Online University Teaching at the time of COVID-19 (2020): An Australian Perspective

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Abstract

The impacts of COVID-19 have been widespread, and the education sector has not been immune to its effects. In March 2020 Australian universities were forced into a shutdown, which prompted an unanticipated, sudden shift in education, from on-campus and face-to-face to an off-campus and online mode of teaching and learning. This paper describes the experiences of two Sydney-based university unit coordinators, from two different institutions, who rapidly shifted their units online as a result of COVID-19. In particular, it applies reflection as a research method, to share what the authors' encountered as successful, and what was challenging about teaching online. Motivating and retaining students was a key challenge identified by the authors. Therefore, the paper discusses the authors' application of various digital programs and tools in their response to this challenge of motivation and engagement. It is hoped that our experiences might benefit those looking to integrate programs and tools in the online teaching and learning space. Although Australia is currently one of the most successful countries in their handling of COVID-19, there is still great uncertainty about the future. Globally the pandemic shows no signs of abating, as many countries struggle to manage high levels of transmission and infection rates, which in turn have an impact on the education sector more broadly. Consequently, online learning may be the 'new normal' for many institutions in the near future. Therefore, it is important for educators to share their online teaching experiences that can contribute to greater understandings of this space.

Keywords: COVID-19, higher education, online learning, online teaching, university

In the past two decades Australian higher education institutions and their teaching units have exponentially increased the function of their online platforms to support face-to-face teaching. On 18th March 2020, the Australian Government advised that "university and higher education should continue at this time with risk mitigation measures, including working from home arrangements where effective" (Morrison, 2020, Universities and Other Higher Education Centres section). For many Australian universities this announcement coincided with the start of the semester. In Sydney, Macquarie University responded to the COVID-19 pandemic by pausing all face-to-face and online teaching from 18th March (in their fourth week of session 1), removing the mid semester break (13th - 26th April), thereby allowing the University to prepare their transition to online teaching and learning. Similarly, University of Technology Sydney paused their teaching on 17th March to enable staff to prepare an online mode of delivery for their subjects, and commenced online teaching on 24th March. At other universities, the transition to online teaching and learning was immediate, and needed to be as seamless as possible to maintain professionalism and quality education standards. For some teaching staff the online space was familiar territory, with many having used their university's online platform to complement face-to-face teaching to provide resources, lecture recordings, conduct tests/quizzes, post readings and/or assessment resources. Aside from teachers having to overcome gaps in technology infrastructure, the forced transition online meant that teachers needed to become more knowledgeable and skilled with their institution's online learning platform, adjust approaches to pedagogy, rethink lesson plans, consider strategies for online engagement and be more considerate of students' circumstances that may impact on their attendance, participation and/or timeliness of assessment submission.

This paper presents our experiences as university unit coordinators and teachers from two different Sydney universities who transitioned our face-to-face teaching skills to the online space in March 2020. When each of our universities transitioned to online teaching and learning we were coordinating and teaching both undergraduate and postgraduate units that were comprised of domestic and international students. Online learning enabled our students to continue their studies without delaying or pausing their degrees. The following sections explore our experiences of online teaching and what we found improved the online learning experiences of our students, the programs that we integrated to enhance engagement, the challenges we encountered and some of the techniques we employed to counter some of the challenges we came across while having to teach and promote learning in the online space in semester 1 (March-June), 2020.

Due to the scope of this paper and the need for data collection, this paper did not address one key overarching challenge of online learning in the university sector. In Australia (and other developed nations) there is the general presumption that all students have a dedicated space in their home to study effectively, have access to a computer, and have access to reliable internet and/or technological devices. Data and research indicate that this is not the case. Approximately 87% of Australians have access to the internet at home, but only 68% of Australian children (5-14 years old) living in disadvantaged communities have access to the internet at home (Graham and Sahlberg, 2020). However, access does not equate to reliability, especially for students who are studying online in remote or regional locations. Furthermore, 'more than four million Australians access the internet solely through a mobile connection' (Noble, 2020), which is impacted by mobile phone plan data limits, sharing (or hotspotting) and internet speeds. Much of the research published focuses on Australian children and teenagers, but university students are also negatively impacted by the same internet and technology challenges, especially those from racial and ethnic minority backgrounds, lower socioeconomic backgrounds and those in rural or regional areas (Gillis and Krull, 2020). While

some of our students made off-hand comments during the semester about one or more of these challenges (space, technology, internet), there are likely to be others who were severely impacted by online learning that we did not hear from, who perhaps withdrew from study or suffered academically as a result. Further research is required to ascertain this data because without access to technology and reliable internet students will struggle to participate in online learning, thereby widening the digital divide and educational divide.

Engagement

As higher education educators, we identify that engagement is "one of the most important variables for the learning process" (Kucuk & Richardson, 2019, p. 199). One of the most accepted theoretical frameworks for understanding online learning processes is the Community of Inquiry (CoI) framework (Garrison et al, 2001; Garrison et al, 2010a). Central to the CoI framework are three elements (cognitive presence, teaching presence and social presence) which "work together to create and maintain a collaborative community of inquiry and effective learning processes in online education environments" (Kucuk & Richardson, 2019, p. 197). For online learning, these three elements of the CoI framework and their overlap reflect the dynamics of online learning experiences that are key to sustaining and improving the quality of online education (Kucuk & Richardson, 2019; Garrison et al, 2010b). Cognitive presence "refers to the extent to which online learners can construct and validate meaning based on critical and continued communication and thinking" (Kozan & Richardson, 2014, p. 68) and relates to the learning and inquiry process, based on the Practical Inquiry model that recognises four phases in the inquiry process (Garrison et al, 2001): the definition of a problem or task; exploration for relevant information/knowledge; making sense of and integrating ideas; and, finally, testing plausible solutions' (Garrison et al, 2010b). Teaching presence in the CoI framework is "the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson et al, 2001, p. 5). According to Garrison et al (2010b, p. 32) the first responsibility of this element "is establishing curriculum content, learning activities, and timelines", the second "is monitoring and managing purposeful collaboration and reflection", and the third "is ensuring that the community reaches the intended learning outcomes by diagnosing needs and providing timely information and direction" (Kucuk & Richardson, 2019, p. 197).

We recognise that student engagement is "broad and there is no agreement on its meaning, definition, and measurement" (Mamun et al, 2016, p. 381). Rather, student engagement is "a multi-faceted construct which usually encompasses several subsets; each of which has its own indicators" (Ding et al, 2018, p. 214). Nevertheless, it is widely accepted that the three different types of student engagement are categorised as: behavioural engagement, cognitive engagement and emotional engagement (Fredericks et al, 2004; Hu & Li, 2017; Reeve and Tseng, 2011). In this paper, and its specific focus on online teaching and learning, we have adopted Dixson's definition of online student engagement, as

> … students using time and energy to learn materials and skills, demonstrating learning, interacting in a meaningful way with others in the class (enough so that those people become 'real'), and becoming at least somewhat emotionally involved with their learning (i.e. getting excited about an idea, enjoying the learning and/or interaction) (Dixson, 2015 p. 4).

Dixson (2010) reports that students find online activities where they can apply theories to case studies, do group work, discussion blogs and work on assignments that relate to recent events

encouraging. Furthermore, she also states that the active involvement of the instructor and a feeling of connection with the instructor creates a positive online learning environment for students (Dixson, 2010). Students value an online learning environment that caters sense of belonging, that is welcoming and provides meaningful learning experiences. Within that environment they feel connected and engaged, especially when collaborative learning exercises are included in the teaching practices, students' participation and their critical thinking skills increase (Young & Bruce, 2011). Facilitating discussions by using active teaching-learning processes assists students' engagement in understanding the key ideas for them. However, too much instructor participation in the discussions has a tendency to decrease student engagement (Dennen et al., 2007). Therefore, learning in the online space needs to involve student-to-student and student-to-instructor communication (Dixson, 2010).

Although the focus of this paper is on engagement in the online space, it must be acknowledged that because the students we were teaching did not choose to have their learning carried out entirely online, the experiences that we faced as teachers differs to the pre-COVID-19 (pre-2020) literature and research on online student engagement. In pre-COVID-19 times, students undertaking online learning, volunteered to do so, or at the least are aware that their learning will be delivered wholly/partly online. Research indicates that higher education students who enrol in an online mode of education are often non-traditional students, who do so because it provides flexibility (Oblinger, 2003; Redmond, 2018). For those who do not volunteer for online learning, "… an online environment might benefit certain types of engagement, but may also be somewhat of a deterrent to others" (Dumford & Miller, 2018, p. 452). Our students in 2020, like many others, were forced to transition online, or chose to withdraw from their studies. Furthermore, the COVID-19 pandemic did not only impact higher education students and their education, for many it also had impacts on their employment, living circumstances, family and carer's responsibilities (including higher education students who had children who were home-schooling), all of which had cascading effects on relationships, mental health and wellbeing. For us, as teachers who were previously teaching in face-to-face, on-campus settings, there was a real rush to become more aware of engagement that was specific to online contexts. This experience was not unique to us, "the fast transition to remote teaching during the COVID-19 pandemic made forethought and planning for course aspects that are related to engagement difficult" (Garris & Fleck, 2020, p. 3).

Rethinking Lectures for the Online Space

The approach to lectures differed between us. Smith used pre-recorded lectures to run asynchronously, and Kaya ran live lectures. Each of these approaches had its benefits and challenges, as explored in the following paragraphs.

Pre-Recorded Lectures

From week 4 of Semester 1, Smith created pre-recorded lectures in Zoom that were uploaded to Panopto, through Western Sydney University's (WSU) online platform, Blackboard. Pre-recorded lectures are an important 'part of providing flexible education environments that address the diverse needs of students in higher education' in a variety of ways, such as pace, place and time (Larkin 2010 p. 238). The most notable, positive aspect of pre-recorded lectures is the flexibility it allows for students to view the lecture, where to view the lecture, ability to pause and later resume the lecture, and the various ways it could be viewed (such as: computer, phone, streamed through the television, and audio). The additional benefit of pre-recorded lectures is the ability for students to replay lectures at any point in the semester and alter the speed of delivery (faster or slower) to suit their learning preferences. Panopto also has a

captions (subtitles) function. However, Smith identified frequent errors in their accuracy and so they were not used in her pre-recorded lectures to avoid confusion. Nevertheless, these features may be useful to students from non-English speaking backgrounds and/or international students, but they may present challenges for some students with learning disabilities.

The flexibility of pre-recorded lecturers and online learning more broadly, requires that students possess digital competencies, which research suggests is not always evident. Therefore, the idea that students are what Prensky (2001) termed 'Digital Natives', "is by no means the universal student experience" (Kennedy et al., 2008 p.117). Furthermore, "simply because students have grown up with increasingly ubiquitous and advanced digital technologies does not mean that they naturally know how to study in online spaces" (Scull et al., 2020 p. 6). Smith's experience teaching her unit online during Semester 1 supported these statements, that students are not homogeneous in their digital competence, nor does digital competency regarding everyday digital use mean that students know how to instinctively or easily navigate the university's online platform. As a result of the varying digital competencies of students, additional time spent in tutorials was required to explain how to navigate the WSU's online platform so that accessing all unit materials was understood. This experience resonates with previous studies that have highlighted that when students are learning online, they require assistance and support with time management and self-regulation (Cho and Shen, 2013; Dabbagh, 2003; Douglas, 2019; Kent, 2015; Scull et al., 2020). The main challenge that this posed was that time spent navigating the features of the WSU's online platform took time away from teaching unit content in tutorials.

Using Panopto to create pre-recorded lectures had numerous beneficial features, such as the ability to edit lecture recordings, insert videos and quizzes, and have statistics collected on student views (including number of views and percentage of the lecture viewed), which is useful for units that have attendance requirements. Smith's experience of creating pre-recorded lectures highlighted that the process: preparing (scaffolding/story boarding), recording and editing lectures was significantly more time consuming than presenting on campus, face-to-face lectures. While pre-recorded lectures allow "opportunity for the lecturer to listen to the recordings and reflect on lecturing styles, points of emphasis and content", editing lectures can be time consuming, especially for early career academics who are new to lecturing and lack the confidence gained from experience (Larkin, 2010 p. 246). However, pre-recorded lectures removed student interruptions or disrupting behaviour (such as: talking, late arriving students, early exiting students, doors opening and closing, mobile phone alerts) which may assist inexperienced lecturers, or lecturers who view lectures as the transmission of knowledge or a 'sage on the stage', teacher-centred approach. Under different circumstances, when teaching staff know prior to semester commencing that pre-recorded lectures are the method of lecture delivery, there is time to prepare. Unfortunately, the rapid shift to the online space in March 2020 due to COVID-19 meant that making pre-recorded lectures available for students a week in advance created additional pressure. Lecturers' experience of pressure and stress as a result of creating lecture content for the online space in 2020 is more accurately described as "emergency remote teaching … put together in great haste to deal with an emergency situation" (Boud, cited in Baker, 2020).

A last point on the topic of pre-recorded lectures is that it is not easy to hold the attention of students for 90 minutes in the same way that an on campus, face-to-face lecture would, especially if there is no lecture attendance requirement. As previously discussed, on campus, face-to-face lectures offer students opportunities to be involved in the content that pre-recorded lectures cannot provide. This was observed when Smith reviewed lecture viewer statistics

through the 'stats' function in Panopto. Panopto's ability to gather and report statistics on student lecture views does not determine whether the lecture was actually viewed by the student (students can play the lecture while they are not physically viewing the lecture). Nevertheless, the statistics provide a guide as to how much of the lecture was viewed by each student and at which point, they ceased viewing. Smith observed that while most students were initiating the lectures, there were many who did not complete viewing them to the end. This observation is supported by Professor David Boud, director of the Centre for Research in Assessment at Deakin University (Melbourne, Victoria), who stated that "you have to package up lectures that have been recorded and are too long, they're not designed to be dealt with in that medium" (Boud, cited in Baker, 2020, para. 16). As a result of low lecture views, Smith began to divide 90-minute lecture recordings into three parts in the hope that students would find viewing them more manageable. Students were asked for their feedback, comparing their preference of a single, 90-minute lecture recording, to multiple, shorter recordings. The statistics on pre-recorded lecture views demonstrated that a greater number of students had viewed lectures when they were the latter, compared to a single, 90-minute lecture recording.

The previous paragraph mentioned that pre-recorded lecturers remove student interruptions, but it is important to note that not all student disruptions are negative. When teaching on campus both Kaya and Smith invite student participation by asking questions, taking polls, asking students to speak to one another, and welcome questions from students who want further clarification on lecture content. This kind of student involvement during lectures assists lecturers in gauging what students know, what parts of the content they might be struggling with, and encourages engagement with content that pre-recorded lecturers cannot offer. The aforementioned information allows lecturers to pause and revise content which enhances understanding and the student learning experience. Similarly, encouraging students to share their experiences or answer questions provides richer discussions that are not achieved with pre-recorded lectures. In this sense, the challenge of pre-recorded lectures is that it may be "convenient for lecturers but not good for learning" (Boud, cited in Baker, 2020, para. 17).

Live Lectures (Online)

It is an optimistic expectation to wait for students to attend the live lectures and take notes in the same way they would do in a face-to-face lecture. Therefore, the ability to engage requires effective use of technology. Kaya delivered synchronous online lectures (also known as "live lectures") through Zoom, where students attend at a scheduled time. The chat tool, screen annotation, polling, non-verbal and verbal feedback buttons and breakout rooms in Zoom create engagement when students are off-campus, and it also supports other teaching and learning functions, such as hosting office hours or small group discussions. Zoom-run live lectures can be accessed on laptops, desktops, tablets, smartphones, and even desk phones, giving students flexibility in how they attend live lectures. During these live lectures, Kaya included activities within the delivery of the lecture content. Such activities not only help students with assessment preparation, but it also encourages active involvement in live lectures for the purposes of creating more enjoyable and enriching lectures. Students learn more when they engage in an active learning process rather than passive audiences, and similarly active teaching practices increases attendance (Deslauriers et al., 2019), encourages interaction and engagement, supports peer collaboration, and develops positive students' attitudes toward the subjects that they are studying.

Unlike walking into a lecture theatre on campus, or speaking into a lectern microphone, live lectures (online) require alternative ways to commence. Opening a 90-minute live lecture with a question prompts student attention and "sets the scene" of the lecture. Based on Kaya's

experiences, it was evident that periodic questioning kept students' attention and contributed to an active learning process during live lectures. This is where Kaya found microteaching valuable. Microteaching focuses on the importance of delivering specific information within a limited timeframe. Thus, lesson planning in microteaching requires concise, appropriate and relevant content. It involves the steps of plan, teach, observe, re-plan, re-teach and re-observe. These steps enable us to modify the teaching-learning process to integrate skills learned from the three major phases in microteaching; knowledge acquisition, skill acquisition and integration, and feedback, all of which provide a valuable understanding in transferring the performance to the classroom (Remesh, 2013). Students' attention is around 10-15 minutes, then they start to drift (Felder & Brent 1999). Therefore, using microteaching techniques in live lectures, dividing the lecture content into 15 minutes sessions, and including periodic questioning, rather than delivering an entire lecture at once, was a strategy that demonstrated greater levels of student engagement, by way of attention and participation. An observation was that students would become familiar with other students, and these interactions would continue in online tutorials, especially when students were asked about their impressions and understandings of the lecture content.

Online Tutorials: How Can We Energise Students and Retain Engagement?

Online learning is not "slapping classroom content online" (O'Neil et al., 2008, p. 18), it must be purposeful and transformative (Budhai & Williams, 2016). A 2020 Monash University study that interviewed teaching staff who taught online as a result of the COVID-19 pandemic, similarly found that "online learning is a different type of learning, it's not just a transfer across from face-to-face classes" (Scull et al., 2020 p. 4). Our experiences of teaching online support these statements, that an effective online pedagogy focuses on student-centred learning and applies active learning practices which include collaborative and individual tasks that encourage students to share and discuss ideas with their peers. Therefore, this section of the paper focuses on online tutorials, specifically what we identified as instrumental in maintaining quality teaching standards, and in encouraging student engagement and participation in the online space.

The INSPIRE model (Table 1) of expert tutoring points out that successful tutors are identified as intelligent, nurturant, socratic, progressive, indirect, reflective and encouraging (Lepper & Wolverton, 2002; Wood & Tanner, 2012) and we suggest that the model can be adopted as a strategy to support students during their online learning processes. Although the model was developed based on a study conducted in primary and secondary school mathematics, it can also meet the needs of students in higher education, and the effective tutoring strategies can be transferable to the large lecture setting and stimulate student engagement in both lectures and tutorials.

Table 1: The INSPIRE model of expert tutoring (Lepper & Wolverton, 2002; Wood & Tanner, 2012)

Characteristics of expert tutors	Results for students
Intelligent	Difficulty of the content optimally matched to students' level of understanding
Nurturant	Feeling accepted, supported, and free to explain their thinking
Socratic	Constantly thinking, doing, and responding
Progressive	Moving in small steps to higher competency through deliberate practice
Indirect	Working in a nonjudgmental atmosphere
Reflective	Articulating their thinking, explain their reasoning, and generalize to other contexts
Encouraging	Experiencing productive learning and gaining confidence in their abilities

Kaya designed her online tutorials as spaces where students can construct, explore, resolve, and confirm meanings through collaboration and reflection. In this process, Dewey's concept of reflective thinking (Sun & Chen, 2016) enabled students to work on questions, retrieve information and find their ways of resolution.

Critical and creative thinking are essential to developing analytical and evaluative skills and understandings in the Australian Curriculum (Ab Kadir, 2016). We argue that activities that foster critical and creative thinking include both independent and collaborative tasks and entail transition between ways of thinking. It is imperative to establish tutorial environments where students and teachers collaborate, actively discuss, and articulate activities and assessments for the purpose of students to demonstrate their critical and creative thinking (Reid & Petocz, 2004). In addition to designing activities that encourage and develop critical and creative thinking, the importance of motivation and retaining students must be discussed.

Motivating and Engaging Students

While lectures present information to all enrolled students in a more formal sense, tutorials are typically more dynamic, consisting of smaller groups where the lecture content and reading/s are integrated and discussed. Both authors exclusively used Zoom to conduct online tutorials in Semester 1, 2020, allowing for a range of strategies. One strategy that we both implemented in our online tutorial design was to begin by asking students if there were any questions based on the lecture content or readings that needed clarification. This open discussion time was a strategy that allowed additional time for late arriving students to join. A creative and engaging segue from this informal discussion to the tutorial was to sometimes include a game. Ding et al (2018, p. 214) state that "empirical studies examining gamification in promoting student learning are sparse", that most studies are quantitative, and that "only a few studies investigated the gamification approach from the educator's perspective".

A popular game-based student response system (GSRS) we integrated into some of our tutorials was Kahoot! Its platform, which includes a web-based creator tool, makes it easy to create a quiz with two to four multiple choice answers that have timed opportunities to answer. We integrated Kahoot! into our online pedagogy, because like other GSRSs, it "enriched the quality of student learning in the classroom, with the highest influence reported on classroom

dynamics, engagement, motivation and improved learning experience" (Licorish et al., 2018, p. 1). Ding et al (2018, p. 214) explain that the "majority of the existing research reported that the gamification approach can have [a] positive influence on student learning, such as encouraging participation and bolstering interests in learning". Based on our experiences implementing Kahoot!'s basic plan (which is free) into our pedagogy, we observed numerous positive effects, including its ease of use, creativity (allowing the insertion of images and video), providing real-time feedback for students and teachers, ability for students to play anonymously, creating a sense of community and fosters an entertaining environment, like that of a game show (Licorish et al., 2018, p. 4). Kahoot! with its simple user interface and step-by-step set-up makes the GSRS extremely easy to use for both creators and players. The ability to attach images and/or video to the question design add layers of creativity to the GSRS and provides opportunities for lecture or reading images/content to be reintroduced (memory and recall).

The following figures are examples of the Kahoot! questions that Smith posed in her tutorials following a lecture on several sociological theories (see Figures 1 - 3). The Kahoot! quiz required students to match the explanation with the most appropriate sociological theory. Considering the context (COVID-19) that resulted in online tutorials, Smith would joke that first prize was a roll of toilet paper (this was a commodity that was difficult to find stocked in Australian supermarkets); second prize was hand sanitiser, and third prize was a face mask.

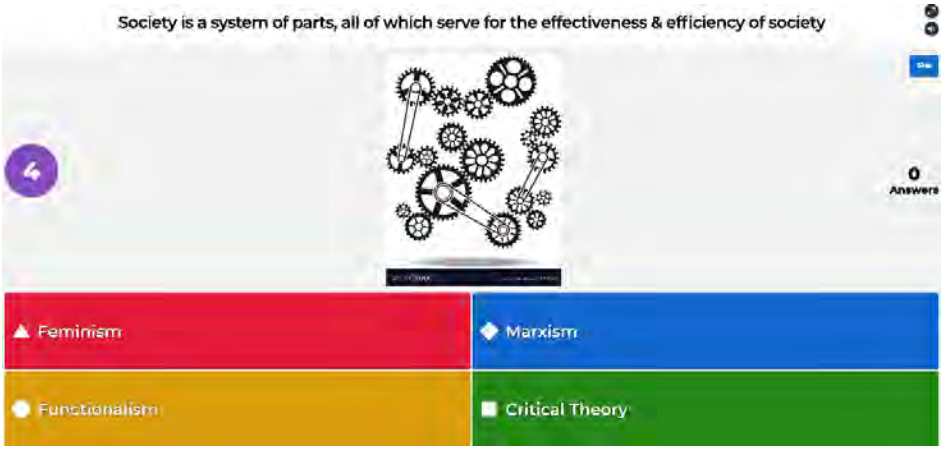

Figure 1: Kahoot! quiz question example 1, Semester 1

Figure 2: Kahoot! quiz question example 2, Semester 1 2020

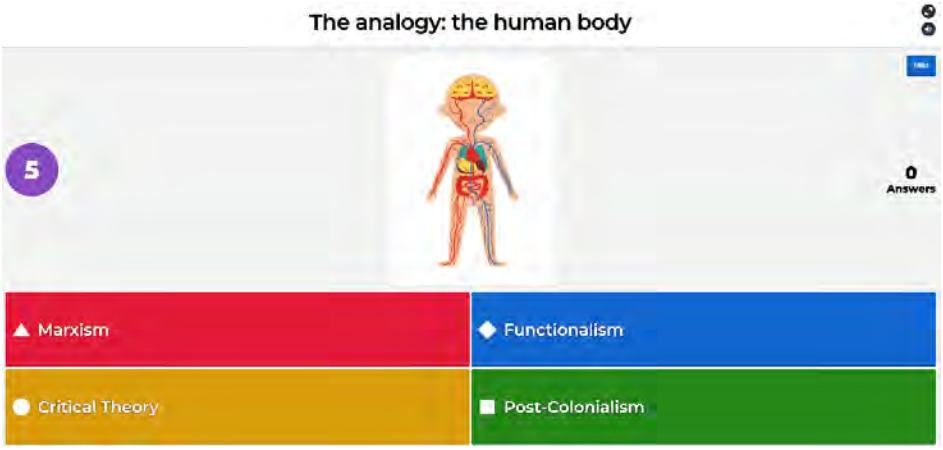

Figure 3: Kahoot! quiz question example 3, Semester 1 2020

Some have linked Kahoot!'s background colour scheme and music during play to that of a game show, which adds to the excitement, novelty and creativity of the GSRS in educational settings (Licorish et al., 2018; Wang, 2015;). It has also been observed that a large part of Kahoot!'s appeal for students is that it allows for students to participate anonymously, as they have the ability to select alternative names or aliases, therefore encouraging students to participate even if they do not feel confident that they may know the content well or will answer correctly. For some students, the anonymity when playing Kahoot! creates a sense of safety to participate without the fear of being shamed by others. Many students took this opportunity to adopt a pseudonym, and some adopted known pseudonyms, such as Karl Marx and the Australian Prime Minister. Aside from students engaging in creative pseudonyms, this contributes to the social aspect of the tutorial dynamic and more creative and humorous ways to be involved in the game. There is a cultural phenomenon in Australian (and New Zealand) society whereby students may be reluctant to answer questions or avoid opportunities to demonstrate their knowledge or understanding for fear of criticism of being perceived as a high achiever, or for standing out from the group, known as "Tall Poppy Syndrome" (Licorish et al., 2018). At the end of the game a podium is displayed with the names of the top three players (or teams). In some instances where the top players used pseudonyms, those students did not identify themselves to the class, perhaps because of the fear of being perceived by their peers as egotistical (Tall Poppy Syndrome). Therefore, based on these experiences implementing Kahoot! into online tutorials, offering students the option to adopt a pseudonym is an important feature to encourage participation.

Smith would preface the game by stating that playing Kahoot! is not a test and is not about making students feel as though they do not know the content; it is about testing your conscious and subconscious recall of the lecture and readings, seeing what you know well and what areas you may need to revise, and it contributes to your continued learning of the content. Often this further encouraged students to participate, to test themselves and what content they know well and what they may need to revise. This aspect was beneficial in providing real-time feedback for students and teachers. On the one hand students can quickly identify what areas they recall, and what areas they may need to familiarise themselves with in order to answer the questions correctly. And on the other hand, teachers are able to gather quick insight into what their students recall, and what areas may require further revision. If in the case that many of the students incorrectly answer one or several of the answers, an improvised adjustment to the tutorial lesson plan, to allow the teacher to revise those areas, is possible.

Similar to lectures, tutorials require preparation, regardless of whether they take place on campus or online. Unsurprisingly, we found that tutorial content for the online space had to be planned differently to face-to-face tutorials, with a particular intention to motivate engagement and enhance participation. This planning drew on the previously discussed CoI framework and the three elements: teaching presence, social presence and cognitive presence, with the aim of creating and "maintaining a collaborative online community of enquiry and effective learning processes in online education environments" (Kucuk & Richardson, 2019, p. 197). Planning (part of the teaching presence element) was particularly important in relation to designing breakout room activities, the timing of the activities and discussions with the whole tutorial after a breakout room activity. Breakout rooms have been identified as beneficial because they allow the teacher relief from presenting (Chandler 2016), but more importantly, they facilitate collaboration, interaction as well contribution to the content or the lesson plan (part of the social presence element). The University of Technology Sydney (UTS) Learner Experience (LX) Team provided pedagogic techniques for effective breakout rooms in Zoom. The LX Team emphasised the importance of assigning clear tasks for students in Zoom tutorials with consideration of matching the time and number of students to the task, providing students with links to shared documents in the chat for collaborative notetaking, keeping the same student groups, and the importance of monitoring group discussions by having the host (teacher) enter breakout rooms (LX Team, 2020).

Both authors found that most weeks at least 80% of enrolled students were present at any given (online) tutorial in semester 1, 2020. Kaya had up to 40 enrolled students, and Smith had up to 30 enrolled students when tutorials shifted online. Although there was a good tutorial attendance rate, the number of enrolled students in an online tutorial was the key challenging factor that we identified in influencing our tutorial lesson planning, specifically: the number of breakout room activities, the time for breakout room activities and the time allocated for whole-tutorial discussions. Based on the units that we taught, the ideal breakout room sizes comprised of at least three students and a maximum of five students. For Kaya, breakout rooms frequently contained ten students in order to allow time for each group to report back to the whole tutorial. As a result, students often reported that they did not feel that they had equal or enough opportunity to speak in their breakout rooms, and when reporting back to the whole tutorial. Other students reported being bored by activities in such large groups.

Smith had smaller online tutorial sizes; however, a key challenge that she observed was that many students elected to switch their cameras off. This visual withdrawing from tutorials in effect conflicts with a teacher's ability to observe classroom practice which is a vital aspect in improving teacher practice that in turn improves student learning (Australian Institute for Teaching and School Leadership, 2017). In face-to-face tutorial settings observed visual cues from students include nodding and being able to see where eyes are focused (for example, their mobile phone, the floor, the board, the teacher, their peers). However, when these visual cues are not observable, as was the case when students had their cameras switched off, it impacted Smith's ability to adjust her pedagogy, specifically to make "judgements about if, and when interventions are necessary, as well as decide what those interventions might be" (Rooney & Boud, 2019, p. 444). As research has shown, student engagement online is a key component of effective online learning, and when students do not have opportunities for face-to-face interaction, students tend to disengage from online discussions (Ding et al, 2018, p. 214). Although most students were wholly or partly listening (as tested by the teacher's request for students to display an emoji such as a clap or thumbs up when prompted) it became clear that some students were either engaged in other activities or away from their device. This was evidenced in two primary ways, firstly when breakout rooms were formed some students would

remain in the main tutorial instead of accepting their breakout room allocation. These lingering students would be asked, both verbally and in the chat by Smith if they were experiencing technical issues, with many either not responding for several minutes or for the entire time of the breakout room activity. Secondly, when Smith would enter each breakout room to answer questions and check on the progress of an activity, some students would not be contributing to the group's discussion. Students did express (either to the whole tutorial when having to report their group's results, or privately to Smith in the Zoom chat or by email) that this was a frustrating aspect of online tutorials, that those who were present and contributing felt burdened with the responsibility of having to complete activities without the support and contribution of all group members. It became clear, early into the shift from face-to-face to online teaching and learning, that designing well thought out, problem-based learning activities would be key to motivating student participation in online tutorials.

Given that the pandemic is so recent, it is unsurprising that little research has been on effective strategies for improving student engagement in online tutorials. It was reported in one paper that teachers were frustrated with students in online tutorials who elected to turn their cameras off because they perceived that students were being disrespectful, and secondly, that students were appearing to attend but were not actively participating (Stafford, 2020). However, teachers' frustrated "assumptions ignore the complexities of online study in general, and specifically during this pandemic" (Stafford, 2020, p. 151). Indeed, for some students, turning their cameras off during tutorials improved their internet connectivity. For others, having their camera off was important for privacy reasons as they multitasked their children's home-schooling responsibilities, while for others, their home environments were not spaces that they felt comfortable sharing with their peers. Therefore, the suggestion by one teacher that "a student wouldn't hide their face in the physical classroom so why would they do it online?" ignores "the complexities of online study in general, and specifically during this pandemic" (Stafford, 2020, p. 151). However, it is important that educators strike a balance between giving students allowances in the COVID-19 pandemic context, and providing leniencies to students that only serve to further isolate and disconnect them (Dixson, 2015), the latter being a concern of online learning prior to the pandemic.

In terms of tools that were effective in student-led discussions and collaboration there were several that Kaya engaged with to complement online tutorials. Assigning activities by using technology and online tools activates students' teamwork skills and gives them the opportunity to practise their leadership and management skills. Sometimes students do not prefer to report back to the whole tutorial cohort, but rather they enjoy the discussions in their group and talking to the tutor when they join their breakout rooms. Kaya used various tools and platforms such as Google Docs, Google slides, Google Jamboard, Padlet, Lucidchart and Canvas during the online semesters. The use of Padlet demonstrated that being creative is more valuable than being high tech in tutorials. The following figure is an example of a Padlet created by students while they practised problem solving tools in business examples. Students were asked to work in their breakout room groups on mini-case scenarios, specifically identifying and analysing the problems. Similar to Kahoot!, Padlet allows students to participate anonymously, which as previously mentioned in relation to Kahoot! has positive effects on student participation.

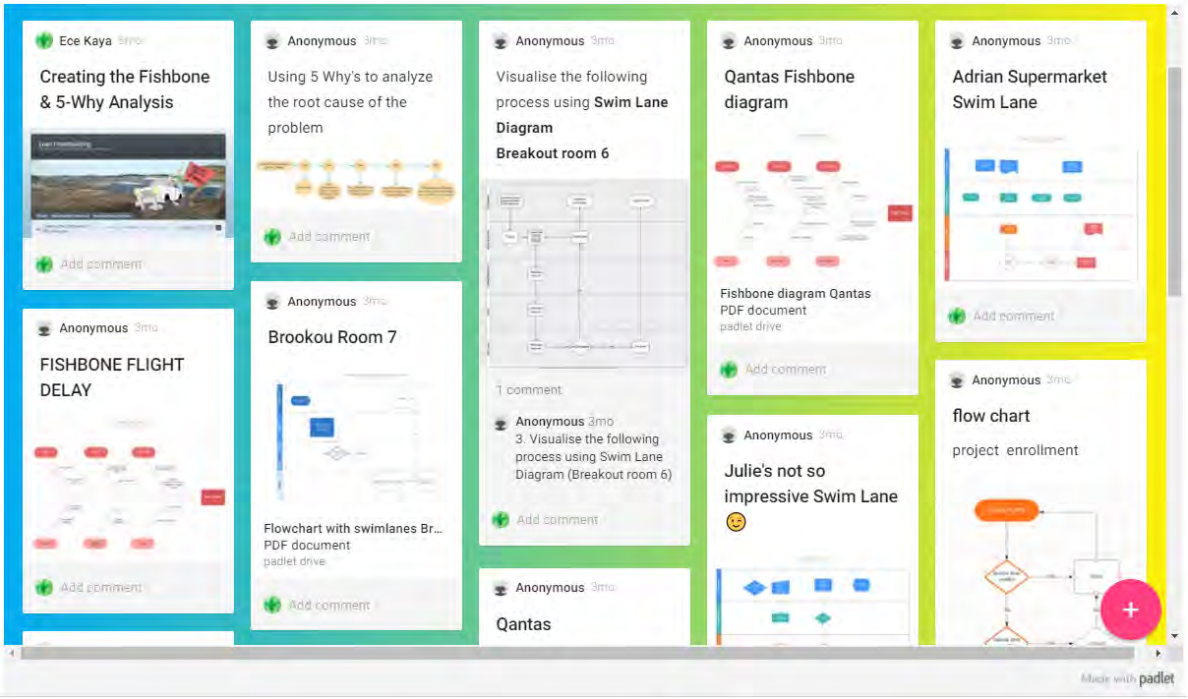

Figure 4: Example of Padlet

Google's Jamboard (Figure 5) was another effective tool that allowed for students to collaborate with their peers in online tutorials. Jamboard can be used to create storyboards and write stories. Brainstorming has become a fun activity and allowed students to write their own notes, ideas as well as add images and figures.

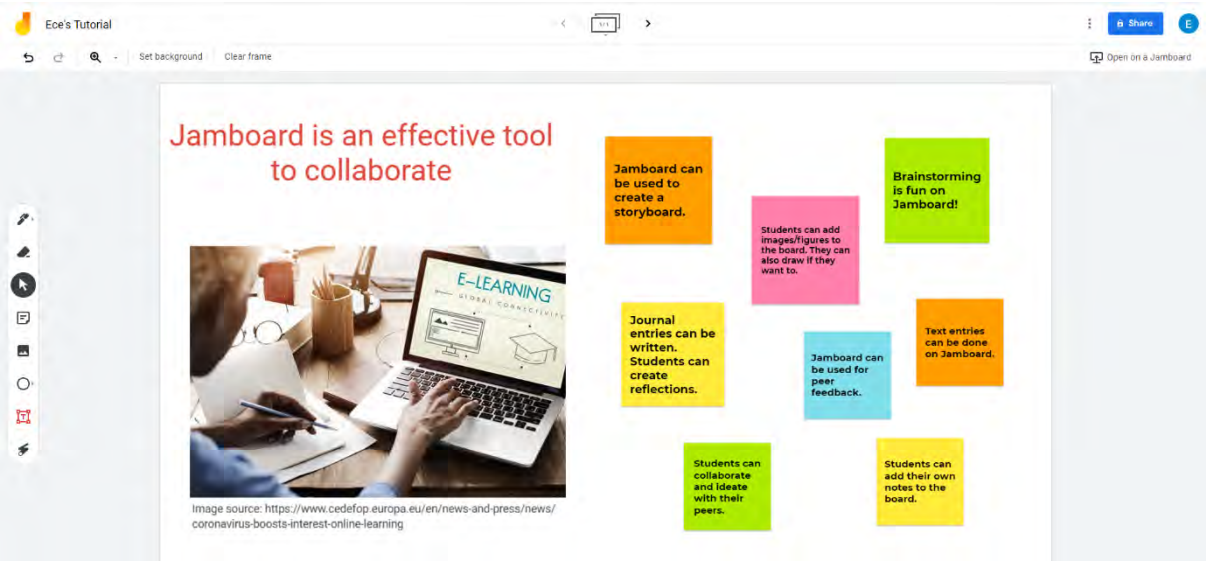

Figure 5: Example of Jamboard

Our experiences teaching tutorials online made us acutely aware that it is easy to unintentionally slip into a teacher-centred mode of tutorial delivery, especially when students are reluctant to turn their cameras on and/or do not engage by responding, verbally or through the Zoom chat function. It becomes easy for the tutor to fill the void of blank screens and silent

gaps with the answers, but doing so limits and disservices many of the pedagogical strategies that contemporary teachers identify as pillars of learning such as peer interaction, collaborative learning and inquiry-based learning, all of which support the diverse and dynamic ways that students learn.

Conclusion

This paper anticipated that our experiences might benefit those looking to integrate programs and tools in the online teaching and learning space, such as Panopto, Zoom, Kahoot!, Google Jamboard and Padlet that the authors applied in their teaching in order to respond to those challenges and create a positive online learning environment for students. It is worth noting that at the end of Semester 1 (2020) the student feedback that we each received about our teaching was overwhelmingly positive. Many students made specific mention to the inclusion of online tutorial activities and tools that made classes more enjoyable, interactive and helpful in solidifying course content. Students' explicit mention of the activities and tools that were incorporated into lessons, reaffirmed our view that teachers cannot simply transfer their on-campus lecture and lesson plans to the online space, online learning needs to be thought out and planned in different ways. At the time of writing this paper, Australia was recognised as being one of the most successful countries in their handling of COVID-19, having been ranked 8th in the world by the Lowy Institute (Dziedzic, 2021). Even with the commenced rollout of vaccines worldwide, the pandemic is far from over as many countries continue to struggle to manage transmission and infection rates. Consequently, this has an impact on the education sector and online learning may be part of the solution for many institutions in the present and near future. Therefore, it is essential that educators continue to share their online teaching experiences so that we can build our knowledge of digital pedagogical tools. Furthermore, educators who seek to explore and invest time into the ever-changing digital space, specifically online educational programs and tools, and incorporate them into their teaching will be able to vastly improve the learning experience and motivation of their students. This is especially important now as the education sector is in a continuing state of uncertainty as a result of the pandemic. Online education used to be an alternative for some students, but due to the abrupt change in circumstances as a result of the COVID-19 pandemic, online learning may have more longevity than educators had previously imagined. In fact, some universities are now looking to integrate more online teaching and learning, especially regarding lectures, as existing lecture theatres make social distancing an impossible task for universities to resolve in the near future. Western Sydney University (WSU) is incorporating HyFlex for some units in 2021- a hybrid learning environment with a flexible course structure that gives students the option of attending tutorials face-to-face, online, or both. Institutional changes to integrate a more hybrid teaching and learning environment justifies the need for further research and publications on the topic of online teaching and learning.

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