Chapter 4.42
Understanding Participation in Online Courses:
A Case Study of Online Interaction

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ABSTRACT

This chapter reports the results of a case study of online interaction. Prior to conducting the case study, the author conducted a pre-study to understand how students and instructors view the problems they face in online courses. After that, the author used Hillman et al. and Moore's four types of interaction, along with Henri's analytical model, as a framework to guide the investigation in order to understand the nature of interaction in an online course. The results of this study showed that a combination three of the types of interaction and the analytical model help teaching and learning become more effective. Furthermore, this study provides recommendations and practices that would be helpful for online instructors to design and deliver online courses effectively.

INTRODUCTION

Even after a decade of online learning, students and instructors still face problems with online learning environments. These significant problems persist with online courses: students are often reluctant to enroll, students drop out of such courses, and instructors hesitate to teach them.

These problems occur when students have limited technological skills (Bernárdez, 2003; Carnevale, 2000; Clark & Mayer, 2003; Frankola, 2001; Mamary & Charles, 2000; Nelson, 1999). Students are also dissatisfied with poor interaction and lack of timely feedback from their instructor and classmates (Hara & Kling, 1999; Kearsley, 1995; Levin, Waddoups, Levin, & Buell, 2001; Muirhead, 1999; Vrasidas & McIsaac, 1999).

Instructors may hesitate to teach online courses because they have to spend more time and effort than teaching in a traditional classroom. Online

activities include facilitating students in learning by teaching and delivering course materials, providing support and feedback, and encouraging students to participate in online activities. Some instructors find promoting these activities particularly challenging because of their limited knowledge of new and emerging technology (Bennett, Priest, & Macpherson, 1999; Clark, 1993; Dillon & Walsh, 1992; Ellis & Phelps, 2000; Gunawardena, 1992; Means et al., 1993).

Design of the Study

To better understand these problems, the author conducted a pre-study and a case study. In the pre-study, the author investigated the reasons why students choose not to enroll in or drop out of the online courses and why instructors are hesitant to teach them. During the pre-study, the author observed how instructors and students interact in online learning environments, and how they view the problems they face in online courses. After understanding the problems from the pre-study, the author designed the case study to understand the nature of interaction in an online course, Technology Integration (TI), at Midwestern University in the U.S. The TI course was an online course combined with four face-to-face meetings. Figure 1 represents the relationships between the pre-study and the case study.

The *Pre-Study* is linked to two other nodes in the diagram: *Validate the Problems* and *Build the Case Study*. These two links represent how the pre-study serves a two-fold purpose—to clarify the problems identified using existing research and to set guidelines to build a case study. To validate the problems identified in current research, the author conducted the pre-study to understand the problems that students and instructors are facing with online courses. Then the author constructed a framework based on a model of four types of interaction (Hillman, Willis, & Gunawardena, 1994; Moore, 1989) and Henri's (1992) analytical model.

Theoretical Framework of the Case Study

After observing traditional classroom environments, participating in online courses, and reading research reports, the author found that interaction is one of the most important factors determining whether students succeed in or fail at a course. Interaction is important in all forms of education (Anderson, 2003; Dewey, 1938; Moore, 1989), and it has been demonstrated to be one of the most important factors in distance education (McIsaac & Gunawardena, 1996; Moore, 1989; Wagner, 1994). According to Salomon (1981), education is a social phenomenon in which interaction must play a necessary part. Garrison asserts that education is a "collaborative experience which necessitates mediation by others as well as recognition and validation of learning" (1990, p. 41). Garrison adds that for information to become knowledge, it has to be "shared, critically analyzed, and applied" (p. 41). From these perspectives, the author found the research by Hillman et al. (1994) and Moore (1989) particularly relevant to this study. Their frameworks using the four types of interaction (learner-interface, learner-instructor, learner-learner, and learner-content interactions) help explain the nature of online interaction and the importance of each major component in distance education. The author applied their models to investigate the problems found in the current research.

Learner-instructor and learner-learner interaction allow students to learn better in online learning environments because some students may need to interact with their classmates and instructor in order to clarify the questions (Hillman et al., 1994). Students must interact with each other in order to learn satisfactorily (Fulford & Zhang, 1993; Hackman & Walker, 1990). Jakupcak and Fishbaugh (1998) found that one-third to one-half of the class time should be set aside for students to interact with one another. Irani (1998) also asserts that when students interact, they learn better

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