

## Chapter 3.4

# IT to Facilitate Distance Education

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### INTRODUCTION

The essence of distance education is the physical separation of teacher and learner (Sauve, 1993). In many countries, universities are increasingly employing distance education. Some institutions are incorporating distance education as a way to extend the classroom by employing delivery mechanisms that replicate the presentation of material in a manner similar to face-to-face communication. Other institutions are investigating new delivery mechanisms that support a revised perspective on education. These latter institutions are revising their processes for interacting with students and taking a more customer-centered approach to the delivery of education. There are many options available to universities when deciding how to employ technology to support delivery of distance education.

The purpose of this investigation was to document the various modes of delivery mechanisms

currently employed in distance education. It was anticipated that this documentation process would help to determine an understanding of the alternative mechanisms. It was also anticipated that an outline of all approaches, with an indication of the more innovative ones, could serve to provide guidance to institutions regarding the adoption of technology to support delivery mechanisms in distance education and to individuals researching the area.

This chapter discusses the impact of technology on the delivery mechanisms employed in distance education. To begin, the next section reviews appropriately related research in distance education. A proposed framework is then presented that outlines alternative delivery mechanisms for various levels of employing technology to support distance education. The proposed framework provides an overview of the relationship between technology-based delivery mechanisms and the extent to which the innovative

use of technology can affect distance education. Finally, conclusions are presented that outline the more innovative concepts involving the use of technology in distance education and include a call to action for other researchers interested in investigating this subject area.

## BACKGROUND

As the use of technology to support distance education increases, so does research into various aspects involved in the relationship between tech-

nology and the various forms of delivery of course material. The data in Table 1 presents examples of selected research projects involving investigations into technology and delivery mechanisms. The data in the table suggests the emergence of two major themes. First, it is incumbent upon institutions to consider students more like customers. This means that student demographics should be studied when considering modifications to delivery mechanisms. Thus, a specific type of individual (non-traditional, self-motivated, and mature) is more inclined to satisfactorily perform academically in a distance education situation.

*Table 1. Distance education research projects*

TOPIC	SOURCE	FINDINGS
<b>TECHNOLOGY</b>	<ul style="list-style-type: none"> <li>• Menlove and Lignugaris/Kraft (2004)</li> <li>• McWright (2003)</li> <li>• Perreault et al (2002)</li> <li>• Papp (1999)</li> <li>• Reif and Kruck (1999)</li> </ul>	<ul style="list-style-type: none"> <li>• Technology is used to increase course enrollments and respond to student flexibility requirements</li> <li>• Success depends on the effective use of technology</li> <li>• Students familiar with the technology appreciate the flexibility</li> <li>• Student and instructor competence contributed to successful delivery</li> </ul>
<b>INTERNET</b>	<ul style="list-style-type: none"> <li>• Knowlton (2003)</li> <li>• Oravec (2003)</li> <li>• Williams (2003)</li> <li>• Paulson (2002)</li> <li>• Darbyshire and Burgess (1999)</li> </ul>	<ul style="list-style-type: none"> <li>• Basic skills become more important</li> <li>• Teaching using the Internet is more productive and rewarding</li> <li>• Stakeholders could see the benefit of employing the Internet to deliver material and facilitate course administration</li> </ul>
<b>PROFILES</b>	<ul style="list-style-type: none"> <li>• Collins and Pascarella (2003)</li> <li>• Conrad (2002)</li> <li>• Kung (2002)</li> <li>• Thurmond et al. (2002)</li> <li>• Aggarwal and Kemery (1999)</li> </ul>	<ul style="list-style-type: none"> <li>• Learners' sense of engagement is more dependent on their connection with the material than instructors or colleagues</li> <li>• The most important student profile would be a non-traditional, self-motivated, mature individual who requires schedule flexibility because of other life commitments</li> </ul>
<b>SATISFACTION</b>	<ul style="list-style-type: none"> <li>• Jamieson (2004)</li> <li>• Stein and Glazer (2003)</li> <li>• Van Schaik et al. (2003)</li> <li>• Zheng and Smaldino (2003)</li> <li>• Aragon et al. (2002)</li> <li>• Kekkonen-Moneta and Moneta (2002)</li> <li>• Wheeler (2002)</li> <li>• Lou et al. (1999)</li> <li>• Motiwala and Duggal (1998)</li> </ul>	<ul style="list-style-type: none"> <li>• Students can learn equally well in either delivery format regardless of learning style</li> <li>• Students' perceived satisfaction would be the same for both face-to-face delivery and technology-mediated delivery</li> <li>• The use of interactive e-learning modules fosters higher-order learning outcomes</li> <li>• Students were satisfied with the self-paced flexibility of the asynchronous discussion threads</li> </ul>

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