

# Constructing Digital Stories

A digital story consists of a series of still images combined with a narrated soundtrack to tell a story. We described seven essential characteristics of effective digital stories in the December/January 2004–05 issue. Digital storytelling, as we practice and teach it, grew out of the work of Joe Lambert and Dana Atchley at the Center for Digital Storytelling at Berkeley. Their Web site provides a history of digital storytelling with examples that illustrate why this medium can be so compelling. (*Editor's note:* For this and other URLs and references, see Resources on p. 42.)

For example, one digital story, *And Now We Learned to Sing*, emerged from a collaboration with the National Writing Project in which teacher-researchers developed classroom applications. Another, *And Now I Know*, was drawn from a community program with Hmong youth, and a third, *Renaissance Memory*, captures a story of art and the Harlem renaissance that was developed at the National Gallery of Art.

As these examples suggest, digital storytelling represents a particularly powerful method of expression that can amplify a writer's voice. However, special considerations apply to the construction of digital stories in the classroom. Teachers rarely have access to all the equipment that might be desirable. The two or three computers that may be available in a typical classroom limit the use that is possible by 20 or 30 students, and labs must often be reserved weeks in advance.

In addition, time available within curricula is limited. In an era of accountability, class time must address

specific instructional objectives. Uses of digital storytelling to address these objectives must be carefully and thoughtfully planned in advance.

We'll specify some starting points as well as share ideas we've learned in working with K–12 students and teachers.

## Where to Begin?

The following sequence of seven steps is based on a two-year project in the Curry School's Center for Technology and Teacher Education at the University of Virginia. We worked with students and teachers across the country to create digital stories. It is not the only way to approach this task in a school setting, but the strategies outlined offer a starting point for teachers thinking about digital storytelling in their classrooms.

**1. Write an Initial Script.** The approach always begins with the story. The script consists of less than a single double-spaced typed page or the text that can be printed on an index card. One of the benefits of digital storytelling is that precisely written brief texts can generate a compelling digital story.

A student who might find a 10-page essay daunting may find a story of this size approachable. We often find that early class time must be directed toward identifying only essential elements as we reduce students' stories to this length.

**2. Plan an Accompanying Storyboard.** The script is a plan for what to say. The accompanying storyboard is a plan for what to show. The storyboard consists of a series of sketches representing the still images and, in some instances, short video clips that comprise the story. A line beneath each sketch provides space for a caption that describes the essential idea that each conveys.

A dozen images are generally sufficient for a two-minute digital story.

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**Grades:** K–12 (Ages 5–18)

**Standards:** NETS•S 3; NETS•T II (<http://www.iste.org/nets/>)

In some cases the images are personal, scanned from family photographs. In others, students may use a digital camera to capture project-specific images. The Web makes countless images available, but students' ownership of their own creations is also an important component of the project. Here, visual images offer scope for both concrete representation and symbolism.

**3. Discuss and Revise the Script.** A story circle offers an opportunity to share the script and elicit feedback. Classes divide into small groups, facilitated by a discussion leader or teacher. Students read their scripts aloud and then receive comments framed with the prompt, "If this were my story, I'd...". A key element of digital storytelling as we practice it is the personal dimension. Therefore the revision process often involves encouraging students to speak in the first person. Viewers often ask authors, "How does this relate to you?"

Images should carry part of the weight of the story conveyed. Therefore it is not necessary to spell out the complete story in the written script. The revision process often includes discussion of which elements the script can convey and which aspects images should communicate. Students need to talk about what they see as well as what they hear and discuss how these elements can work together.

**4. Sequence the Images in the Video Editor.** Construction of a digital story in a digital video editor such as iMovie or Movie Maker begins as students import the images into the timeline of the video editor and sequence them. This is a speedy and straightforward process once students have completed the storyboard.

A precursor to this step can involve scaling the images for the right aspect ratio and resolution. Images displayed on a television are three units high

by four units wide. Images in digital video follow this format as well. Still images should be formatted for a 3:4 ratio (i.e.,  $120 \times 160$  pixels,  $240 \times 320$  pixels, and so on) to fill the display window. Images that have greater resolution than the screen can display increase the file size without enhancing the display quality.

Therefore it is desirable to scale still images to the appropriate format and resolution before importing them into the video editor. Several image editing tools can accomplish this task efficiently (e.g., Photoshop Elements or Microsoft Picture It). When time is pressing, we have sometimes omitted this task. In those instances, the images may not fit the frame perfectly, but can still be used to construct a workable story.

**5. Add the Narrative Track.** We ask students to narrate the script one sentence at a time, saving each sentence in a separate file labeled "1," "2," "3," and so on to ensure that the order of the sentences is clear. Recording narration sentence by sentence allows students maximum control over the pacing of their work. Files are simpler to manage. Inevitably, students who chose to record the script as one large file end up regularly re-recording, as it only takes one mispronounced or omitted word to require beginning again.

**6. Add Special Effects and Transitions.** We have found that the most effective stories often use minimal special effects. However, these effects are frequently an element that initially engages students. A useful compromise involves a requirement for completion of the first five steps before adding special effects. We ask that students only use effects when they contribute to the meaning conveyed within the story. Students are surprisingly attuned to maintaining that focus, despite the appeal of effects such as "earthquake" and "fairy dust."

In some video editors the addition of transitional effects such as fades and dissolves may require adjustment of the timing. Students may need to adjust the length of image display times to ensure that the images remain synchronized with the accompanying narrative. Additional time may need to be incorporated into the development process to allow for this final tweaking.

**7. Add a Musical Soundtrack if Time Permits.** The final step is to add a musical soundtrack. Importing a soundtrack is a straightforward process in video editors with two audio tracks such as iMovie. An extra step is required in Movie Maker 2, which only has one audio track. Once the narration is completed in Movie Maker 2, the digital movie is rendered, and then re-imported into the video editor. The rendered images and narration are combined into a united video track, freeing the audio track for reuse. This makes it possible to include both a narrated script and a musical track in the background.

Occasionally, students run out of time, either because of a technical snag such as a lost file or because they became engrossed in tinkering. In those instances, the digital story can still be shown at the final screening even though music has not been added. For that reason, we include this as the final step in the process.

Once the movie editor has been used to assemble the components of the story, the file is rendered. The final step of rendering compiles the story elements into a stand-alone file that can be viewed with a media player—the Windows Media Player in the case of files created with Movie Maker and the Apple QuickTime player for files created in iMovie.

These two video editors are popular because of their inclusion with the respective Windows and Mac operating

systems, but a variety of effective video editors are available at educational discounts for educators who wish to invest in additional capabilities.

### Lessons Learned

The strategies we have identified are designed to make best use of students' construction time and the limited time that may be available on school computers. Some of the lessons we have learned include:

**Sequence the Steps.** The order described earlier is designed to tap into the organic process of storytelling as well as to work around some of the quirks found in different digital video tools. We've found that students will maximize instructional time when tasks are well framed and specific. In addition, teachers can easily track individual progress using a chart placed on a blackboard or classroom whiteboard.

**Require an "Entrance Ticket" for the Lab.** Students who complete script drafts and storyboards away from computers are more efficient. We have found that this approach yields more powerful, more focused stories. Written tools provide students with a space in which to preplan how images will appear on the screen. This encourages precision, allowing images to speak and ultimately do heavier narrative work. Students who don't complete this prewriting regularly lose significant amounts of lab time.

**Save Early and Often.** Construction of the story when working with digital video tools such as iMovie or MovieMaker can move rapidly. Consequently, students (and teachers) need to be reminded to continually save their work, especially as earlier versions of the software (which are more prevalent in our schools) tend to be less stable. All it takes is a locked-up computer at the close of the class period for a student to fall significantly behind. We encourage

students to save every five minutes. This is not a golden rule in terms of the time allocated, but it is essential for students to save each time they make some significant changes. Then they have a starting point in the event of a crash.

**Maintain a Back-up Copy.** Every school and instructional setting in which we have worked has had a different set of tools and a different network. We have found that when students can save a duplicate copy of their work to a server folder or computer hard drive, fewer errors and lost files result. If the path to external image files changes, it may be necessary to relink each image when the project file is opened. This absorbs instructional time and shifts the focus from the story to the tools, so it is a good idea to use a consistent path when saving.

**Address Copyright.** Students regularly want to use images or music gathered from online sources. Although this immediately puts materials into students' hands, teachers must emphasize the need to work within copyright law. (This column will address the matter of copyright in greater detail in the April issue.) In our classrooms, we encourage students and teachers to use their own original images and royalty-free soundtracks. We suggest the Creative Commons as a useful starting point for obtaining content such as music that can legally be incorporated into digital stories.

**Keep Storytelling at the Forefront.** This project is steeped in the practice of what good readers and writers do in working with and crafting meaning-packed, valuable text. To that end, when glitches occur, instead of viewing them as time lost, use them as an opportunity for further refinement and development of the script and/or storyboard. Do not let the technology get in the way of the story.

The list continues to evolve as we meet new challenges in different instructional settings, but the core ideas remain the same. In every reinvention, however, essential elements include images, motion, narration, and student voice.

### Summary

Often, work in developing a digital story can lead students into successful work with print texts. The technology can provide a connection to tap into students' existing visual, oral, print, textual, and technological literacies.

In the second day of a five-day digital storytelling unit, Elliot, a seventh-grade student, suggested that "what makes this different is that it's somewhere between a movie and a slideshow but that it allows my thoughts and voice to be on the screen with the images that I see in my head."

These practices are still evolving, but content and writing drives each assignment. The instructional objectives that can be attained will be the subject of a future column.

### Resources

- A History of Digital Storytelling: <http://www.storycenter.org/movies>
- Creative Commons: <http://creativecommons.org>
- Lambert, J. (2002) *Digital storytelling: Capturing lives, creating community*. Berkeley, CA : Digital Diner.



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