

## Chapter 39

# Introduction to Technology Integration and Leadership

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### ABSTRACT

*An effective technology leader is a public advocate of the mission-driven use of technology, capable of providing guidance in various aspects of using technologies such as technology plans, professional development, dissemination of pertinent information, and other related responsibilities. This chapter defines technology integration and technology leadership that support the central themes of the book, followed with a synopsis of the issues described in the proceeding chapters. The purpose of this chapter is to introduce readers to the discussions that will emerge throughout the book and link the topics raised back to the central themes of effective technology integration and its leadership.*

### INTRODUCTION

Integrating technology effectively into any organization and institution is important in conducting daily functions. Management of data, personnel, research activities, meetings, communication, and finances are dependent upon the individuals being able to use the technology at hand. This is especially true for educational institutions whereby the technology is not just being used for daily functions, but also by students, faculty, staff, and administrators for the delivery of instruction and learning of content. In many instances, technology could be the central tool used by educators

to teach various subject areas or by students to complete coursework requirements. Because of this focus on technology as a tool for instruction, leadership and direction are important roles for this area. The technology leader in this instance can help the institution or organization manage, plan, implement, and evaluate the technology's effectiveness in serving various purposes (Weiss, 2011). In addition, the technology leader is an integral part of establishing a foundation in an institution that is conducive toward assisting individuals to use technology in the most efficient way and promulgating technology support to sustain its use.

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Effective technology integration and technology leadership go hand-in-hand. With each standing alone, the tasks for achieving the goals and mission of an institution or organization will certainly fail in the proper implementation of technology in education. This chapter serves as an introduction to the book that focuses on issues surrounding technology integration and the roles that technology leaders possess in supporting this mission. The chapter will first introduce some related terminology and concepts that support the central focus of this book, followed with a synopsis of the issues described in the following chapters. The purpose of this chapter is to introduce readers to the discussions that will emanate throughout the book and tie the subjects raised back to the central themes: effective technology integration and its leadership.

## **DEFINING PRINCIPAL TERMINOLOGIES**

Two main focal areas can be seen throughout this book. These are the ideas of integrating and implementing technology to support the mission of an institution, and the individuals that manage, plan, support, and evaluate such endeavors. Defining these two areas are important for understanding the context discussed throughout the chapters.

### **Technology Integration**

Technology integration has many different definitions depending upon the person looking at the situation or scenario. For one to understand what technology integration means, identifying what is not technology integration is essential. Technology integration does not include the use of technology hardware and software for performing essential daily tasks such as using an electronic grade book for recording grades and tracking student progress. Going to a computer lab one day a week to look at Web sites as part of a student project is also

not a true example of technology integration. Using interactive electronic whiteboards such as Prometheans as a projector of PowerPoint presentations is another bad example of technology integration. Instead, “Integration is when classroom teachers use technology to introduce, reinforce, extend, enrich, assess, and remediate student mastery of curricular targets” (Hamilton, 2007, p. 20). Further, technology integration is an active and participatory event in which both the teacher and student interact to develop projects, complete enrichment activities, etc. The teacher using utility software alone such as a word-processor to create form letters, memos, and worksheets or use spreadsheets to record grades is not interactive. Students using the computer to go online to access drill-and-skill games, while the other half continues to work on classroom assignments are not fully integrating the technology as well.

To become fully integrated into the educational process, the technology needs to be completely immersed without the students realizing that the technology is being used. Continuous and daily use of technology can help this transition from the novelty effect to a more common and familiar effect, without taking away students’ motivation to learn (Li & Ma, 2010). Although technology may become a routine and apparent occurrence if used daily, effective technology integration can become a seamless part of the learning process as students actively engage themselves in learning specific content (Edutopia, 2007). A study conducted by the Consortium on Chicago School Research performed a large scale study about technology use and integration in its school districts (Hart, Allensworth, Lauen, & Gladden, 2002). This group identified five levels of technology integration as defined by the types of computer or Internet-related activities students performed daily and/or weekly. Computer and Internet-related activities involved analyzing and graphing data, using word-processors, creating Web pages and multimedia presentations, programming computer language, using Internet for research, practicing

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