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'You need to be flexible normally, and here, even more flexible': teaching academics' experiences and perceptions of Covid-19 disruptions to teaching, learning, and assessment

This is the Accepted version of the following publication

Thomas, Melissah, Yager, Karen (Zali) K and Widdop Quinton, Helen (2022) 'You need to be flexible normally, and here, even more flexible': teaching academics' experiences and perceptions of Covid-19 disruptions to teaching, learning, and assessment. *Journal of Further and Higher Education*. ISSN 0309-877X (print), 1469-9486 (online)

The publisher's official version can be found at
<https://www.tandfonline.com/doi/full/10.1080/0309877X.2022.2102415>
Note that access to this version may require subscription.

Downloaded from VU Research Repository <https://vuir.vu.edu.au/44609/>

“You need to be flexible normally, and here, even more flexible”: Teaching academics’ experiences and perceptions of Covid-19 disruptions to teaching, learning, and assessment.

Authors’ accepted version (after peer review amendments and before of publisher’s copy editing and design). Final published version at the doi link in citation:

Melissah Thomas, Zali Yager & Helen Widdop Quinton (2022): ‘You need to be flexible normally, and here, even more flexible’: teaching academics’ experiences and perceptions of Covid-19 disruptions to teaching, learning, and assessment, *Journal of Further and Higher Education*, DOI: 10.1080/0309877X.2022.2102415

Abstract

Alongside unprecedented shifts in health care, and widespread lockdowns and stay-at-home orders, the Covid-19 pandemic brought an almost immediate shift towards digitally supported remote delivery in higher education. This paper explores the experiences and perceptions of 15 teaching academics from five universities in Victoria, Australia during this time. Semi-structured interviews were conducted with academics after they had been delivering teaching, learning and assessment remotely for a six-month period. The analysis showed that while the remote delivery environment enhanced many aspects of teaching and learning, including agile and adaptable academic skill-sets, there were challenges. The academics’ sophisticated teaching skills and experience, that were intuitively relied upon in the face-to-face setting, did not always translate to the online environment. In particular, this was noticed in terms of the relational approach to teaching and learning, including relationships, rapport, and connectedness within classes, and the absence of social formative assessment cues to evaluate learners’ understandings. Students were not asking questions in class and required additional support from academics, which subsequently increased already overburdened workloads. After considering the findings of our work and others, we provide recommendations to support high quality teaching and learning in digitally supported remote delivery.

Key Words: Covid-19; Teaching; Learning; Assessment; Online learning; higher education

Introduction

The rapid worldwide shift into digitally supported remote delivery as a result of the Covid-19 pandemic impacted the work, study, and personal lives of those in higher education, in which the shift was possibly the “largest online education practice in the human history” (Yan, 2020, p. 110). Universities were compelled to make changes to usual programs to remain operating, to redesign programs to fit the new remote delivery mediums, simultaneously complying with existing regulatory obligations of programs (Crawford et al., 2020). The

experience and perspectives of teaching academics during this pivotal moment in time, during the beginning of the implementation of remote teaching during the Covid-19 pandemic, provide a portrait of the challenges to educators, and highlight opportunities that can be prioritised as important features of future online delivery of programs moving forward, that may consider hybrid approaches that extend beyond current modes of remote delivery (Fullan et al., 2020).

Online learning programs in higher education are not new experiences (Carrillo & Flores, 2020). Combinations of distance, hybrid and online education approaches have been offered in Initial Teacher Education (ITE) courses (the context of our study) for some time, and the transition into digital technologies has been well documented (Kaleta et al., 2007; Northcote, 2008; Redmond, 2011). Ideally, the fundamentals of careful planning of content and pedagogical knowledge in a face-to-face environment (Shulman, 1986), remain necessary for effective online teaching practice (Koehler & Mishra, 2005). Additionally, knowledge of technology focused on the “certain ways of thinking about, and working with, technology” (Koehler & Mishra, 2009, p. 15) is needed in both environments.

While the fundamentals of teaching for academics in our study remained consistent at the time of Covid-19, what was new was the permutation of the forced and rapid nature of the transition, and magnitude and breadth of the global shift. The educational pivot in 2020 due to Covid-19 was significantly different to much of the previous online learning which has, at times, focused on heutagogical learning approaches of asynchronous, self-directed student learning (Blaschke & Hase, 2015). The drama and uncertainty of the quick teaching shift to online due to Covid-19 resulted in many swiftly deploying online real-time timetables.

Academics were required to rapidly appraise teaching programs, and either seek to replicate usual face-to-face practices as online real-time (remote) teaching, or adopt alternative pedagogies (Henriksen et al., 2020), which resulted in significantly higher workloads (Adedoyin & Soykan, 2020; Marek et al., 2021). All of this occurred during a time where there was “a widespread change in the mental health of the Australian adult population” (Fisher et al., 2020, p. 462). It has been suggested that university staff were caught “unprepared for this expedient transition” and mammoth task of transforming curriculum and pedagogy (Christian et al., 2020, p. 2).

Academics’ pedagogies within ITE had dual imperatives: to change their pedagogies into remote delivery mode, while simultaneously responding to calls to improve graduates’ overall teacher quality (Craven et al., 2014). Modelling quality teaching and learning is often utilised in ITE programs to provide students of teaching with opportunities to experience quality teaching and learning themselves (Darling-Hammond, 2006; Loughran & Hamilton, 2016; Moore & Bell, 2019). Consequently, shifting to a digitally supported remote delivery necessitated swift consideration of how modelling quality teaching would occur in the new

medium, whilst simultaneously aiming to ensure their students were 'classroom ready' (Craven et al., 2014).

Given the historic nature of the rapid shift to digitally supported online delivery during the Covid-19 pandemic, this research aimed to explore experiences of teacher education academics at the forefront of switching to online delivery, to capture the impact of these teaching, learning, and assessment changes during the pandemic and make recommendations for future practice. The research was driven by the following question: What shift in teaching, learning, and assessment perspectives and experiences have occurred as a result of Covid-19 and the change into digital remote learning?

Method

The research was conducted during the second lockdown in Victoria, which was the worst-hit state in relation to Covid-19 outbreaks, and endured lengthy lockdowns, necessitating closure of schools and university campuses across 2020 and 2021. Following the phenomenological approach of understanding lived experiences {Groenewald, 2004 #442}, the initial research goal was to understand ITE academic perspectives and experiences of assessment during the pivot under the Covid-19 emergency, using a semi-structured interview approach to allow for participants to explore areas that were important to them. Despite beginning with an assessment focus, participant discussions also led to broader conversations of their remote delivery teaching and learning experiences.

Sample

An invitation email was sent to Initial Teacher Education (ITE) staff teaching in five traditional public universities in Victoria, Australia. Seven females and eight males agreed to participate, who had between 3 and more than 20 years of higher education experience. These participants experienced remote teaching mostly in real-time online, with limited change to asynchronous aspects of self-directed learning. Ethical approval for this research was granted by Victoria University Low Risk Human Research Ethics Committee (HRE19-064). To minimise identified social risks and ensure participants experienced no harm or discomfort from participation, the research objectives, together with withdrawal rights and confidentiality procedures to be carried out in the research, were fully explained to participants, and written consent was obtained. Specific details about individual participants have intentionally not been presented to protect confidentiality.

Data Collection

Individual semi-structured interviews (20-30 minutes in duration) were conducted with participants to understand their perspectives and experiences in the shift into digitally supported remote delivery. The interviews were conducted via a video conferencing platform due to social restrictions, recorded with participants' permission and transcribed verbatim.

The interviews included questions about their experiences of teaching and assessing in initial teacher education, and recent experiences of remote delivery, as well as specific questions about changes in assessment, engagement, feedback, and level of understanding, as well as their perceptions of academic workload, and how this might have changed with the shift to online delivery (see Appendix A for interview questions). All electronic data was stored on the institution's secure digital research storage drive, retained for five years post-publication.

Data Analysis

Adopting the reflexive view of qualitative research {Braun, 2019 #832}, inductive thematic analysis procedures were utilised as outlined by Braun and Clarke (2006), with the aim to follow informed, systematic procedures to minimise biases as insiders, due to the researchers' active roles within higher education teaching, and to ensure validity and accuracy of the qualitative research {Creswell, 2012 #198}. After familiarisation reading, each transcription line was re-read and one researcher (first author) created open codes across the interviews. The coding process was further refined by sorting data and noting relationships between open codes, similarities and differences between perspectives and key issues. Then, the research team had ongoing meetings to discuss the systematic sorting and re-grouping of codes into categories. Once consensus was reached, these categories were developed into axial codes and subsequently grouped into themes across the interviews. Themes are presented in the findings below with direct quotes presented in italics. Pseudonyms are used for confidentiality.

Findings

Data analysis revealed emergent themes centred around the Covid-19 shifts enhancing (or constraining) teaching, learning, and assessment; and challenges connected to professional, relational and workload facets. In the following, the key findings regarding the enhancing and constraining experiences of the participants' teaching pivot to remote delivery are presented.

Enhancing Teaching, Learning, and Assessment in Remote Delivery

An agile, flexible and adaptable skill set

Among the participants, there was varied previous experience in teaching online, from novice to experienced. Subsequently, participants discussed their experience with the planning and implementation, design and teaching, and assessing in the remote programs, and how students responded to remote delivery. Despite many discussing their inexperience in teaching online, Emilia and Lucy were quick to reflect a nimble adjustment:

"It took a little bit of adjustment, but actually. I was surprised to see how quickly I adjusted." (Emilia)

“Well, to tell you the truth, it’s been remarkably painless.” (Lucy)

For other academics, including Bruce, the first month of remote delivery was challenging:

“That first block [of teaching] was... particularly hard... where I had to learn all of the Zoom techniques.” (Bruce)

The academics seemed to be in a new place of teaching and had to learn online platform techniques in a short space of time, which provided a challenge for some. However, many noted the opportunity to upskill and refine skills by attending remote teaching and learning skills workshops, both internal and external to the universities, propelling them to focus on their skillset. The rapid change magnified the need towards being agile, flexible, and adaptable:

“...you need to be flexible normally and here [during Covid-19], even more flexible” (Bruce)

“... It’s about being agile and flexible and adaptable and having those skill sets to be able to deal with ambiguity and deal with those elements of uncertainty is important.” (Isabella)

“I think we’ve learnt that we need to be a little bit more flexible in our expectations about when and what students can do.... it’s, again, humanising our practises in relation to people rather than be a conveyor belt and assume everyone’s the same.” (Mathew)

The online environment stimulated academics to try different teaching tools that they would not ordinarily use. Thus, enriching their teaching capabilities:

“...in some ways, it advanced my teaching, and it opened new opportunities that I didn’t have to deal with before... What I’ve found is that it has an advantage by increasing the rigour of the learning.” (Emilia)

“[remote delivery] also allowed us to experiment with some different approaches that perhaps we wouldn’t have used when we were face-to-face...” (Isabella)

Throughout the discussions, there was a significant focus on whether their usual face-to-face teaching and assessment strategies translated to the remote delivery environment:

“Getting my head around how I was going to operate it, working out what I was going to do each session make it as close to what I would do in a face-to-face class as possible...” (Bruce)

Academics reflected that many aspects of their usual face-to-face teaching translated easily to online remote teaching. They incorporated their usual preferred pedagogical strategies

and structure to lesson planning in the online real-time remote setting by carefully considering if each activity would be helpful in the video conference platform.

Being at home improved student performance

Many academics found that they did not need to adjust their assessments for the online environment, and student engagement in assessment was thought to remain the same as had been in face-to-face versions of the courses/units. Interestingly, despite academics not changing their assessment tasks significantly many noticed that student results improved in the remote delivery. They suggested that this came about due to the perception that students had more time for tasks. Students were saving time by not having to commute to and from campus and, during the lockdown stages in Victoria, they could not go out socialising, and most could not work:

"... I'm inclined to think the quality of the assessments is slightly up on what I've seen in the past. And that would be because they have time to do it... because they're, particularly Melbourne, those in Melbourne in lockdown, they've had extended time to actually do some wider of reading, do some drafting, self-regulate their learning, I think, to enable them to produce actually higher quality written work. So, I do think that's an opportunity that's been presented to many of the conscientious students." (George)

However, perceptions of student engagement through attendance were varied. Several academics shared anecdotes of improved attendance:

"...the attendance has been better, I would say, than a classroom. I've always had more, I think, students in the Zoom session than I'd normally get in the classroom." (Daniel)

"The attendance was like up and down [in] our usual classes... since we've come into remote, I don't know whether they're, you know, because they were stuck at home, but the attendance has been great." (Lucy)

While others noted a drop in attendance:

"I definitely think some of those on-campus students who were forced to become [remote learners], they just disappeared and just handed in the assignments and that was it." (Spencer)

Constraining Teaching, Learning and Assessment in Remote Delivery

Screens create barriers to motivating and evaluating student engagement

Participants often discussed their inability to replace their 'in the moment' visual observational assessment strategies that they used to assess whole classroom dynamics in face-to-face learning in the online space. When teaching online there was a lack of social

cues through body language, due to only being able to see the students' faces online, if they had their cameras turned on. Compounding this, participants reported that in most cases students chose not to turn their cameras on, making it challenging to assess engagement and motivation with no visual observational cues taken from a black screen:

"...most of the time... you've got three quarters or at least half blank screens. So, it's tricky to sort of get a feel for the motivation. And you always kind of lean towards the group that is motivated ..." (Daniel)

One academic reflected that because they were not familiar with teaching online, they craved the usual social cues they usually relied upon:

"I'm... someone who promotes constructivism and particularly social constructivism as a learning theory... it's very limiting and frustrating for me because I... need the social cues, the social interaction, the collaboration, all those things you have in a face-to-face environment, whereas, you know, remoteness takes all that away." (George)

While some participants did not consider students having cameras off a big issue, there were discussions around the challenges of engagement:

"I think when you're disconnected in some way, it makes you feel like you're an observer rather than being in the experience." (Isabella)

"...we know the cameras are an issue. There's much more of an issue about speaking out in an online space than in an actual classroom... that's the real challenge." (Tara)

The level of student engagement was also challenging to assess when using the video conferencing platform's breakout room feature. While the breakout room feature had addressed the need for small group work, these rooms had completely removed the academic presence from the room:

"...you have to jump into like one breakout at a time. You're not present in the room. So, you don't get that feeling of where the students are [all] up to, what they're doing, what the level of engagement is... You have to go into a breakout room, but then they just turn it on for the Breakout room and as soon as you leave, who knows what they do..." (Daniel)

Additionally, it was more awkward and time-consuming to enter and exit the rooms than being able to move freely in class and between groups. Academics found they could not use peripheral scanning of the whole class working in groups for engagement cues. Furthermore, common misconceptions could not be addressed as they arose during the tasks without bringing every group back to the main conference room, which was time consuming and logistically difficult.

Limitations of reduced relational student connections

The usual ways the academics form relationships and connections with their students did not seem to translate to the online environment:

"Developing relationships in a remote environment is much more difficult. You really don't get to know them very well at all other than, you know, what I can see behind you. For example, I can decipher what your room looks like, and what sort of person you are in that regard, and then you can talk about something there but it's really a thin way of building a relationship. And sometimes the relationships are better when it's obviously personalised through those social cues." (George)

"... the first couple of units that I had...I was like, oh, this is slow, like, how do I make that connection with the students? And I think that's the challenging part... it's one of the things that I keep telling them [in learning to become a teacher]: 'the relationship is key'. And in face-to-face I've got it nailed, because I've got 20 odd years' experience in doing it. But this space took me a little bit longer to be able to deliver in that way." (Isabella)

Perhaps the difficulty academics found in forming these relationships came from the unnatural feel of the conversation. On the video conferencing platform, everyone present can see themselves on the screen and those in the class simultaneously. Academics felt odd seeing themselves speaking and gesturing while teaching. Daniel reflected that this could affect the teaching persona and teaching style in the remote environment:

"...I think that is quite a big aspect of teaching, is your persona, your, you know, presentation style... I think that actually has a big impact on how you present, what you present, because you can always see yourself... and everybody's always looking at you." (Daniel)

Perhaps this feeling of uncertainty and shift of classroom ecology will adjust as the academics, and their students, become even more familiar with teaching, learning, and conversing in the environment:

"Maybe it's just because all of our teaching has always happened in classrooms and preservice teachers teach in classrooms. And then now that we've gone to this Zoom remote setting, it's just different and so they feel like, oh, it can't be right" (Daniel)

"It's probably us old farts delivering in this environment that creates the problem." (George)

Knock-on effects of lack of questioning from students

Regrettably, some academics noted a change in students asking questions in the remote environment. Several participant educators indicated that students are not asking questions in class online. Daniel shared:

"...I think students ask far more questions in a [face-to-face] classroom environment. They seem to not tend to ask as many questions in the Zoom environment. But I know that some of them need to... because I would have a session and we'd have minutes for questions. And then some people would ask questions and then everybody would be silent. And I'm good at waiting, so I can wait like five minutes with silence. Nobody asks any questions. Everybody's good. People even do thumbs up. And then after the Zoom session, I get like two or three emails, four emails saying, 'oh, I just wanted to ask this question' (laughs)." (Daniel)

The students seemed to be missing the informal student-teacher and peer conversations that occur in the classroom, often overheard, that contributed significantly to their understanding of collaborative tasks or assessments. The absence of these conversations appeared to negatively impact student learning:

"Listening in you... that's where you pick up things when, you know, there's conversations going on in a classroom environment. I think that's critical, that's part of deep learning, which is what we've got to encourage." (George)

These intentional and overheard conversations, which are an inherent part of face-to-face teaching and learning, were unable to inform and shape students' understanding of assessment and, subsequently, students' assessment responses. The more considered conversations, and fewer opportunities for interaction afforded through videoconferencing and discussion boards, did not necessarily allow for flexible and adaptable organic conversations to build students' understandings.

Multiple factors resulting in increased academic workload to support students

During the initial Covid-19 shift into online classes, some academics were overwhelmed with the increase in workload, including Isabella, who shared:

"My workload has increased as a result of all of this stuff. It's been horrible. My workload has increased... because of my personal accountability that I believe that I have as a duty of care. And my workload has increased because of the redesign of units and technology issues, and all sorts of things. So, yes, it was an overhaul of an entire program. Not just a couple of units at a time. And that's what was so big about it. And it was ongoing. It just rolled from one to the next. And we didn't get a breath." (Isabella)

In the second semester of online classes, all academics felt their teaching and assessment practices were more established, and they were more comfortable teaching online. However, many were still reflecting that their workload had increased compared to pre-Covid-19. An ongoing issue they reported was that there were more emails from students due to the reduced opportunities for them to ask clarifying questions in class - of each other, and the tutors:

"The email world has gone up a bit...I'm providing regular and irregular email feedback and that is a huge workload issue, but that's the only way some of the students are getting responses and clarification." (George)

Granting extensions, special considerations, and the need to provide additional support for struggling students were also added to the participants' workload. The academics shared heartfelt stories about individual students who were facing challenges due to the pandemic, including mental health, isolation and financial challenges.

Additionally, academics noticed that access to resources required for online study was difficult for some students. They witnessed students experiencing inadequate bandwidth, deficient sound quality, sharing the computer with multiple family members, sharing home space with other people, and other technology constraints that interrupted lessons and assessments that required class attendance.

Discussion

Although the sample size is small and focused within ITE, this study has collected perspectives of academics from multiple universities in Victoria. The experiences of pivoting to online classes during the Covid-19 pandemic that were important to the ITE academics in this research centred around dimensions of professional capacity and effectiveness, relational connections and student engagement, and impact of workloads, confirming comparable experiences in other research reporting academics' concerns. These key aspects of professional, relational and workload challenges will be discussed, followed by future focussed recommendations to support high-quality teaching and learning in digitally supported remote delivery.

The Professional Challenge

The professional challenge for teaching academics came from redesigning programs for online classes and upskilling to navigate and manage the required technologies - all within an extremely short timeframe of change due to the Covid-19 pandemic. As ITE educators, the participants were aiming to model effective online teaching practice, however many had limited experience with effective online pedagogies. Participants attempted to hold on to familiar and well-established pedagogies, and replicate class activities and learning experiences usually used in a face-to-face setting. Similar to Howard's (2020) academic

participants, when they were transitioning to a blended teaching environment and also attempted to retain usual face-to-face practices, the academics in this study also found the unfamiliar online teaching environment presented “threats to their pedagogical effectiveness” (Howard, 2020, p. 10). Northcote (2008) suggests that transferring pedagogical practice from face-to-face to online settings is not a simple task given the differences between these learning environments, nor should it necessarily be attempted. The express nature of the Covid-19 transition from a face-to-face to an online learning environment created significant pressure and stress for participants in this research. They were not granted sufficient time to delve deeply into appropriate online pedagogical practices, such as Garrison et al.’s (2000) Community of Inquiry framework, that may align with their usual adopted constructivism or social constructivism pedagogies (Bada & Olusegun, 2015; Bednarz et al., 1998; Vygotsky, 1987), or delve into alternative online student-directed heutagogical approaches (Blaschke & Hase, 2015).

Indeed, since online teaching requires considerable time and thought to plan for the teaching and learning experiences, Hodges et al. (2020) labelled the rapid shift into remote delivery as “emergency remote teaching.” The worldwide shift into digitally supported remote delivery was a quick fix substitution in response to the pandemic’s emergency, not allowing for adequate planning time (Hodges et al., 2020). This ‘emergency’ definition resonates with our participants’ initial feelings of hesitation with novel tools and platforms, and their trial-and-error approach to initial planning with somewhat limited experience and limited knowledge in online teaching and learning.

While the academics in this study, when transiting to the Covid-19 emergency teaching via remote delivery, initially looked for simple online replacements for their face-to-face delivery, with time, practice, and more experience, their confidence in teaching practices with digital systems and platforms improved and were willing to try different teaching tools. These findings are mirrored in Redmond’s (2011) academic participants who transitioned from face-to-face teaching to blended and online teaching in another Australian university. As Redmond’s (2011) participants’ confidence increased, they continued to make changes to their pedagogies to fit and adapt to the online environment, and, not surprisingly, became more comfortable planning and teaching in the online environment over time. Thus, it is not surprising that, as the participants in this study became more informed and experienced regarding online remote class delivery over time, and with their unease about online teaching lessening, many took on the challenge of teaching remotely and further explored new avenues and approaches to enhance their online pedagogical approaches.

While the Covid-19 shift into digitally supported remote delivery focused academics to look at their online pedagogical effectiveness, the shift also compelled them to focus on particular teaching skills necessary in the novel delivery medium. Participants highlighted three primary skills most important: flexibility, agility, and clarity. While also noted as essential

skills in face-to-face teaching, their need for these three capabilities was considered by the participant academics to be more magnified in the online space and the rapid shift into this delivery mode in the pandemic. These three capabilities have been confirmed by other studies as crucial for online remote delivery: Bailey and Card (2009) confirm that being flexible through “keeping an open mind and having the ability to adapt” is influential in effective teaching within the online environment (p.154). Marek et al.’s (2021) worldwide survey exploring the experiences of higher education converting to distance learning during Covid-19, also found being agile and adaptable in the face of the rapid shift and planning process was crucial. Moreover, Albrahim (2020) identifies clarity in all forms of online communication in their “social and communication” category as a vital essential of online teaching skills (p.16).

Simultaneously with the participants’ need to transition their teaching into online pedagogies and focus on their teaching skills for this new teaching environment, the academics were also required to adapt their technology skills and competencies. In the online environment, the academic requires technical knowledge and skill (Bailey & Card, 2009; Berge, 1995; Kaleta et al., 2007; Zhu & Liu, 2020), to be able to “make participants comfortable with the system and the software” (Berge, 1995, p. 3). It was not enough for the academics to have a positive attitude towards using technology tools; they must also know how these tools are pedagogically practical and relevant to learning (Davies, 2014), to be able to implement for effective online teaching and learning.

The rapid shifts in pedagogy and the required teaching and technology skills needed for the teaching transitions in the Covid-19 pandemic emergency in 2020, challenged the professional skills of the Victorian ITE academics in our study, in concert with other academics globally.

The Relational Challenge

The participants in this study identified challenges in forming relational bonds between their students, and lack of interaction between students in online remote classes. As learning through a relational approach varies depending on context (Ramsden, 1987), it seems unsurprising that participants initially grappled with this aspect of teaching and learning in the change of context to the online environment. Tai et al.’s (2019) pre-service teacher participants similarly felt that learning in an online environment did not support the same level of connectedness as face-to-face settings, and ITE students in our related work felt a relational disconnect with each other (Thomas et al., in preparation). As both stakeholders indicate feeling disconnected with relational aspects of teaching and learning online, conceivably, the differences between the level of social interactions and the way in which these interactions are being experienced in switching from face-to-face to online remote learning effect the climate of the learning community. That is, the need for attending to

relational teaching and learning approaches in the online environment seems to be magnified.

In our study, it seemed that the digital space also contributed to a change in how students asked questions in an online class. Other work has found that students have been hesitant to ask questions in a video conferencing platform unless called upon (Weiser et al., 2016). Instead, the participants in our study and others indicate students switch to email academics personally, adding to the academic's increased email workload (Adedoyin & Soykan, 2020). Jensen et al. (2020) also found that the communication between the academic and student shifted from larger scaled class communication to an individual basis in the online digital delivery, changing the student-teacher dynamic.

The Workload Challenge

Academics strongly voiced the massive undertaking required to redesign programs and navigate a new space of teaching in the pandemic. This contributed to a significantly increased workload. Marek et al. (2021) also reported that their participants (academics from Asia, North America and European countries) “experienced considerable higher workload and stress” (p. 104) in converting their face-to-face classes to online. Additionally, Adedoyin and Soykan (2020) reflected on instructors' heavy workload in the rapid shift into remote delivery. These findings are not surprising given the rapid nature of the shift, the subsequent planning involved, and upskilling due to new platforms and tools. It is vital to spotlight this impact on academic educators, because increased workload can lead towards burnout, which can have detrimental effects on performance and wellbeing (Sabagh et al., 2018), and potential long-term effects for the sector. The broader perspective of the Covid-19 pandemic, including social isolation, widespread uncertainties, and rapid speed of change, also warrants consideration for impacts on academics' mental health and wellbeing. Given academics were experiencing a seismic societal shift due to the pandemic, while simultaneously stressed with redesigning and teaching new programs, it is crucial to consider the underlying situational, mental health and wellbeing impacts on these individuals.

Implications for future practice and research

The lessons learned through planning and teaching in this rapid shift into digitally supported remote delivery of classes are important to facilitate change in future designs of post-covid higher education and improve teaching and learning in future programs. While the experiences and viewpoints are focused on universities in Victoria, the findings were comparable between academics at all five institutions, and recent studies elsewhere. Despite the limited scope of the research focused on ITE, the findings may be applicable in future contexts to improve the scholarship of teaching and learning. While there is already a body of work about effective approaches for online learning (Carrillo & Flores, 2020;

Garrison et al., 2000), the lasting changes to higher education's future post-covid design leveraged from the experiences during these Covid-19 shifts need to focus on implementation in online real-time contexts, with potential hybrid structures to design (Fullan et al., 2020). Accordingly, from our findings on academic perceptions of remote teaching during these Covid-19 times, we suggest the following considerations to post-Covid online real-time teaching and learning in higher education.

Pedagogical thought needs to go into online real-time teaching, learning, and assessment design (Ramsden, 2003), including online planning (Bailey & Card, 2009). For example, online teaching should integrate the effective use of technology, pedagogy, and content knowledge (Koehler & Mishra, 2009; Thompson & Mishra, 2007), whilst simultaneously considering creating meaningful connections between online members. Collegiate learning communities should be established (Garrison & Vaughan, 2008), which could be founded through deliberate planning of supportive peer interactions, where students are provided multiple opportunities to collaborate in active learning experiences. Additionally, relationships between teacher and student should be fostered (Garrison et al., 2000) by adopting relational teaching strategies {Pearce, 2011 #763} and empathetic and supportive approaches in the online environment {Bailey, 2009 #607}. The differences in the online real-time learning environment may produce different requirements or emphases on these pedagogies. For example, expectations of learning pace may need to be adjusted in the online environment as events take longer (Scull et al., 2020). Given the environment variants, and many academics are not necessarily experienced in online teaching, academics need appropriate training to develop their capacity for effective online teaching, learning, and assessment programs (Zhu & Liu, 2020). For example, professional development could focus on these relational and supportive online pedagogical practices and the knowledge and skills required for navigating various online programs.

Online class environments remove many visual and verbal social cues, and the conversation flow does not always seem effortless, smooth, or feel natural. It is equally difficult for the academic to evaluate student engagement using face-to-face methods, as engagement is expressed and measured differently (Tai et al., 2019). Therefore, the academic needs to consider the alternative ways students can communicate and display values of engagement in the online environment. Such practices could include using video conferencing chat functions and annotation tools to allow students to formulate responses to questions and interact with presentations, digital platforms and websites that encourage interaction, and collaborative online documents to gauge individual and group participation. Focusing on other engagement methods that focus on how students can display their thinking may assist in the online environment with the removal of many usual visual and verbal cues.

Design of online real-time classes must also consider student needs to support their learning. The focus should be on the role of students in the learning process and the

“relation between a learner and a learning task” (Ramsden, 1987, p. 276). Regardless of medium, design should also consider authenticity and relevance of learning experiences for the pre-service teacher (Tai et al., 2019). Perhaps this deliberation involves moving away from a binary model of considering face-to-face versus online teaching as separate parts, towards a view of enhancing overall learning experiences for the student. These relational, student-centred, and authentic values in teaching and learning design carry weight for both face-to-face and online program designs.

Technical support, both in terms of infrastructure and skill is required for both academics and students. Research suggests that academics want to adopt technology-supported teaching and assessment in their programs, but often do not due to infrastructure, skill, support, and time constraints to do so effectively (Bennett et al., 2017; Gregory & Lodge, 2015). The success of programs has been found to rely heavily on the technology infrastructure (Alhabeeb & Rowley, 2018; Marek et al., 2021; Selim, 2007). Therefore, training those unfamiliar with online planning and teaching is central to implementing effective programs (Kaleta et al., 2007), coupled with sufficient infrastructure requirements.

Notably, in changing into online delivery in higher education many participants in our study expressed an excessive workload and additional stress. Although this was not surprising given the circumstances of the pandemic, this is concerning given the current research into academic workload (Kenny & Fluck, 2018; Miller, 2019; Tynan et al., 2015) and burnout (Sabagh et al., 2018). Therefore, consideration into how to support academics workload within the higher education sector with changes to teaching delivery modes must be given.

Learning how others have navigated and thrived in these challenges of shifting to online teaching and assessment through a sharing community can help others circumnavigate the technology-mediated environment and associated pedagogies. Moving practices beyond the emergency mode of education in response to Covid-19 (Hodges et al., 2020; Whittle et al., 2020), towards potentially new improved forms of hybrid educational practices (Fullan et al., 2020) could improve future teaching, learning and assessment practices.

Conclusion

2020 saw profound, rapid change, at a global scale, for university teaching and learning. Interviews revealed that academics made significant adjustments and needed to be agile and adapt during the shift to digitally supported remote delivery under the Covid-19 pandemic emergency. Relational challenges were evident, with academics struggling to engage students, provide adequate feedback, and provide clear concise communication in the digital classroom environment. As universities look toward a post-Covid reality, further thought must go into the design of digitally supported, and/or remote delivery to ensure high quality teaching and learning standards are maintained. Additionally, academics need

support in terms of technology assistance and their wellbeing, but also their workload to avoid burnout during times of rapid change and uncertainty.

Acknowledgments

This research received no external funding.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix A. List of Interview Questions

What are your experiences of assessment in ITE?

How has the remote delivery teaching and assessing felt for you?

Assessment design

What are your current concerns in terms of assessment in ITE? What would you like to see changed?

Did you need to change your assessment design because of remote delivery?

If so, what changes needed to be made and why?

If not, what aspects of your assessment allowed it to transfer across both platforms?

Engagement

Have you noticed a change in motivation and engagement of your students in remote learning?

What aspects of assessment do you feel students engage most with during remote learning?

Level of understanding

When do you find students demonstrate deep learning in assessment? I.e. What tasks, situations, conditions, etc.

During remote teaching, have you notice a change in the depth of learning in assessments in your students?

Feedback

Do you think students feel as though they receive enough feedback during remote delivery?

Has feedback changed for you in remote delivery? (either in the way it is received or delivered)

Academic Workload

Compared to f2f delivery, what have you noticed about your assessment workload?