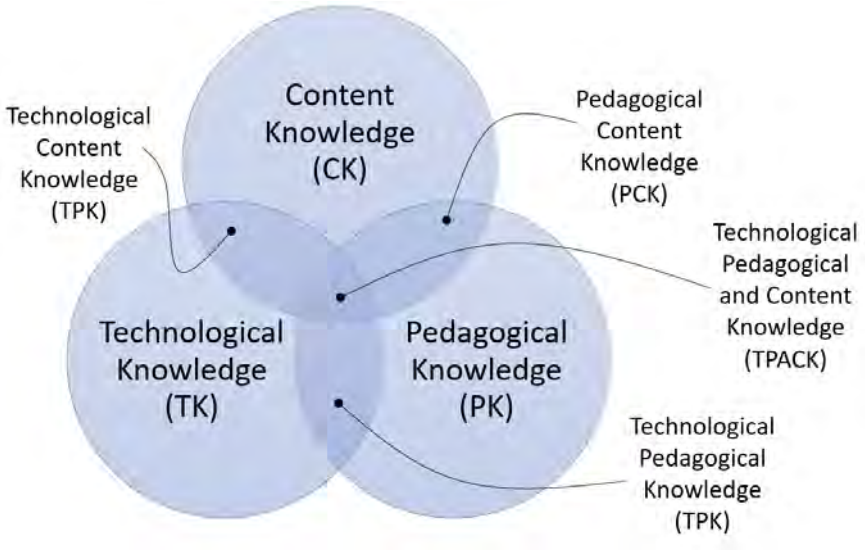
Active learning, where students actively engage in learning activities (such as through group discussions, direct practice, and making sense of feedback) enhances learning outcomes (Freeman et al., 2014). Educators play a key role in supporting students to employ these active learning techniques through the learning designs and facilitation strategies employed. Correia et al. (2020) argue Zoom's extensive range of engagement features makes it well-suited to support active learning through interaction between participants in higher education contexts. Thus, strengthening the capacity of educators to actively engage learners through this functionality is vital, especially given students desire more interaction with both peers and educators in online environments and the ability for connecting with others to contribute to student feelings of wellbeing (Sellnow-Richmond et al., 2020).

Using the TPACK Framework to Guide our Approach

One of the foundational theories in online teaching practice is the consideration of how technology, content, and pedagogy work together to create a meaningful learning experience. The Technological Pedagogical Content Knowledge (TPACK) framework of Mishra and Koehler (2006) provides a Venn-diagram model (Figure 1) for unpacking the overlapping complex relationship between a teacher's subject matter expertise (content knowledge), their ability to teach that content to the needs of the learner (pedagogical knowledge), and their understanding of technology as a tool and enabler of student learning (technological knowledge). This model provides a lens through which to focus on the interplay between these three key areas, such as how technology can influence the pedagogical strategy used by educators to engage learners, or how particular learning technologies can enhance the delivery of curriculum content. The model has been applied extensively to understand educators' practices (Hew et al., 2019). For example, Anderson et al. (2013) used TPACK to examine the pedagogical decisions that guided course and learning design, and the technologies educators chose to support this.

Figure 1

TPACK Framework; Adapted from Mishra and Koehler (2006)



In our study, the TPACK framework has provided a means to unpack educator motivations and concerns about virtual teaching practices. These insights are important to consider given that despite the increase in blended models of teaching, face-to-face classes have largely remained the core element of blended designs, with supplemental online resources used to facilitate access and flexibility (Dart et al., 2020; Owston et al., 2019). For many higher education institutions, such as ours, the COVID-19

public health crisis dramatically changed these educational practices by forcing all teaching online, thus dramatically disrupting the well-practiced teaching approaches and learner support methods used by educators (Bozkurt & Sharma, 2020). The design of our centrally delivered professional development offering focused on developing an educator's technological knowledge (TK) and pedagogical knowledge (PK) to cope with the sudden emergency remote teaching context. By equipping educators with the skills and confidence needed to make the transition, we worked to reduce educator anxiety (and thus enhance their wellbeing), such that educators could successfully teach online to support students. Content knowledge (CK) was not a focus of this study given educators were expected to already possess this, whereas the development of TPK was expected through the rapid transition.

Aims and Research Questions

Given the unique challenges many educators faced during the COVID-19 pandemic to rapidly transition to teaching online and the anxiety caused by this disruption to the staff and student experience, this research seeks to gain insight into how novice online educators developed confidence and expertise in teaching online through the use of video conferencing software Zoom. This is principally examined through the lens of the TPACK framework (Mishra & Koehler, 2006), with a focus on understanding the relationship between pedagogy and technology. Three guiding research questions were developed to gain insight into how educators developed the skills and confidence to make this transition:

1. *How did our professional development impact educator confidence in teaching with Zoom?*
2. *How did educators define successful teaching when teaching online?*
3. *What do educators feel is fundamental to teaching online for the first time?*

Method

Contextual Background and Data Collection

Participants of this research were educators at Queensland University of Technology (QUT), a large higher education institution located in Brisbane, Australia, which educates about 50,000 students enrolled in undergraduate and postgraduate qualifications. Degrees are offered in a range of disciplines including business, law, science, engineering, creative industries, education, and health. Prior to the COVID-19 pandemic, most of QUT's teaching was undertaken face-to-face, which capitalised on specialist physical facilities and the university's central inner-city locations. QUT's teaching adhered to a blended and online learning framework, which meant face-to-face teaching was complemented by an online learning management system that housed lecture recordings, teaching materials, and unit communications. Due to the COVID-19 pandemic, teaching was shifted fully online from the end of March 2020. This resulted in the initial four weeks of the first teaching period being delivered as normal, followed by a one-week break, and then the rest of the planned 13-week teaching semester and exam block going fully online.

To support the sudden online transformation, professional development was offered by the central academic development team in a range of technology tools. One focus was on supporting educators to use Zoom to deliver lectures, tutorials, and student consultations. The development strategy included 45-minute facilitated workshops pitched at an introductory level, supported by follow-up guides and connections to learning designers and technical staff. Attendance at the workshops run between March and May 2020 was voluntary. Workshop content had a practical focus on strategies that educators could adopt to create an effective learning environment and encourage active learning through Zoom's features (and thus covered both technological and pedagogical knowledge). The workshop was conducted via Zoom, which allowed the facilitator to model approaches and engage attendees in representative learning activities such as voting in a poll and participating in a breakout room.

Educators who engaged in the workshop were invited to participate in this research by responding to an anonymous online survey estimated to take 10 minutes to complete. The data collection was approved by QUT's Human Research Ethics Committee (approval 2000000459). The survey was accessible for four weeks following the conclusion of the first semester teaching period. Educators were asked 6 tick box-style questions (focused on demographic backgrounds), 4 Likert questions (focused on educator confidence using Zoom and the influence of the workshop), and 6 open-ended questions (about the workshop and experience teaching with Zoom during the semester). In this study, we focus on analysing selected questions to assess the impact of educator confidence and success when teaching online. An evaluation of the workshop's pedagogical design is reported in Dart & Woodlands (2022), while the impact of educator confidence and success when teaching online is the primary focus of the present study. The survey received 104 responses from an estimated 600 attendees. The demographic backgrounds of respondents are summarised in Table 1. Respondents were asked to select their role and primary faculty or

organisational unit. Many who selected 'Other' were aligned to central areas within the university which provide teaching and learning support activities such as student success, research training for higher degree research students, and QUT College (which teaches university enabling programs).

Table 1

Demographic Characteristics of Survey Respondents

Demographic Characteristic		**Survey Respondents (%)**
Gender	Female	77
	Male	19
	Gender Diverse	4
Role	Lecturer/Unit Coordinator	36
	Learning & Teaching Professional	10
	Tutor	19
	Other	35
Faculty	Creative Industries	10
	Education	12
	Health	22
	Business & Law	14
	Science & Engineering	7
	Other (Includes Centralised Departments)	35

Data Analysis

Survey data were analysed using both quantitative and qualitative methods. Firstly, respondents were asked to self-report their confidence at three timepoints – immediately before the professional development session, directly after the professional development session, and at the end of the teaching semester. This was recorded using a 7-point scale ranging from 1 (*low confidence*) to 7 (*high confidence*). To test whether a statistically significant difference was observed between the timepoints, the Friedman Test was applied. This statistical test was selected because the data was not normally distributed and contained matched samples across three groups (Pereira et al., 2015). Post-hoc testing was conducted to determine where the differences occurred. This relied on the sign test (given confidence levels would be expected to rise) with a Bonferroni correction applied (Pereira et al., 2015).

Secondly, following the study of Anderson et al. (2013), responses to selected qualitative questions were thematically analysed according to their alignment with Mishra and Koehler's (2006) TPACK framework to examine what influenced educators' confidence development, perceptions of successful Zoom teaching approaches, and advice for new online educators. While Anderson et al.'s (2013) research study used the seven intersecting overlaps of the TPACK framework to analyse semi-structured interview data, the present study focuses on only three aspects of the TPACK framework due to the short response nature of the survey data collected. These aspects are the core overarching areas of pedagogy knowledge (PK) and technology knowledge (TK), as well as the intersection of these areas, technological pedagogical knowledge (TPK) (refer to Figure 1). Content knowledge (CK) was not a focus of this study given educators were expected to already possess this, whereas development of TPK was expected as educators began to teach online. A deductive approach was employed to code comments based on their alignment with the three areas (Braun & Clarke, 2006). Two researchers engaged in this process simultaneously to reach a consensus on the alignment of each comment. Recurring ideas within each category were then identified by the researchers, again using a consensus-based approach, are reported below alongside responses that exemplify the themes.

Results and Discussion

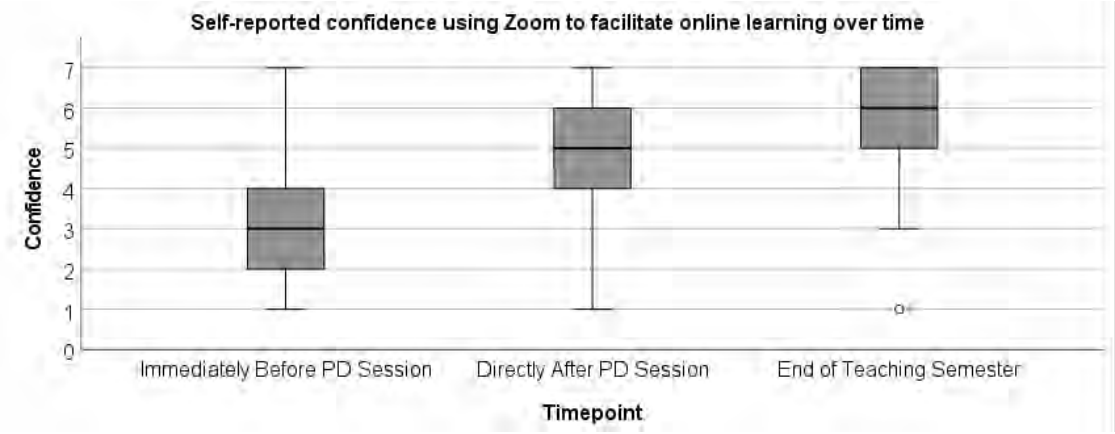
The findings suggest that our professional development positively impacted educator confidence through providing advice and strategies for using this technology to engage students in learning as well as pedagogical approaches for providing a sense of connection with learners during a period of considerable social isolation and change. Educators referred to technological knowledge covered in the workshop as being influential in developing their confidence and ultimately, subsequent practical immersion in teaching using Zoom was demonstrated to be of additional benefit. The results below are presented based on the three research questions relating to confidence change, perceptions of successful teaching, and advice for novice educators teaching online.

Professional Development Impact on Educator Confidence

Error! Reference source not found. presents respondents' self-reported confidence in using Zoom to facilitate online learning in relation to undertaking our professional development session. This shows median confidence progressively increased over the three timepoints. The Friedman Test demonstrated this difference was highly statistically significant ($\boldsymbol{\chi^2 = 162.618, df = 2, p < 0.001}$). Moreover, post hoc analysis with the sign test showed the increase was statistically significant from before to after the professional development session ($\boldsymbol{Z = -9.111, p < 0.001}$) and from the conclusion of the professional development session to the end of the teaching semester ($\boldsymbol{Z = -7.055, p < 0.001}$).

Figure 2

Self-reported Confidence in Using Zoom to Facilitate Online Learning at Three Timepoints



Note: Self-reported confidence in using Zoom to facilitate online learning at three timepoints; confidence measured on a 7-point scale where 1 represents low confidence and 7 represents high confidence; professional development is abbreviated to PD.

The largest increase in median confidence occurred through the professional development session and this suggests that even short, responsive professional development is an important investment in educator wellbeing and self-efficacy. When respondents described the influence of the session on their teaching, the majority discussed an improved understanding of Zoom's technical capabilities, which relate to their TK. For example, participants said the session "was a thorough lesson and gave lots of good instructions on how to use various features, which were extremely useful in teaching especially. While I may have figured these out by myself, this definitely fast-tracked my confidence with Zoom," and the session "helped me to understand the features of Zoom and how to become more confident in using its features for teaching, Q & A and hosting meetings." There was strong evidence that explicitly addressing technical considerations in a practical manner reduced anxiety toward using the technology:

> [The session] really made me feel like I could do it! I learned practical skills but as well as this, the facilitators helped me to feel that this was not so scary and that I could use Zoom to support what I wanted to do, rather than me having to change everything I did to suit Zoom.

> [The session] provided relevant ways to structure and engage with content including surveys [polls] breakouts etc. I hadn't had confidence to explore these before, but did so soon after.

Some educators explicitly discussed pedagogical aspects of the workshop as being influential on their confidence and typically appeared to have a greater TK base:

> I was comfortable enough with the technology already and how to use it. I definitely learnt more from seeing how the facilitator structured the session and used the tools to engage with the class rather than the content of the session itself.

This aligns with the notion that novice educators moving into the online environment need to have sufficient TK before they can effectively develop the associated PK and subsequent focus on student learning. Where educators lack basic technical skills, they are unable to appreciate how aspects of the technology can be coupled with appropriate teaching methods, which represents TPK. Our study confirms the value of scaffolding support in relation to educator expertise rather than assuming a

one size fits all approach when creating professional development offerings. This is supported by the findings of Vaill and Testori (2012) about the importance of appropriate tiered development to gradually advance educator abilities.

The confidence increase observed through the professional development session (Figure 2) is particularly affirming, as our research confirms that even introductory workshops can have a profound impact on supporting educator confidence and ultimately inspiring positive mindsets towards online teaching (Ní Shé et al., 2019). This is important given many educators can hold negative attitudes toward teaching online, even before developing first-hand experience as an educator or student in online learning (Sheffield et al., 2015). Our work in enhancing educator wellbeing through professional development is critical as a negative mindset impacts an educator's self-reported confidence (Averill & Major, 2020). In this situation, educators may perceive themselves as being incapable of performing tasks or unable to operate effectively in a new situation or circumstances, negatively influencing their wellbeing. Our study's insight into educator confidence increase implies that even short workshops can be paramount in initiating a shift in educator attitude that enhances feelings of wellbeing, in turn motivating educators to develop teaching innovations (Averill & Major, 2020; Gast et al., 2022).

It was positive to note that our study found an additional increase in confidence recorded between the conclusion of the professional development session and the end of the teaching semester (Figure 2). Learning through teaching in context was noted as a key to achieving this: "It [the session] was helpful to see how/what, however I am very much hands-on and my experiential learning…in the use of Zoom since [has been most influential]." Educators also stressed the importance of working with colleagues to further develop confidence. This is most often related to practice sessions used to develop TK by experimenting with Zoom tools as a group. Some respondents also discussed the value of co-teaching as a pedagogical technique that reduced pressure to manage the virtual teaching environment, especially during initial class sessions. Our findings show that when academics work with others they share experiences, reflect on teaching practice, and offer meaningful collegial support. This results in a confidence increase that has flow on effects for educators and ultimately student wellbeing. Our studies argue this implicit mentoring and ongoing assistance is vital to reinforcing and building upon the outcomes of initial training (Vaill & Testori, 2012). Moreover, these behaviours establish "relatedness" within the educator community that positively contributes to educator wellbeing (Averill & Major, 2020; Hobson & Maxwell, 2017).

Educator Perceptions of Success when Teaching

Educators were asked, "When you have felt your Zoom teaching was going successfully, what tools, features, strategies, and approaches were you using?" When educators reported using specific Zoom functions such as screen-sharing, non-verbal feedback icons (like thumbs up or yes/no voting), polling, and breakout rooms, they felt confident their teaching was successful. This affirms that using tools that increase student engagement and allow for active learning are factors that contribute to an educator's perceptions of teaching success. Our findings demonstrate that increasing educator confidence will have a positive impact on student wellbeing, as educators have the capacity and confidence to draw upon active learning strategies in online teaching. Educators also discussed operational considerations, such as, "To manage breakout rooms, I had to connect with [a] second machine and grant it host abilities. This way I could drag myself into breakout rooms and still remain in control of the main chat." These responses align with TK, given they demonstrate educator awareness of Zoom tools and technical factors that influence the quality of the virtual learning environment. Some educators' reflections on their online teaching successes focused exclusively on the "processes and practices" of PK (Mishra & Koehler, 2006, p. 1026) that were achievable without the need for specific Zoom functionality. For example, educators described their successes as "Facilitating discussion and waiting for students to respond to questions," "Feedback from small groups to the larger class," and, "Adequate preparation, like all good workshops, also made a difference to how the workshop flowed."

Educators demonstrated TPK when they related how they incorporated Zoom functions to clear pedagogical intent, such as to connect learners, enhance the learning environment, or provide immediate feedback opportunities. These educator reflections on successful practice included:

> I used a combination of approaches and I provided enough time in break out rooms, early on in the session, for participants to feel comfortable talking to each other.
>
> I have had successful moments with breakout rooms and also non-verbal feedback. I have found non-verbal feedback a really simple way to get engagement from workshop participants without making them uncomfortable by being called out to speak.
>
> I have found the Whiteboard very useful as a focus for discussions. I also feel that students enjoy the breakout rooms and the opportunity to engage in interactive activities with their peers.

Those educators who demonstrated TPK in their open-text comments appeared to recognise the value of active learning. They had deliberately considered ways of supporting this higher-level engagement using Zoom tools, which included taking steps to create a comfortable learning environment where students were more willing to actively participate. Our results suggest that novice online educators will feel teaching success when they first gain confidence in TK. Furthermore, with experience, they will reflect on ways they can use the technology for pedagogy (Northcote et al., 2015). We recommend that educational developers support this development process by ensuring that TK is built alongside PK, such as by prompting educators to reflect on ways that they can extend or enhance their online teaching practice to include a focus on the learner experience.

Advice for Educators New to Teaching Online

Our study has demonstrated the importance of collegial peer learning in developing professional confidence. To further promote this, we asked participants, "If you were to give one piece of advice to an educator facilitating learning via Zoom for the first time, what would it be?". We categorised this advice using the TPACK framework and found that educators shared messages of encouragement focusing on building fundamental competencies with Zoom's functionality, which aligns with TK advice:

> Keep it simple - try setting up a meeting and getting into the meeting; then add screen share and breakout rooms and non-verbal feedback - three simple tasks to start with

> Giving students a break or task to do independently can be really helpful if you need to do things such as allocate them into specific Breakout Rooms or rearrange your windows for screen sharing.

While apprehension and anxiety in teaching online can prevent educators from working in this space (Shepherd et al., 2007) and negatively impact feelings of wellbeing (Averill & Major, 2020; Hobson & Maxwell, 2017), the COVID-19 pandemic created the conditions where educators had no choice but to provide teaching through online means. This sentiment was reflected in further TK advice that encouraged others to begin engaging with technological tools despite hesitations and highlights the need to overcome the initial anxiety. For example, the advice included, "Don't be afraid! It is really one of the simpler online learning tools I have used," "Technical hiccups will occur, it does not and will not derail your teaching," and "Get on, give it a go, see what works and what doesn't and learn from your mistakes. (you'll make many), and over time improve yourself, your material and your teaching."

Some educators provided advice aligned with PK that did not rely on specific Zoom features. These most often focused on strategies for encouraging an effective and supportive learning environment and ways to focus on student wellbeing:

> Consider what your specific students need and want from an online learning environment, and also be open to possibilities you haven't considered. But don't adopt things just because they are possible.

> Remember that students learn in different ways and at different speeds. Use visual, verbal, etc. Use chat to allow students to ask questions more slowly and circle back. Allow pauses.

> Be patient. First year students are nervous and often reluctant to engage. Try and lighten the mood in the current environment, if possible

Advice aligned with TPK sought to encourage novice educators to use technology as an enabler for active participation:

> Depending on the class size but if small, encourage everyone to participate in discussion with open mic or chat; make the virtual feel inclusive rather than passive session.

> Provide many opportunities for interactivity. For participants, being on a zoom session for a period of time requires a lot of focus and concentration. Keep sessions shorter - 60-90 mins is ideal.

> Stay calm, try to engage with students who sit silently in the background (use gallery view), and don't forget the chat box.

The advice shared by educators shows the importance of providing low-stakes opportunities to develop familiarity with new technology or approaches. Employing an empathetic approach that focuses on making novice educators comfortable with Zoom is thus valuable in developing confidence and skills fundamental for online teaching. Prompting educators to consider strategies for encouraging active participation of their learners that take advantage of videoconferencing functionality is also recommended. In order to develop educator confidence, this prompting may draw from a range of contexts, including different class sizes and disciplines. Furthermore, shifting toward a student-centred approach is vital to success in online teaching. Ensuring students have an opportunity to engage in constructive learning behaviours which promote interactivity is paramount

to effective learning and student wellbeing. This can be achieved through peer dialogue or comprehension and justification discussions which provide learners with an opportunity to "improve and expand each other's knowledge in a cyclical and dynamic way...that neither [learner] could have created alone" (Chi & Wylie, 2014, p. 228).

Conclusion

This study investigated how novice online educators developed confidence and expertise in teaching online with Zoom during the early stages of the COVID-19 pandemic. Educators who attended an introductory professional development workshop on educating using Zoom were surveyed to understand what influenced their confidence development, perceptions of successful online teaching approaches, and advice for new online educators.

The study found that even short just-in-time professional development profoundly impacted educator confidence through providing explicit advice and strategies for using the technology as well as pedagogical approaches for enhancing student engagement. Educators referred to technological knowledge covered in the workshop as being most influential in developing their confidence. It was observed that educators required a foundational level of technological understanding to be open to pedagogical knowledge. Therefore, professional development should be scaffolded to accommodate this progression. Moreover, while professional development positively influenced educator confidence, engaging in practical immersion with Zoom through teaching and practising with others was demonstrated to be of additional benefit. Consequently, professional development programs should seek to capitalise on these opportunities to consolidate learning (Vaill & Testori, 2012). Many educators felt successful when they were using Zoom's extended functionality which encouraged learner engagement and connection with and between students. This implies that educators' feelings of success and confidence in online teaching are strongly tied to their confidence in using the technology. However, as educators gain experience, they become more capable of integrating considered applications of student-centred teaching that are unique to the online environment. Thus, educational developers should ensure that once educators have foundational skills in using the technology, they are encouraged to develop more nuanced pedagogical approaches appropriate to the online context.

Our study found that advice for educators new to Zoom reflected the challenges of the rapid COVID-19 response. Consequently, respondents offered reassurance about the ease of use of Zoom and suggestions for simple yet effective applications of Zoom for teaching. This demonstrates the criticality of supporting individuals to overcome anxiety associated with using technology tools to teach, as building teaching confidence contributes to educator wellbeing. Some educators recognised the need for technological pedagogical knowledge advice and suggested including more active learning opportunities to negate the social isolation felt by online learners (Kebritchi et al., 2017). Given the ongoing COVID-19 disruptions are continuing to generate a strong need for online teaching capability, technological knowledge should be used as a stepping stone into the development of pedagogical strategies and a focus on student engagement.

The link between educator confidence and educator wellbeing (Averill & Major, 2020; Hobson & Maxwell, 2017) means that professional development that enhances novice educators' online teaching practices can be viewed as an investment in educator wellbeing and self-efficacy. This contributes to enhanced student learning experiences (such as when an educator capitalises on technological features to encourage active learning and peer interaction), which ultimately improves student outcomes. This study has shown that even short workshops delivered with a just-in-time approach are effective in improving educators' understanding of and confidence in using technology within their teaching.

The COVID-19 pandemic has continued to impact educational offerings, educator confidence, and educator wellbeing, which in turn impacts student wellbeing and learner experience in higher education institutions. The widespread under-preparedness of many institutions to cope with the swift upheaval of established educational practice is symptomatic of the slow response of the sector to strategically grow educator capability (Thompson & Lodge, 2020). While this study was limited to insights from one Australian institution, we were able to demonstrate the clear impact of short professional development on educator confidence. Consequently, there is a need to continue understanding the impact of how educators developed their practice in response to COVID-19 pandemic forcing activities fully online without adequate preparation and foundational knowledge and the impact of this experience on staff and student wellbeing. This can be achieved through gaining insights into good practice for educator development and the interplay between technology, pedagogy and content delivery. While there is an emergence of literature that contributes to how institutions approached the process of rapid preparation for emergency remote teaching, we also suggest a more longitudinal approach. This could consider novice educator attitudes towards engaging with students in virtual learning environments in the years following the shift to remote learning and eventual return or partial return to on-campus teaching activities. In particular, this research should focus on adequate support and development as an educator wellbeing strategy in conjunction with strategies to increase student wellbeing, engagement and sense of belonging.

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