Teaching and learning innovations for postgraduate education in nursing

Diane Phillips*, Helen Forbes[1], Maxine Duke[2]

Deakin University, Faculty of Health, School of Nursing and Midwifery, 221 Burwood Highway, Burwood Victoria 3125, Australia

Summary   This paper begins with a literature review of blended learning approaches, including the creation of learning spaces in the online environment and the model of community of inquiry and collaborative learning promoted by Garrison and others. This model, comprising of three elements including 'social presence', 'cognitive presence' and 'teaching presence', guides academics in the development and delivery of quality programs designed to enhance each student's experience of their course. The second part of this paper is the application of blended learning for the Deakin University Master of Nursing Practice (Nurse Practitioner), including a range of online independent learning activities, Elluminate Live use (a real time online program) and on-campus contact with students. The application of these flexible and innovative online modalities offered in this course, have been designed to promote quality learning experiences for students around their employment commitments and lifestyle factors. As an off-campus course, the Master of Nursing Practice (Nurse Practitioner) presents as a more flexible option for nurses residing in various parts of Australia. The three core elements of the model of community of inquiry and collaborative learning by Garrison and others have been integrated through online teaching and learning access and face-to-face contact for one day in two trimesters of the academic year. The success of blended learning approaches are underpinned by effective communication and interactions between both academics and students.
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Introduction

The impact of online technologies and its increased use by universities has led to a shift from traditional teaching and learning approaches thereby expanding options for individuals seeking flexible programs that fit around pressing lifestyle factors. Deakin University (2011) in its core commitments promotes contemporary and flexible teaching programs using physical or virtual teaching environments. The key aim for this move from the more traditional on-campus teaching and learning approaches is to increase

 * Corresponding author. Tel.: +61 3 9244 6119.
   E-mail addresses: diane.phillips@deakin.edu.au
(D. Phillips), helen.forbes@deakin.edu.au
(H. Forbes), maxine.duke@deakin.edu.au (M. Duke).
 [1] Tel.: +61 3 9244 6119.
 [2] Tel.: +61 3 9244 6578.

student engagement in learning through greater flexibility and innovative use of online resources to provide a course experience that is both challenging and satisfying. In order to meet the many competing needs of students, academics are adopting the increasingly popular approaches of blended learning using a combination of online resources and face-to-face contact with students.

The discussion in this paper has two main purposes. First to review the literature on what is meant by blended learning in university based courses. The discussion includes the use of web-based technologies and pedagogies for online access and face-to-face interactions and incorporates the innovative community of inquiry framework of Garrison, Anderson, and Archer (2000) to explore how blended learning encourages interconnectedness between students and academics. The three key elements of this framework including 'social presence,' 'cognitive presence' and 'teaching presence', are presented within the context of blended learning. A second purpose of this paper is a presentation of the authors' experiences of blended learning, incorporating the model of community of inquiry and collaborative learning in the Deakin University Master of Nursing Practice (Nurse Practitioner), an off-campus course managed from Melbourne Campus at Burwood, Victoria.

Literature review

This literature review considers first, the interpretations and application of blended learning, and second, the model of community of inquiry and collaborative learning developed by Garrison et al. (2000). As a relatively recent application in education, blended learning is largely an acknowledgement of the various modalities used in the delivery of course and unit content (Bluic, Goodyear, & Ellis, 2007) including face-to-face and online contexts (Ginns & Ellis, 2007; Ocak, 2011). Throughout this paper, the term 'blended learning' is applied as an acknowledgement of the range of teaching and learning modes used to deliver course materials. As a consequence of the diversity of terms used in the literature related to blend learning indicates how easily various interpretations may be generally applied including those for curricula documents. As an example, the terms 'blend of teaching and learning' and 'blended learning' are applied interchangeably in the literature, although a configuration of what constitutes each of these concepts as a generic requirement has not been well defined (Bluic et al., 2007; Garrison & Kanuka, 2004). Bluic et al. (2007) describe blended learning as comprising a mix of modes of web-based technology; a mix of various pedagogical approaches (i.e. constructivism, behaviourism, cognitivism); forms of instructional technology with face-to-face activities; and a combination of instructional technology with actual job tasks. Sener (2010) asserts that blended learning incorporates the best of both worlds (online and face-to-face) and creates an environment where student-centred pedagogies can be applied using diverse applications to promote student engagement in teaching and learning activities. It should be noted that blended learning is more than just an integration of traditional face-to-face and online approaches (Garrison & Kanuka, 2004). Academics need

to invest considerable time in carefully planning activities to ensure efficient implementation to fully engage students in an active learning process. Vaughan and Garrison (2005) claimed that the move to blended learning is transforming higher education through the integration of the best face-to-face and online learning activities while reducing the traditional teaching didactic styles in the classroom.

In a study by Parker and Martin (2010) it was found that undergraduate students prefer the 'virtual classroom', although the authors acknowledge that this preference, ''. . . may be better suited to particular types of audiences or courses'' (p. 144). For students, the benefits include a better understanding of how and why technology supports their learning, allowing them to be ''metacognitive and self-directed in their learning'' (Ward & Kushner Benson, 2010, p. 488). Undoubtedly this self-directed focus is a fundamental goal for successful off-campus learning. Hoic-Bozic, Mornar, and Boticki (2009) conducted a survey of their undergraduate university art and science students using e-learning programs. They identified that students favoured this activity over the traditional teaching styles of the classroom and importantly they noted, a reduction in student attrition rates from their courses. This claim is supported by the findings by López-Pérez, López-Pérez, and Rodríguez-Ariza (2011) who also found that blended learning approaches had an impact of reducing student attrition rates for their first year undergraduate students enrolled in an accounting course. In addition, they assert these approaches led to improved student performance in academic assessment tasks. The findings of these studies indicate that online learning strategies not only effectively meet the needs of students but also improve student satisfaction and retention rates. While these are admirable outcomes it is important that all teaching and learning activities, not least of all a blend of approaches, promote higher order thinking in students to achieve quality learning outcomes. Alexander, Commander, Greenberg, and Ward (2010), conducted a study to determine whether or not students would demonstrate higher critical thinking due to online discussions. They found that prior experiences of online use did not influence critical thinking scores and interestingly, this was neither related to students' previous experiences of learning nor their age.

On the basis of their experiences of managing postgraduate education online programs for registered nurses, Moore and Hart (2004) found that nurses selected their programs because they were far more convenient than 'traditional classes' of teacher-led didactic presentations. Barriers for nurses include for example, rotating rosters that encompass day or night shifts, thereby interfering with their attendance requirements for on-campus courses and consequently with their motivation for study. In today's highly technological society, health professionals, including nurses and midwives, are increasingly 'au fait' with online applications for data management and communication in their workplace. This familiarity means that many are already computer literate and well able to negotiate online technologies, to access and provide information. Kenny (2002) argued that these skills could also be applied to online strategies for their professional education. In having this technological aptitude one could well ask why nurses would seek postgraduate courses

still using traditional teaching practices with timelines that are not suitable for them.

A barrier to the quality of online learning is more often attributed to the inexperience of academics using online teaching platforms rather than students engaging with the learning materials. This lack of skill by academics can lead to the perception that online pedagogies are more difficult than traditional teaching practices. Ocak (2011) explained that the reluctance by academics to fully embrace the concept of teaching in blended courses, particularly the online components, as being mainly related to a lack of understanding and the time required in developing online materials. As a consequence, academics can be deterred from exploring teaching and learning innovations with the result as shown by Ocak's study, that for students, their choices and options were narrowed considerably. Moore and Hart (2004, p. 123) reported on the success of their online program being primarily related to three core elements. They include first of all clarity of course design; second, interaction among participants; and third interactions with instructors.

The success of blended learning is primarily due to the diligence required in the development of quality programs (Akoyl, Garrison, & Ozden, 2009; De George-Walker & Keeffe, 2010), supported by effective communication in this process (Hernández, Pardo, & Kloors, 2007). In the development of quality programs, De George-Walker and Keeffe (2010) emphasised the importance of providing prescribed information related to blended learning approaches, to support students in developing skills in learning and in particular, for self-management of their study. The responsibility of innovation in the development of quality programs lies not only with academics, but also with universities promoting online approaches. In other words it is vital that there is overarching organisational support from universities of their academics in developing their capacity to embrace more flexible modes of teaching and learning (Keengwe & Kidd, 2010).

Academics have an important role in influencing whether or not each student's learning experience is a positive one or not and need to be considerate of all options available to them in ensuring that course delivery is relevant and contemporary. Djenic, Krneta, and Mitic (2011) reported their students' preference for blended learning approaches over more traditional teaching styles in classroom settings due to the convenience it affords them. In turn, academics need to be well prepared for the delivery of their programs, have the capacity to provide support of students in their initial use of various online technological applications and to communicate effectively with students. The frameworks applied by students to facilitate their learning are likened to that of a scaffold upon which they codify intellectual knowledge (Wheelahan, 2007). It is within these frameworks academics have the opportunity to shape or influence optimal learning (Mann, 2002). Vaughan and Garrison (2005) recommend blended approaches incorporating the model of community inquiry and collaborative learning, to effectively guide students through a unit or program of study.

The model of community of inquiry and collaborative learning developed by Garrison, Anderson and Archer in the late 1990s is comprised of three core elements that serve as a framework for assessing the learning process and contexts using online environments (Garrison et al., 2000). These core elements include first, 'Social presence' explained as the ''... ability to project one's self and establish personal and purposeful relationships, effective communication, open communication and group cohesion'' (Garrison, 2007, p. 63). The second element, 'Cognitive presence' is ''defined as the exploration, construction, resolution and confirmation of understanding through collaboration and reflection in a community of inquiry'' (Garrison, 2007, p. 65). The third element, 'Teaching presence' incorporates, ''three distinct categories — design, facilitation and direct instruction'' (Garrison, 2007, p. 67). Garrison, Anderson, and Archer (2001) claim that the three elements underpinning the community of inquiry and collaborative learning model support higher order thinking processes, such as critical thinking. More specifically, higher order thinking includes, critical analysis and the re-construction of information into units of meaning and thereby leading to transformation of learning.

More than a decade on, Garrison, Anderson, and Archer (2010) and Garrison, Cleveland-Innes, and Fung (2010) reaffirmed this model's place in higher education by use of online communications media in supporting meaningful educational experiences for students. The model of community of inquiry and collaboration is grounded in the need for clear objectives to support the identification of the phases of inquiry and the level of discourse to elevate the importance and role of a teaching presence. The teaching presence includes moderation by academics who lead the direction of discussions to foster a community of inquiry and collaborative learning. The moderation activity, where the direction of discussion is maintained by the academic, is the key for success applied in a community of inquiry (Garrison, 2007). In addition, it is imperative that there is careful selection of manageable content and structuring of content, utilising both individual and group activities, to promote student engagement. The focus of the model of community of inquiry and collaborative learning is therefore, on a student-centred approach as opposed to being teacher-centred (Garrison & Cleveland-Innes, 2005).

Student-centred learning is an approach applied to promote inquiry and understanding (Baeten, Kyndt, Struyven, & Dochy, 2010), achieved through deep learning. Biggs and Tang (2007, p. 24) explain that, ''The deep [learning] approach arises from a felt need to engage the task appropriately and meaningfully, so that the student tries to use the most appropriate cognitive activities for handling it.'' The benefits of deep learning for students include for example, interest in the topic or subject area, challenge and even pleasure (Biggs & Tang, 2007). Deep learning is therefore, crucial for higher order thinking (Garrison, Anderson, et al., 2010; Garrison, Cleveland-Innes, et al., 2010) as explained earlier. Garrison and Cleveland-Innes (2005) support deep learning approaches by advocating for constructive interactions between students and academics. These interactions are supported with clear guidelines provided by the academic in order to direct or moderate meaningful and memorable discussions (collaborative learning) (Garrison & Cleveland-Innes, 2005). It is imperative that these interactions are carefully planned processes but at the same time using learning opportunities that emerge from social interactions (Garrison, Cleveland-Innes, & Fung, 2004), to support deep learning. We claim that these interactions between

academics and students are vital for reflective practice, deep learning and transformation of knowledge. Deep learning approaches are therefore, enhanced by the three elements of social, cognitive and teaching presence, comprising the model of community of inquiry and collaborative learning.

Akoyl et al. (2009) conducted a comparative study on 'community of inquiry' pertaining to online blended learning contexts using communication technologies such as Elluminate Live and Blackboard, incorporating the three elements of social, cognitive and teaching presence. The study found that there was a higher level of affective communication through self disclosure in the online course and group cohesion was found to be higher in the blended course rather than for the online one. This finding showed the benefits of a blended learning environment and its influence on a community of learning, supported the communication medium in a process of collaborative 'constructivisim' by students (Akoyl et al., 2009). This process is to assist students in the interpretation of meaning and to construct these meanings in their learning. Further, this particular finding implies that students are actively 'engaged' to uphold the notion of community inquiry and collaborative learning.

The teaching and learning theories of educationalist icon, John Dewey, have provided a framework for the model of community of inquiry and collaborative learning as predictors of learning processes and outcomes (Garrison, Anderson, et al., 2010; Garrison, Cleveland-Innes, et al., 2010). Vaughan (2010) extended this model in adapting the 'Community of Inquiry Framework' to support a faculty engaged blended course redesign and thereby shifting from more traditional practices. In an evaluation of this model by Vaughan (2010) findings included that students reported a greater sense of community with their peers and there was evidence of improved course outcomes. It was also noted that there was increased student retention rates in their courses. Abedin, Daneshgar, and D'Ambra (2010), in a study of their postgraduate students using computer supported collaborative learning, reported on the level of cohesion and sense of belonging experienced by students. These findings support the use of blended learning approaches in the higher education sector. Mann (2002), in a paper on medical education, stated that principles of adult learning are embedded in both the cognitive and social/environments and where learning is an important interactive process of the practice world. This is a similar process for students enrolled in nursing and midwifery education programs and where practice experiences of students and their related discussions, contribute to collaborative learning.

There is no doubt that student satisfaction plays a vital role in the success of courses. Bradford and Wyatt (2010, p. 109), describe satisfied students as, ''... engaged, motivated, responsive, contribute to an effective learning climate, and ... achieve at higher levels''. Obviously while it is acknowledged that dissatisfied or ambivalent students would not report any of the above outcomes, the level of student satisfaction needs to be considered in terms of 'effectiveness', determined through more qualitative data obtained from students. In other words, students should be encouraged to use their own words related to their learning experience. Where courses have been redesigned to incorporate blended learning approaches, student feedback according to Vaughan (2010), is necessary so that improvements can be made.

The application of blended learning

The blended learning approaches used in the Deakin off campus University Master of Nursing Practice (Nurse Practitioner) course, predominately constitute the use of online materials accessed by students through a learning management system referred to as Deakin Studies on Line (DSO) as well as face-to-face contact once during a trimester of study. This course is only offered in the off-campus mode of study so it is imperative that online materials promote engagement and independent learning. The face-to-face contact with students is intended to further facilitate socialisation between students and academics and promote a sense of community, collaboration and inquiry.

The innovative and flexible teaching and learning approach used the Master of Nursing Practice (Nurse Practitioner) is promoted by the application of blended learning modalities and supported through the use of online independent activities and online discussions. These discussions are conducted between academics and students in the virtual learning space available through the program Elluminate Live. Increased flexibility is achieved through Elluminate Live discussions conducted in late afternoon or early evening time schedules for student access and for which there is a recording capacity for students unable to participate or for those who wish to replay the discussion. The model community of inquiry and collaborative learning promoted by Garrison et al. (2000), comprising of three core elements: 'social presence', 'cognitive presence' and 'teaching presence' are embedded within the Master of Nursing Practice (Nurse Practitioner). Each of these three elements is interwoven into course design of blended learning to uphold student engagement through online activities and through on-campus attendance and participation in the activities for a single study day held once during two trimesters of the academic year.

As well as an on-campus attendance and participation in a study day, 'social presence' is also promoted through online access including use of Elluminate Live to add value to the teaching and cognitive presence comprising the model community of inquiry and collaborative learning as developed by Garrison et al. (2000). In our experience of providing blended learning, and as supported by the literature, students require specific information. This includes information such as online access, explanation of where to find the virtual learning space; requirements of units of study and access to resources, in order to successfully manage their studies and achieve their expectation of course completion. Myers, Mixer, Wyatt, Paulus, and Lee (2011) have used online approaches extensively in the United States of America in the delivery of doctoral programs in nursing, and report similar experiences as ours at Deakin University. We maintain that social interactions between academics and students and those conducted between students are interconnected with both the cognitive and teaching presence. In turn, we claim that these interactions enhance attributes such as scholarship, independence, reflective practice, critical thinking, analysis and evaluation. These highly desired

student attributes are promoted in Deakin University postgraduate courses (Deakin University, 2011) and they are also required for professional practice as a Nurse Practitioner (ANMC Australian Nursing & Midwifery Council, 2006).

Graduate attributes and those required for professional practice provide a framework for each unit and intended learning outcomes for students. Guided by the work of Biggs and Tang (2007), the course curriculum for the Master of Nursing Practice (Nurse Practitioner) contains units of study with clear objectives that align with the teaching approach and assessment tasks. For units of study contained in this course there are blended learning approaches including independent online learning programs, Elluminate Live use for which there are planned activities designed to 'engage' students throughout a trimester of study. Teaching and learning activities also include two separate study days in an academic year where students can access academics face-to-face, be present for oral presentations from the professoriate of School's of Nursing and Midwifery; participate in group work activities and individual oral presentations. In the individual oral presentations students obtain feedback from both peers as well as academics. Face-to-face contact encourages socialisation with academics and other students and importantly, promotes networking with students who have a similar clinical domain of practice. All of these activities, including the use of online resources, constitute blended learning designed to assist students in meeting the requirements of the Master of Nursing Practice (Nurse Practitioner).

Elluminate Live is a real time program (a synchronous and asynchronous computer based application) is accessed via Deakin Studies Online (DSO). This program is extensively used in the Master of Nursing Practice (Nurse Practitioner) to support each student in exploring their clinical domain to develop autonomous practice required as clinical leaders. Access of Elluminate Live is gained through DSO by following prompts to a particular unit of study, thereby gaining entry into a virtual learning space. In using Elluminate Live teaching and learning activities careful planning is required in terms of content delivery by the academic, including the moderator role. This planning is to ensure that students come together in this virtual space to discuss aspects of their study or undertake presentations as part of their assessment requirements. It is necessary for the academic in this moderator role to be aware of each student's presence so that all participants actively engage in planned activities such as peer assessment of oral presentations.

It is acknowledged that peer assessment could be managed inappropriately by students, but as argued by Keppell, Au, Ma, and Chan (2006) and Keppell and Carless (2006), providing constructive feedback to peers is part of collaborative learning. Academics can however, influence the quality of peer assessment by providing appropriate criteria or guidelines. The ways in which students are encouraged to participate in community or collaborative approaches for teaching and learning are intentional for the purpose of promoting student engagement. Collaboration is employed as a medium for both students and academics to become ''co-creators of knowledge'' and gain from ''collective intelligence'' (Redmond & Lock, 2006,

p. 270). Obviously, this medium is also used so that students have access to academics for the more individually related questions surrounding the unit of study. While there are independent learning activities available through DSO, students meet through face-to-face activities available at 'study days' to uphold the notion of 'community inquiry'.

Community inquiry is promoted in the Master of Nursing Practice (Nurse Practitioner) to encourage collaboration between students by sharing of information to support their learning for practice issues related to clinical domains of practice. The promotion of the community of inquiry is achieved by bringing students together through regular and scheduled use of Elluminate Live, communications conducted online and face-to-face interactions at study days. Blended learning used in this course aligns with the shift in higher education today so that it becomes a routine application in the future. Use of online technologies for blended learning is a fundamental part of an educational experience for students because it improves their access to materials (Sener, 2010). The use of web-based online applications according to Garrison, Anderson, et al. (2010) and Garrison, Cleveland-Innes, et al. (2010) has led to collaborative constructivist teaching and learning approaches thereby providing congruence in content delivery. The notion of community inquiry and collaborative learning is explained in terms of vocational education and qualifications, which is the case for students enrolled in the Master of Nursing Practice (Nurse Practitioner), to link theoretical principles related to the extension of practice development specifically for their clinical domain of practice. Students while enrolled in this course undertake practice concurrently with the aim to extend their practice role to the level expected of the Nurse Practitioner in Australia (Gardner, Carryer, Gardner, & Dunn, 2006; Gardner, Hase, Gardner, Dunn, & Carryer, 2007).

The preparation for the Nurse Practitioner role in Australia draws on the social and environmental learning contexts requiring students to be currently engaged in the delivery of care with access to expert health providers as mentors. It is expected that each student identify goals related to their individual learning needs and according to their corresponding unit of study. These experiences influence individually unique constructions of the practice world to shape learning behaviours and cognition related to their clinical domain of practice. The student is therefore, an active participant of their professional learning and their differences related to their learning contexts and situations must be acknowledged (Prosser & Trigwell, 1999) and understood by academics involved in course content delivery. In the delivery of content using blended learning, students need precise information in accessing online course materials and virtual learning spaces. We have found that when students understand how online resources function, they manage very well. Our claim is supported by the findings of a study conducted by Beyrer (2010) where students who had undertaken preparation for online learning were successful in their courses. We assert that blended learning for the Deakin University Master of Nursing Practice (Nurse Practitioner) supports not only student engagement in learning, but also increases their satisfaction of the course and accommodates lifestyle factors.

Conclusion

It has been identified from the literature there are considerable benefits of applying blended learning comprising of virtual online learning spaces that can be enhanced by the model of community of inquiry and collaborative learning. We endorse the use of blended learning approaches including independent activities, Elluminate Live use as a virtual learning space and face-to-face contact with students. The model of community of inquiry and collaborative learning inherent in the Master of Nursing Practice (Nurse Practitioner) has enhanced the flexible innovations of using online technologies. This has been achieved through increased interactions and connections between students and academics thereby supporting our students throughout their course experience.

It is acknowledged that careful and diligent consideration is required in the planning and implementation of blended learning comprising of quality online and face-to-face learning programs to engage students in scholarship. Today nurses are increasingly skilled and resourceful in using online technologies in practice settings to support their professional roles. In light of this skill set, nurses should not be expected to accommodate the more traditional teaching approaches that can impose inflexible timelines and a deterrent continued professional learning and development.

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