

Finding Students Who Learn with Media

Student-created media offer significant opportunities for engagement and learning. For the past five years, we have explored ways to incorporate Web-based authoring tools into the curriculum. A suite of online tools provides students with access to primary source documents on websites such as those for the Library of Congress and the Smithsonian.

Web-Based Authoring Tools

PrimaryAccess MovieMaker (www.primaryaccess.org) allows students to combine their own text, primary source images, and audio narration to create short online documentary films linked to social studies standards of learning. Since we piloted this tool in local schools in 2005, more than 10,000 students worldwide have created more than 20,000 short digital documentaries. Students embed facts and events in a narrative context that can enhance retention and understanding of historical material.

The Smithsonian American Art Museum employs PrimaryAccess to allow students to create their own movies in a virtual online exhibit called *Picturing the 1930s*. Teachers and students can explore this era through paintings, artist memorabilia, historical documents, newsreels, period photographs, music, and video. They then can screen the movies they create in a virtual movie theater on the Smithsonian website.

Incorporating Media into Formal Learning

Through development of PrimaryAccess, we have gained a greater understanding of the conditions under which educators can best integrate student-authored media into the curriculum in a formal school setting.

PrimaryAccess was created to eliminate overhead associated with conventional digital video editors, so that students can focus on learning objectives rather than spending class time learning how to use movie-making tools. Even so, it still takes a minimum of three class periods to create a short historical documentary: one period to create an outline, storyboard, and script; a second period to assemble the media and sequence it in the editor; and a third period for narration, titles, and music.



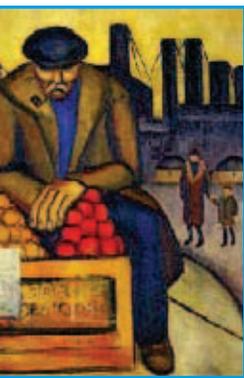
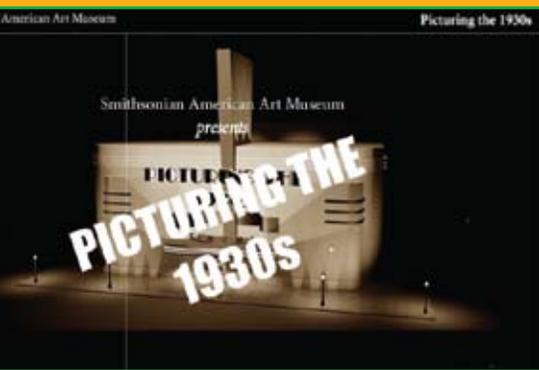
PrimaryAccess is a suite of free online tools that allows students and teachers to use primary source documents to make digital movies, storyboards, and rebus stories.

In Virginia, many schools devote three class periods to U.S. history of the 1930s. Incorporating a student-authored movie can double that time to six classes. We began to address the time constraints associated with student-created media by designing an extension to PrimaryAccess called PrimaryAccess Storyboard (www.primaryaccess.org/story) that allows students to create a visual historical narrative in a single class period. Storyboard allows teachers to provide students with access to online primary source documents that align with the curriculum. The online storyboarding tool offers a restricted feature set designed specifically for producing historical narratives.

In a pilot study, teachers using PrimaryAccess Storyboard were able to incorporate it into their classes with no additional class time. Students using this tool performed as well on the teacher-designed examinations as those who wrote traditional essays as their class assignments.

Media Engagement Profiles

We were interested in whether students who authored media were also more engaged. Because PrimaryAccess MovieMaker and PrimaryAccess Storyboard are online tools, teachers can monitor and analyze student actions throughout a class period. We created a Web-based word processor to track the actions of students writing traditional essays in the same manner. One class of sixth grade students created a digital



storyboard for one unit of study and wrote a traditional essay for a second unit. We reversed the order for a second class.

On average, students spent significantly more time on the storyboard task compared to students who wrote an essay, but those who created the storyboard responded in notably different ways to the activity and tool. We corroborated student activities recorded through the Web-based tools with the student engagement constructs from the Classroom Assessment Scoring System (www.classobservation.com). Four different Media Engagement Profiles emerged based on students' engagement with the storyboarding activity and with the historical content:

High technology/high content. Approximately 40% were engaged in both the historical content and the storyboarding activity. These students demonstrated a high level of content knowledge, and their knowledge of the curricular material extended beyond the requirements of the class assignments.

Picturing the 1930s is a Smithsonian website that incorporates PrimaryAccess, giving students the ability to create short historical movies using resources from online archives at http://americanart.si.edu/education/picturing_the_1930s.

High technology/low content. Other students were engaged by the storyboarding activity but not by the historical content. This group of students also demonstrated a high level of content knowledge but with some factual errors.

Low technology/high content. Some students were interested in the historical content but were not engaged by the storyboarding activity. These students demonstrated a high level of content knowledge and expressed a desire to go beyond the requirements of class assignments.

Low technology/low content. Approximately 15% of students were not engaged by either the historical content or by the storyboarding activity. These students demonstrated a low level of content knowledge.

Differentiating Instruction through Performance Assessment

Student disengagement is an immediate and persistent issue for many students and teachers. Consequently, many school reform initiatives are addressing this problem by identifying the qualities of academic work that students find engaging, such as its authenticity, its alignment with student interests, its real-world importance, and the degree of student choice.

With careful planning, it is possible to increase student engagement by incorporating student-authored media into a formal classroom setting without increasing the amount of class time required to complete the projects. These conditions include tools designed for teaching combined with lessons designed to take advantage of these tools. However, even under these conditions, teachers may wish to employ differentiation strategies.

Students who were engaged by both content and media demonstrated greater higher-order thinking and creativity in their work. Students engaged

by media but not by content required additional scaffolding from the teacher to increase task management and content mastery. Students engaged by the content but not by media may have preferred a more traditional task, such as writing an essay. Finally, students who were not engaged by the content or by media required a high level of structure to achieve success.

In an online environment, an application such as PrimaryAccess can automatically collect information about a child's performance as he or she is performing a task without intervening with a traditional assessment, such as a multiple-choice test. This, in turn, can provide the teacher with information that may allow her or him to differentiate instruction earlier.

The realization that students respond in different ways to the authoring of media can allow teachers to provide instruction and assign tasks that best meet their individual needs. In the future, the ability to analyze student activity through online tools may provide teachers with feedback about students' time management and use of media, facilitating differentiation of instruction, and enhancement of learning.



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