Psychosocial Factors in the Success of Electronic Learning Groups

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ABSTRACT

Online discussion groups in higher education potentially foster interaction and collaboration, both crucial for effectively engaging off-campus students and minimising student disengagement. With the creation of electronic learning groups, whose members work together online for mutual benefit, the lecturer/tutor becomes a facilitator rather than a source of knowledge. Exactly how to create and drive these learning groups and maintain a vibrant, useful discussion page is not always clear, and our experience has revealed that only a minority of students do engage actively online. The authors, with lecturing and language and learning advising experience respectively, examine students’ perceptions of electronic learning groups and identify the barriers and facilitators involved in successful participation. In particular, analysis of relevant responses from the evaluation of online teaching in one university nursing course demonstrates the importance of psychosocial support in overcoming barriers to students’ study engagement and success.

Key words: Nurse education; Online learning groups; Student engagement; Psychosocial factors

1. INTRODUCTION

The delivery of on- and off-campus courses typically involves traditional university learning and teaching formats, such as lectures, tutorials, and workshops/practicals. For external students, lectures are podcasted for convenient access and tutorials replaced by electronic learning groups (also called discussion boards/pages and forums). For practicals, face-to-face teaching is often needed; this is provided through intensive on-campus workshops. In e-learning groups students and tutor interact and collaborate to construct knowledge through the relationships developed. Flexible learning options are offered through a variety of online platforms and, more importantly, present students with the opportunity to fit the course into their own work situations [1]. E-learning groups are a means of encouraging and supporting students, monitoring their academic progress, helping them to develop their own area of “expertise”, enabling them to manage their study, keeping them focused, and affirming their achievements. The technology allows academics to engage students and keep them engaged, even without face-to-face teaching. This is particularly relevant for off-campus students who may feel isolated and disengaged; e-learning groups have been mechanisms used to address these perceptions.

The objectives of this paper are: to discuss the facilitators and barriers to successful electronic learning groups; and to identify the benefits that successful engagement with electronic discussion groups brings to students and staff.

After considering applications of e-learning, particularly in higher education, and describing the university course involved (Health of Adults), we describe the formation and maintenance of the e-learning groups, thematise the comments arising from student evaluations of teaching, and analyse the positive and negative aspects, including the factors that facilitate successful e-learning group communication and functioning, and the barriers that arise. Possible improvements for future students are considered, thereby providing potentially useful lessons for others.

2. BACKGROUND

E-learning in higher education

E-learning has been used in various fields, incorporating both synchronous and asynchronous electronic communications. Various examples have relevance for health professionals [2-5]. In higher education, an increasing uptake of online courses has been observed, facilitated by the exponential increase in global Internet access. In Australia, of the 1.135 million students enrolled in all higher education courses in 2009, 12.3% (139,188) were external students (an increase of 5.2% over the 2008 total) and a further 6.3% (71,086) were multimodal [6]. According to the New Media Consortium’s Horizon Report, “The abundance of resources and relationships made easily accessible via the Internet is increasingly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing” [7]. Both within the higher education environment and outside, Johnson et al. [7] identify increasing expectations and needs to work collaboratively in and from a wide variety of contexts. Electronic discussion boards have been shown to supplement face-to-face teaching and foster further learning beyond the classroom [8].

While tutor and students in an e-learning group could be regarded as a “learning community”, with “shared interest, commitment and competence”, it is important, as Stevens [9] cautions, not to take these things for granted; the imperative is for equity. Stevens [9] also highlights the tension arising from constraints on time and space for personal interaction and for reflection, “given the intrusiveness of the digital media and communication environment”. Today’s undergraduates, if they have come recently from high school, tend to be literate in information and communication technologies (ICT), having already used a range of ICT; however, improvements in the performance of students from lower socioeconomic groups, Indigenous heritage and rural students have been shown by Ainley [10] to be at a lower rate than the average for their year cohort. Moreover, it cannot be assumed that mature-aged students have the same ICT competency as school-leavers.
Course description: Health of Adults

The nursing course Health of Adults has a 9-unit value (assuming a 20 hours per week workload) and is offered internally and externally to second-year students. The course aims “to provide students with the knowledge and frameworks that will inform professional nursing practices in promoting, detecting, assessing, implementing and evaluating health care and major illness issues for adult men and women” [11]. By the end of the course, students should be able to: “Apply strategies to conceptualise problems and formulate a range of solutions in promoting and maintaining the health of adults” [12].

External students, from various geographic locations, take this course through: online delivery over 13 weeks using the University’s online learning resources including lecture podcasts, assigned readings, participation in the e-learning groups, off-campus study guide, and attendance at a three-day compulsory workshop. They have access to a range of University learning services and online study workshops, and to online technical and administrative assistance. Students have the opportunity to evaluate the course and lecturer/tutor via online course and teacher evaluation questionnaires at the end of the study period.

All students were allocated to an e-learning group; though participation was not compulsory, it was highly recommended. The discussion board was designed as a learning resource, a means of disseminating information, sharing knowledge and experiences, and providing feedback. Students’ contributions were not evaluated, but received feedback from the facilitator and other students.

One lecturer’s approach to e-learning groups in Health of Adults

E-learning groups (for two groups of about 25 students) were conducted as follows: at the start of the study period (semester), the lecturer/tutor welcomed the group, and invited students to participate in the discussions, beginning with the health priorities that nurses should be addressing. In subsequent exchanges information about assessments and necessary preparations for the workshop were provided. The topics for each week were discussed, guided by questions. The tutor provided guidance concerning further sources of help and information. Throughout the study period, students were encouraged to relate their relevant work experiences, and to bring their questions to the discussion. The tutor created decision scenarios and linked these to real-life events, developing the students’ critical thinking skills. Topical issues were discussed, as the tutor sought to find common interests. The tutor intentionally addressed each student individually, and continually monitored the participation level. A personal, inclusive, conversational approach was the norm. Group maintenance was fostered by affirming and encouraging the group members, convincing them that they could master the work involved. Humour played an important part in achieving a warm, collegial atmosphere. The tutor provided feedback on individual contributions and progress, and also kept up with other lecturers’ postings. Online pre-examination revision sessions were included.

The approach was based on principles for teaching active learning classes in higher education (as outlined in the University of South Australia’s guide [13], drawing on Ramsden, 2003). These six principles are: interest and explanation; concern and respect for students and student learning; appropriate assessment and feedback; clear goals and intellectual challenge; independence, control and engagement; and learning from students. problem-based learning [14, 15] was applied to the case scenarios in the e-learning groups.

3. METHOD

Observation and analysis of the e-learning group discussions identified the nature of the elements of the conversations, whether pedagogical, social, organisational, or technical, similarly to the categories used by Goold, Coldwell, and Craig [16] in their discussion of the roles of e-tutors.

Effectiveness was evaluated by analysing responses from the Student Evaluation of Teaching (SET) for emerging themes relating to the e-learning groups. (This was the only SET evaluation that students completed for Health of Adults; so these responses reflect closely the students’ experience of the e-learning group facilitated by this lecturer/tutor, as this was her main contact with these external students, apart from at a three-day workshop, and also by e-mail and telephone.

The three open-ended questions in the course SETs were examined for comments on the lecturer’s approach to teaching through the e-learning groups – best aspects, ways to improve, and any additional comments deemed relevant. The other ten items called for Likert scale responses to statements relating to teaching approaches and performance (Table 1). The recurring themes drawn from analysis of the students’ responses in this study constituted the experience of engaging in the electronic learning groups.

In addition, the lecturer critically reflected on the e-learning group processes and outcomes, with a view to implementing future improvement; critical reflection involves examining one’s assumptions, values and beliefs and looking at circumstances through a fresh lens in an attempt to gain new insights [17, 18]. Informal anecdotal reports from other tutors running parallel groups in the same course were also a source of data.

4. FINDINGS

The main components of the e-learning group conversations are described first. Under the pedagogical category, various approaches were used to teach the course content, including case studies, scenarios, problem-solving, question and answer, in order to clarify, affirm and encourage the students to reflect critically on the subject matter, and acquire relevant nursing skills. The social category encompassed group maintenance strategies, providing constant encouragement, and building students’ self-esteem and self-belief. The organisational aspect involved ensuring that students were familiar with all the course requirements, and clarifying ways of contacting the tutor and other University personnel/services. Technical matters included providing information on how to access online resources, such as links to podcasts and other resource materials (e.g. medicine calculations, online quiz, and further readings).

As Table 1 demonstrates, there was very little disagreement with any of the statements about the tutor’s role in this course, with an overwhelming majority indicating overall satisfaction.
Further detail is provided in the responses to the open-ended questions.

**Table 1: Responses to the SET 10 core questions**

<table>
<thead>
<tr>
<th>Core questions</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The staff member made aims and objectives clear from the outset</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>… made the subject matter interesting</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>… motivated me to do my best work</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>… provided adequate opportunities for me to pursue my own learning</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>… helped me to develop my understanding of concepts and principles</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>… displayed a genuine interest in my learning needs and progress</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>… gave me helpful feedback on how I was going</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>… used up-to-date teaching and learning approaches</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>… made it clear how her/his teaching developed the qualities of a [University X] graduate</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>Overall, I was satisfied with the performance of this staff member [one and all responses]</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11</td>
<td>19</td>
</tr>
</tbody>
</table>

Themes that emerged from the SET optional text responses were: engagement with the tutor in an enjoyable learning experience; and becoming deep, independent learners. These are drawn from 21 relevant responses of the 23 to the question about the best aspects of the tutor’s teaching (2 related to the workshop) and 11 relevant responses (out of 14) to “Any other comments?”

For ease of reading in what follows, minor corrections have been made to students’ quoted comments (e.g. capitalisation, spelling).

**Engaging the students in an enjoyable learning environment**

The tutor kept the students engaged with their learning, and with the group, the study materials, and the course in general, by being “approachable”, “very understanding”, and “wonderful to communicate with”, and conveying to the students, through her prompt responses and the time that she made available, that she cared about them, their learning needs and study success. This was conveyed through “email comments and advice” as well as via the discussion board, and her “encouragement throughout this course”. Comments included: “She was friendly, positive and showed a great deal of enthusiasm in what she was teaching as well as in the success of me as her student”, and “She genuinely wanted to see us learn and succeed, and she gave great constructive feedback to help us do so.”

The tutor sought to put the students at their ease. Rather than being a daunting experience, e-learning became a pleasant, interesting one in which they experienced a sense of achievement: she asked questions to challenge them, but “didn’t leave you to rot if you were having difficulties answering her questions” and the “good study assistance during swot vac [pre-examination week]” was appreciated. Other comments include: “She provided me with clear understanding of where I am able to improve and also aspects of my studies that I did well”, and “[the tutor] upheld a standard of expectations, which allowed me to structure my learning appropriately and kept me on track.”

Hence, this facilitative role was an integral part of the success of the group. The supportive nature of the discussions, with “clear and easy to understand” teaching, and “a sense of humour”, led students to feel accepted, free to ask questions, and able to achieve.

One student expressed frustration with the e-learning context:

> I find the use of bulletin boards to be a difficult tool to use and to learn with. It takes a lot of time and effort to use, participate in discussions with sometimes very little return …. There is not much discussion between people and not much incentive to do so.

Few respondents identified areas in which the tutor could improve her teaching; one would have liked “a little more on what was expected from essay”, another “more communication with the students and … a lot of exam questions to practise”, and another observed, “Not all my questions were answered as I would have expected”. Two other responses did not refer to the e-learning groups. Some (5) did not suggest improvements, but indicated their complete satisfaction, for example, “I feel she does the best job now.” Further comments included expressions of gratitude for the tutor’s help, and pride in the confidence and knowledge gained:

> I have thoroughly enjoyed this subject. It has improved both my knowledge and skills, and even though being a mature age student, knowing I will have a shortened career in this profession, I feel confident in providing quality care to my clients/patients/residents.

In summary, despite some difficulties with the unfamiliar technology, most students found that the electronic discussion groups made a positive contribution to their undergraduate learning.

** Becoming deep, independent learners**

The tutor sought to extend the students’ learning beyond the basic course requirements, through her questioning techniques, her “enthusiastic approach to teaching” and the topics encountered, and “her passion for the nursing profession”. She was a guide and resource person for them in their learning journey, imparting her own motivation to the students, resulting in their “wanting to know more”. She “pushed” one respondent “to critically think about all tasks including written assessments and nursing skills, and encouraged independent thought, seeking of current and relevant information, to answer one’s own questions.” Another was “excited about extending [her] knowledge and skills, and to continue to improve.” Hence the electronic discussion contributed to developing lifelong learning habits and goals in the students.

**5. DISCUSSION**
Facilitators of successful e-learning groups

The first theme arising from the students’ comments indicates the factors that facilitate successful e-learning groups: fostering student engagement and developing an enjoyable learning environment.

Fostering student engagement

Although student-centred learning is the aim, the teacher still has a role in achieving this. Effective communication skills, developed over many years, were an essential part of the tutor’s ability to engage the members of the e-learning group. In addition to depth of knowledge, good, clear, prompt communication is a fundamental part of good teaching practice. Students were assisted to understand the feedback provided to them. Interpersonal skills fostered group cohesion and maintenance. Teacher effectiveness has been identified, in a school context, as being the greatest single school-based factor in academic performance [19]; this factor cannot be ignored in higher education settings. The approach of the tutor (instructor) has been found to be one of the factors affecting business students’ level of engagement with their studies [20]. The e-learning group was transformed by careful planning into a community of learners, where all members focused on becoming competent to nurse adult patients.

Developing an enjoyable learning environment

The discussion pages revealed that by being approachable, enthusiastic about the course and teaching, passionate, showing a sense of humour, and genuinely interested and caring about students’ well-being, progress and learning, the tutor conveyed a sense of presence. That is, the tutor was someone who was real and very much present, even though not in a face-to-face situation, and the students felt that they were not isolated from the other members of the group.

This sense of presence has been shown to enhance online learning relationships, as students come to feel “that they are present at a location remote from their own immediate environment” [21] and interact with others in the online environment. Moreover, the environment was collaborative, bringing the students closer together and being “visible” to each other. What Vinagre [22] has called “positive politeness strategies” used by the participants in the e-learning groups (for example, helping each other with minor queries about course requirements) contributed to a positive social context and learning environment.

The tutor played a significant role in creating this enjoyable learning environment through being encouraging and positive, generous with her time (checking the discussion board regularly, responding to e-mail messages), helpful, easy to talk to, and inspiring the students. Warmth and empathy were qualities identified by Goodwin [23] as contributing to student achievement, admittedly with younger students, but still relevant in higher education.

Barriers to the success of e-learning groups

It is important to promote the value of e-learning early in undergraduate education and regularly thereafter, so that students participate actively. A lack of understanding of the potential uses of asynchronous electronic discussions can deter or limit their uptake by university staff and students. Students’ differing levels of technological literacy may present barriers to their initial participation. Time constraints can also hinder full participation for both student and tutor. The fact that postings can be read by other students enrolled in the course, not only those in their own group, means that students who are not skilful writers may feel diffident at first, knowing that others may scrutinise their contributions. Also, as shown by one student’s negative comments, unfamiliarity with this technology raises a barrier for some. Technical problems included difficulties in navigating around the site, finding information, and inexperience with this learning context.

Psychosocial and technical aspects of e-learning groups

Of the three domains of learning (cognitive, psychomotor and affective), the affective domain, which encompasses the emotions, feelings, attitudes and values, has often received too little attention, and yet it has great importance for learning [24]. A study environment in which the whole person – body, mind and spirit – is acknowledged, and where the student is central, is conducive to effective learning. This is particularly important for students who as nurses will be engaged in the holistic care of their patients. Holistic care integrates all human dimensions including physical, mental, psychological, social, sociological, cultural, developmental, emotional and spiritual and these should also be considered in higher education.

As is evident from the above, the single most important factor in the success of the e-learning groups was the leadership of the tutor, creating “a hospitable space for learning” [25]. The tutor’s presence and dedicated contribution of time fostered optimal collaborative learning. Even when she felt that she was talking to herself at times when students were not contributing to the discussion, she persisted in engaging with the silent students (“lurkers”) and drawing them into the discussion. The tutor’s interaction was essential to building students’ confidence in using the discussion board and their belief in themselves and their own abilities to succeed in the course and as nurses. As relationships were built up, the students felt more comfortable to participate and so achieve the desired learning outcomes [26].

Some technical hurdles lessened a few students’ engagement with this electronic learning environment. Despite its flexibility, suitability, and functionality, which met the needs of most participants, for others the human touch – the body language, tone of voice, etc. that are part of face-to-face communication – was missing. For the more “tech savvy” students, the lure of potential distractions while online (such as social media) may have affected their participation.

In 1998, Professor Fay Gale stressed the need for universities to recognise “the demand for human skills”, even greater in “virtual campus” situations [27]. Earlier still, Naisbitt [28] demonstrated that “whenever new technology is introduced into society, there must be a counterbalancing human response – that is, high touch – or the technology is rejected. The more high tech, the more high touch.” (See also our 2008 paper [29].)

Benefits of successful engagement with electronic discussion groups

When electronic discussion groups work well, there are benefits for students, staff and, by extension, the learning and teaching context.
Students

E-learning groups provided a place of growth for off-campus nursing students, and, as shown above, guided their development as deep, independent learners. To begin with, they were provided with knowledge and instruction, shown where to find the latest correct information, given direction in finding further information for themselves, and their thinking and practice were challenged – in areas of decision making, care planning, competencies, and improving patients’ health outcomes. They were up-skilled, not only in nursing, but also in computer technology and use, which would play an important role in their future nursing careers.

The e-learning group provided feedback, helping them to understand where they could improve and affirming their progress. This helped sustain their motivation to continue their studies and do well. This course targeted all but one (international perspectives) of the qualities that our graduates should possess, the others being acquisition of a body of knowledge, lifelong learning preparation, problem solving skills, ability to work both autonomously and collaboratively, ethical action and social responsibility, and effective communication [12]. The e-learning group was instrumental in contributing to developing these qualities to varying degrees. For example, on the topic of pain control, problem solving and collaborating with other health professionals were part of finding creative ways of pain management, including non-pharmacological approaches.

Staff

As revealed by self-reflection and informal discussion, staff members received many benefits from being involved in the e-learning groups. First was the satisfaction that came from knowing that students were engaged in their learning and achieving competencies in their field. Lecturers’ experience with diverse teaching methodologies was expanded and enriched as they learned to change from being seen as sources of knowledge to being seen as e-tutors facilitating learning, and even coaching and encouraging students to do their best, find answers for themselves, assess information critically, be creative and think laterally. Tutors learned from each other, as they shared resources and observed others’ lively discussion groups. Students’ recognition of the tutor’s contribution to their successful learning was shown not only by the SET results, but also by the many informal expressions of thanks.

As university staff become more familiar with these new learning and teaching contexts, they are open to seeing the possibilities for extending their use, and ways in which technical improvements can aid ease of navigation, particularly for new students. Later innovations can be incorporated to enrich the electronic platform, and the learning environment.

Continuous improvement and future directions

Modifications have been implemented in subsequent online nursing courses to improve the students’ experience. These include: clarifying course objectives and outcomes, tutor’s role and expectations of all involved (respecting and listening to each other, readiness to participate, “netiquette” and no “put downs”); agreeing on group norms; giving more advice concerning how often to check e-learning group postings, and the times that the tutor will be checking the postings or e-mail each day. Each topic is outlined at the beginning of the week, and at the end of the week review questions are used to recapitulate the highlights. Good quality questions posed by the tutor sustain the online conversation. All students’ questions must be welcomed, and none trivialised. In addition, early activities for getting to know each other help the group to “get off the ground”.

Appropriate professional development and mentoring from those more experienced is important for new e-tutors [16]. While the University has a store of online teaching and learning guidelines [30], a useful addition for staff would be discipline-specific good practice guides.

In future, an aspect of e-learning groups that needs addressing is low participation, as some students preferred to be silent listeners/viewers or to avoid taking part at all. In considering how to increase active participation, factors identified by a practitioner at another level of education; a Victorian senior secondary school teacher has described the advantages of using electronic discussion for his English class, and also the areas in which participation could be improved – through explicit teaching of skills (posting and replying), and showing the relevance and advantage of the students’ participation [31]. Moreover, apportioning marks for online contributions is another way of ensuring wider participation. As mentioned earlier, meaningful learning relationships are conducive to greater participation in online learning [26].

Additional technology can be incorporated into the basic discussion board platform to increase its interactivity. For example, the use of Skype, Voice over Internet Protocol (VOIP), and “second-life” virtual reality (for example, student nurses directing an “avatar” to complete tasks in an online scenario) could enhance the online learning environment. It is important to realise, however, that technology is simply providing the structure; rather than letting students move around without direction, a good e-tutor is a must. The Horizon Report [7] envisages a wide range of emerging technologies that will play an increasingly greater role in higher education over the next few years, including mobile phones, augmented reality, and game-based learning. Educators need to be aware of the technologies that their students will be using outside of their studies, and have the flexibility to incorporate these where appropriate. At the same time, the whole of the student’s experience must be kept in mind, rather than focusing excessively on one particular innovation [32].

6. CONCLUSION

The outcome of a well-maintained and structured electronic group is the formation of a learning community, building bridges and linking the participants in a fully engaged group. A limitation of this study is that it is based on the perceptions of one tutor’s students in one course. Nevertheless, its findings provide pointers for other situations in which e-learning groups are used. An instrument designed specifically to evaluate e-learning groups and their engagement would be appropriate. Other suggested improvements and plans for future implementation have been considered here.

This paper has highlighted the central role of the tutor/lecturer in creating and maintaining such a group in a higher education learning and teaching context. The tutor provides the essential human touch, which has long been recognised as integral to the optimal use of technological innovations. The most significant
achievement of the e-learning group described was its ability to facilitate human interaction and provide psychosocial support to students as they grappled with new knowledge and skills. In the process of fostering a learning environment in which the human touch is never forgotten, the skilled facilitator is also rewarded by the e-learning group relationships that develop.

7. REFERENCES