

Benefits of An Online Discussion List in A Traditional Distance Education Course

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INTRODUCTION

With a changing composition of the student population in higher education, there is a greater push for flexible delivery of courses. The student role is often a secondary one, with many students engaged in full time primary tasks associated with their career or family. The ability of these students to have contact with other students and their lecturer without spending inconvenient and large amounts time on campus is a now a common feature that motivates their choice of course and institution. Distance education, in being both time and place independent, is an attractive study option for these students who cannot commit to the role of the traditional internal student because of life circumstances.

In order to meet learning outcomes, educators may need to be flexible in their choice of teaching tools in distance education delivery. This paper outlines the challenges faced in teaching a course on recreational drug use and abuse via distance education. Initially using traditional print based educational materials, the lecturer had difficulty offering students the opportunity to challenge negative stereotypes and assumptions relating to drug use. This paper chronicles the introduction and evaluation of an asynchronous discussion list based on the constructivist model of learning.

CONTEXT

A course on recreational drug use and abuse is a core course for social work and health promotion students at Central Queensland University and an elective for nursing students. Since its inception, this course has been offered via distance education. At the beginning of each study term students receive their print material which consists of a course profile outlining course and assessment details, a book of prescribed readings and a study guide introducing concepts to 'guide' them through their study. Students are required to submit two written assignments. Evidence suggests that health professionals generally have limited knowledge about the area of drug abuse and hold attitudes that are punitive, critical and dismissive towards patients that abuse substances (Selleck & Redding, 1998; Lowe, 2000; Howard & Chung, 2000).

Feigenbaum (1995) argues that stereotyping and negative perceptions held by nurses lead to lower standards of nursing care being given to clients known to use illicit drugs. Happell and Taylor (2001) state that there is clear evidence in the literature that general nurses find it difficult and unpleasant to care for clients with alcohol and drug problems. Negative attitudes, judgements and stereotypes in any area of health care are unlikely to result in composite, holistic views of health for which health professionals strive.

Providing a course on drug use and abuse via the traditional distance education mode described above provided limited opportunities for students to challenge and debate negative stereotypes and assumptions. The course appeared to operate in a 'transmissive paradigm'. Although students were exposed to controversial points of view via set readings, it was not essential for them to read or consider these in order to pass the course. One assessment item had an experiential component where it challenged students'

assumptions and stereotypes. . Despite this, it was difficult to measure whether students developed less negative stereotypes and were not simply reflecting the assessor's expectations. Disappointingly, some students continued to express negative stereotypes and assumptions in their writing.

The limited literature in this area advocates use of interactive workshops employing experiential type teaching (Norman, 2001; Happell & Taylor, 2001). Student isolation, inherent in the traditional mode of distance education, limits opportunities for interaction. Student-to-student interaction was unlikely to occur unless geographically close students initiated the interaction. The majority of lecturer-student interaction was related to assessment requirements. Students who scored poorly were requested to discuss their difficulties with the lecturer and devise strategies for improvement. Interactive communication strategies appeared to be required in order to challenge beliefs and create an environment conducive to learning that was broader than just the singular pursuit of engaging with relevant literature.

An understanding of the constructivist model of learning provided insight into directions to take. Constructivism, described by Cottrell (2001) as one of the most influential models of learning, has the basic premise that when new situations are encountered pre-existing schemata are built upon. She is careful to qualify that potential learning situations may not necessarily result in learning taking place. In fact, many potential learning situations are likely to have an outcome of exposure rather than one of transformation. Further, the experience may only result in learning if it fits the learner's pre-existing schemas (Bartlett 1932, cited in Cottrell, 2001). Vygotsky (1978) highlighted the critical importance that social interactions and culture play in influencing learners about what to pay attention to. Thus, if the course content is meaningful within the student's particular social context and their cultural and value system, learning is more likely to occur. In addition, Mezirow (1997) reinforces the importance of communication in learning and suggests that the essential mechanisms for learning to occur are experience, reflection and discourse.

Using the constructivist learning principles, an educational tool to effectively challenge students' pre-existing attitudes and assumptions towards drug use would need the following attributes. It would need to be interactive, validate students' current knowledge about drug use, be meaningful in terms of their potential profession and community participation while directly relating to course requirements. Oliver (2000) suggests that technology-based approaches to learning provide ideal opportunities for constructivist learning through their capacity to be resource-based and student-centred and by enabling learning to be relevant to context and practice. The introduction of an asynchronous discussion board to the existing course was seen as a means of meeting the challenges experienced in the teaching of this course and the associated learning by students.

There is a plethora of literature on the use of asynchronous chat sessions or discussion lists to promote student learning. As McLoughlin and Luca (2000) state, the literature abounds with promises suggesting that discussion lists will provide the ultimate learning experience; an interactive environment where learners will engage, build knowledge and apply critical thinking. Bunker and Ellis (2001) regard discussion lists as the electronic equivalent to an on-campus tutorial or seminar. Oliver (2000) warns against blindly accepting such promises and argues that while advanced technology gives on-line courses a favourable appearance, many such courses fail to deliver in terms of teaching and learning quality. For this reason a further review of literature is required into the constructivist model of learning focusing on the social aspects and the construction of knowledge.

Aldred and Reid (2003) describe three elements relating to the social dimension of effective on-line learning; social presence, collaborative learning and interaction. Social presence is a critical factor in communication because, for effective communication to occur, the communicator needs to believe that the communication and the communicator is perceived as salient by the receiver (Short, William & Christie, 1976). Richardson and Swan (2003) interpreted this as the perception that the communicator is 'real' in a computer mediated environment. This is associated with the concept of teacher immediacy, the perceived psychological distance between the teacher and students as influenced by the

teacher's verbal and nonverbal behaviours (Gunawardena & Zittle, 1997). Richardson and Swan (2003) conclude from their research that social presence and teacher immediacy affect the outcomes of the students' learning and the level of satisfaction experienced by both student and lecturer.

Collaborative learning facilitates the processes by which learners articulate, conceptualise and reconceptualise their own understandings of the subject area (Aldred & Reid, 2003). McLoughlin and Luca (2000) suggest that collaborative learning that takes place in discussion lists is a form of scaffolding, an essential element in a constructivist model of learning. Scaffolding is essentially the process by which the teacher makes explicit the links between the previous and new learning (Cottrell, 2001). Within a computer mediated environment McLoughlin and Luca (2000) argue that the interactions between peers act as scaffolding. As learners articulate ideas to each other, regardless of the different levels of abilities, a more explicit and organised understanding emerges. Johnson and Johnson (1999) report that peer learning that emerges with collaboration promotes greater conceptual and procedural gains for students, accommodates a broad range of learning styles, results in greater enjoyment of the learning task, and encourages a stronger persistence in learning.

Interaction is a fundamental process in on-line discussion and in collaborative learning. It is also an essential element in the constructivist model of learning. Northover (2002) outlines a number of factors essential to the success of interaction in an on-line discussion. These include:

- value to the student in terms of meeting their learning outcomes
- a discussion that is challenging and of interest
- the student feeling safe when contributing
- feedback from the lecturer that the contributions are worthwhile
- encouragement from the lecturer
- the learning from the discussion board is realistic and meaningful to the student.

McLoughlin (2000) suggests that social interactions that contribute to peer learning are as important as those that demonstrate higher order thinking. Bunker and Ellis (2001) suggest that the perceived anonymity of discussion lists can encourage the shy learner who may hesitate to interact in face-to-face teaching and fail to ask for assistance or clarification if needed.

Vygotsky (1978) emphasised the link between the social environment and knowledge acquisition. The potential for higher order thinking in a discussion list that is grounded in the constructivist model is well acknowledged (McLoughlin & Luca, 2000; McAteer et al., 1997; McLoughlin & Oliver, 2000). However, McLoughlin and Luca (2000) observe that there is limited empirical data demonstrating that such higher-order thinking actually occurs. McLoughlin and Luca (2000) analysed student postings to a discussion list and found minimal evidence on the construction of new knowledge. Despite this, they acknowledge that discussion lists have the potential to achieve higher order thinking when careful facilitation and scaffolding are provided. Nanlohy and Munns (2000) in their analysis of postings found a mixture of interactions promoting both social support and knowledge acquisition.

DISCUSSION LIST DESIGN

The resultant discussion list design was based on the constructivist model of learning. In order to motivate students to participate it was given an assessment weighting. Students were asked to respond to a weekly topic at least five times during the term in order to gain 10%. The quality of the responses was not assessed, however students were given a set of guidelines for their responses. (See Table 1.)

Table 1. Guidelines for Student Responses

Responses needed to be at least one paragraph and should be one of the following;

1. an opinion supported by literature or media discussion
2. a comparison with current or historical issues relating to the topic
3. an opinion based on social norms (Be very careful here to be objective, not to moralise and not to preach)
4. an observation of the issue in relation to the current political climate, national or international events
5. a support or challenge to another person's response. However, the response should follow the previous 1-4- guidelines. Do not be personal.

(Source: Drugs in Society Course Profile 2004. CQU)

The weekly topic was selected from recent media reports, including newspaper articles and transcripts of radio or television programs. The topic was chosen on the basis of its potential to challenge commonly held stereotypes or assumptions on drug use and the level of interest it may have for students. The social dimension of the discussion list was fostered in a number of ways. The initial introduction by the lecturer was personal and friendly and students followed this model with similar introductions. The guidelines for responses given to students (See Table 1) helped to ensure the learning environment was perceived as safe and gave students some structure for their responses.

EVALUATION

The overall goal in providing a discussion list and promoting subsequent conversations was to provide a learning environment where there would be evidence that students were challenging stereotypes and attitudes in relation to drug use and abuse. If stereotypes and attitudes were effectively challenged, evidence of construction of new knowledge would be expected. Content evaluation of the online discussion postings is essential in order to determine the measure and type of interactions students are posting. This evaluation involves assessment of student responses against a given criteria model.

There are a number of evaluation models and frameworks for analysing the content of discussion lists with each related to a theoretical perspective (Nanlohy & Munns, 2000). As it was desirable to determine the cognitive level at which students constructed new knowledge, the content analysis model developed by Gundwardena, Lowe and Anderson (1997 in McLoughlin & Luca, 2000) was used. This model proposes five phases of analysis with each successive stage relating to a higher level of knowledge construction as seen in Table 2.

Table 2: Content Analysis Model

Phase 1 Sharing and comparing information	Verbal transactions take the form of statements and observations
Phase 2 Discovery and exploration	Students become aware of differences in views and interpretations. There may be questions, clarifications and elaboration of concepts
Phase 3 Negotiation of meaning and co-construction of knowledge	Evidence of negotiated outcomes and areas of agreement and disagreement and proposals for shared understandings
Phase 4 Testing and revision on ideas	Interactions would include statements of evidence against criteria, examples and investigating alternative viewpoints
Phase 5 Awareness of newly constructed	Evidence of metacognitive statements demonstrating new knowledge construction and reflection on areas

knowledge

of agreement and differences.

(Developed by Gunawardena, Lowe and Anderson (1997) adapted from McLoughlin and Luca 2001)

The total number of students enrolled in the two offerings of the course was 170 (75 students in 2003 and 95 on 2004). Of those, 10% or 17 students did not contribute to the discussion list at all.

All discussion list postings for this course were analysed using this model and categorised into the five phases of cognitive development. Our analysis showed that responses were spread across all phases with the majority being classified under Phase 1 and Phase 3. There were only small differences between 2003 and 2004 results in Table 3.

Table 3: Content Analysis of Student Postings using Gundwardena et al (1997) Model

Phases indicating level of knowledge construction	2003 - % of total responses in particular phases (n=325)	2004 - % of total responses in particular phases (n=386)
Phase 1	20%	32%
Phase 2	20%	18%
Phase 3	31%	34%
Phase 4	11%	8%
Phase 5	9%	8%

The percentage of postings under Phase 1 categorization demonstrated a number of social themes. These included personal stories where the participants disclosed information about family, job and what program of study they were undertaking and reasons for choosing the course. Most students introduced themselves at the beginning of the course. The percentage of responses categorized under Phase 3, 4 and 5 showed evidence that learners applied theory to practice situations within their discipline and shared common or disparate views of the content or the stimulus topics provided.

There was evidence of critical analysis of both peer ideas and media content presented. Students at times negotiated meanings and areas of agreement with each other. At other times students showed evidence of reconstruction of knowledge by expressing change in attitude and/or understanding. Each of these is evidence of higher order thinking (McLoughlin & Luca, 2000). The authors believe that the evaluation of student scripts also demonstrated evidence of social presence and peer learning through the frequency of and quality of responses. It is interesting to note that when teaching in the traditional distance education or face-to-face modes, the authors had no such real systematic evidence of these cognitive changes in learners.

To embrace the constructivist model of learning in teaching, McLoughlin and Luca (2000) argue that learning needs to be imbued with authentic contexts. This was achieved in this discussion board with the use of topics that were contemporary, relevant to the student's chosen profession and were directly aligned with the content of the course. The topics were chosen from everyday media. This was likely to add to the authentic context of the learning as the topic was accessible to the student in their everyday life and the community in which they lived.

The social elements of the discussions are apparent in the results with the total cohort of students introducing themselves early in the term (and some in pre-term). It should be noted that Phase 1 interactions consist of not only of the social elements but also of content information. Most of these types of responses occurred during the first weeks of

study, showing the effectiveness of icebreakers and promoting progressive development of the cognitive level of discussions. This social element supports the Gundwardena, Lowe and Anderson (1997 in McLoughlin & Luca, 2000) model that suggests there should be consolidation at the lower phases before discussion enters higher phases of cognitive activity. This development occurred more quickly because social space was virtual and the individual was physically invisible. The social constructivist model of learning emphasizes the importance of the social nature of learning and in online discussions learning is enhanced with the formation of a social environment.

The lecturer and the students themselves were able to provide scaffolding for the learning process. At the beginning of the term the lecturer provided scaffolding by providing model responses and by showing learners how to link the weekly topic with the other study material. Using these model responses, students chatted to each other about the weekly topic, refining and organizing their understanding of the area. In this way, not only did collaborative learning occur, but students were able to scaffold their peers' learning thus increasing the potential for higher order learning to occur.

There was a clear goal for the students to respond to the discussion list. They would be awarded 10% of their assessment. Although there was a minimum number of times students were required to respond, the 10% was not aligned to either the quantity or quality of their postings. It should be noted that most students responded more than the minimum number of times specified (as seen in Table 3). Biggs (1999a) noted that constructive alignment of assessment (that is the 10%) drives the learning activities (the discussion) which drives the achievement of course outcomes; in essence the students are operating at a higher critical cognitive level as a result.

A further goal for students was the freedom to respond in whatever structure suited them. Biggs (1999b, p.61) argues conceptual change is more likely to occur in learning if the outcome is apparent and students feel free to focus on the learning task, not on 'watching their backs'. Students were able to respond to this discussion list without the pressure of knowing what they are writing is being judged for assessment purposes. Further, the perceived anonymity experienced by the students, may have supported the motivation to respond. Encouragement for responding was given by other students in addition to the lecturer.

Giving students a set of guidelines for responding (Table 1) appeared to help in providing a set of safe parameters for the students. Aldred and Reid (2003) stated that a constant theme throughout the literature is the need for the learning environment to be perceived as safe. The guidelines promoted objectivity and the need to respect others' opinions. They were reinforced by the lecturer the few times when students transgressed. This perception of safety is likely to be necessary for the formation of social presence. Development of social presence may have been reinforced by a sense of teacher presence with many student responses including a comment to the lecturer in addition to other students. It was noted that as the term progressed student responses waxed and waned according to the assessment demands and, towards the end of the course, the number of responses dropped off. However those that continued to respond often exhibited high levels of reflection and construction of new knowledge.

Ten percent of students did not participate in the discussion list and consequently lost 10% of their total assessment. The reasons for non-participation were not ascertained. Various reasons could be postulated including lack of computer and/or network connections or poor computer skills. However, critics of web-based learning suggest that some students will always feel disconnected in this type of environment with no face-to-face contact (Bullen, 1998).

CONCLUSIONS and IMPLICATIONS for PRACTICE

This paper has outlined the introduction and evaluation of asynchronous online discussions list to an established distance education print-based course. The evaluation demonstrated its success in fostering an environment where students could develop higher order

thinking. The authors attribute its success to ensuring the elements of a constructivist model of learning were incorporated in the design and use of the discussion list. Online discussion lists are ideal teaching tools for a student population who choose to study via distance because of their life circumstances. They can foster collaborative learning, provide the opportunity for students to interact with each other and the lecturers, and engage students in debate and discourse that would normally not be available via distance learning. The use of discussion lists in a course on drug use and abuse was an exciting experience for the lecturer. The communication between students, and students and lecturers on contemporary issues was enlightening. Students demonstrated respect for differing points of view and were able to negotiate with each other for shared understandings. Students demonstrated attitudinal change in their postings with some commenting on these changes in their belief system. It should be noted that the authors were unable to obtain ethical clearance in time to add student comments. The authors identified that implications for practice include use of this form of e-learning as a complementary resource in distance education, the need to give students rules for responding, provision of content that has real world context and acceptance by the teacher of the facilitator role, the 'guide on the side' rather than a 'sage on the stage'. The type of learning displayed by the students demonstrated the benefits gained from adding an on-line discussion list including attitudinal change and the opportunity for academic discourse between students.

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