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Interactions in a web-based learning environment: creating an online learning community

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INTERACTIONS IN A WEB-BASED LEARNING ENVIRONMENT: CREATING AN ONLINE LEARNING COMMUNITY

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DECLARATION

I, Shirley F. Corrent Agostinho, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Education, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Shirley F. Corrent Agostinho
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ABSTRACT

The educational technology literature is replete with claims that the use of the World Wide Web has the potential to revolutionise education, yet there is little research that substantiates these claims. The literature highlights a gap between visionary rhetoric and current practice. It is argued that such a gap exists because there is not enough detailed description provided about Web-based innovations at the level of interaction and pedagogy. This study addresses this gap by examining the interactions established among students and an instructor in a postgraduate subject delivered using World Wide Web and videoconferencing technologies. The purpose of the study is to inform the evolution of pedagogical strategies for Web-based learning environments. The method of inquiry was a collective case study comprising two cases, which were two implementation cycles of the same subject. Both cases involved two geographically separated groups of students and the technology was used to facilitate interaction between the two groups. The insights gained from the first case were used to redesign the teaching and learning environment for the second case. Data collection occurred through participant observation. Interviews and questionnaires were conducted; documents and artifacts were collected. Data analysis involved the identification of themes and computer-mediated communication (CMC) content analysis. Three questions guided the investigation. (1) What kind of interaction can be established in a technology-supported learning community? (2) What is possible in the technology-supported learning environment that is not possible without the use of technology? (3) What are the perceptions of the instructor and the learners in terms of the learning outcomes generated?

In both cases students interacted with the instructor, with each other and with the content. However, the way in which interaction occurred differed for each case. The role technology played, the subject structure and delivery, and the nature of the assessment tasks, surfaced as influential factors. The use of the technology facilitated opportunities for collaborative learning not easily achieved in conventional face-to-face settings. The instructor perceived effective learning outcomes were generated in both cases and the students in both cases viewed the subject as a positive learning experience although the learning process presented challenges.

The conclusions drawn from this study are: both cases represented a Web-based constructivist learning environment; the change in pedagogy from Case One to Case Two represented pedagogical re-engineering; computer conferencing should be considered in postgraduate subjects as a “means to an end” not an “end in itself”; and there is no single generically applicable CMC analysis technique—it depends on the context in which CMC is used.

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