Chapter XIV

Developing On-Line Collaboration

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This chapter focuses on developing on-line collaboration. The basic premise is that an effective educational experience involves much more that just delivery of content material. In addition to effective content delivery, a positive educational experience also involves a climate conducive to learning. The recent push for web courses with either little or no face-to-face contact ignores the importance of subtle and cumulative effects of a variety of factors that create a learning environment. It is shown that recent educational research has found that students learn more effectively if they become partners in a cooperative learning environment, but they need the skills to do so. A model describing collaborative group development, instructor behavior, and student readiness for on-line cooperative learning is provided to show how instructors can foster on-line collaboration. The concept of transactional distance is used to describe aspects of the distance learning environment. Specific examples and recommendations are given for decreasing transactional distance and increasing on-line collaboration.

INTRODUCTION

Nothing has impacted the educational community nor provided it with as much promise as the World-Wide Web (WWW). Indeed, recent computer technology now makes it possible to import vast amounts of resources into the classroom, take our students on world tours, and even bring in guest lecturers at the click of a mouse.

In addition to pedagogical opportunities provided us in our "traditional" classroom, technology also allows us to teach students beyond our walls. We now can provide education to remote geographical areas and link students from vastly different cultural backgrounds. Some universities even have placed entire programs on the web. So now it is possible to

receive a bachelor's, master's, or even a doctoral degree either entirely or by completing a significant portion of the requirements remotely, through the Internet. It is almost non-debatable that technology's promise is enormous. Furthermore, it stands to reason that the WWW will transform education in ways that we cannot begin to imagine.

Opportunities offered by the rapid infusion of technology into education stirs in me a sense of awe, flavored with several dashes of concern, and a smidgen of fear. As a college professor with nearly 15 years of teaching experience, I am amazed at how technology makes me more *efficient* at my job. For example, one day recently, I sat down at a computer connected to a scanner. Within an hour's time I created a PowerPoint slide show containing several transparencies I used for years to demonstrate motivational concepts. The following day I spent only a few minutes saving the slide show as HTML (short for hypertext markup language — a format to permit Internet access) and uploading it to a web site. Now my students can view the slide-show (copy and/or print it if they want) from anywhere with Internet access. And, I can access it anytime too — even right in the middle of a class when an unanticipated question can be best answered with one of the slides. Previously, if I wanted to refer to a transparency not in my possession, I would have had to wait until a break, run to my office, and rummage through my filing cabinet to retrieve it.

Despite recognizing how technology makes me more efficient at developing course resources, I am very concerned about how technology affects the product of what I do — that is, student learning. In other words, does technology make me a more *effective* teacher? For reasons explained below, I am quite concerned that technology could diminish the quality of education for some students. My concern stems from recognizing that for technology to facilitate learning, student and instructor behavior must change. And absent change, some students and instructors will be turned off to the enormous potential technology has to offer.

I am not a lone voice in the wilderness. There are a number of educators skeptical about technology in education. And before technology is embraced by the educational community, several substantive issues must be addressed. Davies (1995; cited in Owston,1997) identified three critical questions regarding the acceptance of educational technology, specifically as it relates to distance education. They are:
- Does it make learning more accessible?
- Does it promote improved learning?
- Does it accomplish the above while containing, if not reducing, the per unit costs of education?

This chapter addresses the second of Davies' (1995) important questions — Does Internet technology promote improved learning? I focus on the issue of how computer technology can be used to facilitate learning in cooperative learning environments. This is an important issue for several reasons. First, pedagogy that requires students to actively participate in the learning process has been found superior to lectures (e.g., Johnson, Johnson and Smith, 1991a). Second, because many organizations are restructuring around a team concept, employers are expecting their new hires to be skilled at teamwork. And, last, many organizations are using computer systems for communicating, collaborating, and decision making. Taken together, this means that to compete effectively in the job market, students must be trained in how to use computer technology to work cooperatively.

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