Chapter XIV
Digital Video in the K–12 Classroom:
A New Tool for Learning

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ABSTRACT

This chapter describes how digital video (DV) production can be integrated into K-12 education. It describes how recent technological developments in digital video technology provide an exciting new way for teachers and students to collect, share, and synthesize knowledge. It argues that DV can provide tangible, real-world benefits in student learning, as it requires that students work actively and collaboratively on authentic real-world tasks. Furthermore, DV projects can be tied to technology literacy and curriculum standards. The reader is guided through the stages of the DV production process, and specific K-12 projects are described. Guidelines for choosing hardware and software are provided. Parent and administrative concerns about the use of DV are discussed. The goal of this chapter is to provide K-12 teachers and administrators with the information they need to integrate digital video production into the curriculum.

INTRODUCTION

Until recently, video production had little place in K-12 education, except for the videotaping of sporting events and theatrical productions, and those tasks were generally reserved for the adults—teachers, media center directors—and perhaps a trustworthy secondary student or two with special training. Video equipment was scarce, fragile, and expensive, and the learning curve for mastering the process was a steep one. As the 21st century begins, however, advancements in video and computer technology have brought digital video (DV) production into

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the K-12 classroom, and teachers integrating this new technology into their curriculum can provide a powerful new tool for student learning. Digital video production is rapidly becoming an important element of the technological literacy curriculum for K-12 students.

This chapter will provide K-12 teachers and administrators with the background necessary to integrate digital video into the curriculum. I will begin with a discussion of recent technology developments that have led to the current availability of high-quality, low-cost DV hardware and software. A discussion of how digital video can affect the teaching and learning process follows, with a special focus on meeting technology literacy and other curriculum standards. The reader will then be guided through the four stages of the digital video production process: planning, shooting, editing, and delivery. I will provide guidance in the selection of DV hardware and software for the K-12 classroom. A number of real-world K-12 DV projects will be described. Finally, concerns related to implementing DV projects will be addressed. At the end of the chapter, three appendices will provide useful hints and strategies for creating high-quality DV presentations.

TECHNOLOGY DEVELOPMENTS

Since the 1990s, there has been a huge increase in the number of computers in K-12 classrooms. In 1995, the average school in the United States used 72 computers for instructional purposes; by 2001 the number of computers had nearly doubled, increasing to 124 per school (National Center for Education Statistics, 2003). This growth is not happening in the U.S. alone, either; in the UK, for example, the average number of computers per public school grew from 27 in 2000 to 34 in 2001 (British Educational Suppliers Association, 2002). Similar changes can be seen in Korean schools; there, the government has provided one personal computer for every five students (Korea Education & Research Information Service, 2003). Of course, not all of these computers are capable of displaying digital video (DV), but this number is growing; 67% of U.S. schools in 2003 had computers with DVD drives, a tremendous increase from just 5% in 2001 (Market Data Retrieval, 2003).

Camcorders and handheld video cameras are also becoming common in K-12 schools. A total of 63% of Maryland schoolteachers, for example, reported that they have access to camcorders (ORC Macro, 2002). A quarter of UK schools have at least one digital camcorder, and the cameras are being used. Nearly 50% of the schools stated that the camcorders were used at least once a week (British Educational Suppliers Association, 2002). Overall, access to the hardware required for digital video production is becoming increasingly available in K-12 schools.

The days when video editing required expensive specialist equipment and extensive training and practice are now behind us. Computer software now makes these activities, which were once the realm of professionals, literally child's play. Software such as Apple's iMovie and Microsoft's Windows Movie Maker 2, both of which come without additional cost as part of their respective maker's operating systems packages, simplify the video production process to such a degree that it can be taught in just a couple of sessions. Using this type of software, K-12 students can trim video clips; rearrange them; add music, narration, and sound effects; choose transitions between scenes; and create titles and subtitles.

Advances in camcorder technology have led to increased picture resolution, better color definition, the ability to record images at low

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