

Chapter XV

The Future of Real Time Communications Technologies in E-Learning

Introduction

In the previous chapters three real time communications technologies (RTCs) have been discussed. Videoconferences have been used for real time communications in distance learning for many years. In recent years many institutions have used videoconferences in addition to the text-based communications tools in learning management systems: discussion forums and chat. Video chat is a new technology. It is computer based and inexpensive after the purchase of the computer as software is often free and the basic audio and video equipment is inexpensive. Video chat facilitates two-way video and audio communications and thus it is likely to displace videoconference from its place in the market. The Access Grid is also gaining use in education as a teaching tool due to the richness of the experience of multiple video streams, and additional tools that allow true collaboration. How these technologies are used in educational settings has a direct impact on the effectiveness and efficiency of the educational experience and theoretical guides to their use have been

discussed earlier in this book. One of the early theoretical approaches was that put forward by Michael Moore.

In the 1970s Moore introduced the *theory of transactional distance* (Moore & Kearsley, 1996). Transactional distance is measured by the degree of structure and the amount of dialogue in a distance education course and a low transactional distance is characterized by frequent and meaningful dialogue between students and faculty. Moore (1972) suggests that communications between faculty and students in distance education “must be facilitated by print, electronic, mechanical or other devices” (p. 76). In distance education and increasingly in e-learning, RTCs are used to facilitate audio and video communications between faculty and students and between students.

The RTCs include videoconference, videoconference plus virtual network computing (VNC), Access Grid, and video chat. While these technologies are similar, a comparison of them within the context of e-learning and distance education and within a three to five year time frame will provide probable directions for their future use that are cost effective and appropriate to the participants, the content, the learning objectives, and the infrastructure. In addition a forecast of the future roles of these technologies will provide faculty, instructional designers, and managers of distance education and e-learning with information that is useful in the planning of RTC implementations.

RTCs and the Taxonomy of Learning Technologies

Learning technologies have been categorized as *representational* or *collaborative* in the *taxonomy of learning technologies* (Caladine, 2006). The taxonomy has been derived from the LTM which was discussed in Chapter VII, and it borrows from the terminology derived for the LTM. The term *representational* is used to describe technologies that facilitate the one-way representation of material. The term *collaborative* is used to describe technologies that facilitate two-way communications. This category is divided into the sub-categories of *dialogic* and *productive*. Dialogic learning technologies are defined as those that are confined to the support of dialogue alone: for example, the telephone. Productive learning technologies combine two-way communications with the facilitation of the creation of products. Within each of these categories individual technologies can be further described by their synchronicity or asynchronicity. A graphic representation of the taxonomy is given in Figure 15.1.

When technologies are described by the taxonomy their appropriate use is signified in general terms by their classification. A videoconference is classified as collaborative, dialogic, and synchronous, which clearly indicates that it is a two-way technology

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