Chapter 3
The Techno-Pedagogical Context of Distance Learning: Conceptual Roots

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ABSTRACT

The incredible array of collaborative communication tools that have been incorporated into modern day education rely primarily on the internet as a delivery mechanism. Our zeal to employ the latest and greatest technologies towards instruction often ignores both the genesis and best practices for use of these innovations, which can be traced to collaborative scientific and educational efforts and experimentation in the latter half of the twentieth century. Knowledge of these advances and tools can help us to understand newer emerging technologies, which have profound potential for learning applications, such as Multi-User Virtual Environments. A brief discussion on the history of technology and information sharing follows the section on pedagogical issues.

INTRODUCTION

The world of modern day education is decidedly different from that of 15 or 20 years ago, due in part to numerous technological innovations. We now regularly employ technology as a mediator, ostensibly to provide more ubiquitous access to learning materials. Of course, we have also uncovered new understandings of how our brains accept, process, store and use information. The new tools, many of which engender collaboration, employ the internet as a primary delivery mechanism. The inextricable link between computers and the internet is undeniable. As teaching aids, computers never tire: they will repeat a lesson as often as possible, and present a safe avenue for exploration, allowing for multiple iterations and limitless opportunities for content or skill mastery assessment. Early computer mediated learning was at best, rudimentary by modern standards, but there were several aspects that became integrated into almost all of our current learning technology. For purposes of this chapter and this discussion, we can include many paradigms of communica-

DOI: 10.4018/978-1-61692-822-3.ch003

tions in modern technology, ranging from quite simple asynchronous, text-only, simplex channels to highly complex, virtually synchronous audio and video capable duplex channels. We can also incorporate the most elemental to the most technologically sophisticated multi user channels into any discussion of technologically mediated communication, and by extension, learning environments.

As we seek to adopt the latest and greatest technology, it is important to understand some of the historical high points in technology development and some of the pedagogical issues and implications. It is not enough simply to use the tool; one should also understand how the tool developed, why it works, and where it fits into the larger structural whole: it is hard to know where one is going without knowing where one has been. The technologies referenced above have long and interesting histories, much of which is often ignored. Because new technologies provide more options for communication (and instruction), there is naturally a great deal of debate on how to use them to disseminate information to an increasingly sophisticated population of learners. With the rise of the 'millennial' generation, we tend to use online-accessible learning objects, discussion boards, and various other flashy and cool 'toys' to support learning environments, yet the focus seems to rest on proficiency with the technology, without a true understanding of the spirit behind their use. This chapter essentially serves two purposes. The first is to explore some of the theoretical underpinnings of technology-mediated distance learning, and the second is to review the history of the technology and tools. Ultimately, readers should take away a background understanding sufficient to support their academic and intellectual forays into the applications and implications of multi user virtual environments for almost any learning environment or situation.

THE CONCEPTUAL ROOTS OF DISTANCE LEARNING

The educational tools we use today include interactive multimedia devices such as Shockwave, FLASH, presentation software such as Microsoft PowerPoint®, web pages and CD-ROM based textbook ancillaries, all of which were the results of the personal computer and internet revolutions. Numerous other technologies have found their way into our classrooms, often implemented by enthusiastic early adopters, and at other times, as a result of institutional mandates (Straubhaar & LaRose, 2006). Sometimes, the technology just happened to be available, and it was adapted to fit the needs of the learning environment, other times, technological possibilities prompted the development of new tools. In many cases, the implementation of any new tool or pedagogy served to generate a great deal of debate within the academic community.

If one were to travel back in time to the early Renaissance, printers such as William Caxton, who between 1475 and 1490 produced virtually all English Language literature using the new 'moveable type' technology might have caused a stir. One might imagine the uproar among "professors" of the day as they decried the use of mass-produced books, seeing them as an anathema to the traditional learning process. Imagine the following hypothetical statement:

Students that no longer have to copy their own books by hand? Unheard of! Blasphemy! How will they learn anything?!

Of course, the European demand for books in general had increased, notwithstanding the rise of the modern university (Meggs & Purvis, 2006). The growth in university enrollments occurred independently as a result of many other factors and it might be difficult to determine if the use of 'technologically mass-produced' books drove further growth, or was driven by increased