

Digital Storytelling: A Cross-curricular Activity

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Abstract

The purpose of this paper is to give K-12 educators an idea of how to incorporate digital stories into the classroom and to provide resources for further exploration. Digital Storytelling, combining storytelling and multimedia techniques, lends itself to many subject areas and can be used to enhance learning.

Introduction

Stories are a central part of our cultural lives (Miller, 2004). We explain things in stories, we find answers in stories. Stories evolve and change over time as does the format in which stories are presented (Lambert, 2003). Stories have evolved from oral traditions passed down from generation to generation, to the printed format of books (Miller, 2004). Such oral traditions are believed to be the first form of interactive storytelling (Miller, 2004). Myths were among the earliest stories told and the acting out of these stories is considered an early form of interactive storytelling (Miller, 2004). Modern interactive stories started being told visually through the use of movies (Miller, 2004). These types of stories tended to be limited to being told by specialists, storytellers who remembered the tales, or writers and directors. Now through digital stories, anyone can tell their story through the use of music, images, and personal narration (Lambert, 2003).

Digital Storytelling is a way to get students, teachers and others involved in stories (Robin, 2005). Digital Storytelling revolves around the combination of telling stories and the use of multimedia tools. These tools include graphics, audio, video/animation, and web publishing (Robin, 2005). In a world where technology is part of everyday life, this form of storytelling has found a niche.

Digital Storytelling

Digital Storytelling has been given many definitions by many different groups. Among these definitions is one put forth by Joe Lambert and his Center for Digital Storytelling (2003). The Center (2006, What is Digital Storytelling?, ¶ 1) uses a definition of digital storytelling that has an “emphasis on personal voice and facilitative teaching methods.” Miller (2004, p. xiii) uses a definition that uses some more descriptive words. He defines digital storytelling as a “narrative entertainment that reaches its audience via digital technology and media.” This definition seems to follow with the Center’s descriptions of what digital storytelling is. It is a narrative entertainment. Webster’s Dictionary (1995, p. 345) defines narration as “to recite the details of (a story).” Furthermore, Webster’s (2003, p. 173) defines

entertainment as “something to amuse or divert”. Therefore, a digital story should be something that is narrated, not just acted out, but has a value as something that will capture people’s attention. All definitions of digital storytelling involve the use of multimedia tools to tell a story.

Seven Elements

Lambert (2003) published the Digital Storytelling Cookbook that gives the reader all the information one needs to create an effective digital story. This cookbook gives readers the same information that can be obtained at one of the Center’s two-day workshops on digital storytelling.

Figure 1
Redheads: A Digital Story On Next Exit
(http://www.nextexit.com/drivein/movie_03.html)



In the Cookbook, Lambert (2003) describes seven elements to building an effective digital story. Examples of some digital stories can be found on the Center for Digital Storytelling’s website (<http://www.storycenter.org/whatis.html>) and through the Next Exit “Drive-in” (http://www.nextexit.com/drivein/movie_03.htm).

Redheads, as shown in Figure 1, is one of these examples, and is considered a prime example of a story containing the seven elements:

- Point of View
- A Dramatic Question
- Emotional Content
- The gift of your own voice
- The power of the soundtrack
- Economy
- Pacing

Point Of View

Every story has a point of view. By using a point of view, an author, has to decide what he or she is trying to communicate within the story (Center for Digital Storytelling, 2006). Before beginning the story the author must determine this goal in order to drive the story. Why is it important for the author to tell this story to the audience? What does the author hope the audience will understand about what he has to tell? Will the author be telling the story in 1st person point of view in which he is a participant or from a 3rd person observer point of view?

Dramatic Question

When watching a movie or reading a book there is usually some question that the audience is looking to answer. Will the boy get the girl? Who killed the butler? These types of questions are referred to by Lambert (2003) as dramatic questions. While it is important to have a point of view that the author wants the audience to realize by the end of the story it is important to have a dramatic question to keep them interested in the story. In order to pull the audience into the story the question should be posed at or near the beginning. Only when the question is answered will the story be over.

Emotional Content

Most people, at one time or another, have been reading a book or watching a film and found that they were emotionally involved in the story. If a person's emotions are engaged then so too is their attention. Every aspect of the story can be used to add to the emotional content. The pacing of the narrative, the images and even the music all contribute to the emotions evoked by the story. The main issue is keeping these elements consistent with the emotional content of the story.

Gift Of Your Voice

The most effective tool an author has at his disposal when creating a digital story is his own voice. Telling a personal story is much more powerful when told in your own voice (Tisdell, 2006). An author using his own

voice personalizes the story and it helps the audience develop the context for which the story is being told.

Soundtracks

The use of music adds meaning to a story. As in movies it can give the audience clues as to the emotions they should be feeling. For example, in a movie when something bad is going to happen and the audience is supposed to be nervous or afraid, an ominous or spooky tune is played (Lambert, 2003). However, most individuals tend to choose music with lyrics, typically chosen from the popular music that one hears on a daily basis. Choosing music with lyrics is not necessarily a bad thing; however, be sure that the lyrics of the song do not conflict with the meaning of the voice over. For example, if the story is about family, do not use lyrics that describe lovers. When using any music there is the question of copyright. Always check the copyright information for any music or images before use. There are plenty of music files and images that are copyright free or allow fair use for educational purposes.

Economy

Digital stories are meant to be short, meaningful stories. As such, the author will want to identify the key points for telling the story. After choosing these key points images or video that expresses these key points must be chosen. When showing the key points, keep the image long enough to give the audience a chance to grasp the point but not long enough for the audience to lose interest in the story. Including video clips or images that are too long will cause the audience to lose interest and focus their attention elsewhere. If the author is careful about the images he chooses and the way he sequences and move between them, the audience will be able to fill in the missing information (Tisdell, 2006). The Center for Digital Storytelling purposefully puts a limit on the number of images that authors are allowed to use in their story when teaching their workshop (Center for Digital Storytelling, 2006).

Pacing

Digital stories have a rhythm. When telling a story too quickly or too slowly there is risk of losing the audience. Pacing can also be integral to the story's emotional content as well. Fast pacing indicates excitement, urgency, nervousness or even frustration. Slow pacing can indicate calm, romance or relaxation. Changing pace can be a very effective tool in storytelling. Stopping and starting again can have the effect of making the audience think about what was just expressed, while speeding up or slowing down can effect the overall emotions the audience feels. Pacing not only refers to the narration,

but also to the music tempo and the rate of change in the images.

In The Classroom

Digital stories can be used both as a teaching tool and as a learning activity. Teachers can create digital stories to introduce new topics. Students can learn skills in research, and digital media, as well as content based material. Digital Storytelling inherently lends itself to several content areas and can be used as a way to demonstrate knowledge of other topics. Bull and Kajder (2004) offer the following sequence for creating digital stories in the classroom. This sequence offers teachers a way to effectively track individual progress (Bull and Kajder, 2004, p. 4)

- Write an initial script.
- Plan an accompanying storyboard.
- Discuss and revise the script.
- Sequence the images in the video editor.
- Add the narrative track.
- Add special effects and transitions.
- Add a soundtrack if time permits.

Language Arts

Language arts are typically very easy to acknowledge in the telling of stories, but what about digital stories? When making a digital story students need to be able to narrate their story, yet they also need to make sure the timing is correct and that they do not say too much or too little. Therefore, students should write a script before beginning anything else. Students can create a concept map or an outline of their story then write the script. Given the duration of a digital story a one-page typed script is sufficient.

Writing the script helps students combine multiple skills in language arts. Story flow, main ideas and editing, are all important skills they can learn by writing a script. Reading these scripts to their classmates help students receive constructive criticism from their fellow classmates on what would make their story better. Teachers can also decide to have students practice handwriting by having them hand write the script before typing it. The script also gives teachers a permanent product to use for evaluation purposes or to put in a student's portfolio.

Arts

After writing the initial script students can practice art skills by developing a storyboard. The storyboard does not have to be elaborate, but just needs to convey a general sense of the types of images the students wish to use in a given spot in the script. The storyboard could be made on the computer or hand drawn. Expression can

come into play in the subject of art by the student's choice of images and music. Editing and placing these elements together creates a blend of art and technology.

Mathematics

Math is a subject that is frequently overlooked when thinking about digital stories. How can math be addressed when doing a digital story? One option to incorporate math is creating a digital story on a math topic. Robin (2005) has an example of a story about the Pythagorean Theorem on his site about the educational uses of digital storytelling (<http://coe.uh.edu/digital-storytelling/example-pages/math-examples.htm>).

However, topics are not the only way math can be addressed in digital storytelling. Digital stories require timing and pacing to be interesting to an audience. Students need to calculate time limits for individual images and also the number of images needed to tell the story in the time given.

Science/Social Studies

Robin and Pierson (2005) had an unexpected outcome of their first workshop. They believed that they would have a difficult time getting science teachers into digital stories. Unlike the areas history, writing and the arts, science is not a highly visual subject (Robert & Pearson, 2005). Contrary to Robin's and Pearson's (2005) beliefs the science teachers found ways to use digital storytelling to create stories drew the interest of the students and led them into exploring different topic areas. In the areas of science and social studies there is a wide range of topics that one can use for a digital story. Using digital stories as a way to "report" on a topic helps the subject become more personal. The Civil Rights movement is a good example of such a topic. Students today are so far removed from that era that they really do not have a vested interest in the topic. To most of them the movement is something that is ancient history. If students are required to do a digital story about the Civil Rights movement the topic is put into a context that is fun for them by incorporating technology and allowing them to creatively express the historical information.

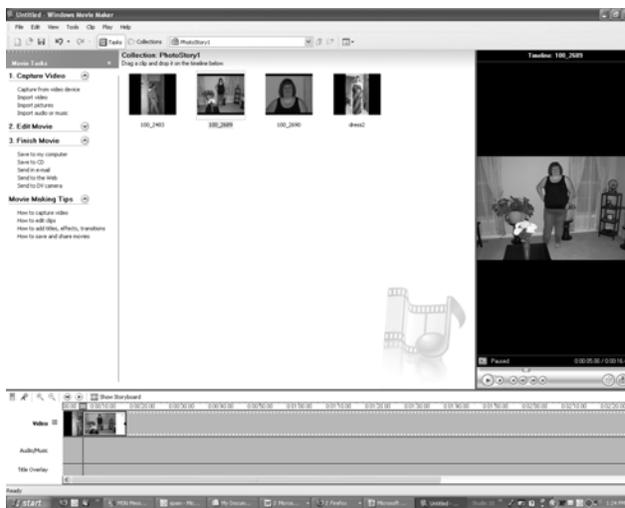
Technology

Digital storytelling offers many ways of addressing technology in the classroom. In order to develop digital stories students need to conduct research. Doing research for the story provides an opportunity to teach students how to conduct web research and how to determine legitimate sites from sites with false or misleading information.

Digital stories themselves are developed on a computer. Therefore, students need to learn how to edit pictures

and/or video clips as well as working with video editing software such as *Movie Maker* or *iMovie*, which are both free. The tasks inherent in creating a digital story address many learning standards in the area of technology. The technology standards differ by state. An example of such a technology standard includes Virginia's technology standard C/T 3-5.2 (Virginia, 2006): "The student will demonstrate proficiency in the use of technology." This standard requires that the student be able to "use skills and procedures needed to operate various technologies such as scanners, digital cameras and hand-held computers (Virginia, 2006) ."

Figure 2
Movie Maker Screenshot



Tools

As with many classroom activities there is a concern over the costs of materials and tools to create digital stories. In the past creating digital stories was an expensive proposition (Bull & Kajder, 2004). However as newer technology has been developed the costs have decreased dramatically. One reason for this drop in costs is that a majority of schools have computers that come with pre-installed video editing software. In the Windows platform this software is called *Movie Maker* (Figure 2). If the Windows machine does not already have *Movie Maker* it can be downloaded for free from Microsoft.

On the Mac platform there is *iMovie*. Mac has one advantage over Windows when it comes to the soundtrack and music. Mac computers come preinstalled with *Garage Band*. *Garage Band* is a software program that allows individuals to mix and record their own music right on the computer, thus eliminating the problems of copyrighted material, because the student is the musical

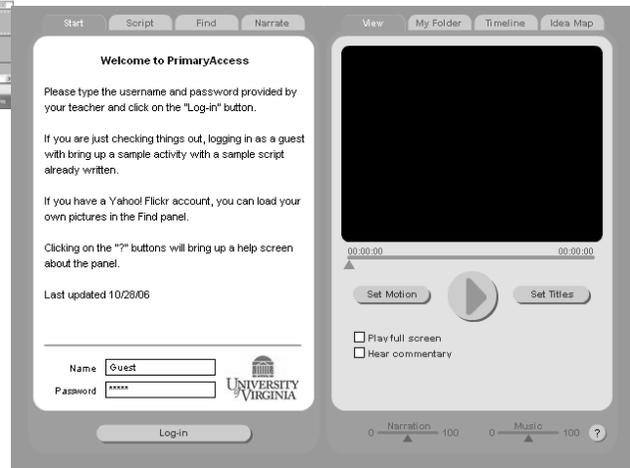
artist.

Many schools also have computers and digital cameras available for classroom use. This makes it so that students, who do not otherwise have access to such equipment, can complete their stories without enduring undue costs.

Primary Access

PrimaryAccess is a tool that is being developed within the Center for Technology & Teacher Education in the Curry School of Education at the University of Virginia. PrimaryAccess is a part of a group of web-based tools that also includes DigitalStoryteller (Ferster, 2005) DigitalStoryteller is designed for language arts. PrimaryAccess offers access to public domain images and a web-based video and script editor (Figure 3). PrimaryAccess has been designed primarily to create historical narratives that can be stored in an online database. Teachers can upload their own images to Yahoo! Flickr or use images already on the PrimaryAccess site (www.primaryaccess.org). Teachers create the activities and accounts for their classes and can view students completed stories online.

Figure 3
Primary Access Screenshot



Summary

Digital storytelling offers plenty of opportunities to incorporate technology into the classroom environment. Storytelling provides a means of expression for students who might not otherwise be able to express themselves (Bull & Kajder, 2004). It also places the technology where teachers can control how it is used in

the classroom through the use of objectives and activities carefully designed to maximize the students learning outcomes (Bull & Kajder, 2004).

School settings offer challenges in accessing and using the technology but with appropriate planning and preparations, teachers can overcome such difficulties (Bull & Kajder, 2004).

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