Chapter 9
Web-Based Video for e-Learning:
Tapping into the YouTube™ Phenomenon

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ABSTRACT

The recent explosive growth of Web-based video has expanded the repository of free content that can be tapped into for e-learning. Millions of video clips are now available online and more are uploaded each day. Since the creation of YouTube™ in 2005, a video clip phenomenon has swept the Internet. Never before has it been so easy to locate, record, and distribute video online. This opens intriguing possibilities for teaching, learning, and course design for e-learning. This chapter introduces Web-based video as a new form of educational motion picture, delves into technical aspects of Web 2.0 video tools, describes instructional strategies that integrate Web-based video clips in e-learning, and examines barriers that could potentially inhibit its use. Future directions are also discussed.

INTRODUCTION: THE YOUTUBE PHENOMENON

Since the invention of YouTube™ (http://www.youtube.com) in 2005, video has spread rapidly on the Web. These days online video is so common that it seems to turn up everywhere. Video is embedded or linked from Web pages featuring nearly every imaginable type of content including news, travel, fitness, education, and more. YouTube has sparked a phenomenon of online video viewing, sharing, and production that now extends well beyond the confines of its website. Dozens of video-sharing sites, with features similar to YouTube, have appeared online in recent years and this trend continues. While many of these sites were designed for the general user, others with a more specialized focus have begun to emerge including several oriented toward academic fields. Examples include video sites for science or scientific research such as LabAction (http://www.labaction.com) and SciVee™ (http://www.scivee.tv) Video-sharing sites designed for educators include TeacherTube® (http://www.teachertube.com) and SchoolTube® (http://www.schooltube.com)

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As the number of video-sharing sites grows so does the amount of free video content available for instant access through the Internet. On YouTube alone, the number of video clips has skyrocketed into the millions and more clips are uploaded every day (USA Today, 2006). In fact, every minute more than ten hours of video content is uploaded to YouTube (YouTube, 2008). The result is a growing repository of media that can be tapped into for e-learning.

Web-based video has attracted a sizable viewing audience of Internet users as well. A report from the *Pew Internet & American Life Project* (Madden, 2007) indicates that many Internet users are regularly watching video online. This is corroborated by Internet marketing statistics which reveal that online video viewing is on the rise (e-Marketer, 2008). A form of video clip culture, characterized by frequent consumption of short video segments, has emerged on the Web with YouTube ranking among the top ten online video destinations (Comscore, 2007; Nielsen, 2008).

Web 2.0 video-sharing technologies are beginning to play an important role in educational institutions. *The Horizon Report* for 2008, co-published by the New Media Consortium and the EDUCAUSE Learning Initiative, predicts that adoption of video-sharing technologies by educational institutions will become widespread within one year or less. Already, a large number of universities have established YouTube channels that they populate with video clips of school news, lectures, or other events. Examples include the UC Berkeley channel (http://www.youtube.com/user/ucberkeley) and the Stanford University channel (http://www.youtube.com/user/stanforduniversity.)

The massive quantity of free online video content combined with the widespread availability of Web 2.0 video tools brings new opportunities to integrate multimedia into e-learning environments. This chapter introduces Web-based video as a new form of educational motion picture, delves into technical aspects of Web 2.0 video tools, describes instructional strategies that integrate Web-based video clips in online education, and examines barriers that could potentially inhibit its use. Future directions are also discussed.

WEB-BASED VIDEO: THE NEW EDUCATIONAL MOTION PICTURE

Fundamental Attributes of Motion Picture Technologies

The term *Web-based video* is used in this chapter to describe digital video that is distributed through the Internet and accessed with computers. At its fundamental core, Web-based video is simply another form of motion picture technology. Video is composed of a sequence of moving images and may or may not include a sound track. This basic description includes any form of image sequence that plays across a timeline, including animation, image slideshows, and video recordings of real-world people and places. The elemental nature of film and video as an image sequence has remained a constant since the creation of motion picture technologies in the late 1800s. At that time, inventors such as Thomas Edison were busy crafting devices that would record and play motion picture film. The Edison Manufacturing Company recorded a large number of films in a homemade studio called the Black Maria (Dickson & Dickson, 1970). A few of these films can be found on YouTube by typing the name "Thomas Edison" into the search form. However, a more complete collection of digitized Edison films is located at the Library of Congress American Memory website (http://memory.loc.gov/ammem/edhtml/edmvhm.html.) These films provide a glimpse back to the earliest days of motion pictures.

Motion Pictures in the Schools

Early in the twentieth century, the motion picture began to appear in U.S. public schools. Accord-