

The role of e-teaching in e-learning

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Interaction has long been a defining and critical component of the educational process, and it has been suggested that asynchronous interaction may provide an ideal environment for learning. Promoting interaction requires rethinking of traditional learning and teaching roles, informed by research into learning and teaching activities, and the outcomes of such interaction. This paper presents the findings of doctoral research that used a grounded theory approach to generate insights into how participants interacted in an asynchronous, text-based discussion environment. A brief review of the impact of existing management structures on the introduction of learning is provided. The paper then presents the findings that emerged from the study and reflects on the teaching role that challenges some existing conceptions of a diminished role for teachers.

Keywords: computer mediated communication, teaching, learning, distance education

Introduction: An Australian e-education case study

The research used a grounded theory approach to investigate participant interaction in an asynchronous discussion forum designed to facilitate learner construction of knowledge. The context for this study was an education, post-graduate course offered at an Australian University. This topic is of interest as discussion forums were included in many online courses at the University and were also used in conjunction with on-campus courses. Their use is based on the belief that the forums would provide a vehicle for participants to interact and build their knowledge of discipline areas.

The course operated over a semester of 14 weeks as a fully online course, with no face-to-face component or printed media, with both national and international learners and teacher. One of the key design features of the course was the use of asynchronous discussion forums to facilitate interactive and collaborative learning. The forums that were the focus of the research were a series of "reflection" forums (Schön, 1991) where the learners reflected on discipline theory presented in the course, and how it related to their own professional context. The learners posted their personal reflections to a shared forum, and these postings were part of the assessment of the course and provided a foundation for the final assessment item. The course was one of the first courses specifically designed for e-learning at the University, and the research showed that the existing context, including management systems, impacted on the implementation of e-learning.

Institutional context: Moving from distance to e-learning

The University had offered print-based distance learning for over 25 years, and online learning since 1996. In this study the existing institutional context provided both opportunities and challenges for the introduction of e-education. Existing distance education systems provided a springboard for a systematic process for the creation and delivery of content, while design and development quality assurance processes and existing centralised systems to administer the learning management system, enrolments and learner queries were already in place. However, the existing processes for development of print-based content were transferred to the e-learning environment, which meant that opportunities to reconceptualise the learning experience were lost, with e-learning, in many cases, still conceptualised as the "delivery" of a product. Many courses were based on distance education print based courses, with the print content digitized and delivered online, and some interactive "add-ons", such as a chat facility or discussion forum. These add-ons were often of little pedagogical value so were ignored by students and the potential for interactive learning was lost. Zemsky and Massy's (2004) report on the failed uptake of e-learning in America, *Thwarted Innovation: What Happened to e-Learning and Why* suggested that the promised boom in e-learning did not eventuate as expected because e-learning took off before people really knew how to use it. When a new technology is introduced, such as online education, it creates the opportunity to innovate and change existing processes, however, the compression of the innovation process meant that

new technology was introduced before educators and learners were prepared for the changed learning environment. The use of technology in higher education does not necessarily mean that there are improved learning outcomes, or a higher quality learning experience for the students. Research found that most university faculty who respond positively when asked “do you utilize e-learning?” reported that their principal use involved either a course management system like BlackBoard or WebCT, to distribute learning materials (Zemsky & Massy, 2004). These materials were often using online Power Point lectures, thus the basic teaching style remains largely unchanged. Most Faculty, even those who champion e-learning, still teach largely as they were taught (Laurillard, 2006).

Laurillard (2002) suggests that “the key issue is the quality and type of learning activity the communication media can support, and the role they play in the learning process as a whole” (p. 147). She suggests that the use of communications media in education is based on the assumption that students can learn through discussion and collaboration, even at a distance and asynchronously. Investigating this assumption was the focus of my doctoral research. Course design in this research was based on constructivist pedagogy and learning activities were designed to take advantage of interactive opportunities provided by communication technology. The research investigated the nature and function of asynchronous communication in facilitating learning.

Research findings

The grounded theory research (Strauss & Corbin, 1990) revealed that participant interaction was effective in generating knowledge within the e-learning community. From the grounded theory analysis of data from the participant postings in the reflection forums, a core category: “interaction as a facilitator of learning” and three supporting categories emerged. The supporting categories were “teaching role”, “building a learning community” and “generating knowledge”. The teaching role had three subcategories: structuring learning, facilitating learning community, and promoting cognitive learning. In keeping with the grounded theory approach, a detailed review of the literature was not conducted until the data analysis was finalised. Once the core and supporting categories were identified, they were compared to other findings in the literature. This revealed that the categories that emerged from my grounded theory approach confirmed and extended the findings of research conducted by The Canadian Institute of Distance Education Research (CIDER), the research arm of the Centre for Distance Education at Athabasca University, a Canadian Open University. The CIDER research into critical inquiry into a text-based environment (Garrison, Anderson & Archer, 2000) suggests there are three elements essential to an educational transaction: cognitive presence, social presence, and teaching presence. It was clear that the indicators and categories generated in this research through the iterative, grounded theory coding process were similar, although not the same, as several of the categories identified in the CIDER research.

An interesting finding of the study was the importance of the teaching role in facilitating the online learning community, and thus the generation of discipline knowledge. This finding challenges some existing literature that suggests teachers act as “a guide on the side” (Jones, 2006), which could be taken to indicate that teachers should step back from a proactive teaching role. However, this was not the approach undertaken in the course in this study. The data indicated that it was the active role the teacher played in creating a learning environment which enabled participants to collaboratively generate discipline knowledge. Based on these findings, it is argued that the active teaching role is important in both designing the e-learning environment and facilitating e-learning once the course is operational. This finding could be seen as conflicting with a constructivist approach to interactive education that moves the teacher away from the centre of the “instructional” activity and focuses on active student learning. It is argued here that this is not the case, as the teaching role promoted an active learning role. While the teacher was a co-creator of the learning community and discipline knowledge, the role was as a facilitator of learning, not as the centre of the learning process. In order to develop a learning-centred approach, there are several design and facilitation activities the teacher can implement.

Activities to implement e-learning and e-teaching roles

Implementing e-learning provides teachers with technology to support constructivist pedagogy, in particular, an interactive learning environment. For this paper we will presume that educators support constructivist pedagogy, and are keen to implement an effective e-learning course, and not are being coerced into implementing e-learning. If directed by management to implement e-learning, it is likely that

teachers will transfer unchallenged, traditional educational theory and practice to e-learning, and the opportunity to create interactive, learning centered environments lost. The e-learning environment may be new to many learners, and approaches to learning and expectations of the participants require clarification. Management should support teachers to develop a range of strategies to respond to the often conflicting expectations of stakeholders (students, management, industry, etc), that expect a teacher centred, content driven process; and contemporary educational theory that argues for learning centred, active, even self-directed educational processes.

Examining e-learning and teaching roles

The online environment creates an opportunity for new modes of teaching and provides access to different cohorts of students with different needs and expectations from on-campus students. Garrison and Anderson (2003) suggest that “e-learning is a disruptive technology in traditional institutions of higher education because it threatens the sustaining technology – the lecture” (p. 106). Despite other approaches, such as tutorials, group work, problem and self-paced learning, the lecture remains the dominant teaching strategy in many higher educational contexts. E-learning can fundamentally change the traditional transmissive approach to education, so its adoption creates a complex set of challenges for practitioners as they embrace new pedagogies, develop new technical skills and adjust to changes in their teaching role. Many of the skills teachers develop for on-campus teaching no longer apply in e-teaching, and so they must “unlearn” certain teaching methods as much as they need to learn new teaching approaches.

In this study the data revealed that well designed and moderated online discussion groups can operate as critical learning communities and that the teacher played several key roles in establishing and maintaining the critical learning community. These roles involved course design and implementation. The teacher can create an interactive learning environment through pre-course design activities, and then support a critical learning community by adopting a pro-active facilitation role, once the course is operational. In this study data revealed that the teacher was able to create a learning environment where learners used interaction to build a learning community and through that interaction, generate discipline knowledge. The challenge then is to design and facilitate an e-learning environment that incorporates the three essential components for learning focused interaction – the proactive teaching role, a supportive learning community and facilitated knowledge generation.

Given this central teacher role, resources to support and engage teachers in meaningful professional development and reflective practice are essential. Time is required for critical discourse to tease out what it means to be a teacher in the new millennium, how an e-learner is defined and what learning environments support these roles. Teachers are often required to work in teams to design and implement online courses, so course development timelines are often out of the teachers’ control and ownership of intellectual property can also be an issue. The e-course is also in the public domain, open to scrutiny by peers, which is quite different from the more transient and relatively private nature of on-campus lectures. The tensions created by the introduction of e-education can be addressed through institutional planning and professional development. The changing teaching roles should be nurtured and supported.

In the study many participants were new to e-learning so an important component of the teaching role included explaining the design of the course and the structure of the learning experiences. In this study the teaching role included persistently reading and responding to forum postings to encourage and maintain dialogue. Anderson, Rourke, Archer and Garrison (2001) suggest that “the teacher’s role is more demanding than that of other participants, and carries with it higher levels of responsibility for establishing and maintaining the discourse that creates and sustains the social presence” (p. 7). The commitment required by the teacher was demonstrated in an example of the number of responses to learner and teacher initiated threads in one discussion forum. The teacher initiated 4 threads, while the students initiated 13 threads. The teacher posted a total of 27 times, while the students posted 36, giving a total of 63 postings in the forum. While this quantitative data does not give any insight into the nature of the discourse, it does indicate that the teacher had an active role in responding to student initiated posts. In keeping with the constructivist philosophy that informed the course design, the data indicate that there was strong teacher presence as a facilitator, rather than director, to facilitate the building of a learning community. This was indicated by the small number of teacher initiated posts, however, the teacher still had a strong presence, demonstrated by the twenty-seven of the total of sixty-three postings in the forum. Garrison, Anderson and Archer (2000) suggest that:

The binding element in creating a community of inquiry for educational purposes is that of teaching presence. Appropriate cognitive and social presence, and ultimately, the establishment of a critical community of inquiry, is dependent upon the presence of a teacher. This is particularly true if computer conferencing is the primary means of communication for an educational experience (p. 16).

Tension between interactive and independent learning

The e-learning environment creates a tension between possibilities for interactive and collaborative nature of learning supported by communication technology and the flexibility and independence offered by the online learning environment. Current e-learning theory is based on a constructivist philosophy (Jonassen, 1999) and social learning theory (Lave & Wenger, 1991) that focuses on learning centred, collaborative and practice-based pedagogy. Constructivism recognises the dual nature of learning based on the learner constructing knowledge through individual reflection and social interaction. This approach challenges the traditional institutional teacher centred, transmissive pedagogy. While the educational value of using a social constructivist approach is supported in the literature (Jonassen, 1999; Karagiorgi & Symeou, 2005), individual constructivism is also a valid educational strategy. Achieving an educationally appropriate balance between individual and social constructivism, i.e. requiring participant interactions, or allowing independent learning, or a mixture of both approaches, requires further research.

Conclusion

The research showed that interaction was a key activity that enabled the participants to build and participate in an e-learning community. It revealed that the teacher had an important role in managing and facilitating an interactive learning environment, through both the design and implementation of the course. The teaching role was complex and integral in the building of a learning community and facilitating the generation of discipline knowledge. With research (Zemsky & Massy, 2004, Laurillard, 2006) showing that the basic teaching approach remains largely unchanged from traditional modes, and increasing interest in web becoming a medium for delivery (webcasting), the debate surrounding the role of teaching in learning centred pedagogy is an important discussion for higher education.

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