

Chapter XI

Computer Mediated Communication and Multimodal Instruction in Higher Education

J. Patrick Williams

College of Staten Island, City University of New York, USA

Hsin-Liang Chen

University of Missouri at Columbia, USA

ABSTRACT

This chapter examines the impact of multimodal, computer-mediated communication strategies on instruction in higher education. Colleges and universities have realized positive effects of using computer-mediated communication in instruction, but these effects are often accompanied by unintended, unexpected, and surprising changes to instructional practices, course dynamics, and student outcomes. With the introduction of computer-mediated communication in the instructional setting, the array of roles and expectations increases substantially. This chapter outlines the use of ICTs in “blended” and fully-online learning spaces and highlights some of our observations gained in teaching and performing research in an online course. Researchers should focus on investigating the roles, expectations, and interactions that accompany these changes and work to support the evolving needs of all constituents of technology-enhanced learning spaces. We believe it is important that, as researchers, we investigate ways in which accessibility, flexibility, and seamless integration of ICTs, user experience, and pedagogy can be maximized.

INTRODUCTION

With the development of information and communications technologies (ICTs), distance education has evolved from analog media (i.e., radio, TV, postal correspondence materials) to digital media (i.e., CD-ROMs, Web pages, instant messaging).

With this transformation, new research areas have emerged, including online education, networked learning, e-learning, computer-supported cooperative learning (CSCL), and computer-mediated communication.

While the expansive growth of ICTs in our modern lives may seem casual, higher education

is one particular setting in which this increase has been both more intentional and more focused. For reasons including increasing enrollment, the limitations of physical space, competitive advantage, and investments in technology, most major institutions have developed some form of distance education program—some courses are taught completely online and some are “blended” courses, courses with a face-to-face classroom component that are augmented by the use of ICTs. Higher education institutions have realized many positive effects of using ICTs in the classroom, but these effects are often accompanied by unintended, unexpected, and surprising changes to instructional practices, course dynamics, and student outcomes. The focus here is not on a single technology or setting, but rather the integrated, multimodal nature of computer-mediated communication and the fundamental changes that interaction via ICTs brings to the evolving practice of higher education.

BACKGROUND

In the past few decades, distance education has shifted from the traditional stamps-and-envelopes correspondence course to something resembling face-to-face instruction more and more each year. The need for both synchronous and asynchronous experiences in distance education to approximate its face-to-face counterpart has led instructors through a variety of technologies, from the postal service to teleconferencing (for a history of this evolution, see Rumble, 2001). In recent years, face-to-face instruction has also shifted to resemble distance education, incorporating a growing number of ICTs in coursework.

Blended courses, which exist in the space in between face-to-face and distance education, have led to an approach, drawing on the strengths of both distance and face-to-face instruction, which seeks to create an enhanced learning experience

for students and instructors. Studies have shown that the use of ICTs by instructors and students is increasing both inside and outside of the classroom (Bills & Stanley, 2001; Bruce, Dowd, Eastburn, & D’Arcy, 2005; Benson, et al., 2002; Dutton & Loader, 2002; Hazemi & Hailes, 2002; Pippert & Moore, 1999; Steeples & Jones, 2002). This use of ICTs can strongly influence the presentation and organization of course content. ICT scholars and educators have noted that the integration of ICTs into instruction has not only affected institutions’ instructional capabilities, flexibilities, and budgets, but has begun to drastically alter traditional communications patterns (see Brower, 2003; Dziuban, Shea, & Arbaugh, 2005).

Warschauer (1997) documents the advantages and disadvantages of text-only computer-mediated communication in regard to instruction. Rice, Hiltz, and Spencer (2005) describe the “media cornucopia” available for use in instruction to have grown beyond the early Internet’s purely text-based options for instruction as expanding to include many emerging hardware and software packages. Instructional technologists have promoted the use of multimedia in classrooms, believing that multimedia enriches the learning process and that students can better perform when images are used alongside text (Mayer, 2001; Rouet, Levonen, & Biarreau, 2001). While the reach of online learning and the technologies supporting it has increased considerably, skepticism regarding the quality of online instruction still exists (Carnevale, 2007). Some learning scientists doubt the effectiveness of graphical presentation on learning (Reimann, 1999; Rogers, 1999). Mixed results in student feedback indicate that a multimodal approach may have no influence on students’ learning judgment (Chen & Fu, 2003). Some researchers have suggested that the Web is not an appropriate environment for e-learning (E-Learning Successes and Failures, 2007) and others have determined that some students still prefer face-to-face lectures which can be more

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