Chapter II

Technology, Educational Media, and E-Resources

Digital computers have been around for some 50 years. Their influence has been felt in fits and starts. Early significant applications were in science, engineering and mathematics. In the last 20 years, we have seen computing become relatively universal with stand-alone PCs and workstations commonplace in homes, offices and factories. Both computational power and data storage capacity have become relatively cheap. Powerful application packages for word-processing, numerical processing and graphical work are readily available. Data of all kinds can now be represented and manipulated digitally, including photographs, video and audio tracks. Increasingly all of this is possible not just on stand-alone computers but also over networks and in particular the Internet. (Ryan, Scott, Freeman, & Patel, 2001, p. 9)

In this modern and advancing age, technology is a powerful complement to traditional teaching methods in higher education. Professors can help maintain students’ interest and excitement by using technologies to provide a variety of instructional techniques and presentations in the class.

Copyright © 2006, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.
Many terms that describe the use of technology for learning are no longer appropriate for a digital world; e-learning is a commonly used term now (Rosenberg, 2001). Defining e-learning as the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance, Rosenberg (2001) provides three fundamental criteria (pp. 28-29): (1) e-learning is networked, which makes it capable of instantly updating, storing and retrieving, distributing, and sharing instruction or information; (2) it is delivered to the end-user via a computer using standard Internet technology; and (3) it focuses on the broadest view of learning—learning solutions that go beyond the traditional paradigms of training. Also, e-learning spans distance; however, distance learning includes correspondence courses. Therefore, e-learning is a form of distance learning, but distance learning is not necessarily e-learning.

While developed countries have concentrated their efforts on expanding advanced technologies and e-learning, the Micronesian islands have also focused on technology-enhanced learning, which is stated in this chapter. This chapter begins with an introduction to educational technology as follows:

- An Overview of Educational Technology
- Educational Media in Curriculum and Instruction
- Government E-Resources for Teacher Education

An Overview of Educational Technology

A computer is powerful, indeed. Its power “derives from its capability of performing the information processing cycle with speed, reliability, and accuracy; its capacity to store large amounts of data and information; and its capability of communicating with other computers” (Shelly, Cashman, Gunter, & Gunter, 2004, p. 1.11). The following is a brief history of computer technology development adapted from Shelly et al. (2004, pp. 1.42–1.56):

Milestones in Computer History

- 1937: John V. Atanasoff and Clifford Berry design and build the first electronic digital computer.