

## Research paper

# “It doesn’t feel like we’ve had the chance to really connect”. The crucial need for social presence in fully asynchronous teacher education

Melissa Cain<sup>a,\*</sup>, Helen Sheehan<sup>b</sup>, Sarah Taouk<sup>b</sup>

<sup>a</sup> National School of Education Australian Catholic University 1100 Nudgee Rd, Banyo QLD, 4014, Brisbane, Queensland, Australia

<sup>b</sup> National School of Education, Australian Catholic University, 25a Barker Road Strathfield, NSW, 2135, Australia



## ARTICLE INFO

## Keywords:

Asynchronous online learning  
Pedagogy of care  
Social presence  
Preservice teachers  
Initial teacher education

## ABSTRACT

Fully online asynchronous initial teacher education (ITE) offerings are increasing, yet online learning may negatively impact students’ relationships leaving them feeling isolated and disconnected. Despite rigorous attention to the impact of social presence on success in online learning, social connection in fully asynchronous ITE courses is under-researched. This article investigates the experiences of 130 preservice teachers’ (PSTs) sense of connection when studying asynchronously online. The data suggest that PSTs value social presence and a pedagogy of care but also highlights a significant disconnect between the parameters of asynchronous learning and PSTs’ expectations, presenting an important consideration for ITE providers.

## 1. Introduction

The growth of higher education (HE) offered via online delivery is a global phenomenon (Han et al., 2023; Morris et al., 2020; Pelletier et al., 2022). This has been partly due to physical campuses constrained in their ability to grow, but also due to equity of access for typically under-supported cohorts being a central priority for many HE institutions (Cain et al., 2021; DET, 2017; Stone et al., 2016). Online offerings provide relatively low-cost access to learners from diverse socioeconomic circumstances and disadvantaged backgrounds in that these learners can ‘attend’ without having to relocate or pay commuting costs (Macken et al., 2021). As online learning gains increasing prominence in initial teacher education (ITE) degrees in the Australian context, consequent changes in learner identity, learner interaction, and degree delivery have taken place (AITSL, 2018). These changes have made a significant impact on degrees that are primarily praxis-based such as the Arts and Physical Education, through which collaborative learning is embodied and relies on sensory exploration (Cain & Nislev, 2018; Davis & Phillips, 2020).

In the last 20 years, the delivery of ITE degrees in Australia has shifted from being almost exclusively ‘face-to-face’ on campus, to ‘multimode’ offerings (a hybrid of face-to-face and synchronous online delivery), to fully online offerings with synchronous tutorials or workshops, and fully asynchronous delivery with no synchronous components, and where learners, their peers and teachers are separated by time

and space. Of the 47 Australian providers of ITE in 2015, 40% offered options for some online study (Downing et al., 2019). In 2023, all Australian higher education institutions (HEIs) offer some form of online delivery within their ITE degrees.

In addition to providing options for students who are unable to attend their course at a physical campus, acute and unprecedented teacher shortages have prompted HEIs to make ITE more accessible to prospective educators. Teacher shortage is a current global challenge due to a variety of factors including negative perceptions of the teaching profession in print and news media (Mockler, 2022), increasing numbers of students attending schools, and more teachers retiring than teachers entering the profession (See et al., 2020). Australia’s teacher shortage is most pronounced in secondary education as well as in rural and remote educational contexts, and in certain discipline areas such as mathematics and science (Welsh, 2022). Additionally, nearly half of all early-career teachers in Australia leave the profession within the first five years of service (Hogan & White, 2021). In Germany, influxes of refugees from the former Soviet Union have exacerbated existing shortages (Seeliger & Håkansson Lindqvist, 2023) as the inability to predict fluctuation in student numbers impacts on the country’s capability to train the right number of teachers. Shortages are not confined to the Global North. At the time of writing, Indonesia has a shortage of 1.3 million teachers with a significant portion of practicing teachers lacking certification (Tanoto Foundation, 2023).

Alongside the many advantages of online study such as the

\* Corresponding author.

E-mail addresses: [melissa.cain@acu.edu.au](mailto:melissa.cain@acu.edu.au) (M. Cain), [helen.sheehan@acu.edu.au](mailto:helen.sheehan@acu.edu.au) (H. Sheehan), [sarah.taouk@acu.edu.au](mailto:sarah.taouk@acu.edu.au) (S. Taouk).

opportunity for students to work self-paced and independently, research suggests that failure and non-completion rates are higher for those choosing to study online (Brown et al., 2022; Burke & Larmar, 2021; Downing et al., 2019) as not all students have the necessary skills and dispositions for success (Brown et al., 2022; Fabriz et al., 2021). These include digital skills, the requirement to be self-directed, and the motivation and commitment to complete their degree. Pelliccione et al. (2019) suggest that the expansion of fully online delivery of ITE degrees has prompted concern about the quality of teacher education delivered in this way.

Teaching is a relational and social practice, and “care is integral to successful teaching” (Cain et al., 2023, p. 5). A key concern of caring teachers is that students feel part of a community of learners, which correlates positively with student engagement and sense of belonging, “leading to higher retention and achievement of learning outcomes” (Producers et al., 2023, p. 1219). Facilitating asynchronous units can, however, “feel like pushing content into a void” (Dail 2022, p. 49). In this study we focus on social presence (care, connection, and community) as a core component of student engagement in asynchronous contexts. Without real-time connection with teachers and peers, concerns about asynchronous ITE centre on reduced opportunities for students engage socially and emotionally. Extra attention is needed to create a community of learners underscored by a pedagogy of care and connection (Friesen, 2014; Noddings, 1988). Producers et al. (2023) note the many and varied definitions of a learning community depending on its context and purpose. For this article we define a learning community as ‘a group of people who access learning through vehicles for cognitive and social connection which promote a sense of belonging and personal relatedness’. In reference to our use of Nel Noddings’s (1988) work in analysing the research data, we refer to a pedagogy of care as ‘the creation of inclusive and collaborative educational spaces where learners are seen as individuals, cared for, and provided opportunities to enact care for others’.

To focus current research on online learning specifically concerning ITE degrees offered through fully asynchronous online methods, and to enhance current understanding about how PSTs experience asynchronous study, this article presents results from a research study with pre-service teachers at an Australian university studying either the whole or parts of their degree through fully asynchronous methods. The study’s aim was to answer the following questions:

1. To what degree do ITE PSTs studying units (single subject within a degree or course of study) in fully asynchronous modes experience a sense of care, community, and connection to their facilitator, peers, and course of study?
2. In what ways does a sense of care, community, and connection impact PSTs’ engagement in learning for those studying units in fully asynchronous modes?
3. In what ways do PSTs identify that a sense of care, community, and connection has or has not been present?

We refer to Solomon and Verrilli’s (2020) definition of asynchronous learning as when the work of learning “occurs at different times and in different places” (p. 15). At the institution that features in this research, academics may offer one ‘drop-in’ session per week as a way for students to ask questions and seek clarification. Sessions are not recorded, and academics are not permitted to ‘teach’ during this time for reasons of equity. Synchronous drop-in sessions are not a feature of the asynchronous model. We suggest that the recent invitation for facilitators to include drop-in sessions may be the HEI acknowledging the limitations of asynchronous delivery. In this study, we use the term ‘facilitator’ when referring to HE academics who oversee fully asynchronously delivered units, as no real time ‘teaching’ takes place. The following review of literature over the past decade considers concepts related to this study and which inform the analysis and discussion of the data: how HE students engage in online learning, social presence in online

learning, and the importance of social and emotional engagement in asynchronous learning environments.

## 2. Literature review

### 2.1. Types of engagement in online learning

Levels of student engagement have been identified as strongly correlating with learner outcomes (Brown et al., 2022). Engagement in learning is, however, not easily assessed. While teachers can never fully capture how students ponder, process, imagine, and reflect internally, overt active engagement can be measured to some degree. Well known models of engagement for learning focus on cognitive engagement through active learning processes as evident through visible student behaviour (c.f., Chi, 2021). Observable interactions such as note taking, collaborative problem solving, creating a mind map, or highlighting passages from a text, are generally not detectable in asynchronous modes of learning. Redmond and colleagues’ (2018) ‘Online Engagement Framework for Higher Education’ may be a more useful tool for reviewing how students demonstrate engagement (cognitive, behavioural, social, collaborative, and emotional) in asynchronous learning contexts. They suggest that *cognitive engagement* is “the active process of learning” or “what students do and think to promote learning” (p. 191). This definition includes dispositions such as motivation, metacognition, and self-regulation. Han and colleagues’ (2023) research with higher education students studying asynchronously during COVID-19 restrictions noted that the most challenging cognitive aspects of asynchronous study included time management, application of course content, self-regulation, and motivation. Related *behavioural engagement* processes include attention to learning, effort, persistence, and participation. Activities might include watching and responding to learning materials, contributions to online discussion boards, and working with peers within or outside the LMS on collaborative projects. While students can be motivated to learn, it is the design and delivery of the learning materials which promotes students to be engaged in each learning episode. The best quality asynchronous offerings provide content segmented into concise and meaningful units of knowledge, videos developed by and featuring the teacher speaking in a conversational style (Choe et al., 2019), a well curated set of text and video resources, reflective activities, periodic checks for understanding, and activities for student collaboration (Grant, 2021; Varkey et al., 2023).

Assuming the content is prepared and delivered in an engaging and purposeful manner, it is attention to aspects of *social engagement* which promotes students to feel connected to their course. Social engagement is the building of a community of learners, through which learners form relationships, develop trust, and feel a sense of belonging. Social engagement is essential for deeper cognitive engagement and successful collaborative experiences (Ragusa & Crampton, 2018). For students to engage socially with peers and lecturers in the course, the learning management system (LMS) must first be accessible to all students and encourage opportunities to build a community of learners. Social engagement can foster *collaborative engagement* through which students learn with peers, create working relationships with online facilitators and develop institutional and professional networks. With respect to the education of PSTs, *emotional engagement* in learning directly affects the construction of PST identity, but much less has been written about this type of engagement (Alves et al., 2019). Emotional engagement considers the feelings attached to learning episodes and the associated emotions that are ascribed to those feelings. Professor of Education, Psychology and Neuroscience Mary-Helen Immordino-Yang points to the importance of combined forms of engagement for learning success. Immordino-Yang stresses that brain networks do not process social, emotional, or cognitive information separately, but “all brain networks appear to contribute to social, emotional, and cognitive processing, depending on how they are engaged” (2019, p. 195). As such, we must attend to all levels of engagement and processing to gain a fulsome

understanding of how PSTs experience learning through asynchronous methods.

## 2.2. Cultivating social presence in online learning

Akyol and Garrison (2019) refer to the Community of Inquiry (COI) framework which notes the importance of three types of ‘presence’ in relation to perceived student learning and satisfaction. ‘Social presence’ includes “affective expression, open communication, and group cohesion” (p. 4). They describe ‘cognitive presence’ in terms of learning processes such as “exploration, integration, and resolution of information and problem solving” for which the catalyst may be a ‘triggering event’ (p. 4). Finally, ‘teaching presence’ is defined in terms of unit “design, facilitation, and direct instruction” (p. 4). As it is not possible to address all components of the COI framework in this article, we focus on social presence with acknowledgement that cognitive presence and teaching presence are inherently impacted by attention to social presence. Care is demonstrated through social presence by PSTs feeling like they are being seen as an individual through opportunities to connect with peers and the facilitator and feeling part of a learning community.

Friesen’s (2014) and McShane’s (2006) research suggests that an ethic of care is more difficult to develop when participants do not share the same physical space. The facilitator cannot adequately convey “empathy, trust, passion and emotion” and the teacher-student relationships are fractured due to the “inability to convey responsiveness and reciprocity” (McShane 2008, p. 203). Teaching has been described as being like a conversation (Shakespeare, 2008), so there is a need for students to establish strong connections to their teachers, peers, and the university to experience learning in a positive way (Bellocchi et al., 2016). In ITE, for example, academics use face-to-face tutorials to model effective teaching practices and often provide opportunities for PSTs to try out teaching skills in a familiar and encouraging environment. PSTs can pick up on embodied cues and sense if their strategies are working or require in-the-moment adjustments.

Chung and Jeong’s (2023) research with Korean university perceptions of AO education found that learning satisfaction is “heavily influenced by the effectiveness of course instructors’ online teaching and learning strategies” (p. 353). With reference to social presence, O’Shea and colleagues’ (2015) research identified three main factors focused on the lecturer that can impact negatively on students’ social engagement: (1) poor online communication, (2) non-responsiveness to student communication or responses not received in a timely manner, and (3) the “disappearing lecturer”—lecturers that demonstrate social presence and engagement only at the beginning of the course of study. Conversely, course designers and lecturers can gain maximum engagement in the online space if they design the course specifically for online learners’ cognitive and psychological needs, engage with students regularly and responsively, and undertake careful design and moderation of discussion forums (O’Shea et al., 2015). Varkey et al. (2023) note that while close monitoring of discussion forums may be time consuming for facilitators the benefits of well-designed forums “can simply not be overstated” (p. 7). The benefits of well-designed forums include students devoting more time to and deepening their engagement with discussion; increased student cognitive processes due to delayed feedback (a consequence of asynchronous posting), and a greater willingness to post due to the lower stake nature of discussion forums. Well-designed forums present a key method for developing a “collective, connected, mutual experience” (Producers et al., 2023, p. 1231) a key trait of effective learning communities.

## 2.3. The importance of social and emotional engagement in asynchronous learning environments

All learners need to have a strong sense of belonging to the knowledge community, as learners’ emotional and cognitive engagement is embedded in their social engagement (Pietarinen et al., 2014). O’Shea

and colleagues (2015) note that thoughtfully devised methods of maintaining positive connections between learners, their teachers, and peers is essential for student “satisfaction, persistence and academic success” (p. 42). PSTs explore and develop their sense of teacher identity and self-efficacy throughout their degree. This occurs in socially constructed opportunities for ‘dialogue’ and is “shaped by self-perception, the perceptions of others, and the interpersonal power relations at play” (Delahunty, 2012, p. 409). Synchronous online tutorials, workshops, and guest presentations provide real-time interpersonal interaction, incorporate both academic and conversational language, and provide opportunities for immediate feedback (Blau et al., 2017). Whilst online, these activities help to replicate the ‘campus experience’ to develop relationships and a sense of connection, or rather the social engagement that occurs in face-to-face offerings and important informal learning that happens through these interactions (Macken et al., 2021).

Such opportunities, however, are not part of fully AO offerings. Therefore, students studying asynchronously may make gains in autonomous learning but report less satisfaction in basic psychological needs for support and relatedness (Fabriz et al., 2021). The lack of physical co-presence reduces the possibility of emotional contagion and may cause learners in asynchronous contexts to feel disconnected and isolated (Bellocchi et al., 2016). As such, they are less likely to exhibit emotional engagement, such as a sense of enjoyment and positive attitudes toward their studies, feeling supported by others in the unit, and experiencing a sense of belonging towards their teachers, peers, and the university (Redmond et al., 2018). Delahunty (2012) suggests that this lack of interactive immediacy may also lead to mistrust amongst participants. A second vital component for student motivation missing in asynchronous settings is real-time provision of formative feedback. Ragusa and Crampton’s (2018) research with students studying online found that “the quality and timeliness of lecturer feedback was the most valued form of learning connection identified by students irrespective of course” (p. 15). While feedback has been noted to produce positive effects on influencing students to participate in online discussions, Foo’s (2021) research on peer feedback in asynchronous discussions noted that most students were provided superficial feedback which did not result in encouraging high-level thinking.

Smits and Voogt (2017) highlight that social engagement in fully AO learning contexts is not easily achieved. A common method to institute student interaction is the use of discussion forums. These opportunities for dialogue are intended to set the tone for interactions, establish group trust and ways of working (Delahunty, 2012). The assumption is that students will read and respond to their peers’ postings, “exposing them to diverse viewpoints and requiring them to evaluate material from multiple perspectives” (Klisc et al., 2017, p. 64). Merely providing this strategy, however, is not sufficient for effective and high-quality learning, particularly when it is the *only* form of social interaction. Research has demonstrated that meaningful social engagement in discussion forums is aligned with the number of teacher posts, the design and purpose of the task, the perceived genuineness of the task, and questions that require higher level cognitive responses (Fehrman & Watson, 2021). Successful online teachers, suggest Smits and Voogt (2017), “work hard to write elaborate postings in which they listen to students and share their knowledge” (p. 109). Without sufficient opportunities to engage with the unit socially it is likely that emotional engagement will be limited or absent.

In sum, the literature to date emphasises how HEIs must work to cultivate and sustain students’ cognitive and behavioural engagement, but when learning is online, particular emphasis must be placed on developing students’ social and emotional engagement. While there is a body of research on developing care, community, and connection through synchronous online tutorials and activities, this study will specifically address the lack of research concerning social and emotional engagement in ITE delivered in asynchronous contexts, as well as implementation of a pedagogy of care in asynchronous learning environments as a “neglected area of research” (Greer, 2023, p. 1) therefore

adding an original and distinctive contribution.

### 3. Conceptual framework

Noddings' Framework of Moral Education (1998) was utilised to examine the PSTs' experiences of care, community, and connection in this study. This framework was chosen because it is a compelling structure through which to examine the way relationships are built in educational settings. Noddings' work centres on the promotion of an ethic of care and the primary role that educational institutions play in developing a caring society (Noddings, 1988). The four components of Noddings' framework: *modelling*, *dialogue*, *practice*, and *confirmation* can be applied to identify the degree and nature of care and connection the PSTs experienced when engaging with AO units.

*Modelling* is the recognition that the educator can, through their interactions with students, demonstrate what caring is. Students learn through their interactions with an educator, but also learn by watching how the educator interacts with others in the class.

The second component, *dialogue*, is when educators model caring through active engagement with students in dialogical activities. With knowledge gained through dialogue, the caring teacher can work with the student to meet needs and foster learning.

*Practice* involves providing opportunities for students to engage in caring practices. An important element of this component is providing students with opportunities to reflect on their practice of caring.

The final component in Noddings (2010) theory is *confirmation* in which the educator encourages the student to be their 'better self' (Noddings, 1988, p. 192) and acknowledges when caring is demonstrated. Within a caring relationship the educator can identify the student's strengths and create learning environments that foster their development.

### 4. Materials and methods

The Australian university in this study offers a suite of ITE degrees at undergraduate and postgraduate levels which are delivered face-to-face, in hybrid mode, in online mode with synchronous interaction, and in fully asynchronous mode. Some degrees are delivered solely AO, and others have discrete units delivered in this manner. Some AO units offer non-mandatory occasional 'drop-in' question and answer sessions (in which no teaching takes place), but most do not. An invitation to participate was sent to 1320 PSTs studying ITE degrees in Early Childhood, Primary, Secondary, Primary and Secondary, and Special Education. This study included 130 PSTs (see Table 1), who responded to their engagement with 41 individual units delivered fully AO. Respondents resided in major cities and regional towns across the Eastern states of Australia where [name of university]'s campuses are located.

All PSTs enrolled in AO units within the suite of degrees offered in Semester 1, 2023 (February–June) were invited to participate in an anonymous online survey taking approximately 10 min to complete. To assess the internal and external validity of the survey, the questions were reviewed by a group of academics involved in facilitating asynchronous units, and then the survey was piloted with a small cohort undergoing a

unit delivered asynchronously and in intensive mode. Responses demonstrated that the questions were crafted in a way that promoted clarity and avoided ambiguity. The survey was then completed by the larger cohort twice within the 12-week learning period (first survey in week five and final survey week ten) and the reliability of data was compared. Findings from both data sets were similar with a  $STD \pm 0.03$ . It is important to note that some PSTs elected to complete their units AO, but others were required to complete the unit in this mode as AO was the only offering. PSTs whose full study load was AO were informed about the study and invited to participate through an announcement on their degree hub site. PSTs enrolled in individual online asynchronous units received an email with information about the study and an invitation to participate from one of the researchers who was not involved in teaching the AUOs.

We have included results from 107 full responses out of the total of 130 responses (23 partial responses) from PSTs studying a range of ITE degrees at Undergraduate and Post Graduate levels. Approximately 80% identified as female and 20% as male, not dissimilar to the gender ratio of PSTs at the university (77% female) and teachers in Australia (72% female) (ACARA, 2023). No participant identified as non-binary or 'other'.

#### 4.1. Survey

PSTs were invited to participate in an anonymous online survey using the Qualtrics XM program. The study adhered to human ethics requirements and approval given by the Human Ethics Advisory Group at [name of] University (Ethics ID xxxx-xxxx). PSTs were provided with a participant information letter explaining the project and informed consent required before participants could progress with the survey. The survey included questions which provided demographic data (e.g., degree, gender, age range) and ten sliding scale questions to which the PSTs responded from 0 (not at all) to 9 (a great deal) about their sense of connection in the unit (e.g., *How much do you feel connected to your unit facilitator?*; *How much do you feel that your cohort is a community of learners?*). Two open ended questions were posed to gather PSTs' perspectives on their experience studying in an online asynchronous unit and how they think it could be improved:

1. Please describe the opportunities and activities that have been provided to connect you to the course, your peers, and unit lecturers/facilitators, and how effective these have been;
2. Please provide suggestions of additional opportunities and activities that would enhance a connected experience and feeling of community.

#### 4.2. Analysis of data

As this was a mixed methods study, quantitative and qualitative methods of data analysis were employed. Data from the sliding scale questions were analysed using Qualtrics XM software. Significant difference was determined using Ranked Anova. Data from open-ended questions in the survey were analysed deductively and inductively.

**Table 1**  
Participant demographic data.

Degree Name	Number of students	Male	Female	18–20 years	21–23 years	24–26 years	27–29 years	30 years or over
Bachelor of Primary Education	25.0	5.0	20.0	9.0	11.0	0.0	3.0	2.0
Bachelor of Secondary Education	4.0	4.0	0.0	1.0	1.0	2.0	0.0	0.0
Bachelor of Primary and Secondary Education	2.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0
Bachelor of Early Childhood and Primary Education	28.0	1.0	27.0	5.0	12.0	3.0	1.0	7.0
Master of Teaching (Secondary)/Graduate Certificate in Religious Education	21.0	10.0	11.0	0.0	2.0	4.0	4.0	11.0
Master of Teaching (Early Childhood and Primary)	27.0	2.0	25.0	0.0	0.0	2.0	2.0	23.0
<b>Total count</b>	<b>107.0</b>	<b>22.0</b>	<b>85.0</b>	<b>15.0</b>	<b>26.0</b>	<b>11.0</b>	<b>10.0</b>	<b>45.0</b>



Deductive coding utilised the concepts within Nodding’s framework of Moral Education (1998): The four components of Nodding’s framework: *modelling, dialogue, practice, and confirmation* were applied to examine the degree of care the PSTs experienced when engaging with AO units. Inductive coding was guided by themes that emerged from the data (Boyatzis, 1998). Throughout the process of inductive analyses, original sub-categories and themes emerged. Constant comparative methods (Strauss & Corbin, 1990) were used to identify the key themes that emerged from the data. For example, the PSTs’ understanding of the nature of AO learning. Analysis was guided by Miles and Huberman’s (1994) model incorporating data reduction, data display and conclusions and verifications. Analysis and interpretation were an interwoven, continuous, iterative process.

## 5. Results

Participants indicated their perceived sense of connectedness by answering ten questions (see Appendix) using sliding scales from 0 to 9: 0–1: *not at all*, 2–3: *very little*, 4–5: *somewhat*, 6–7: *quite a bit*, 8–9: a great deal. The quantitative data is detailed here.

In response to the question about how connected PSTs felt to their university, the average was 4.3 (standard deviation 1.9) indicating an overall “somewhat” level of connectedness. The data demonstrates a strong positive correlation between PSTs feeling connected to their peers and connectedness to the facilitator ( $3.8 \pm 2.1$ ) classified as ‘very little’ to ‘somewhat connected’, with P-value less than 0.00001 (see Fig. 1). The lowest result concerned how connected PSTs felt to their peers, with the average being  $3.2 \pm 2.3$  (classified as ‘very little’). More than half of respondents expressed dissatisfaction with the lack of synchronous connections throughout the unit with 51.6% having indicated a ‘somewhat’ to ‘very little’ connectedness to their community of learners (average  $3.85 \pm 2.1$ ). This was also evident when students were asked whether participation in activities allowed them to feel connected to their peers, with the average response being  $4.52 \pm 0.51$ , further confirming a ‘somewhat’ to ‘little’ feeling of connectedness. Students reported a ‘somewhat’ to ‘quite a bit’ when asked whether the level of overall connectedness (to peers, facilitators, and the University) impacts their decision to continue their studies, with the average response of  $4.73 \pm 0.27$ .

The components within the conceptual framework (Noddings,

1988), modelling, dialogue, practice, and confirmation), are utilised to present the findings. Illustrative quotes are provided to support the observed framework components.

### 5.1. Modelling

In this study, responses indicated that some PSTs felt a strong sense of care, connection, and community was modelled in particular units and with particular unit facilitators:

The [name of unit] team make a massive effort to connect and be kind to the students in the course. Lecturers are extremely responsive to emails and posts in discussion forums.

[name of unit] had videos from the lecturer summarising the content and a weekly ‘check in’. They answered discussion boards promptly. Emails were polite and considered. Other subjects failed to achieve this.

The lecturer tries to give more information about the unit and summarise the various sections in a simpler way. This makes me feel connected to the lecturer and understand what is expected of me.

Despite the absence of synchronous connections between students and facilitators, these comments suggest that PSTs knew what strategies contributed to a sense of care through the development of social presence. They appreciated timely and well-crafted responses from facilitators, the ways that content was conveyed in a personal and concise manner, and the effort facilitators put into ‘checking in’ with their students. PSTs indicated that they knew who their facilitators were as individuals, and that there were opportunities for PSTs to come to know their peers socially and emotionally.

In contrast, PSTs who experienced a perceived lack of effort from facilitators were dissatisfied with their learning and did not feel connected to the learning community.

My experience has deteriorated so much. Old content, old lectures (made in 2019), and no community.

We’d go weeks with no reply to discussion boards. There were no lectures to connect us to the facilitator or content.

Here, an absence of care and social presence both for the facilitator and the PSTs led to disconnected experiences, and possibly contributed

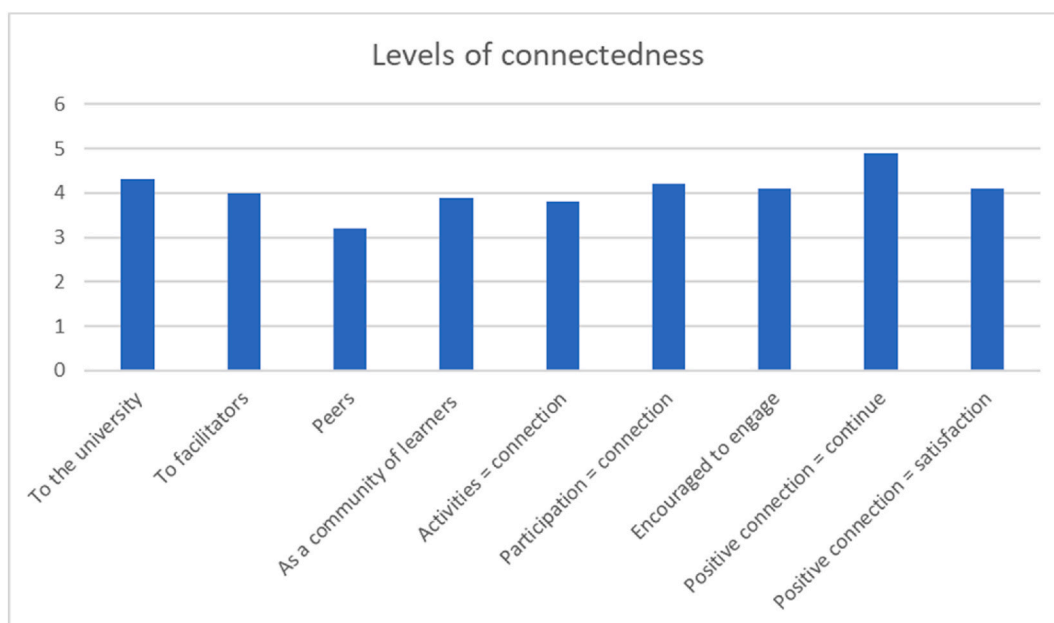


Fig. 1. Respondents’ perceived levels of overall connectedness.

to social isolation for PSTs.

## 5.2. Dialogue

For the units in this study, educators modelled care through active engagement in dialogical activities. ‘Dialogue’ occurred primarily through emails, announcements, discussion forum activities and for some units, ‘drop in’ question and answer sessions.

Some PSTs were able to identify what comprised well-constructed opportunities for dialogue.

I liked the style of forum tasks where the questions were very concrete and there was a requirement to reply to others as much as post oneself. While this is a somewhat artificial way to encourage social interaction, it is effective in increasing forum engagement. Knowing that responses won’t be graded is helpful.

The use of online meetings [drop-in sessions] has been the biggest connecting factor for me, but this has varied greatly between units. In my first unit there were weekly meetings. My third unit only had 3 or 4 meetings that were during work hours so I couldn’t attend, and they were not recorded. This has made it significantly harder to feel connected and part of a community of learners.

These comments suggest that the types of dialogue activities that were well received by PSTs were those that were well planned, well developed, and purposeful. Merely offering opportunities for dialogue does not, however, mean that social presence and a sense of connection will occur, as exemplified in the following comments:

We were asked to introduce ourselves in a discussion forum and to write a little about ourselves. I believe that this does not help us get to know our peers at all.

Students are required to post/respond to other student’s posts in an online forum. [There is a] major disconnect between commenting on someone’s post and actual communication.

There has been little to no collaboration with peers online as well as minimal peer involvement and attendance during meetings.

Indeed, unstructured, and unfocused discussion forum activities held little value for PSTs.

The forum tasks were too broad and felt cumbersome, so although I intended to do all of them, I am feeling less committed to that goal and engaging with the forums.

Discussion boards take a lot of time to read and contribute to without really creating any meaningful connection between students.

[course] site has a ‘discussion’ post area. A total of 1–3 students would post. There is no discussion. Not effective at all.

When PSTs start a new unit, they begin interacting with a range of people they do not know. In fully AO units PSTs are not able to pick up on social cues as they might in face-to-face situations. Comments such as the following suggest that facilitators need to establish a sense of trust and ways of working amongst the cohort so that the basis of relationships can be formed.

As I am not available at the drop-in time I do not attend. I do not feel that I am connected to the unit as I feel uncomfortable writing responses in the forum.

This study assumes that PSTs want to gain a sense of connection to the learning community through dialogical means. Responses revealed that a minority of PSTs (two in our survey) choose asynchronous modes of study because they preferred limited opportunities for connecting with their peers:

We had drop-in meetings, emails and online forums. I don’t feel these have been effective and I only contribute because I want to pass the unit.

I don’t believe students that are selecting [AO] units are looking for an awfully strong connection to their course/peers/lecturers.

As teaching is a relational profession and PSTs will need to relate to and converse with a range of stakeholders in a range of educational contexts when they enter the profession, choosing asynchronous modes of study to avoid connecting with others seems to be anomalous. We acknowledge, however, that respondents may be engaging in professional conversations in person as part of other employment or online learning communities.

In sum, the level of care and connectedness PSTs felt depended on the design skills, intent, and effort of the facilitator. PSTs appreciated when the facilitators understood the importance of creating a community of learners.

## 5.3. Practice

The majority of comments indicated that units provided the opportunity to engage in caring practices which included the chance for PSTs to feel recognised, connect with others, and to demonstrate care for others. There were conflicting findings on whether these opportunities were effective at promoting caring practices between PSTs. However, PST responses do demonstrate that they want to connect and get to know their peers.

Discussions with peers before and after [drop-in sessions] were somewhat effective. I have met some nice people [this way] and become somewhat good friends with them. However, for the most part [AO study] has been a very isolating experience.

The only ongoing connections I’ve maintained at [name of university] resulted from three good group-task assessments I’ve been part of.

Some PSTs indicated that they would not study in this mode in future if possible.

I would not choose to do an [AO] subject in the future if it can be avoided. There is no peer-to-peer connection.

It’s a very lonely experience when you’re unable to communicate directly or see your peers. It’s very isolating.

One respondent suggested ways for PSTs in AO units to engage in caring through connection:

If forums intend to increase social connection to peers, not just to content, it would be helpful to have separation from the ‘course content’ discussion forums or an entirely different platform (e.g., Facebook Messenger, WhatsApp) with effectiveness for social interaction with distance from the graded course content.

This comment suggests that PSTs need to get to know each other on an individual level (social presence) before connecting to engage with the unit content, and that existing familiar communication tools or other types of live forums might assist with this.

While assessment that involves group tasks was suggested as a catalyst for connection by some PSTs, others’ experiences with group collaboration in AO units did not lead to this outcome.

We have been asked to do group activities, independent reflections and responses to others. I have not felt connected to my peers because we do not see each other every week and the group work we are doing is easy to do with minimal contact.

We were asked to do a group task with a group of students from all around Australia, but because of our schedules we could not organise to meet and instead communicated via email and text. While we were

able to work well together and complete the task, it doesn't feel like we've had the chance to really connect and collaborate in an authentic way. There was little discussion, we all just did a section without discussing the topic in depth as we did not have the chance or the medium to do so.

Carefully crafted cooperative learning opportunities can lead to feelings of enhanced competence and the development of positive social relationships (Gillies & Boyle, 2005). PSTs indicated in these responses that completing a group assessment task does not necessarily lead to cooperative learning and that the design of tasks that require interdependence may have been more beneficial for PSTs to demonstrate caring practices.

#### 5.4. Confirmation

PSTs provided some insight into how activities fostered their growth as future teachers who work with an ethic of care.

[asynchronous] yarning circles have been a great way to engage us. I value sharing perspectives and opinions as well as creating environments that allow you to express yourself.

*Yarning circles*, an Australian Indigenous cultural practice, is a way to communicate understanding between discussion contributors through turn taking and active listening (Romano et al., 2023). Indigenous elements such as respect for all contributions and the creation of a 'safe' place (Radoll et al., 2019) can foster a sense of trust. In contexts where participants are in proximity, participants are seated in a circle. Each participant contributes in turn to a focus question, with others paying full attention to the person speaking. Further iterations can provide opportunities for participants to comment on peers' responses. In asynchronous contexts, this can be achieved through use of a discussion forum, which might restrict participants from accessing others' comments before they add their own.

There have been multiple activities where students are able to read others' responses. Students are encouraged to learn from each other and engage in positive ways in these forums. These have all been effective and helped me feel more connected to peers/lecturers.

Any opportunities for confirmation in asynchronous offerings need to be student-centered, particularly if the facilitator's role is to assist discussion. While synchronous drop-in sessions which do not feature an agenda or structured dialogue are not part of the asynchronous model, the following comment suggests that PSTs were seeking opportunities to engage with their peers and direct this interaction.

Drop-in meetings are supposed to be 'discussion-based' in which lecturers say they will 'just talk for a little' usually end up with the lecturer talking for 40 minutes and NO interaction between students. This has been a great disappointment.

Developing PSTs who work with an ethic of care takes time, trust, and opportunities for 'dialogue' that are genuine and open. With limited opportunities for engaging in care and connection, the facilitator must not stand in the way of these opportunities.

#### 6. Discussion

Research questions. Firstly, in answering, *To what degree do ITE PSTs studying units in fully asynchronous modes experience a sense of care, community, and connection to their facilitator, peers, and course of study?*, analysis of the quantitative data indicated that most PSTs felt either 'somewhat' or 'very little' connection to the university and facilitators and felt 'very little' connection to their peers. Whilst there were incidences of very effective facilitators and effectively developed content and activities, overall, PSTs did not agree that the activities and opportunities provided by the asynchronous model allowed them to feel

engaged or connected to their learning. Caring pedagogies are enacted through opportunities for connection and through PSTs feeling part of a learning community, that is, 'collaborative educational spaces where learners are seen as individuals, cared for, and provided opportunities to enact care for others'. At least half of the respondents did not feel part of a community of learners. PSTs indicated, however, that connectedness was important in their decision to keep studying their degree and their satisfaction with their degree experience. When considering these results, it is important to emphasise that some PSTs chose to study AO and others did not, and some facilitators may have been required to teach AO units and others may have requested (and preferred to) teach this way.

In answering research question two, *In what ways does a sense of care, community, and connection impact PSTs' engagement in learning for those studying units in fully asynchronous modes?* comments indicated a strong correlation between PSTs' perceived sense of care, community, and connection and their level of engagement. With reference to Redmond et al. (2018) Online Engagement Framework for Higher Education, cognitive engagement was achieved when PSTs were motivated to advance their own learning, displaying dispositions such as self-regulation and activating metacognition. There were significantly fewer statements from PSTs that alluded to examples of cognitive engagement (e.g., *Weekly discussions help to make me feel active within the course*) than those indicating a lack of cognitive engagement (e.g., *It's easy to drift away and read hours of unrelated material*). Behavioural engagement processes such as persistence and participation were influenced by the design and delivery of the learning materials as Choe et al. (2019) suggest (e.g., *The short videos are helpful since it's the lecturer trying to give more information about the unit and summarise the various sections in a simpler way. [I] feel updated and understand what is expected of me*). Facilitators need to be aware of how a lack of, or poorly constructed, opportunities for connection negatively impacts on behavioural engagement: *Place more emphasis and time for peers to connect and meet other people. Isolation impacts mental health and overall motivation to complete work*.

PSTs indicated a desire for activities to develop social engagement with their course, facilitator, and peers. When facilitators made efforts to craft engaging and purposeful activities and means of building relationships, PSTs were drawn to taking part in those activities as Ragusa and Crampton (2018) and Choe et al. (2019) suggest. These included discussion forum activities with 'concrete' activities, and videos that were developed by, and featured the facilitator (e.g., *We had videos from the lecturer summarising the content and a weekly check-in. Putting a face to the lecturer makes a real difference*). Comments that suggested emotional engagement mentioned feelings attached to learning episodes such as 'I value', 'positive ways', 'friends', 'polite and considered'. Responses that suggested a negative emotional response included words such as 'disconnect', 'uncomfortable', 'isolating', and 'disappointment'.

In addressing research question three, *In what ways do PSTs identify that a sense of care, community, and connection has or has not been present?* there were three main factors that contributed to PSTs identifying a sense of care, community, and connection in their AO units: 1. social presence, 2. opportunities for dialogue and collaboration, and 3. the development of 'authentic' and meaningful tasks.

Lowenthal (2022), Aldosari et al. (2022), and Richardson et al. (2017) declare a strong relationship between social presence, student satisfaction, and student engagement, and this was observable in our research. Lowenthal (2022) describes social presence in AO contexts as the sense that others are 'real' people and while they are not present physically, they are 'there' socially and emotionally. The PSTs who felt connected to their course, facilitator and peers were able to share what contributed to their sense that others in the course were 'real', including facilitators who were perceived as being sociable, warm, and personal (Akyol & Garrison, 2019) (e.g., *Lecturers are extremely responsive to emails and posts ... team make a massive effort to connect and be kind to the students*).

Social engagement through *dialogue and collaboration* in discussion forums and assessment tasks was noted to be positive if PSTs appreciated the design of the task, that the purpose was authentic or genuine, and that the tasks required higher level cognitive attention (Fehrman & Watson, 2021). In particular, positive experiences of engagement with discussion forum activities included topics and parameters that brought about ‘academically productive’ discourse (Gillies, 2016). PSTs expected facilitators to take part in the discussions on a weekly basis and ensure the content was current, however, facilitators who dominated ‘drop-in’ discussions were perceived to diminish already limited opportunities for connection. The *development of ‘authentic’ and meaningful tasks* such as group assessment can be a productive way to promote a sense of care, connection, and community. Gillies (2016) found that ‘talk’ (reciprocal dialogues) and interdependency are key components of cooperative learning. Opportunities for ‘talk’ are productive when students “are required to investigate topics, consider alternative propositions, explain their own thinking, and problem-solve together to reach consensus on an agreed topic” (p. 178). Rather than offering assessment that can be divided into parts, facilitators should create assessment that requires positive interdependence, so students cooperate and are “more motivated to achieve than when they compete or work individually on a task” (p. 187). To support individual accountability and equal participation in cooperative tasks, PSTs identify the strengths, preferences and learning styles they bring to the assessment tasks. A strategy such as “Jigsaw” may be utilised. For example, assessment groups are arranged to consist of four members with each member labeled one to four. Members with the same number from each assessment ‘home’ group meet to discuss their designated part of the task after completing relevant reading and bringing their experience, skills, and prior knowledge to the conversation. PSTs then return to their ‘home’ assessment groups and present their understanding of their component and how they will master this section of the assessment. In this way, assessment groups cannot achieve success without all members successfully contributing their part. In sum, facilitators need to be cognisant that it is not merely the use of tools that permit social presence and dialogue, but when, why, and how these tools are used (Klisc et al., 2017).

## 7. Conclusions and implications for practice

The notion that ‘a good teacher is a caring teacher’ suggests Burke and Larmar (2021) “is widely held across a range of educational settings” (p. 603), and a teacher’s presence is key to students feeling a sense of care, connection and community (Cain et al., 2022; Macken et al., 2022). Experiences of learning online during COVID-19 restrictions have highlighted the importance of relationships to successful learning outcomes and that relationships are often perceived as more important than the content itself (Cain & Phillips, 2021; Phillips et al., 2021). Greer (2023) argues that care pedagogies in asynchronous learning environments “should be even more consciously applied because of the removal in space and time of the learner from the instructor” (p. 1). This study focused on the aspects of social and emotional engagement to ascertain how PSTs recognised a sense of ‘care, community, and connection’ in asynchronous learning contexts. The study is significant because it identifies ITE degrees offered through fully AO methods as an under-researched area and improves current understanding on how PSTs experience their ITE degrees in asynchronous environments.

The results provide key implications for developers and facilitators of AO units in ITE. First, that high quality facilitator presence can strengthen the student-facilitator-peer relationship and increase student satisfaction and engagement. Conversely, that an absence of social presence can result in student isolation and dissatisfaction in learning (Shannon & Clarke, 2022). Second, there is a significant disconnect between the parameters of asynchronous learning (primarily that there is no synchronous teaching) and PSTs’ expectations of asynchronous study. Our respondents’ suggestions for an improved experience overwhelmingly focused on including *synchronous* activities and questioned

why these were not offered. Brown and colleagues’ (2022) research found that student assumptions “influence expectations about online environments and impact not only the levels of satisfaction within the online course environment, but also satisfaction with the academic, their degree, and the university as whole” (p. 287). Effectively communicating the expectations of asynchronous study may alleviate some of the dissatisfaction made clear in this study. Resultingly, we recommend further research identifying student expectations of fully asynchronous online delivery in ITE and the development of an auditing tool for PSTs to assess their suitability for AO learning. For those who are required to undertake AO units, we recommend a pre-unit skills module which will focus on developing students’ skills needed to access and engage successfully in AO learning. Additionally, further research might examine any relationship between AO mode of study, rates of academic misconduct, or rates of withdrawal from ITE courses of study. Longitudinal studies may assess whether a lack of care, community and connection in AO delivery of ITE courses impacts skills and dispositions classified as inherent in the profession, particularly as applied to professional placements. Examples might include: The capacity to effectively use verbal language in a range of different social situations; effective interpersonal engagement to work effectively, sensitively and build relationships in educational settings; or behavioural stability to work constructively in the potentially diverse and challenging academic and educational environments.

Third, opportunities for experiencing care, community, and connection should be carefully planned and student-centered. These should include activities to promote meaningful and genuine dialogue and group assessment tasks which foster cooperative learning and create social presence for the facilitator and PSTs. Fourth, what facilitators intend does not always translate to what PSTs experience. For example, providing opportunities for dialogue and connection does not ensure that PSTs will engage or engage in the expected manner. As teaching is a relational profession, we agree with Pelliccione et al. (2019) that our findings question the sustainability of asynchronous offerings for ITE. Finally, and acknowledging acute teacher shortages globally, it is in the best interests of the profession that primacy is placed on making high quality asynchronous ITE programs available to prospective teachers everywhere; particularly those in rural and remote geographical areas, those with family and work commitments who need flexibility in when and how they study. With this in mind, we suggest future research study the effects of implementing pedagogical changes identified in this study and their effect on student engagement and learning satisfaction with an aim to provide evidence-based professional development opportunities for educators facilitating AO units of study.

Australian Bureau of Statistics, 2022; Australian Curriculum and Reporting Authority, 2023; Department of Education and Training, 2020; Garrison et al., 2011; Grant, 2021; Stone, 2019; The Teacher Toolkit; United Nations, 2023; West and Williams, 2017

## CRedit authorship contribution statement

**Melissa Cain:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Project administration, Investigation, Formal analysis, Conceptualization. **Helen Sheehan:** Writing – review & editing, Writing – original draft, Validation, Resources, Data curation. **Sarah Taouk:** Writing – review & editing, Software, Methodology, Formal analysis, Data curation.

## Declaration of competing interest

This research has received no funding, there are no conflicts of interest, and there is nothing additional to disclose. Human research ethics was approved by the first author’s university.



## Data availability

The authors do not have permission to share data.

## Appendix. Sliding scale survey questions

- 1 How much do you feel connected to [name of university] as a student?
- 2 How much do you feel connected to your facilitators?
- 3 How much do you feel connected to your peers?
- 7 How much do you feel that your cohort is a community of learners?
- 8 How often are you provided opportunities and activities to connect with others in your course?
- 9 How much do you feel that the opportunities and activities provided so far have helped you to connect with your lecturers and peers?
- 10 How much do you participate in these opportunities and activities for social connection?
- 11 How much do you feel that the opportunities and activities encourage you to engage with your studies?
- 12 How much does connection in your course impact your decision to keep studying your course?
- 13 How much does this type of connection course create satisfaction with your course?

## References

- Akyol, Z., & Garrison, D. R. (2019). The development of a community of inquiry over time in an online course: Understanding the progression and integration of social, cognitive and teaching presence. *Online Learning*, 12(3–4), 3–22. <https://doi.org/10.24059/OLJ.V12I3-4.1680>
- Aldosari, A. M., Alramthi, S. M., & Eid, H. F. (2022). Improving social presence in online higher education: Using live virtual classroom to confront learning challenges during COVID-19 pandemic. *Frontiers in Psychology*, 13, 994403. <https://doi.org/10.3389/fpsyg.2022.994403>
- Australian Bureau of Statistics. (2022). Data on students, staff, schools, rates and ratios for government and non-government schools, for all Australian states and territories. <https://www.abs.gov.au/statistics/people/education/schools/latest-release#staff>.
- Australian Curriculum and Reporting Authority [ACARA]. (2023). Staff numbers/Key facts. [https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/staff-numbers#:~:text=Australia's%20teaching%20workforce%20continued%20to,level%20\(61.4%25%20female](https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/staff-numbers#:~:text=Australia's%20teaching%20workforce%20continued%20to,level%20(61.4%25%20female).
- Australian Institute for Teaching and School Leadership. (2018). Spotlight: The rise of online initial teacher education: What do we know?. [https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlight\\_ite\\_online\\_.pdf?sfvrsn=22a8f73c\\_2](https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlight_ite_online_.pdf?sfvrsn=22a8f73c_2)
- Bellocchi, A., Mills, K. A., & Ritchie, S. M. (2016). Emotional experiences of preservice science teachers in online learning: The formation, disruption and maintenance of social bonds. *Cultural Studies of Science Education*, 11(3), 629–652. <https://doi.org/10.1007/s11422-015-9673-9>
- Blau, I., Weiser, O., & Eshet-Alkalai, Y. (2017). How do medium naturalness and personality traits shape academic achievement and perceived learning? An experimental study of face-to-face and synchronous e-learning. *Research in Learning Technology*, 25, 1–23. <https://doi.org/10.25304/rlt.v25.1974>
- Boyatzis, R. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.
- Brown, A., Lawrence, J., Basson, M., & Redmond, P. (2022). A conceptual framework to enhance student online learning and engagement in higher education. *Higher Education Research and Development*, 41(2), 284–299. <https://doi.org/10.1080/07294360.2020.1860912>
- Burke, K., & Larmar, S. (2021). Acknowledging another face in the virtual crowd: Reimagining the online experience in higher education through an online pedagogy of care. *Journal of Further and Higher Education*, 45(5), 601–615. <https://doi.org/10.1080/0309877X.2020.1804536>
- Cain, M., Campbell, C., & Coleman, K. (2022). 'Kindness and empathy beyond all else'. Challenges to professional identities of Higher Education teachers during COVID-19 times. *Australian Educational Researcher*, 1233–1251. <https://doi.org/10.1007/s13384-022-00552-1>
- Cain, M., & Nislev, E. (2018). Art as transformative education: Starting the conversation. *Art Education Australia*, 39(3). <https://doi.org/10.3316/aeipt.222987>. *Australian Art Education* 39(3), 468–491. Special theme issue- Borderless: Global narratives in art education.
- Cain, M., & Phillips, L. (2021). Found poems and imagery of physical and social disconnections in inclusive education during a pandemic. In *The kaleidoscope of lived curricula: Learning through a confluence of crises* (pp. 109–125). 13th Annual Curriculum and Pedagogy Group 2021. Edited Collection.
- Chi, M. T. H. (2021). Translating a theory of active learning: An attempt to close the research-practice gap in education. *Topics in Cognitive Science*, 13(3), 441–463. <https://doi.org/10.1111/tops.12539>
- Choe, R. C., Scuric, Z., Eshkol, E., Crusier, S., Arndt, A., Cox, R., Toma, S. P., Shapiro, C., Levis-Fitzgerald, M., Barnes, G., & Crosbie, R. H. (2019). Student satisfaction and learning outcomes in asynchronous online lecture videos. *CBE-Life Sciences Education*, 18(4), ar55. <https://doi.org/10.1187/cbe.18-08-0171>
- Chung, J.-Y., & Jeong, S.-H. (2023). Korean university students' attitudes, perceptions, and evaluations of asynchronous online education in Korean higher education. *International Journal of Learning, Teaching and Educational Research*, 22, 344–358. <https://doi.org/10.26803/ijlter.22.5.17>
- Davis, S., & Phillips, L. G. (2020). Teaching during COVID 19 times. The experiences of drama and performing arts teachers and the human dimensions of learning. *NJBIZ: Drama Australia Journal*, 44(2), 66–87. <https://doi.org/10.1080/14452294.2021.1943838>
- Delahunty, J. (2012). "Who am I?": Exploring identity in online discussion forums. *International Journal of Educational Research*, 53, 407–420. <https://doi.org/10.1016/j.ijer.2012.05.005>
- Department of Education and Training. (2020). Multiple equity groups. <https://www.education.gov.au/higher-education-statistics/resources/multiple-equity-groups>.
- Downing, J. J., Dymont, J. E., & Stone, C. (2019). Online initial teacher education in Australia: Affordances for pedagogy, practice and outcomes. *The Australian Journal of Teacher Education*, 44(5), 57–78. <https://doi.org/10.14221/ajte.2018v44n5.4>
- Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology*, 12, 733554. <https://doi.org/10.3389/fpsyg.2021.733554>
- Fehrman, S., & Watson, S. L. (2021). A systematic review of asynchronous online discussions in online higher education. *American Journal of Distance Education*, 35(3), 200–213. <https://doi.org/10.1080/08923647.2020.1858705>
- Foo, S. Y. (2021). Analysing peer feedback in asynchronous online discussions: A case study. *Education and Information Technologies*, 26(4), 4553–4572. <https://doi.org/10.1007/s10639-021-10477-4>
- Friesen, N. (2014). Telepresence and tele-absence: A phenomenology of the (in) visible alien online. *Phenomenology & Practice*, 8(1), 17–31. <https://doi.org/10.29173/pandpr22143>
- Garrison, D. R., D. R., & Anderson, T. (2011). *E-Learning in the 21st century: A framework for research and practice* (2nd ed.). Routledge.
- Gillies, R. M. (2016). Dialogic interactions in the cooperative classroom. *International Journal of Educational Research*, 76, 178–189. <https://doi.org/10.1016/j.ijer.2015.02.009>
- Gillies, R. M., & Boyle, M. (2005). Teachers' scaffolding behaviours during cooperative learning. *Asia-Pacific Journal of Teacher Education*, 33(3), 243–259. <https://doi.org/10.1080/13598660500286242>
- Grant, M. M. (2021). Asynchronous online course designs: Articulating theory, best practices, and techniques for everyday doctoral education. *Impacting Education*, 6(3), 35–46. <https://doi.org/10.5195/ie.2021.191>
- Greer, K. S. (2023). A pedagogy of care for information literacy and metaliteracy asynchronous online instruction. *The Journal of Academic Librarianship*, 49(3), Article 102676. <https://doi.org/10.1016/j.jcalib.2023.102676>
- Han, J., DiGiacomo, D. K., & Usher, E. L. (2023). College students' self-regulation in asynchronous online courses during COVID-19. *Studies in Higher Education*, 48(9), 1440–1454. <https://doi.org/10.1080/03075079.2023.2201608>
- Hogan, J. P., & White, P. (2021). A self-study exploration of early career teacher burnout and the adaptive strategies of experienced teachers. *The Australian Journal of Teacher Education*, 46(5), 18–39. <https://doi.org/10.14221/ajte.2021v46n5.2>
- Klisc, C., McGill, T., & Hobbs, V. (2017). Use of a post-asynchronous online discussion assessment to enhance student critical thinking. *Australasian Journal of Educational Technology*, 33(5), 63–76. <https://doi.org/10.14742/ajet.3030>
- Lowenthal, P. R. (2022). Exploring student perceptions of asynchronous video in online courses. *Distance Education*, 43(3), 369–387. <https://doi.org/10.1080/01587919.2022.2088479>
- Macken, C., Hare, J., & Souter, K. (2021). *Seven radical ideas for the future of higher education: An Australian perspective*. Springer. <https://doi.org/10.1007/978-981-16-4428-3>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.
- Mockler, N. (2022). *No wonder no one wants to be a teacher: World-first study looks at 65,000 news articles about Australian teachers*. The Conversation. July 22 <https://theconversation.com/no-wonder-no-one-wants-to-be-a-teacher-world-first-study-looks-at-65-000-news-articles-about-australian-teachers-186210>.
- Morris, N. P., Ivancheva, M., Coop, T., Mogliacci, R., & Swinnerton, B. (2020). Negotiating growth of online education in higher education. *International Journal of Educational Technology in Higher Education*, 17(48), 1–16. <https://doi.org/10.1186/s41239-020-00227-w>
- Noddings, N. (1988). An ethic of caring and its implications for instructional arrangements. *American Journal of Education*, 96(2), 215–230. <https://doi.org/10.1086/443894>
- Noddings, N. (2010). Moral education and caring. *Theory and Research in Education*, 8(2), 145–151. <https://doi.org/10.1177/1477878510368617>
- Pelletier, K., McCormack, M., Reeves, J., Robert, J., & Arbino, N. (2022). Educare horizon report. Teaching and learning edition. <https://library.educare.edu/-/media/files/library/2022/4/2022hrteachinglearning.pdf?la=en&hash=6F6B51DFF485A06DF6BDA8F88A0894EF9938D50B>.

- Pelliccione, L., Morey, V., Walker, R., & Morrison, C. (2019). An evidence-based case for quality online initial teacher education. *Australasian Journal of Educational Technology*, 35(6), 64–79. <https://doi.org/10.14742/ajet.5513>
- Phillips, L. G., Cain, M., Ritchie, J., Campbell, C., Davis, S., Brock, C., Burke, G., Coleman, K., & Joosa, E. (2021). Surveying and resonating with teacher concerns during COVID-19 pandemic. *Teachers and Teaching: Theory and Practice*, 1–18. <https://doi.org/10.1080/13540602.2021.1982691> (ahead-of-print).
- Pietarinen, J., Soini, T., & Pyhältö, K. (2014). Students' emotional and cognitive engagement as the determinants of well-being and achievement in school. *International Journal of Educational Research*, 67, 40–51. <https://doi.org/10.1016/j.ijer.2014.05.001>
- Progers, L., Travis, E., & Pownall, M. (2023). "It's hard to feel a part of something when you've never met people": Defining "learning community" in an online era. *Higher Education*, 85(6), 1219–1234. <https://doi.org/10.1007/s10734-022-00886-w>
- Radoll, P., Copeman, P., Heyes, S., Walsh, M., Byrnannd, S., Egloff, B., ... Brown, A. R. (2019). Indigenous perspectives on connected and networked learning: Towards holistic connectedness pedagogies. In *Higher education and the future of graduate employability* (pp. 120–138). Edward Elgar Publishing.
- Ragusa, A. T., & Crampton, A. (2018). Sense of connection, identity, and academic success in distance education: Sociologically exploring online learning environments. *Rural Society*, 27(2), 125–142. <https://doi.org/10.1080/10371656.2018.1472914>
- Redmond, P., Abawi, L., Brown, A., Henderson, R., & Heffernan, A. (2018). An online engagement framework for higher education. *Online Learning Journal*, 22(1), 183–204.
- Richardson, J. C., Maeda, Y., Lv, J., & Caskurlu, S. (2017). Social presence in relation to students' satisfaction and learning in the online environment: A meta-analysis. *Computers in Human Behavior*, 71, 402–417. <https://doi.org/10.1016/j.chb.2017.02.001>
- Romano, R., John, B., Qureshi, S., Copeman, P., Mackrell, D., Elder, K., & Applebee, W. (2023). Indigenizing the IT curriculum by design. *Communications of the Association for Information Systems*, 53(1), 364–396. <https://doi.org/10.17705/1CAIS.05315>
- See, B. H., Morris, R., Gorard, S., Kokotsaki, D., & Abdi, S. (2020). Teacher recruitment and retention: A critical review of international evidence of most promising interventions. *Education Sciences*, 10(10), 1–45. <https://doi.org/10.3390/educsci10100262>
- Seeliger, S., & Håkansson Lindqvist, M. (2023). Dealing with teacher shortage in Germany. A closer view of four federal states. *Education Sciences*, 13(3), 227. <https://doi.org/10.3390/educsci13030227>
- Shakespeare, E. (2008). Good teaching is a conversation. *Hora*, 24(1), 1–3.
- Shannon, C., & Clarke, D. (2022). *How teacher presence engages and supports online female postgraduate students at an Australian regional university*. ASCILITE Publications. <https://doi.org/10.14742/apubs.2022.98>. n.d.
- Smits, A., & Voogt, J. (2017). Elements of satisfactory online asynchronous teacher behaviour in higher education. *Australasian Journal of Educational Technology*, 33(2), 97–114. <https://doi.org/10.14742/ajet.2929>
- Solomon, H., & Verrilli, B. (2020). Synchronous and asynchronous learning. In D. Lemov (Ed.), *Teaching in the online classroom* (pp. 15–35). Jossey-Bass.
- Stone, C. (2019). Online learning in Australian higher education: Opportunities, challenges and transformations. *Student Success*, 1(2), 1–11. <https://doi.org/10.5204/ssj.v1i0i2.1299>
- Stone, C., O'Shea, S., May, J., Delahunty, J., & Partington, Z. (2016). Opportunity through online learning: Experiences of first-in-family students in online open-entry higher education. *Australian Journal of Adult Learning*, 56(2), 146–169. <https://doi.org/10.3316/aeipt.212577>
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications.
- Tanoto Foundation. (2023). Addressing Indonesia's teacher shortage: Strategies and collaborations for quality education. <https://www.tanotofoundation.org/en/news/addressing-indonesias-teacher-shortage-strategies-and-collaborations-for-quality-education/#:~:text=Quoting%20data%20from%20the%20Ministry,plans%20to%20address%20this%20crisis>.
- The Teacher Toolkit (nd). Jigsaw <https://www.theteachertoolkit.com/index.php/tool/jigsaw>.
- United Nations. (2023). Addressing the teacher shortage—a global imperative. <https://www.un.org/en/un-chronicle/addressing-teacher-shortage%E2%80%94global-imperative>.
- Varkey, T. C., Varkey, J. A., Ding, J. B., Varkey, P. K., Zeitler, C., Nguyen, A. M., Merhavy, Z. I., & Thomas, C. R. (2023). Asynchronous learning: A general review of best practices for the 21st century. *Journal of Research in Innovative Teaching & Learning*, 16(1), 4–16.
- Welsh, A. (2022). *Teacher shortages are a global problem – 'prioritising' Australian visas won't solve ours*. The Conversation. August 31 <https://theconversation.com/teacher-shortages-are-a-global-problem-prioritising-australian-visas-wont-solve-ours-189468>.
- West, R. E., & Williams, G. S. (2017). "I don't think that word means what you think it means": A proposed framework for defining learning communities. *Educational Technology Research & Development*, 65(6), 1569–1582. <https://doi.org/10.1007/s11423-017-9535-0>