Asynchronous Learning:
Emerging Issues for the 21st Century

A. K. Aggarwal, University of Baltimore, USA

Murray Turoff, New Jersey Institute of Technology, USA

Ron Legon, University of Baltimore, USA

Gary Hackbarth, Iowa State University, USA

Danni Fowler, University of Baltimore, USA

ABSTRACT

This paper presents a discussion of emerging pedagogical, technical and regulatory issues in asynchronous learning. Based on discussions with several faculty members with more than 6 years of e-teaching experience, as well as administrators and business advisory board members, the paper presents several ongoing experiments and discusses the authors' experiences with asynchronous learning. The paper should be useful for universities considering asynchronous learning, as well as businesses entering the asynchronous learning software market. The paper discusses the needs and opportunities for developing products compatible with emerging standards such as shareable content object reference model (SCORM), up-and-coming mobile broadband network technologies like 4G and identification technologies such as active RFID.

Keywords: asynchronous learning; asynchronous education; collaborative learning; emerging technologies; issues in asynchronous learning; learning; m-learning

INTRODUCTION

Advances in technology are making asynchronous learning feasible worldwide. It is becoming easier to develop complete asynchronous courses without much help. Asynchronous learning is diffusing across disciplines and across different levels of education, from high schools to universities. Though asynchronous learning is diffusing across cultures, disciplines and national boundaries, the extent of its success is still unknown. In addition, conflicting evidence is appearing about the viability and effectiveness of the Internet as a teaching medium. Though many have questioned the usefulness of such learning, many others have reported that asynchronous learning is at least as effective as face-to-face education. Irrespective of many hurdles, it is safe to say that asynchronous learning will continue to grow (Hiltz & Turoff, 2005; Kelley, 2001) and capture an increasing

share of the higher education market. As more players join the asynchronous learning bandwagon worldwide, old issues will change and new issues will emerge. Aggarwal and Bento (2000) have proposed four different models of asynchronous learning based on the levels of time and place independence, from completely synchronous (same time, same place) to fully asynchronous (any time, any place). Many traditional classes are supplementing learning and discussion outside the classroom by using course management systems (CMS). According to Hiltz and Goldman (2004), the number of students using CMS to enhance learning is growing but unknown. In this paper, our focus is on asynchronous learning, which is learning supported by network technology (online learning) that is time and place independent. This asynchronous mode of education delivery is creating a paradigm shift in information technology (IT) education (Berghel & Sallach, 2004). This is making many stakeholders uneasy about the future and issues that they might encounter in the 21st century.

METHODOLOGY

A group of faculty members were identified who have taught for more than 6 years on the Internet. Faculty members were interviewed for their perceptions of current and future infrastructure, content development, content management and assessment issues. Faculty members from western as well as third-world countries were selected to get different perspectives. Administrators at various levels in a university were interviewed regarding current and future issues related to strategic planning, economics, assessment, class size, personnel and outsourcing. Business advisory board members were also consulted about their perceptions of e-learning quality and its implications in future hiring. Several common issues among stakeholders were identified. For example, infrastructure issues were more important to faculty in third-world countries. Accreditation and assessment issues were important to faculty in western countries. Administrators were interested in the bottom line and business leaders were interested in learning and quality issues. The following section discusses emerging issues in asynchronous learning as perceived by various stakeholders that will change and streamline education in the 21st century. Issues are supplemented with existing research where applicable.

ISSUES IN THE 21ST CENTURY

The obvious question is: Where do we go from here? Anything that is so easily accessible can create quality and control problems. It raises fears about the value of an online degree that has typically been associated with mail diplomas. It has the potential of bringing in profiteers with little or no knowledge of the subject matter, and an education that may sell diplomas on demand. Only recently, established governing bodies have started certifying these programs. There are checks and balances in place to ensure "quality control" in a traditional learning environment, but this is not the case with asynchronous learning—at least, not in the same format. Several critical issues are emerging related to quality, economics, efficiency, effectiveness and survivability of asynchronous learning in the future. We group the issues identified from various stakeholders as:

- administrative,
- stakeholders and architectural, and
- external.

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