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CONNECT: a framework to enhance student connection to their course content, peers, and teaching staff in online learning environments

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ABSTRACT

This article presents a framework designed for use at the course level to assist higher education teaching staff in increasing students' feelings of belonging and connectedness in a 100% online postgraduate nursing course. Using a deductive process spanning several years, the framework was developed to improve student retention and success by establishing clear strategies for academic staff to enhance student connection to course content, peers and teaching staff. Although the CONNECT framework presented in this paper was developed for use in a 100% online postgraduate nursing course, the strategies described can be applied or adapted to suit an online course in any discipline.

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Introduction

The landscape of higher education has experienced a profound transformation in recent years, marked by a significant surge in the demand for online courses. While this evolution has been exacerbated in recent times by the COVID-19 pandemic, it has also been driven by a combination of rapid technological advancements, shifting student preferences and the ever-increasing demand for accessible education, resulting in online education becoming mainstream in higher education (Martin & Bolliger, 2023; Stone, 2019). With the attraction of increased flexibility and the ability to study anywhere/anytime in the world, online learning is creating more opportunities for underrepresented and diverse students in higher education (Stone & O'Shea, 2019). Statistics from the Australian Government Department of Education (2021) showed that student enrollments in online courses were rising faster than those offered on-campus, driven predominantly by adult learners with competing demands such as work and family commitments (Martin & Bolliger, 2023). Despite this rise in enrollments, retention rates for online courses remained noticeably lower than those observed in internal and multi-modal learning environments (Australian Government Department of Education, 2021). An increasing body of evidence suggests online education may negatively affect a student's sense of connection, resulting in feelings of isolation, loneliness, and disempowerment (Bickle et al., 2019; Kaufmann & Vallade, 2022; Ragusa &

Crampton, 2018; Roddy et al., 2017; Rose, 2017). Thus, while online learning offers educational advantages such as flexibility and accessibility, it could also lead to educational disadvantage (Burke & Larmar, 2020).

With the recent focus in higher education toward addressing the mental health and well-being of students, there is a growing demand for strategies that can promote a strong sense of community and meaningful connections within the online learning environment (Bickle et al., 2019; Eloff & Graham, 2020). According to the *Australian University Mental Health Framework*, "mentally healthy university communities encourage participation; foster a diverse, inclusive environment; promote connectedness; and support academic and personal achievement (Orygen, 2020, p. 13). In a fully online environment and particularly within an intensive online course, this becomes even more challenging. This paper explores the critical role of connection in mitigating these challenges and enhancing the overall online learning experience. Drawing on a comprehensive review of existing literature and research, we present evidence-based strategies and practical recommendations to promote a sense of belonging, social interaction, and community in online education to ultimately optimize student outcomes, well-being, and personal growth in a fully online postgraduate course.

Background

A pivotal aspect that has emerged in discussions surrounding online education is the concept of connectedness. Lee and Robbins (1995) define connectedness as a perception of belonging. Thweatt and McCroskey (1998) define connectedness as "communication behaviors that reduce perceived distance between people" (p. 349).

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Research by Ragusa and Crampton (2018) found that the majority of students in their study described connection as the feeling of being emotionally supported and motivated by others. Much of the literature associated connection with a sense of belonging and a sense of community (Arslan, 2021; Jamison & Bolliger, 2019; Laux et al., 2016). In their systematic review, Hehir et al. (2021) identified five key themes important in building connectedness in an online community: usability, teacher interaction, immediacy, synchronicity, and community. Research has begun to unveil the intricate interplay between connectedness in online learning and critical outcomes such as student well-being, student satisfaction, student engagement, and overall success.

The emphasis on fostering connectedness is driven not only by pedagogical considerations but also by a genuine concern for student well-being. Students engaged in online learning often grapple with feelings of isolation, a challenge that becomes particularly pronounced in the context of intensive courses that demand a heightened level of commitment and engagement (Roddy et al., 2017). Tice et al. (2021) emphasize the link between learning environment, student belonging, and well-being, indicating that heightened teacher awareness of these aspects reduces stressors and enhances student outcomes. Australian research (Thomas et al., 2014) highlights that fostering belonging enhances participation, success, and retention in online learning. Similarly, Ragusa and Crampton (2018) reported 79.5% of students in their study attributed academic success to feeling connected. As online education becomes more integral to higher education, a deeper exploration of these dynamics is essential to ensure that students not only receive a quality education but also thrive in their online learning journeys.

Within this context, the Community of Inquiry (COI) framework (Garrison et al., 2000) is highly appropriate for building capacity in enhancing connection and fostering a sense of belonging in online learning communities (Fig. 1).

This framework comprises three essential presences in online learning communities: cognitive presence which focuses on intellectual aspects of learning and encourages critical thinking, problem-solving, and active engagement with course content to construct meaning; social presence which pertains to the level of interaction and connectedness among learners and teachers, fostering emotional expression, open communication, and the creation of a supportive learning community; and teaching presence which represents the teaching role, encompasses course design, facilitation, communication strategies, and feedback mechanisms to support student learning

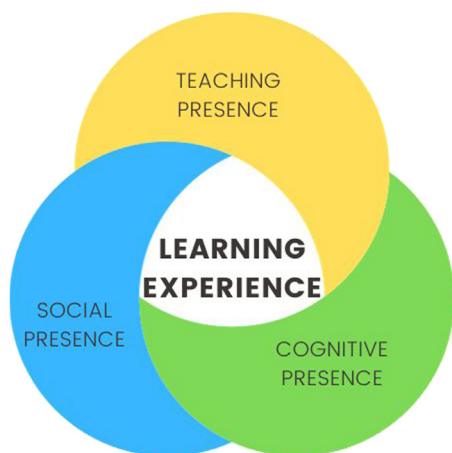**Fig. 1.** The Community of Inquiry framework (Garrison et al., 2000).

(Garrison et al., 2000). Drawing inspiration from the COI framework and building on the model for distance education higher degree research students previously developed by Ahern (2023), the CONNECT framework presented in this paper offers a structured approach to enhancing connectedness within online learning environments. This model, grounded in research and practical application, offers educators and institutions a roadmap for nurturing a sense of community that positively influences student well-being, engagement, and overall success.

Methodology

A body of work undertaken by nurse academics managing a newly established 100% online postgraduate course began in the pre covid years of 2018-2019. Through this work the authors recognized that nurse educators teaching in online learning environments must be better supported to address their learning needs in relation to their roles as online educators. The deductive process to undertake this body of work, shown in Fig. 2, began with a review of the literature to gain a deep understanding of the needs and experiences of online nurse educators in higher education (Step 1, Fig. 2). This literature review revealed a gap in the research reporting the needs and experiences of Australian nurse educators teaching in 100% online learning environments.

Next, the authors designed a research study to explore of the needs and experiences of nursing and midwifery educators teaching postgraduate courses entirely online (step 2, Fig. 2). A cross-sectional survey was used to elicit both quantitative and qualitative data representing the needs and experiences of nursing and midwifery educators teaching online. Another of the aims of the study was to determine strategies to support this population more effectively in their role as online educators. Results arising from this study have since been published (Ahern & Biedermann, 2022; Beidermann & Ahern, 2023) and used to inform development of a repository of targeted resources to assist online nurse educators to address pedagogical knowledge gaps, as well as support them in their teaching/ marking roles in 100% online intensive environments.

Step three in this process of formulating actionable strategies to improve connectedness in online learning involved a reflection of the live experience developing and managing a 100% online, intensive postgraduate course in higher education, as well as adaption of the framework published previously by Ahern (2023).

The final step in this deductive process involved extending a review of the literature to synthesize the unique needs of higher education students undertaking 100% online learning. Through a synthesis of this body of work, the authors have developed a framework of clear actionable strategies to enhance student connection to their online content, their peers, and their teaching staff and through links to wider industry networks, known as CONNECT.

Results

The CONNECT framework to build social presence and connectedness in online learning was developed specifically to inform the practice of online nurse educators teaching in a 100% online postgraduate course. However, it is proposed that this framework could be applied or adapted to any discipline offering an online learning course. Fig. 3 unpacks the elements of the CONNECT framework, listing actionable strategies implemented to achieve each of these elements.

Discussion

The CONNECT framework has been developed, applied, and refined over the past five years in an online tertiary education setting. Importantly, the framework recognizes key aspects that can
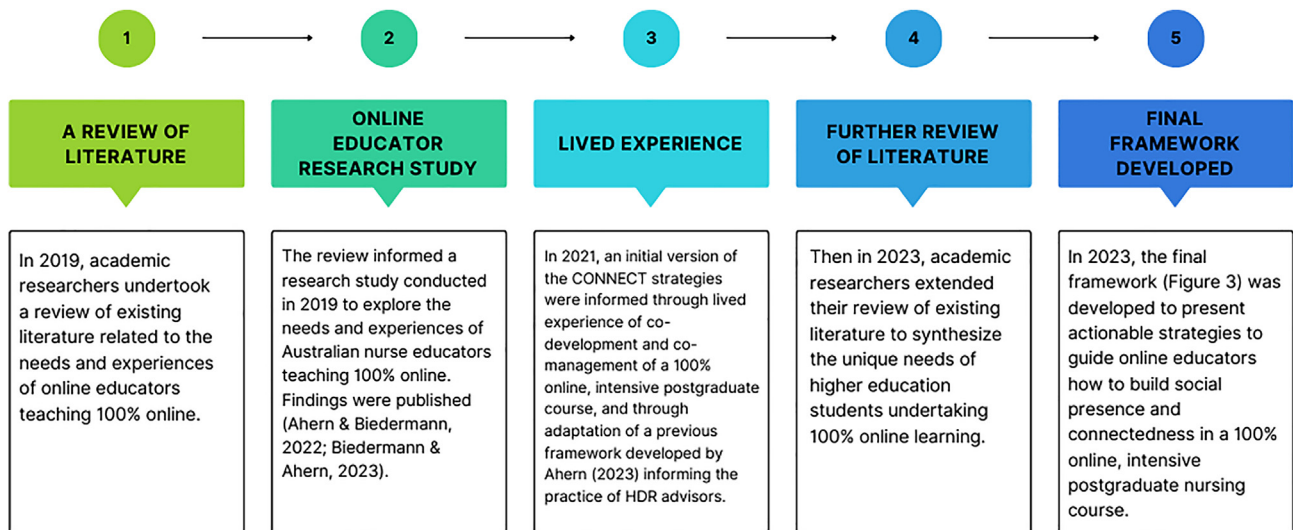
Fig. 2. The deductive process for development of the framework.

contribute to increased feelings of student belonging and connectedness in a 100% online postgraduate course. In this section of the paper, the key components of the CONNECT framework are explored in relation to the current research literature, thereby, clearly justifying the inclusion of each of these components to build social presence and connectedness in online learning.

Communication is Responsive and Supportive

The C in the CONNECT framework emphasizes the teaching staff's communication with students, fostering a responsive and supportive environment. This involves the inclusion of all teaching staff in student communications to elicit timely responses within 24 hours while ensuring communication is supportive for students via all avenues of online communication. Communication is a fundamental pillar of the online educational landscape and integral to establishing a social presence within an online community (Garrison et al., 2000). Moreover, research has shown that communication and timely interactions with peers and educators are key factors in a student's sense of belonging, engagement with learning, and therefore, academic success (Bickle et al., 2019; Ragusa & Crampton, 2018; Redmond et al., 2023). Research by Burke and Larmar (2020) on the learning experiences of university students emphasized the importance of mutually respectful communication between students and teachers that is grounded in the values of care and compassion. Some of the strategies proposed in their online pedagogy of care were exercising immediacy and responsiveness and demonstrating compassion and respectful communication (Burke & Larmar, 2020). These strategies, which are emulated in the CONNECT framework, aim to positively influence the social presence and feelings of belonging within the online community. This multifaceted approach to communication within the CONNECT framework emphasizes that interactions extending beyond mere pedagogical endeavors to encompass responsive and supportive communication can profoundly shape a more positive experience for students.

Optimal Online Presence

The O in CONNECT stands for optimal online presence. In this section of the framework, students are offered a wide range of methods to interact with other students, teachers, and the content. Strategies such as prompt review and response to asynchronous discussion board posts to extend student learning, alongside weekly 1-hour online synchronous teaching sessions, which are also recorded for those that cannot attend. This again, is linked with Garrison et al.'s (2000) idea of social presence which is defined as, "the ability of participants in a community of inquiry to project themselves socially and emotionally as "real" people (i.e., their full personality) through the medium of communication being used" (p. 94). Garrison et al. (2000) argue that cognitive presence can be more easily sustained if there is a significant social presence within the online community (p. 95). Martin and Bolliger (2023) highlight the importance of engaging learners by providing various asynchronous and synchronous opportunities for student-student, student-instructor, and student-content interactions within an online learning community. Stone (2017) found that "teacher-presence" plays a vital role in building a sense of belonging to the online learning community and in improving student retention. Bickle et al. (2019) demonstrated that students' evaluation of an online course's quality hinged on their capacity to establish human connections with both peers and teaching staff through a variety of online avenues. Asynchronous and synchronous interactions through discussion boards, feedback, and online teaching sessions all contribute to building social presence, ultimately shaping a vibrant and inclusive online learning community. By providing a wide range of opportunities for students to interact with peers, teachers, and content, this optimal online presence will not only contribute to the development of critical thinking skills and a deeper understanding of the subject matter, but also provide opportunities for meaningful connections.

Nurture Educational and Professional Growth

The first N in the CONNECT framework pertains to nurturing educational and professional growth. This process is effectively facilitated by the incorporation of meticulously structured and scaffolded online content, coupled with assessments that are constructively aligned with the learning outcomes. Additionally, committed teaching staff play a pivotal role in promoting students' growth by establishing connections between themselves and the course content through diverse online channels. The recent Australian Universities Accord Interim Report recognized the challenges for online learners if learning support was not scaffolded and recommended staff embrace the technology to share best practices and empower learners (Australian Government Department of Education, 2023, p. 84). This pedagogical approach not only facilitates engagement but also provides students with opportunities to showcase their progress. Through the strategic

CONNECT: a framework to build social presence and connectedness in online learning

Communication is responsive and supportive
- Students include all teaching staff in their correspondence for transparency and to elicit timely response.
- Staff respond to student communications within 24 hours.
- Staff demonstrate support for students in their communication in online teaching sessions, discussion board responses and email enquiries.

Optimal online presence
- Students are provided with a wide range of methods to engage with content, peers and staff online.
- Staff review and respond to student posts in discussion boards and padlets within a 24 hour period, and in a way that encourages and extends student learning.
- All teaching staff offer a 1 hour online teaching session each week, which is recorded for students unable to attend.

Nurture educational and professional growth
- Online content is well designed & scaffolded to promote educational and professional growth.
- Assessment is constructively aligned, and allows opportunities to demonstrate educational and professional growth.
- Teaching staff nurture student growth using online methods, and through a commitment to connect students to their course content.

Networking opportunities fostered
- Students are provided with orientation and preparation materials early and encouraged to network with peers using the online course chat room.
- Students can attend online teaching sessions to engage in learning and networking with peers and teaching staff.
- Students have opportunities to learn and network with industry representatives who offer Masterclasses online.

Engaging communities of learning
- Teaching staff underpin their practice through a combination of teaching presence, social presence and cognitive presence as indicated in the CoI framework (Garrison et al., 2000).
- Online content is designed by academics with expertise in the discipline of knowledge, and using principles of UDL (CAST, 2018).
- Design of content promotes learning and engagement through effective use of synchronous and asychonous activities.

Contemporary and authentic content
- Online content undergoes a process of review every six months by academics who ensure content is always up-to-date and contemporary to industry and the needs of the student cohort.
- Content and assessments are authentic to the profession, enabling students to directly apply learning to their practice.

Timely and effective feedback for learning
- Markers and the feedback markers provide is considered essential to supporting learning and development.
- Markers provide timely feedback that is consistent with the principles of effective feedback for learning proposed by Hendersen et al. (2019).

Fig. 3. CONNECT: a framework to build social presence and connectedness in online learning (Ahern, 2023).

interplay of well-designed resources, appropriately aligned assessments, and dedicated teaching support, this strategy creates an environment conducive to the development of learners' educational and professional capabilities.

Networking Opportunities Fostered

The second N in CONNECT stands for networking opportunities fostered. Students are prompted to attend orientation, network with peers through the online course chat room, attend online teaching sessions for learning and peer and teacher interaction, and engage with masterclasses to learn and network with industry experts. Intervening early to connect and prepare students through orientation and preparation materials aimed at improving academic performance was found to be integral to a sense of belonging, student success, and retention in the literature (Burke & Larmar, 2020; Roddy et al., 2017;

Stone, 2019). In their comprehensive review, Roddy et al. (2017) discovered that effective orientation in online courses involves providing clear course overviews, specifying time commitments and student expectations, ensuring familiarity with instructional media and software, and offering guidance on communication tools for student-staff interactions (p. 6).

Learning networks are characterized as technological-mediated frameworks that enable engagement among individuals, content, resources, and tools (Czerkawski, 2016). This idea of learning networks is closely linked with collaborative engagement. According to Redmond et al. (2018), collaborative engagement involves forming relationships and networks that bolster learning and encompass interactions with peers, teachers, industry, and institution.

Alfiriani et al. (2022) developed a framework that categorizes these student interactions into four key areas where students interact with teachers, the material or content, peers, and experts. In the CONNECT framework, all four avenues for interaction are emphasized, providing optimal learning network opportunities. By utilizing technological mediums such as online rooms and synchronous online tutorials to foster collaborative engagement with peers, teachers, and industry experts, cognitive engagement can be optimized.

Engaging Communities of Learning

The E of CONNECT refers to building engaging communities of learning by underpinning teaching practices with teaching, social, and cognitive presence based on the COI framework. By aligning with the COI framework, strategies to enhance teaching, social and cognitive presence within the online learning community can address the challenges of isolation and disengagement that online learners may face (Garrison et al., 2000). Engaging communities of learning is also achieved through the creation of online content that is created collaboratively between discipline experts and learning designers to ensure engaging, inclusive, and effective learning material. In the context of online learning, engagement refers to "the behaviors and involvement of the student in consistent engagement with resources or activities within the online environment, where the focus is on achieving learning" (Brown et al., 2020, p. 289). This can only be achieved through effective course design that enables learning strategies for diverse learners (Holmes, 2018). Utilizing the universal design for learning (UDL) framework to guide learning design enables variability in teaching methods, resources, and assessments that foster diverse and inclusive learning experiences (CAST, 2018). Research has found that effective course design can influence student satisfaction and improve student retention (Lu, 2020). According to Stone's (2017) research, it is crucial to develop content tailored to online learning by ensuring it is engaging, interactive, supportive and delivered in a way that enhances student interactions. By collaborating with industry experts and online learning designers, this can be achieved.

Contemporary and Authentic Content

The next C in the CONNECT framework relates to ensuring that the online content remains contemporary and aligned with industry needs through biannual academic reviews, while also offering authentic assessments that allow students to directly apply their work to their professional practice. In keeping with the findings of Redmond et al. (2023), a significant factor contributing to students' sense of engagement with online learning was the integration of real-life experiences, where theoretical concepts and learning activities were interconnected with practice applications in the real world. This finding is supported by Burke and Larmar (2020) where the importance of practical learning experiences for students, especially when connected to real-world scenarios through dialogues were

accentuated. Incorporating these strategies into the CONNECT framework not only ensure up-to-date content and practical assessment but also highlights the pivotal role of real-life experiences in enhancing students' engagement and learning effectiveness in online education.

Timely and Effective Feedback for Learning

The final strategy within the CONNECT framework underscores the significance of timely and effective feedback for fostering learning. Henderson et al. (2019) developed a framework outlining 12 key conditions that support effective feedback and highlighted the need to develop a culture for effective feedback and build capacities for feedback in educators and students. By using these principles as a guide for effective feedback, the provision of essential and consistent assessment feedback contributes to the facilitation of learning and development processes. In the context of an intensive 6-week course, this entails ensuring a prompt 1-week turnaround for releasing marks and feedback on assessments, enabling students to integrate feedback into their subsequent assessments. Achieving this goal also involves providing markers with appropriate training, effective pre-marking moderation, and the capacity to deliver high-quality feedback. The value of timely and effective feedback is clear as research highlights students' appreciation for punctual feedback concerning their academic progress (Bickle et al., 2019; Lu, 2020). Additionally, Martin et al. (2018) discovered that students regarded timely feedback the most valuable strategy for establishing teacher presence, enhancing engagement, and promoting effective learning. Incorporating the principles of timely and effective feedback not only enhances the learning and development process, but also empowers students to actively engage with their education journey, fostering that sense of belonging needed within the online community.

The implications for students of the CONNECT framework strategies (Fig. 3) have been demonstrated through unsolicited student feedback and through university-driven student satisfaction surveys. The implications for teaching staff have also been demonstrated through recognition of having a clear roadmap of ways they can build connections and a stronger sense of presence in their practice as online educators. While the CONNECT framework strategies are currently applied to a fully online postgraduate course, further research of the impact of these strategies on student belonging and connectedness is yet to be undertaken, indicating an area for further exploration.

Conclusion

As the prevalence of fully online courses rises within higher education, the need for effective strategies to cultivate a sense of belonging and foster meaningful connections within the online learning community is becoming increasingly evident. The CONNECT framework presents a comprehensive approach to fostering a sense of belonging and connection in the online learning environment in higher education. The key elements of CONNECT: communication, optimal online presence, nurturing educational and professional growth, networking opportunities fostered, engaging communities of learning, contemporary and authentic content, and timely and effective feedback for learning, provide a holistic strategy for educators and institutions to navigate the complexities of online education and increase feelings of connectedness in a fully online course.

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Declaration of Competing Interest

The authors report no conflict of interest.

Disclosure

This research has not been previously published in part or in full elsewhere.

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