

Digital Reenactments: Using Green Screen Technology To Recreate the Past

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In groups of two and three, students from more than 15 public schools in Louisville, Kentucky, are at various stages of completing digital stories that transport them back in time. These students are participating in a week-long summer technology camp hosted by the University of Louisville and sponsored by Jefferson County Public Schools.¹ Some of the campers are finalizing scripts and cue cards they have written based on the research conducted during the previous two days. Others are in costume, practicing its reenactments; while another group, having finished filming, is editing its digital story. All of the students in the room are engaged in a digital reenactment. They selected and researched an event from the past, wrote a script, brought in costumes, and practiced the presentation. But what makes the digital reenactment experience different from a traditional in-class reenactment is the use of a green screen, a flip camera, and digital images to take the students into the reenacted time period.

Digital Reenactments vs. Traditional Reenactments

Historical reenactments are a frequently utilized active learning strategy that encourages students to engage in historical thinking. They require students to critically read and synthesize information, consider multiple perspectives, and write a coherent narrative demonstrating an understanding of the time period, event, and the individuals involved.² However, in-class reenactments lack authenticity. Although a teacher can create a stage that has some vestiges of a selected time period, it still feels artificial. Digital reenactments solve this authenticity issue. They also accomplish appropriate technology integration, described in NCSS's Technology Position Statement, as extending beyond what can be done without technology.³

By selecting images from the time period, and placing those images behind them through the use of a green screen, students are “transported” into the event they are reenacting. Imagine students who are studying the Civil War reenacting an event such as the siege of Petersburg and actually being in the trenches with the Union soldiers. This can be achieved by transposing a Matthew Brady photograph, available from the National Archives, onto a green background. Bolick and Waring offered a similar idea when they suggested transposing, or editing, students into an historical image through Adobe Photoshop.⁴ Digital reenactments differ in that the students recreating an historical event are able to actually interact with the historical image. The Teacher's Curriculum Institute's History Alive program includes a visual discov-

ery strategy entitled “Acting It Out,” that requires students to take on the persona of individuals in a pre-selected image.⁵ With digital reenactments, however, students select the images that they feel are most appropriate for their reenactment. Secondly, students are not restricted to a single image; multiple images can be used to tell the story. Finally, students are presenting a narrative of the past; the image, or images, they select are a tool of the storytelling process, not the dominant focus of the reenactment. For example, in one of the reenactments created during the camp, students “participated” in a civil rights march, by walking in place in front of a still image. This same group also used a picture of a 1950s bus interior to have the students move to the “back of the bus.” Through a creative use of positioning, draping of the green screen, and thoughtful staging, the students transported themselves into the 1955 Montgomery bus boycott.

When students perform a traditional reenactment, usually it is for a small audience, their classmates. Digital reenactments provide students with a means to share their research, creativity, and effort with an audience outside of the classroom. This can be done by uploading the reenactment to a podcast site, such as the one we have at the University of Louisville,⁶ or to an unlisted YouTube



Student creating a storyboard for her reenactment of the sinking of the Titanic. Student storyboards were translated into scripts before filming.

channel, which provides a layer of privacy for a class channel. By having the reenactments available online, students can share them with family and friends. Knowing that others will be able to view their work, provides added motivation for students to ensure that information is accurate, that the narrative is coherent, and that the finished product is of high quality.

Stephen Bishop and Mammoth Cave: A Student Example

Mammoth Cave, the world's largest cave system, is one of Kentucky's most visited tourist attractions. What visitors often do not realize is that most of the caves and trails they are touring were first mapped by a slave named Stephen Bishop. During our summer camp, one group of students chose to reenact Stephen Bishop's exploration of Mammoth Cave.⁷

The students' digital reenactment was a compilation of short vignettes depicting Stephen Bishop's experiences with

Mammoth Cave, beginning with the sale of the cave to Bishop's owner, through to his discoveries in the cave, and ending with his manumission. In each of the scenes, the students selected still images that they felt helped progress the narrative. In the first scene, the purchase of Mammoth Cave by Frank Gorin, the students selected a still image of a plantation run by slave labor. In the forefront of the scene are the two individuals discussing the sale of the cave; and, in the background is an individual, presumably a slave, working in a field. To set the stage for the next scene, where Gorin brings Stephen Bishop to Mammoth Cave to explain his new assignment as a guide and scout, the students chose an image of the gaping mouth of the cave's entrance. The student portraying Stephen Bishop then pretends to descend into the cave, using a lantern to lead the way. For the next scene of Bishop's exploration of the cave, the students selected a series of images highlighting his discoveries, including

the "Bottomless Pit," the "River Styx," and a species of eyeless fish. The music the students selected for this vignette helped to create the mood of anticipation and discovery with a driving beat and melody. Perhaps the most interesting use of images in this reenactment was when the students recreated early tourists exploring the cave, particularly throwing coins down the Bottomless Pit and writing their names on the cave wall using lantern smoke. In each of the depicted scenes, the students strategically utilized the selected images to create the setting for the reenacted scenes. By using the green screen and the still images of the digital reenactment, the students are able to take the viewer through several key events in Stephen Bishop's experience at Mammoth Cave. The changing images signal that the scene has changed, and that the narrative has progressed.

In this digital reenactment, the students were able to go well beyond what could be achieved in a traditional classroom

reenactment. When the reenactment was finalized, the students were able to share a well-developed narrative that provided the audience with an authentic recreation of key events in Stephen Bishop's life. Unlike a traditional reenactment, the digital reenactment provided not only the participant a way to understand and "relive" the past, but also gave the audience a vehicle to witness the historical event.

Creating a Digital Reenactment

The materials needed to create a digital reenactment are far less expensive and much more accessible than one might imagine. Green screen kits are readily available and can cost as little as \$150. However, it is not necessary to purchase a kit to achieve the same effect. Other options include draping a green cloth or mounting green poster board onto a wall; or, if permissible, painting a wall with chromakey green paint. As long as students do not wear the same color green as the backdrop, any of these options will achieve the same effect as the green screen kit.

Filming the reenactments can be accomplished with digital cameras and tripods from a school's media center. Flip cameras and tripods were used during the summer camp. One caution on flip cameras: the microphone on the flip camera is small. If it is too far away, or if students talk softly, the recorded dialogue may not be audible. Students must speak loudly and distinctly for the audio to be clearly understood.

During the summer camp, we utilized a free online filmmaking program, www.jaycut.com, to create the digital reenactment video. Unfortunately, shortly after the camp, Jaycut.com was purchased by another company and new accounts were frozen. Other filmmaking programs offering green screen capabilities include iMovie, Adobe Premiere, Sony Vegas, and Pinnacle Studio. This link will take you to a website where many titles of video editing software are reviewed and compared: <http://video-editing-software-review.toptenreviews.com>.



Students in costume reenacting a journey on the underground railroad using a green screen. An image of a cornfield was transposed onto the green screen during editing.

We have identified eight distinct steps associated with the creation of a digital reenactment. The following is a description of how we introduced the concept and guided students through the process during the summer technology camp:

Step 1: We began the digital reenactment instruction with a discussion of the six components of a good digital story as defined by the Center for Digital Storytelling: Point of View, Dramatic Question, Emotional Content, Voice, Soundtrack, and Pacing. We strongly recommend the Center's website, <http://storycenter.org>, as a starting point.

Step 2: Students were tasked with identifying and researching an historical event that they found intriguing. As this activity took place in a summer camp, the participants were given a great deal of latitude in choosing their topic. In a traditional class setting, the topics would likely be assigned by the teacher.

Step 3: Students conducted research to identify why their selected event is currently considered important. This process requires them to analyze and evaluate the gathered information. After conducting the initial research, students selected a scene or series of scenes that they felt best captured the event's signifi-

cance. Once the scenes were identified, students began additional research about the individuals, setting, and history of the event to be reenacted.

Step 4: Upon completing their research, students created a storyboard of the reenactment. By requiring them to think through the organization of the scenes, including who would be involved, what types of backdrops would be appropriate, and the movements that would be necessary in the scene, the students created a more efficient and effective product. We recommend using large poster-sized paper to serve as the resting places for the script/storyboard and 3×5 size sticky notes to draw and write upon. We found this method made for easy manipulation of scenes and order of events in the scripts.

Step 5: After the teacher approved the storyboard, students wrote the script. By waiting until after the storyboard was created to write the script, the students benefited from a more efficient revision process. Instead of having to write numerous drafts, students could manipulate their storyboard until they achieved a coherent narrative. With the structure of the narrative created in the storyboard, the script was easily written. Of note, many of the students chose to

create cue cards of their script to be used in the filming process.

Step 6: The uniqueness of the digital reenactment is the students' ability to transport themselves into a scenario. In order to achieve this, the students must select appropriate background images. Background images can be selected from a number of sources including archival photographs, copyright-free backgrounds, or the students' own photography. It is imperative, however, that students utilize open source materials, or seek copyright permission from the image owner, especially if the digital reenactment is to be shared on the Internet.

Step 7: After the digital reenactment was researched, planned, scripted, and practiced, it was time for students to record their scene in front of the green screen. We suggest that the recording be done in a room with little ambient sound. This will enhance the sound quality of the recording. You may want to have students record their scene at least twice. After the initial recording, the students can view the video to see if adjustments need to be made with regard to staging and sound.

Step 8: Once the scene was recorded, the file was imported into a digital film-making program. The students edited the video, replacing the green screen with their pre-selected image, and added appropriate sound. We recommend using the sound editor in www.aviary.com or Apple's Garage Band to create original musical compositions. Students must be cautioned against using copyrighted sounds and music in their digital reenactments. By creating their own sound effects and music, copyright concerns are alleviated. The students in our summer camp experience posted their digital reenactments onto a portal in the University of Louisville's podcast site, <http://uleap.louisville.edu/groups/stlpcamp/blog/>, which has been viewed by more than

500 unique viewers on two continents. The students were able to share their work with a worldwide audience.

Assessing a Digital Reenactment

As we discussed, the digital reenactments described here were created in a summer camp experience. Consequently, students were not formally assessed on their digital reenactments. However, in the classroom setting, assessment of student work is an essential consideration. There are a number of websites that provide examples to use as a guide when crafting an assessment rubric.⁸ When creating a rubric, we suggest that teachers be mindful of their objectives for the learning experience. Many rubrics designed for digital storytelling address the six previously discussed components of a good digital story; but they do not address the specifics of any particular content area. When crafting a rubric for a digital reenactment, both must be considered, as the learning experience is as much about the historical process involved as it is about the digital storytelling.

Concluding Thoughts

The digital reenactment process offers a remarkable new way of thinking about historical reenactments. Before the advent of Web 2.0 tools and video technologies, historical reenactments, while engaging and beneficial, lacked authenticity and audience. Now, students have the tools and processes to make their own rich multimedia reenactment that enables them to not only step into a time period, but also share their efforts with a wider audience. 🌐

Notes

1. In June 2011, elementary and middle grades students from Louisville, Kentucky, participated in a camp for student leaders in the Student Leadership Technology Project (STLP). Students in the camps gain information and skills that they take back to their schools in order to assist their peers in school technology initiatives.
2. Bárbara C. Cruz, and Shalini A. Murthy, "Breathing Life into History: Using Role-Playing to Engage Students," *Social Studies and the Young Learner* 19, no. 1 (2006): 4-8; Kathryn N. McDaniel, "Four Elements of Successful Historical Role-Playing in

the Classroom," *The History Teacher* 33, no. 3 (2000): 357-362.

3. National Council for the Social Studies, "Technology Position Statement and Guidelines," (2006): www.social-studies.org/positions/technology.
4. Cheryl Mason Bolick and Scott M. Waring, "Virtual History: Transposing Students to Another Time and Place," *Meridian Middle School Computer Technologies Journal* 7, no. 1 (2004) www.ncsu.edu/meridian/win2004/virtual/index.html.
5. Teacher's Curriculum Institute, *Bringing Learning Alive* (2010), Palo Alto, Calif.
6. The University of Louisville houses a podcast site at <http://uleap.louisville.edu>, which has been made available to schools throughout the Commonwealth of Kentucky.
7. The student's video of Stephen Bishop and Mammoth Cave can be accessed at http://uleap.louisville.edu/groups/stlpcamp/weblog/4ec19/Kennedy_Montessori_Elementary.html.
8. Sample rubrics can be found at <http://digitalstorytelling.coe.uh.edu/rubrics.html>, <http://hubforteachers.discoveryeducation.com/taking-it-digital/rubrics-storyboards.cfm>, <http://courseweb.lis.illinois.edu/~jevogel2/lis506/evaluation.html>.

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