

Chapter 8

Revisit Planning Effective Multimedia Instructions

Chien Yu

Mississippi State University, USA

Angela Williams

Mississippi State University, USA

Chun Fu Lin

Minghsin University of Science & Technology, Taiwan

Wei-Chieh Yu

Chang Gung Institute of Technology, Taiwan

ABSTRACT

Multimedia benefits students learning in many different ways. There are so many things that students can do and learn because of the variety of instructional media that is available for their use. The use of instructional multimedia increases an instructor's ability to propose and execute teaching strategies that come with a multiplicity of learning styles. Therefore, there are a myriad of reasons why teachers use these resources both as a teaching tool and as a teaching resource. Several strategies can be implemented so that teachers have opportunities to become skillful in attaining technological fluency. This chapter reviews the trends and issues of today's multimedia education, and attempts to provide strategies and guidelines for planning multimedia instruction. The effective use of pedagogical design principles with appropriate multimedia can allow greater individualization, which in turn fosters improved learning, greater learner satisfaction, and higher retention rates.

INTRODUCTION

Technological capabilities are growing in today's world by leaps and bounds. Over the past few decades, there have been remarkable advances in computer and interactive media technology. As a result,

there has been a tremendous increase of investment in school technology and media use. Teachers are also being asked to learn the skills and techniques required to use computers and instructional media in classrooms.

The diverse characteristics of different multimedia and the capabilities that they provide for

DOI: 10.4018/978-1-60566-782-9.ch008

learning have direct implications on the design of multimedia strategies and materials (Fahy, 2005). Goldman and Torrisi-Steele (2005) state that “the essential value of interactive multimedia technologies is that they can be used effectively to empower students to take a more pro-active role in acquiring, analyzing and synthesizing information” (p. 191). Although today’s technologies make possible the use of multimedia by helping to move learning beyond a primarily text-based and linear arena into the cyclical world of sights, sounds, creativity, and interactivity, the challenge is whether the essence of multimedia can be integrated into an essential discipline (Gonzalez, Cranitch, & Jo, 2000). If some pedagogical design principles and appropriate media are used effectively, multimedia can permit greater individualization, in turn fostering improved learning, learner satisfaction, and retention rates (Fahy, 2005).

This chapter discusses the definition of “multimedia,” including the trends and issues of today’s teaching and learning. The goal is to review the benefit of using multimedia instruction, and to attempt to provide some strategies and guidelines for planning multimedia instruction. By outlining some fundamental issues and considerations affecting implementation of multimedia, the authors discuss some challenges and impacts of multimedia instruction when teachers are ready to move from simpler to more complex combinations of media for teaching. Additional examples drawn from literature are also included to discuss the use of multimedia in education and the strategies of planning effective instruction.

INTEGRATING MULTIMEDIA TECHNOLOGIES

The rise in the usage of technology is bringing about rapid change in the educational environment. In keeping with this changing environment, teachers need to discover ways to broaden their range of teaching methods so that they can produce

more effective learners. Emerging trends including individualized learning, cooperative learning, collaboration learning, learner center approach, and assessment portfolio have been playing an important role in education. Research indicates the importance of increased technology integration in the classroom. When using interactive technology, students not only learn more quickly and pleasantly, but also learn the much needed life skill of learning how to learn (Vogel & Klassen, 2001). However, many educators today are facing the issue of integrating technology into their instruction (Wang & Speaker, 2002).

Technology continues to change dramatically. Although it may be recognized by educators that multimedia technologies have the potential to offer new and improved learning opportunities, many educators fail to realize this potential (Torrisi-Steele, 2005). Similarly, Kaufman (2002) also summarizes that most teachers have been taking advantage of technology’s mass storage capacities, but they have not exploited its greater potential to motivate knowledge construction and facilitate problem-solving. As a result, a number of educators using multimedia technologies in their learning environments are mainly limiting its use to a tool for data access, communications, and administration (Conlon & Simpson, 2003) rather than a tool for integrating curriculum (Torrisi-Steele, 2005). This lack of true integration results in minimal change in both pedagogical strategies and learning environment (Tearle, Dillon, & Davis, 1999).

Failure to implement effective technology integration could be associated with teachers’ technology skills and attitude as well. As Speaker (2004) concludes, student use and perception of a multimedia educational experience is highly dependent on the attitude of the teachers and her/his ability to provide useful contextual information in a format that meets the criteria of relevancy and interactivity in a student-centered approach. However, research (Torrisi-Steele, 2005) shows that teachers are generally unprepared for the

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/revisit-planning-effective-multimedia-instructions/38283

Related Content

Wired for Learning—Web 2.0 for Teaching and Learning: Trends, Challenges, and Opportunities for Education

Irene Chen and Terry T. Kidd (2010). *Handbook of Research on Human Performance and Instructional Technology* (pp. 119-130).

www.irma-international.org/chapter/wired-learning-web-teaching-learning/38282

Predicting the Enrollments in Humanities and STEM Programs in Higher Education Using ARIMAX Models

Dian-Fu Chang, Wen-Shan Zhu and Shu-Jing Wu (2022). *International Journal of Online Pedagogy and Course Design* (pp. 1-15).

www.irma-international.org/article/predicting-the-enrollments-in-humanities-and-stem-programs-in-higher-education-using-arimax-models/311435

Using Literacy Response Activities with Early Childhood English Language Learners and Immigrant Students

Erin M. Casey (2014). *Cross-Cultural Considerations in the Education of Young Immigrant Learners* (pp. 50-66).

www.irma-international.org/chapter/using-literacy-response-activities-with-early-childhood-english-language-learners-and-immigrant-students/91845

Where Time Goes: The Role of Online Technology During Leisure Time Learning

Aytekin Isman, Zehra Altnay and Fahriye A. Altnay (2012). *International Journal of Online Pedagogy and Course Design* (pp. 1-10).

www.irma-international.org/article/time-goes-role-online-technology/65737

The Design Model of Educational Scenarios in an Adaptive Online Collaborative Learning System

Kawtar Zargane, Mohamed Erradi and Mohamed Khaldi (2024). *Innovative Instructional Design Methods and Tools for Improved Teaching* (pp. 153-176).

www.irma-international.org/chapter/the-design-model-of-educational-scenarios-in-an-adaptive-online-collaborative-learning-system/339509