

Enhancing Social Presence while Balancing Teacher and Student Wellbeing

Investigating Team

Dianna Hardy¹
Art Suwanwiwat¹

Sharon Altena²
Jason Watson²

Wasana Bandara²
Trina Myers³

Jason Holdsworth¹

¹ James Cook University

² Queensland University of Technology

³ Deakin University

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Introduction

The outbreak of COVID-19 in March 2020 caused global disruption on an unprecedented scale, impacting every aspect of life including higher education. Within three weeks of the World Health Organisation declaring COVID-19 a pandemic, UNESCO reported that on-campus teaching at schools and universities had completely stopped in 185 countries, impacting the learning of 1.5 billion learners globally (Marinoni et al., 2020). University teachers, regardless of interest, preparation, experience or attitude towards online learning, were ill-equipped and placed in a stressful position, where they had no option but to rapidly upskill and digitally transform their teaching within a period of days or, at most, a couple of weeks to ensure the continuity of student learning (Borowiec et al., 2021; Colclasure et al., 2021; Cutri et al., 2020). This stress was further compounded for some teachers who experienced technology, health, and family issues (Adedoyin & Soykan, 2020; Cutri et al., 2020; Ensmann et al., 2021).

Similarly, students who had expected to be learning on-campus were unexpectedly thrust into online learning. Many students, particularly international students, were forced to return to their family home, often without a dedicated study space, poor technology, and unstable internet connectivity (Colclasure et al., 2021; Ensmann et al., 2021), and disruption of their learning. Many students were also facing housing, food, financial and job insecurity as well as loneliness caused by isolation from their peers (Colclasure et al., 2021; Mitchell et al., 2021). It quickly became apparent that students were experiencing significant stress, anxiety, and depression (Son et al., 2020).

University teachers were required to be at the forefront of ensuring ongoing student academic progress, assisting them to adjust to remote learning, and supporting their well-being. In response to the physical separation from students, many teachers focussed on the development of strategies to establish social presence in their online classrooms to reduce to the psychological and communication gap associated with learning at a distance (Koslow & Piña, 2015; Moore, 1993, 2019; Shin, 2003). In essence, as one teacher described it, she became the “node or glue holding the class together in these precarious times” (Borowiec et al., 2021, p. 140). The importance of social presence in online learning environments is well established for supporting student motivation, satisfaction, retention and success (Arbaugh, 2008; Boston et al., 2012; Choo et al., 2020; Garrison et al., 2000; Kilis & Yildirim, 2018; Richardson & Swan, 2003; Richardson et al., 2017).

From this disruptive time in higher education, and from the social presence strategies that were deployed during this time, there are many lessons that can be learned. This study sought to investigate how computer science, information systems and information technology teachers at Australian universities can effectively develop sustainable and scalable social presence in online environments. It is anticipated that these strategies are directly applicable to the “new” higher education environment that is emerging in a post-pandemic era.

The research questions guiding this study are:

1. How do Australian university information technology educators conceptualise social presence?
2. What strategies do Australian university information technology educators use to establish and maintain social presence in their online classes?
3. What barriers and challenges do Australian university teachers face in developing social presence in online learning environments?

We commence this investigation by examining the relevant literature and theoretical frameworks underpinning this study, before discussing the methodology used for this research. Next, we discuss the findings and implications for practice. We conclude with a brief discussion of areas where further research is required.

Literature Review

Well-being and mental health

The terms well-being and mental health are often conflated (Barkham et al., 2019). Whilst they are related, they are distinct concepts. The World Health Organisation makes this distinction by defining well-being as “a positive state experienced by individuals and societies” (World Health Organization, 2021, p. 10), whereas they state “Mental Health is a state of mental well-being that enables people to cope with the stresses of life, realise their abilities, learn well and work well, and contribute to their community” (World Health Organisation, 2022). Barkham et al. (2019) clarifies this distinction by indicating that well-being applies to the general student population and focuses on “positive feelings about oneself, reflecting an inner capacity and resourcefulness” (p. 352) to cope with the academic and student pressures at university. In contrast, mental health issues relate to a subgroup of the student population who may experience depression, anxiety or loneliness and have doubts about their inner strength and whether they have the tools necessary to deal with the stresses associated with university study (Barkham et al., 2019).

The stress, mental health and well-being of university educators has been well documented and the focus of research in the decade prior to COVID-19 (Kinman, 2014; Shen & Slater, 2021). It has been reported that a convergence of factors such as increases in administration tasks, student numbers, the changing nature of university students, digital transformation of universities, reduced government funding of universities, the managerialism practices adopted by universities, academic benchmarks for generating research income and the pressure to publish have all contributed to a significant increase in stress and burnout of academic staff (Kinman, 2014; Lee et al., 2022).

The outbreak of the COVID-19 pandemic and the rapid pivot to emergency remote learning further exacerbated the stress on university academics, many of whom were ill-prepared for the challenge ahead. Teachers experienced stress due to their lack of prior experience in teaching online, and having limited time to convert their courses into digital formats and to learn how to use synchronous technologies such as Zoom or Blackboard Collaborate. Furthermore, many experienced job insecurity, particularly casual staff (Davis, 2020), who according to Lee et al. (2022) undertook in excess of one-quarter of all academic work at Australian universities in 2019. University teachers, like the rest of the population, also experienced considerable concerns about the health and welfare of families and friends, lacked appropriate technology, internet connectivity, and faced additional responsibilities such as caring for others and home schooling of their children (Adedoyin & Soykan, 2020; Cutri et al., 2020; Ensmann et al., 2021).

The pandemic resulted in increasing demands and expectations from students and universities, and an unsustainable workload made it difficult for teachers to achieve an appropriate work/life balance (Colclasure et al., 2021). This has resulted in a corresponding cost to the mental health and well-being of these teachers (Baltà-Salvador et al., 2021; Colclasure et al., 2021; Shen & Slater, 2021). In a study of university teachers in the UK, Morris et al. (2023) reported that teachers felt that they were being taken for granted by their institutions and their well-being was not a priority for their university. It has been argued that the well-being of teachers is critical for students and the success of universities in both the teaching and research domains, and that teacher well-being needs to be prioritised by governments and institutions (Creely et al., 2022; Jayman et al., 2022).

University student well-being and their mental health is also a significant public health issue (Baik et al., 2019; Barkham et al., 2019; Larcombe et al., 2016). For some students, studying at university can be detrimental to their well-being and mental health (Bewick et al., 2010; Lister et al., 2021). Research indicates that studying at university is a stressful period in the lives of students, as they establish their own identity and independence as an adult, often adjusting to independent living, whilst trying to navigate an unfamiliar learning environment (Kift, 2015; van Gijn-Grosvenor & Huisman, 2020). Larcombe et al. (2016), who assessed 5000 Australian university students, revealed

that they experienced severe or extremely severe depression at over double the rate of the general population. Furthermore, they experienced severe or extremely severe anxiety at over triple the rate of the general population. A study by Conley et al. (2020) measured student well-being prior to commencing a four-year degree at a US university and at the end of each academic year. Results showed an increase in psychological distress at the end of the first year, peaking at the end of the second year of their degree, and slightly declining over the course of the remaining two years of university, however it never rebounded to pre-university admission levels (Conley et al., 2020).

Prolonged well-being and mental health issues have a negative impact on student success, including lower self-efficacy, motivation, grades, progression, completion, and retention rates (Baik et al., 2019; Baik et al., 2015; Duffy et al., 2020; Grøtan et al., 2019; Richardson, 2015). When students study at a distance, as was the case during the COVID-19 pandemic, mental health issues are exacerbated (Babb et al., 2022; Di Malta et al., 2022; Keyserlingk et al., 2022). Students reported feelings of isolation, disconnection, lack of motivation, and boredom (Babb et al., 2022; Ensmann et al., 2021; Kim, 2022; Mitchell et al., 2021), and those who had pre-existing mental health and well-being issues reported heightened levels of distress (Ensmann et al., 2021).

Teachers play a critical role in supporting student well-being through the design of learning, teaching practices and their interactions with students (Baik et al., 2019). Students report that good teaching practice such as clear communication, setting expectations, including a variety of active learning activities and being approachable, can help to improve student well-being (Baik et al., 2019; Lane et al., 2018). Furthermore, the development of a sense of belonging and connectedness has been shown to be a protective factor for reducing student mental health issues (Di Malta et al., 2022; Duffy et al., 2020; Lane et al., 2018). The inclusion of simple strategies such as learning student names, acknowledging and recognising the complexity of student lives, fostering teacher-to-student and student-to-student connections, creating social presence and humanising the online learning environment (Lane et al., 2018) can go a long way in supporting the well-being of students, without a high cost to teacher well-being and workload or expecting teachers to go outside of their professional role (Baik et al., 2019).

Theoretical Frameworks

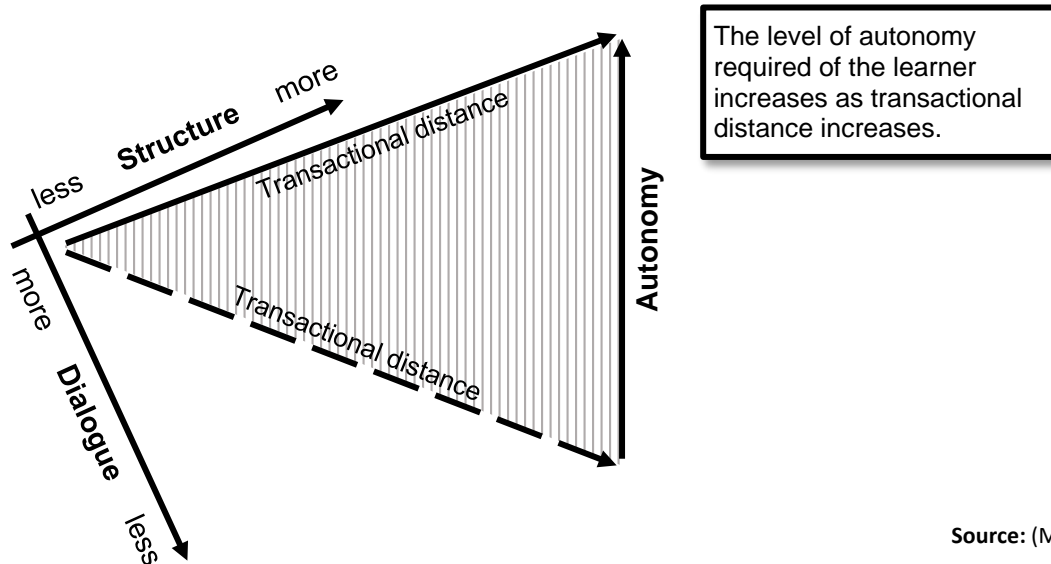
This research is underpinned by two of the most widely used and complementary theories of online and distance learning: Transactional Distance and Social Presence. Both theories focus on the social and communication aspects of online learning and support the design and facilitation of quality online experiences.

The theory of transactional distance is acknowledged as being the first theory of distance education (Reyes, 2013). Developed by Moore (1980), it built on concepts of transaction and distance. Transaction involves the interplay of three factors: individuals, behaviour and the learning environment (Boyd & Apps, 1980), whereas distance is the psychological and communications distance between teachers and students (Moore, 1993). Transactional distance theory consists of three variables: Structure, Dialogue and Autonomy, which influence the extent of transactional distance in an online class. Structure refers to how rigid or flexible the online course is in terms of learning outcomes, teaching approaches, assessment and the degree to which the course can cater for individual needs and interest (Moore, 2019). Dialogue refers to communication exchanges between the teacher and student, which in an online course may vary from continuous to no dialogue (Mitchell et al., 2021; Moore, 2019). The technology used to support student learning in online environments will impact the extent and nature of dialogue. Autonomy is the degree to which students are expected to self-manage their learning, which can be undertaken independently or collectively as a group (Mitchell et al., 2021; Moore, 2019). As depicted in Figure 1 independent learners with greater autonomy are able to learn in courses where there is less dialogue and more

structure and a greater transactional distance between the teacher and themselves, whereas the inverse is true of dependent learners.

Figure 1

Relation of dimensions of transactional distance and learner autonomy



Source: (Moore, 2019)

Over the past five decades, the importance of Social Presence in online and distance education has been well established in the educational literature (Choo et al., 2020; Cleveland-Innes et al., 2019; Garrison et al., 2010). Originally emerging out of the study of telecommunications, psychologists Short et al. (1976) conceptualised Social Presence Theory to explain the impact of media on the way that people communicate and interact at a distance (Reio & Crim, 2013). They defined social presence as “degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships (p. 65)”. Gunawardena (1995) simplified the definition of social presence to “the degree to which a person is perceived as a “real person” in mediated communication” (p. 151). However, the most frequently cited and influential definition of social presence comes from Garrison (2000), who included social presence as one element of the Community of Inquiry framework, defining social presence as “the ability of participants in the community of inquiry to project their personal characteristics into the community, thereby presenting themselves to others as ‘real people’” (p.89). Reio and Crim (2013) suggest the purpose of social presence is to create a learning environment where students feel comfortable and connected to their teacher and peers.

The rapid pivot to online learning and the longevity of COVID-19 pandemic and lockdowns brought into sharp focus the criticality of social presence in online learning environments (Mitchell et al., 2021). During this time, social presence was, at least initially, diminished due to the lack of preparedness of teachers, and the scale and pace of change required to pivot to online learning. This lack of social presence and human connection led to a psychological and communication gap between teachers and students, manifesting in reported student feelings of isolation, disconnection, lack of motivation, boredom, and depression (Babb et al., 2022; Ensmann et al., 2021; Keyserlingk et al., 2022; Kim, 2022; Mitchell et al., 2021) as previously discussed. To close this psychological and communication gap, university teachers have focussed on the development of strategies to better support student social presence and well-being (Hani & Seleh, 2020).

Although the higher education literature has indicated that social presence has an acknowledged effect on student well-being, this relationship is not well documented in information technology research; in fact, social presence initiatives have not been deeply considered from the educator point of view in such disciplines. This research is contributing towards addressing this gap in the literature by interviewing computer science, information technology and information systems teachers to explore their conceptions of social presence, its importance in the discipline and the strategies they employ to close the communication gap when teaching at a distance.

Methodology

This project used an exploratory, inductive approach to gather, analyse, and develop a deeper understanding on social presence in ICT teaching, and to investigate the effects social presence may have on the well-being of teaching staff and students engaged in an online learning and teaching environment (Glaser, 1978; Garrison, 2000). The data was collected via semi-structured interviews of 16 ICT educators purposely selected, who have been teaching online.

The overall design consisted of three stages: 1) understand the current online teaching and learning context as related to social presence and educator/student wellbeing, 2) understand how educators implement strategies for online social presence and their consequences, and 3) develop recommendations for supporting online social presence and wellbeing to facilitate increased student engagement. Table 1 below summarises the key activities undertaken across each stage.

Table 1 – Activities in the research project

<p>Stage 1 Understand the current online teaching and learning context related to social presence and educator/student wellbeing</p>	<ul style="list-style-type: none"> • Literature review • Ethics application
<p>Stage 2 Understand how educators implement strategies for online social presence and their consequences</p>	<ul style="list-style-type: none"> • Recruitment of participants (16) • Semi-structured interviews • Thematic data analysis
<p>Stage 3 Develop recommendations for supporting online social presence and wellbeing</p>	<ul style="list-style-type: none"> • Develop recommendations for practice

Stage 1: Understand the current online teaching and learning context related to social presence and educator/student wellbeing

The first stage of the research entailed performing a review of literature around using social presence to support learner engagement in online learning environments. The insights gained from this stage were used to develop the interview questions that were used in Stage 2 educator interviews. Human Ethics approval was obtained from the two universities where the bulk of the interviews were conducted (for 14 of the 16 interviews).

Stage 2: Understand how educators implement strategies for online social presence and their consequences

The second stage of the research involved conducting interviews with academics in ICT education located in 2 regional and 2 metropolitan universities. Purposive sampling using a snowball approach (Patton, 2002) was used to select participants with some or all the following selection criteria:

- Experience in developing curriculum for online teaching that makes use of social presence

- Experience in teaching in an online environment and making use of social presence initiatives
- Experience in online delivery of teaching (may not use social presence directly)

Recruitment

Project members socialized information about the research project within their networks who met the criteria above by passing along the information sheet (see Appendix for information and consent forms). After receiving an email indicating interest in the project, the CI or a research assistant followed up with organizing the interviews which were conducted over Zoom. To avoid a sense of coercion, project members from outside of each university conducted the interviews. Following recruitment, 16 academics from four universities were interviewed. Participant job roles included teaching academics as well as two academics with Associate Dean of Teaching & Learning or Head of School roles.

Each interview lasted approximately one hour each.

Data collection

Keeping in mind the insights gained from the literature review, the project team developed an interview protocol to answer the research questions listed above. The interview questions aimed to explore the experiences and viewpoints of the educators regarding how they understand and/or use social presence in their teaching and how this may affect the wellbeing of themselves and their students. The interview questions are listed below:

1. Have you heard of the term “social presence”?
 - a. If yes: In your view, could you please describe what “social presence” means to you?
 - b. If no: Social presence can be identified as the ways in which we perceive that there is a “real person” at the other end of the communication medium (i.e. email, Slack, Discord, Zoom, etc). Based on this definition could you please describe what “social presence means to you?
2. What role do you see social presence play in online learning environments?
 - a. Can you elaborate on the impacts that online presence brings to students?
 - i. Can you think and share about how social presence can impact individual student wellbeing?
 - ii. What are possible indications of these impacts?
 - iii. Why do you think this influence occurs?
 - b. How do you think Social Presence impacts educators?
 - i. Can you think of how social presence may impact an educator’s wellbeing?
 - ii. Could you elaborate using some of your own experiences?
 - iii. What are possible indications of these impacts?
 - iv. Why do you think this influence occurs?
3. What tools or mechanisms do you put in place to create social presence? (i.e. support a sense of cohesiveness in your cohort of students)?
 - a. Please elaborate about a situation where you did this.
 - b. How effective do you feel these support mechanisms are?
 - c. What indications imply or show that you have succeeded or not?
 - d. What were the key challenges you encountered and how did you overcome these?

4. How do you feel about the pressure to be available to your students to support their wellbeing?
 - a. How do you manage these requirements in addition to your other work priorities such as research and service?
 - b. What workload implications do you find (if any) based on these requirements
 - c. What support mechanisms are or can be put in place?
5. What could your supervisor/department do to provide better support to you (and to support student wellbeing)?
6. What could your university do to provide better support to you (and to support student wellbeing)?
7. Who else can contribute and how?

Data analysis

Over 19 hours of interview data was obtained from the 16 educator interviews. Data analysis followed a combination of deductive and inductive coding processes across the multiple cycles using a thematic analysis approach (Saldana et al. 2009, Braun and Clarke, 2022).

Table 2 below shows the activities from each cycle of the coding and theme building processes.

Table 2. Data analysis cycles in the project

Cycle 1	Pre-processing of transcripts to clean the data.
Cycle 2	Coding of each transcript using 9 meta-themes
Cycle 3	Codes developed into categories and sub-categories
Cycle 4	New categories analyzed to derive themes that depicted the core concepts present in the data.

Details of each data analysis cycle are listed below:

Cycle 1

All interviews were conducted via Zoom, a cloud-based video conferencing software. After the completion of each interview, the audio file for the session was uploaded to Otter.AI, an artificial intelligence (AI) powered speech to text transcription tool to streamline the transcription process. The resulting documents were then manually pre-processed and cleansed of any residual transcription defects. This process ensured that the transcripts contained an accurate representation of the audio recordings.

Cycle 2

The team developed a set of 9 meta-themes that aligned with the study aims as shown in Table 3). These concepts formed the basis of an initial classification of participant statements from the interviews and guided coding of data. The primary aim of Cycle 2 coding was to gain an understanding of the data from the interviews related to the research questions, and to collate the relevant details under the key areas we were interested in.

The coding from Cycle 2 formed the foundation for the next coding cycles. Any potential interactions that were observed across the meta- themes were documented (with coding notes). Coder corroboration in this phase focused on (a) confirming that all relevant data from

the interviews were extracted, and (b) that they were accurately placed within the pre-defined themes.

Table 3 below lists the Cycle 2 meta-themes with a brief explanation of the types of interview statements they were applied to.

Table 3 Cycle 1 meta-themes

1	<i>Meaning of social presence</i>	Ways that educators define social presence and educators' understanding of what makes up social presence.
2	<i>Indicators of social presence</i>	Visible aspects or indicators that social presence exists in the online teaching environment
3	<i>Actions taken by educators and students</i>	Steps that educators and students take to build social presence
4	<i>Impacts of social presence (or lack of)</i>	Areas that social presence impacts on, not only in the learning environment but also on the individuals involved
5	<i>Antecedent factors</i>	Requirements that need to be in place to facilitate social presence
6	<i>Student wellbeing</i>	Aspects related to student wellbeing as reported by the educators
7	<i>Educator wellbeing</i>	Aspects related to educator wellbeing as reported by the educators
8	<i>Shift to online learning</i>	Statements relating to how the shift to online learning has affected educators, students, and teaching/learning
9	<i>Other interesting insights</i>	Other insights about social presence and wellbeing

Cycle 3

Each of the meta themes were looked at in detail, to extrapolate more detailed insights for each meta- theme. Here, the previously extracted content from Cycle 2, was inductively analysed adapting the coding guidelines of Glaser and Strauss (2017), to derive meaning through the formation of categories within the codes. The coding was highly iterative. It commenced with the extraction of lower level themes (via open coding) which were grouped into coding families – based on similarities (using Axial coding). We analysed the data using constant comparison (Glaser, 1978) to group the data into themes. When applicable, we also enfolded literature insights (per Eisenhardt, 1989) when determining and defining sub-themes and groupings. Rationale for the categorisations were noted by the coders and mis-matching categories resolved through discussion. The forming themes cut through the original meta-themes we started with (see Table 3), which lead to the next round of categorisation (see Cycle 4).

Cycle 4

In Cycle 4, we developed themes from the categories derived in the previous cycle. Each of the categories were examined individually, and then considered in relation to all of the other categories and in terms of answering the research question. From this analysis, four core themes emerged. In this cycle we specifically focused on (a) checking and confirming that the resulting themes were parsimonious, b) identifying potential interrelationships between the themes, and c) suitability to answer the research questions.

Stage 3: Developing recommendations to support social presence and wellbeing in online teaching

The final stage involved developing recommendations based on the findings from the data analysis stage. A description of the final themes was distributed to all members of the research team with a request to each create three recommendations for practice. Those recommendations were then collated and the 10 recommendations were finalised.

Results

After analysis of the data, we created four themes that describe the findings from the interviews with educators. The themes are:

1. Indications of social presence
2. Strategies that educators use to develop social presence
3. Developing social presence in teaching has impacts on student and educator wellbeing
4. Barriers to developing social presence are found in the complexity of teaching online and effects on educator workload

Each theme is presented in regard to the research question that it seeks to address.

RQ1: How do Australian university information technology educators conceptualise social presence?

Theme 1: Indications of social presence

We first sought to understand how educators understood social presence and what indications they saw that social presence was manifested in their online teaching environment. Most of the educators we interviewed were not familiar with the term specifically. The term “social presence” was described to the educators as the sense that there is a real person at the other end of the interaction was provided to the participants (Gunawardena, 1995; Garrison, 2000). Following this explanation, the participants suggested two understandings of social presence:

- Social presence is the sense of social connectivity and 2-way communication between student/student and student/educator.
- Social presence from the student’s point of view is that they sense they are part of a community, see relationships between people, and feel teachers are there for them.

Each educator reported that they make significant efforts toward promoting a sense of a connection between themselves and the students. Educators generally understood the outward working of social presence to encompass any interaction between student/student and student/educator. Educators also stated that all the tasks they do to teach online help develop social presence. There was also a strong connection indicated between social presence and the wellbeing of both staff and students.

Educators often expanded social presence to include all interactions between students or between the educator and students, with the primary responsibility lying with the educator to scaffold and provide opportunities to develop social presence. The participants identified indicators of both high and low social presence. High social presence was seen as educators providing a prompt response to student requests/questions, keeping in mind that online students indicate a need for “just-in-time” communication during the hours in which they are working on their assessments. It should be noted that as many online students are in paid employment, the time when they need this input is frequently not within regular business hours. Other participants suggested that a measure of social presence can be found in attendance records and changes of student point of view in pre and post subject surveys. In contrast, a recognition of low social presence was seen in the struggles that

educators face in understanding student needs when these are not communicated to them by the students.

However, several educators conveyed that although lack of engagement in online interactions can be a student risk factor, this is not always the case, particularly for busy, mature age students or those with high independent learning patterns. The ICT discipline may have some influence on this finding as ICT students as a cohort are often described as independent learners who find satisfaction in figuring things out “on their own”. Indeed, this capability is often listed as key graduate attribute in ICT curricula. Additionally, some educators specified that students who are engaged in paid employment as well as study find required interactions to be time-consuming and difficult to meet due to the external pressures in their lives.

RQ2: What strategies do Australian university information technology educators use to establish and maintain social presence in their online classes?

Theme 2: Strategies that educators use to develop social presence

Many of the educators involved in the study use external systems to provide interactive functionality that is currently missing in traditional Learning Management Systems (LMS). Educators are often quite happy to trial external platforms, with many reporting the use of Slack, Discord, Miro, etc. However, there are difficulties associated with these choices in providing a safe learning / working environment as trolling or abusive comments were reported by the educators. Due to the repetitive nature of students’ questions during the semester and time pressures involved with student support, several of the educators either have developed bots or are in the process of doing so to answer student questions and provide just-in-time support.

Actions taken by educators to support social presence

The complexity of delivering three different modes of teaching (face-to-face, online synchronous, and online asynchronous) was reported by most participants. These activities each require different styles of teaching and learning interaction. Educators reported that they are currently transitioning from face-to-face in person delivery to online teaching using action learning approaches.

The ICT educators interviewed use a combination of internal and external applications and systems to support their teaching and to provide a sense of social presence for their students. Educators utilize online tools and platforms such as their university’s official learning management system (LMS) along with other platforms such as, Miro, Zoom, and Slack to optimise teaching and learning by enabling resource sharing, collaboration, and real-time communication between educators and students. Educators are using these external platforms to offer support and guidance to students through messaging applications, offering online Q&A sessions, recording ad hoc video tutorials, actively addressing questions, sharing expertise, and providing assistance to ensure student needs are met.

The activities described by the educators are primarily instructor led, however using these external platforms, educators are attempting to build opportunities for socialisation between students and between students and educators. Slack and Discord were frequently mentioned as mechanisms to foster student to student interaction, and for just-in-time answers to student questions. Gamification features such as emojis and badges offer the opportunity to support student leadership in helping each other answering questions with the educator providing clarifications when needed. This technique was reported to assist with larger cohorts where it is difficult to offer just-in-time answers to student questions.

Educator choice of technology to overcome limitations of LMS'

The educators interviewed specified that existing LMS' have insufficient functionality to handle the complexity of tasks required in online teaching. Various external platforms are used to set up opportunities for social presence and icebreaker methods at start of semester are used to jump-start these interactions.

ICT educators indicated that they are very open to trialling external systems, but are sometimes hampered by the cost of seat licenses for commercial platforms which limit them to open source options. These cloud-based applications are often not integrated with the LMS and can pose difficulties or friction for students when transitioning from internal to external systems. Educators using platforms that are familiar to the students such as Discord can find student conduct difficult to manage as the boundaries between private and study environments are not clear.

Educators noted that every technology has its limitations in supporting social presence and all require human intervention. While some ICT students are comfortable with using disparate systems, others are not. Challenges are found in handling technical issues that occur when using these external systems as they are not supported by the university's technology services departments. This tech support task then falls to the educator, adding to the staff member's workload. Additionally, use of multiple channels for communication may make it difficult for educators and students to know where to look for messages, with some finding it difficult to keep up with the volume of communication. Anonymity on use of external systems poses another issue as it may encourage abusive or unprofessional behaviour in students perhaps due to the blurred boundaries around what is appropriate conduct.

RQ3: What barriers and challenges do Australian university teachers face in developing social presence in online learning environments?

Theme 3: Developing social presence impacts student and educator wellbeing

Social presence was often seen as a positive factor in enabling student success, but also there were also reports that some students do not need it (commonly mature age students or highly independent ones). Educators reported a belief that students in general benefited from high social presence, and that it supported their wellbeing. We found it interesting that the educators in our study had this belief, as it is not yet reported in the ICT education literature. However, educators conveyed strongly that the many tasks that were involved in providing high social presence had negative impacts upon their personal wellbeing. Many educators report difficulties in maintaining a good work/life balance due to the need to provide social presence after hours when students had time to work. Educators also reported that most of their students are engaged in paid employment and prioritise those activities.

Impacts of social presence

Educators stated that some of the beneficial effects of developing social presence for students are better retention, increased self-efficacy, and ability to work with other students to solve problems. Participants noted that increased social presence and a sense of community can assist students in managing emotional self-regulation including stress, anxiety, embarrassment, social isolation. Moreover, good social presence also builds a positive teaching experience for academics and students. Educators indicated that when good social presence is felt, they enjoy teaching more and feel motivated to assist students with problems.

However, a lack of social presence in the online teaching environment can lead to lack of motivation in students to interact or engage meaningfully in learning. Lack of social presence can lead to students focusing solely on getting the assessment done. Such students show a strong resistance to learning anything that is not assessed. Educators indicated that when there is a lack of social

presence and connection between the educator and the student, online students often show a lack of motivation and only do the minimum required to pass.

Educators often consider students who fail to engage in the online learning environment to be at risk of failing the subject. Online subjects have a higher number of enrolled students who do not interact or turn in any assignments which leads ultimately to increased numbers of failed students at the end of the semester.

Communication channels and study partners

Educators reported the use of multiple communication channels in addition to standard email and LMS messaging. These channels often to make it easier for students to make quick requests for information or help at the moment it is needed. Often students will not be able to predict when they will need assistance and can feel stymied when they are unable to progress due to needing advice from their lecturer. To avoid this issue, many educators encourage peer-to-peer support by requesting students to answer questions on message boards, Slack channels and Discord groups. A few educators specified that being able to pinpoint what the problem is and express it succinctly is a critical job skill necessary for future ICT graduates.

Another frequent comment from educators is that students who form study groups together have better outcomes and a higher sense of wellbeing than students who do not have this support. To promote this tendency ICT educators actively design assessments to require group work, even though it is initially difficult for online students to form groups. Scaffolding around finding “study buddies” and group formation is offered by many educators at the start of the teaching period to enable this process.

Educators note that students often ask the same questions, and they require just-in-time answers to those questions. AI-enabled tools such as bots are being created by some of the educators to handle these issues. However, it should be noted that this can lead to a sense of the “disappearing professor”, where presence and engagement of the instructor is limited or lacking. Online study without a good sense of social presence can result in decreased student motivation, a sense of isolation and reduced learning outcomes. Chatbots can be useful for simple questions, but students prefer tailored answer to their questions, where follow-up inquiries can be made easily.

Educators used many methods to develop the ability for students to easily contact them. However, the variety of techniques vary from subject to subject which can lead to fragmentation in communication as neither educator nor student is quite sure where to look for messages. To provide at-the-moment responses some educators have notifications delivered to their phones, but frequently impinges on educator personal time, providing a constant reminder that more work is always waiting.

Social presence and student wellbeing

Educators identified that students may need access to various support services that are outside of their arena, e.g. financial, learning support, accessibility, and counselling. Students who have developed a good connection with their instructor will sometimes share personal details about their situation, particularly when a student needs to seek an extension due to health issues. Educators reported feeling a need to “solve the problem” but understood that referring students to allied services at the university is the appropriate response. Participants stated that it is important for educators to know how to handle such requests in a caring manner. Additionally, students who have ongoing health issues may need to prioritise seeking medical treatment at the expense of study, and this can lead to missed deadlines.

Educators reported taking action to support student wellbeing by being accessible, providing timely feedback, providing opportunities for industry networking, and being accepting of different styles of

interaction. They indicated that they were aware that student wellbeing is related to the online environment and can make students feel more isolated, make it difficult to seek help, and make it harder for educators to diagnose student difficulties. Teaching staff also suggested that student wellbeing can be affected by other students' inappropriate interaction in the online environment such as trolling and cyberbullying.

Educator wellbeing and workload

The educators we interviewed drew a strong connection between wellbeing and social presence. They acknowledged that while social presence is essential to consider and can be of benefit for both students and staff, the multiplicity of tasks involved in the provision of social presence can have detrimental effects on educator wellbeing and health. As educator wellbeing diminishes this can influence their ability to provide ongoing social presence in the online teaching environment. Some educators indicated that they have difficulty knowing where to draw boundaries regarding response afterhours to student issues due to pressure to maintain high student satisfaction. This finding was especially strong in early career academics. Many universities in this study have recently changed their strategic focus to prioritise high student satisfaction, thereby adding to this pressure.

Some educators feel a strong responsibility to develop a sense of social presence by attempting to meet students' personal and educational needs. Educators who are drawn to teaching to "make a difference" may find it particularly hard to enforce boundaries between work and home life. Most educators mentioned the need to respond to students in the evenings or weekends, particularly when assessments are due or when students are encountering difficulties of some sort.

Management often advises educators of the need to maintain an appropriate work/life balance to support their personal wellbeing, but do not provide advice around how to handle students with high support needs. One educator who is a School Head advised that there is little counselling and/or wellbeing support for educators. Traditional employee assistance programs do not have expertise in providing counselling around dealing with the complexities of online teaching and student support. Mentorship by more experienced academics can be of benefit, but this adds to their workload as well. Educators related the need to lean on each other to share best practices, but also emphasised the difficulty of doing this when you aren't meeting face to face for meetings or located on the same campus.

Educators often discussed the increased workload they experience in preparing and moderating online content including overseeing large cohorts of students. Participants are struggling with workloads that do not sufficiently take into consideration the labour needed to prepare and deliver online teaching which affects their wellbeing. Educators reported the need for assistance in managing their workload, including getting help from additional staff to support student wellbeing. However, as budgets are increasingly constrained, the employment of casual staff who might be able to assist is often not supported. This situation is particularly the case following the pandemic where many casual academic positions were eliminated and have not yet been reinstated.

Theme 4: Barriers are found in complexity which impacts workload

Educators all reported that teaching online is much more complex than face-to-face teaching. Many educators try to recreate as much as they can the face-to-face learning experience in the online setting. This task is made more challenging when there is no synchronous aspect to teaching (no online workshops or tutorials and students just work through the materials in their own time). The complexity of these tasks has a follow-on effect of increasing the educators' workload substantially. The educators indicated that the university does not seem to understand the difficulty and complexity of online teaching. The educators also felt added stress in knowing where to draw the boundaries between responsibilities in looking after students' needs among themselves, the university (through allied services) and the student. There was also a strong report of the need for

professional development to develop the skills to teach proficiently in the online environment versus the physical classroom.

Educators may find it difficult to engage with students during synchronous online teaching activities due to the limited non-verbal clues offered by students. Students often participate in these sessions with cameras turned off and show reticence to engage verbally especially in large classes as is common in introductory subjects. Requests to turn on cameras are often met with a series of excuses relating to 'technical difficulties'. This lack of interaction can make it difficult for educators to build relationships with students remotely. Educators reported that online students often display a "mission-focused" approach to learning, with all questions related to how the topic under discussion will affect any upcoming assessments. This "just tell me what to code" limitation can be particularly problematic in subjects related to design and problem solving. Although students may feel that such focus-driven study is efficient, in the end it often produces students who are bored, and lacking in motivation.

Barriers to developing social presence

Online teaching can pose a challenge for educators as they observe a lack of student engagement. This absence of feedback from seeing the students expressions or hearing/seeing comments make it difficult to recreate the interactive dynamics of in-person classrooms. When teaching to a "sea of black boxes" as one participant framed it, educators find it hard to gather student questions to answer and to gauge class understanding of topics being covered. Although good social presence can encourage interaction, communication with students (whatever the platform) requires a two-way engagement.

Participants noted that students are acutely aware of recordings made during synchronous teaching sessions and may be hesitant to verbally engage in discussions for this reason. One educator noted that social presence for their students included a curation of how they are perceived online which can lead to an unwillingness to be visible and heard in the sessions. While some students may prefer to stay "under the radar", educators report that this makes it difficult for them to gauge students' learning and predict where problems may occur.

In general, educators reported that the reduced opportunities for in-person interaction and the absence of non-verbal communication cues pose challenges in online teaching as key student signals may be overlooked. Educators specified that online teachers need assistance in developing methods for assessing students' learning levels during both synchronous and asynchronous online classroom instruction.

Complexity of online learning and teaching

Educators indicated varying levels of comfort, experience, and expertise in teaching in the online environment. Educators deliver multiple modes of teaching with students as well as supporting students in what is perceived to be an ever-growing range of learning and teaching expectations. Educators indicated that the move to online teaching has multiplied their teaching responsibilities. These new tasks stress an already taxed workload model when other vital activities such as research and service are considered. This issue is particularly difficult for early career staff who often are asked to teach subjects or units with large cohorts.

A consistent theme of the educator interviews is that online teaching is distinctly different from traditional face-to-face teaching and should be recognised as a specialty/expertise. Online teaching embodies technicalities that are different from traditional face-to-face teaching and requires that the educator develop skills in teaching and supporting students learning in a very complex environment. Participants also emphasised that approaches designed for blended learning in a face-to-face setting often don't work well online without significant modification.

Need for professional development

Educators stressed that they need support and training to facilitate effective online teaching and learning. While educators are experts in their subject areas, many report that they have not been given adequate professional development on learning and teaching around enhancing the student experience and supporting online learning. Additionally, as part of graduate attributes educators are asked to develop soft skills in students but have received no training or leadership in how to do accomplish this task. Although universities do offer “lunch and learn” opportunities to build knowledge in these areas, academic workloads often preclude attendance in favour of the pressing obligations of other priorities such as research and service. Casual staff are especially hampered in this regard as PD sessions are often not part of their contracted hours of employment, meaning that if they undertake such training, they will not be paid for it.

A frequent comment from the participants surrounded the need for guidelines around many of the tasks that they are required to undertake. This finding may be interpreted as an outcome of the difficulty expressed by academics in knowing where to draw boundaries around their responsibilities. Educators expressed the need for specific guidelines in the following areas:

- Effective online teaching practices
- Managing the complexity of online teaching and workload challenges
- Reasonable expectations and time allocation for social presence tasks (particularly student feedback and support)
- Informing students regarding the availability of educators afterhours
- Descriptions of the typical student personas in their discipline
- Resources to cater for diverse groups of students

Discussion and conclusions

The move to online teaching and the massification of the sector (with very large online cohorts) has resulted in increasing demands and expectations from students and universities, and an unsustainable workload for teachers resulting in a corresponding cost to the well-being of these teachers (Baltà-Salvador, Olmedo-Torre, Peña, & Renta-Davids, 2021; Colclasure, Marlier, Durham, Tessa Durham, & Kerr, 2021; Shen & Slater, 2021). The responses from educators in this study depict an online teaching situation where they are trying to support students learning and wellbeing using social presence. However, their efforts are hampered by a several issues.

The primary finding from our research has emphasised a lack of a clear understanding among educators and their line managers as to the exact parameters of responsibility for educators regarding teaching and supporting student engagement with learning and student’s personal wellbeing. Educators are aware of the need to meet students’ expectations as well as those of the university in providing a good student experience. Indeed, they are rated on how well they do so in student surveys both during the teaching periods and at the end. However, what represents effective and inspiring teaching may not be obvious to a student who is motivated to gain high marks for employment. Such a situation has resulted in educators who feel unable to limit their student interactions to established work hours.

While we did not ask specific questions of the interviewees regarding their understanding of student communication policies, educators often indicated a lack of understanding of the exact boundaries of such work. It has been well documented in academic literature that developing materials suitable for online delivery requires not only a subject redesign and rewrite, but also an understanding of how students learn in an online environment. Not only do educators often lack the time to undertake such work, but due to budget constraints they often do not have access to curriculum designers with such specialties.

A second but equally important finding is that ICT educators are firm proponents and early academic adopters of the use of external communication, collaboration, and interaction platforms such as Discord, Teams, Slack and Miro. A frequently expressed frustration is found around the limitations of popular online teaching platforms such as Blackboard and Canvas. Such use may not be fully supported by internal help desk systems. An after effect of this lack of support is that solving technical problems then falls to the educator in question. External systems are frequently not integrated with traditional LMS' and even if access to APIs to do such work are supported, ICT educators are sometimes not given permission to write the code to do the customisation.

Recommendations

We see three main contributions from this research:

- A clearer understanding of educators understanding of social presence in the current online ICT teaching environment;
- What attempts to educators make to create social presence and to support wellbeing and the challenges associated with this work;
- Recommendations that educators and universities can use to promote social presence and wellbeing.

Next, we provide recommendations regarding how social presence can be supported and how staff and student wellbeing can also be enabled.

- 1. Universities should provide educators with resources to support their teaching in the online environment.**
 - a. Quality online teaching tools, e.g. quality microphones, conferencing tools, specialist webinar rooms or DIY video studios are needed to support professional online teaching
 - b. Academics need to be proactive in developing an ongoing awareness about digital technologies being used at their university and not just about the ones they are familiar with
 - c. Training should be provided for both educators and students in how to use tools for online collaboration
 - d. Training for educators should include knowing what their responsibilities are in this new teaching medium (PD is required)
- 2. Allocate resources specifically aimed at assisting educators in developing social presence, including funding for instructional design support, technological tools, and innovative learning resources**
 - a. Helping resources like tech support (for staff and students), moderators for online communities
 - b. Universities should invest in technology that supports social presence – keeping in mind that current LMS programs do not do this adequately
 - c. Consistent student experience in regard to technology should become a priority
- 3. Workload models should be modified to take into consideration the complexity of online learning and teaching tasks/responsibilities**
 - a. Deeply reconsider the hours allotted to online teaching in the workload model and include time to develop social presence
 - b. Adequate time for these tasks needs to be provided in the workload

- c. Foster open dialogue and collaboration between educators and university administrators to improve mutual understanding and address the challenges and complexities of online teaching (not just adding more things to do)
 - d. By having a clearer understanding of the challenges faced by educators and students, higher ups should be able to provide better support to their staff and students
- 4. Provide educators with professional development training to teach effectively online, in a way that supports the students' learning**
- a. Establish clear guidelines and training for educators on effective online teaching practices
 - b. This should include sessional staff and compensation for their time
 - c. Training for educators should be systematic (not just a one-off lunch and learn) and should be able to be undertaken in their own time
- 5. Educators should survey students to develop a clear understanding of the students' needs for immediate information regarding assignments and other questions**
- a. Currently there is too much distance between online teachers and students
 - b. Better understanding who our learners are and their challenges helps us to tailor our teaching and better support online learners
- 6. Universities need to set visible guidelines and policies to manage the expectations of students regarding response time and interaction.**
- a. Some universities do have guidelines/policies, however they are often focused on the educator meeting a particular standard for communication
 - b. Guidelines should include the creation of a communication plan for the subject/unit (can be brief) that should be conveyed to students in the first lecture
 - c. Educators should not rely on student's reading the subject guide/outline to gain this information
- 7. Training should be provided for all educators about supporting social presence**
- a. Anyone who teaches online should be encouraged to think proactively about social presence in the digital environment
 - b. Training is needed for all educators working in the online environment, including tutors
- 8. The university and associated disciplines should take action to support educator wellbeing**
- a. Institutions need to invest in providing wellbeing support for teaching
 - b. Educators need to provide students with explicit rules for how to interact in the online environment to protect students and staff from bullying behaviour
 - c. Educators should create a communication agreement that sets interaction expectations and quickness of response and managers should actively remind educators to adhere to these agreements particularly in regard to afterhours student support
 - d. User experience research needs to be done to support both stakeholders: students and educators re: LMS and study/teaching in the online environment
- 9. The university and associated disciplines should take action to support student wellbeing in the online environment**
- a. Provide better onboarding for students into the online environment

- b. Training should be provided for students in how to use tools for online collaboration
- c. Universities should take steps to understand different student personas, and have guidelines and resources to cater for the diverse groups

10. The development and use of AI-powered technologies should be supported to handle students' need for immediate information regarding assignments and other questions (bots)

- a. Bots could be developed to answer repeated questions (similar to FAQs)
- b. Investigate the use of bots to recognise and suppress students' trolling behaviour

Future work

We finish this report with a brief discussion about future directions for research. This study focused on the viewpoints and concerns of 16 academics working in the tertiary online environment teaching ICT at four universities looking at the connection between social presence and well-being. As a continuation of this research, we intend to interview students from the universities involved in the study to gain their insights. Educators indicated some of the pressures that students experience in the online environment, and we would like to compare educator and student views around the use of social presence and how it affects wellbeing. We also intend to contribute to the scholarly literature around social presence, specifically focusing on the connection with wellbeing for both staff and students.

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Appendix

INFORMATION SHEET (Educator interview)

PROJECT TITLE: Sustainably Enhancing Social Presence while Balancing Teacher and Student Well-being

DESCRIPTION

You are invited to take part in a research project about your experiences as an educator teaching Information Technology in an online setting.

The purpose of the project is to understand how learners and teachers implement strategies for online social presence and the consequences that these strategies have on learner and teacher well-being. Social presence can be identified as the ways in which we perceive that there is a “real person” at the other end of the communication medium (i.e. email, slack, discord, zoom, etc). This project is important because it will allow us to better understand educator perspectives and learnings and use this knowledge to improve how online subjects are taught in a way that will support educator and student wellbeing.

This research is being undertaken as part of grant from the Australian Council of Deans of ICT Learning and Teaching Academy (ALTA) being led by Dr Dianna Hardy and conducted by a team of researchers from JCU and QUT.

You are invited to participate in this project because you are an educator in Information Technology who has been involved in developing social presence or participating in a social presence initiative whilst teaching online.

To reduce the risk of coercion or bias, an interviewer external to my discipline and degree area will be used, and any information obtained during the interview will be de-identified. Findings reported back to departments will be summarised so that no one will be able to tell who made individual comments.

PARTICIPATION

If you agree to be involved in the study, you will be invited to participate in an online interview. The interview will take approximately 45-60 minutes of your time. The interview will be held online via a video conferencing application (such as Zoom) to allow participants to join the session conveniently. In the interview you will be asked questions regarding your experiences studying online and any social presence initiatives you have participated in.

Your participation in this project is entirely voluntary. If you do agree to participate you can withdraw from the project without comment or penalty and any unprocessed data will be deleted. Your decision to participate or not participate, will in no way impact upon your current or future relationship with JCU or QUT.

At the conclusion of the project, you may request a summary of the findings by emailing the Principal Investigator (Dianna Hardy) who will send it by return email.

EXPECTED BENEFITS

It is expected that this project may not benefit you directly. However, it may be of national benefit. The project establishes a practice framework for online social presence and well-being, which can be used by universities as an evidence-based tool to inform the design and delivery of future online courses.

An outcome of this research would be an enhanced online experience for students studying Information Technology online and for educators involved in online teaching.

RISKS

There are no risks beyond normal day-to-day living associated with your participation in this project.

PRIVACY AND CONFIDENTIALITY

All comments and responses will be treated confidentially unless required by law. That is your name is not required in this study. The audio-recorded interview will be destroyed after non-identifiable transcripts have been produced. During this time, the audio-recorded file will be stored on a secure server password protected accessible to the named researchers only. As a qualitative study, transcripts of the session will be pooled to be analysed and reported as a collective whole. Therefore, there is no requirement for us as researchers to focus on any individual in reporting the results. In presenting the findings, we may quote from individuals as evidence, however such quotes will not be identified with you or any other individuals. The audio-recorded interview will be destroyed after non-identifiable transcripts have been produced.

Please note it is not possible to participate in the interview without being audio-recorded.

The project is funded by the Australian Council of Deans of ICT Learning and Teaching Academy (ALTA) and they will not have access to the data obtained during the project.

Any data collected as part of this research project will be stored securely as per the Universities Management of research data policy.

Please note that non-identifiable data collected in this project may be used as comparative data in future projects or stored on an open access database for secondary analysis.

CONSENT TO PARTICIPATE

We would like to ask you to sign a written consent form to confirm your agreement to participate.

REFERAL

If you know of others that might be interested in this study, please pass on this information sheet to them so they may contact me to volunteer for the study.)

FURTHER QUESTIONS

If you have any questions about the study, please contact Dr Dianna Hardy (see contact details below).

Principal Investigator:

Dr Dianna Hardy

Indigenous Education & Research Center

James Cook University

Phone: 4781 6240

Email: dianna.hardy@jcu.edu.au

***If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)***

INFORMED CONSENT FORM (Educator Interview)

PRINCIPAL INVESTIGATOR Dianna Hardy
PROJECT TITLE: Sustainably Enhancing Social Presence while Balancing Teacher and Student Well-being
COLLEGE: Indigenous Education and Research Centre, College of Science and Engineering

I understand the aim of this research study is to understand how learners and teachers implement strategies for online social presence and the consequences that these strategies have on learner and teacher well-being. I consent to participate in this project, the details of which have been explained to me, and I have been provided with a written information sheet to keep.

I understand that my participation will involve an interview which will take approximately 45-60 minutes and I agree that the researcher may use the results as described in the information sheet. I understand that to reduce the risk of coercion or bias, an interviewer external to my discipline and degree area will be used, and any information obtained during the interview will be de-identified. Findings reported back to departments will be summarised so that no one will be able to tell who made individual comments.

Please note that that non-identifiable data collected in this project may be used as comparative data in future projects or stored on an open access database for secondary analysis.

(Please tick to indicate consent)

		Yes	No
I consent for an audio recording of the interview to be recorded either via zoom for interviews held via zoom or by another recording device if in person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I consent for my de-identified research data to be deposited in an institutional repository to support the improvement of teaching and learning at this university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I consent for my de-identified research data to be used in academic papers and conference presentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name: <i>(printed)</i>	
Signature:	Date:

