Chapter 3

How Digital Storytelling Builds 21st Century Skills

Abstract

This chapter of "Digital Storytelling in Practice" examines how digital storytelling can be used to build important skills. Like traditional storytelling, Digital Storytelling helps to build conceptual skills like understanding a narrative and using inductive reasoning to solve problems, but the creation of digital stories also requires the creator to build technology skills through the use of software and other tools. These skills are useful to both children, who need them for an increasingly technology-oriented future job market, and adults, who need them to keep up with a changing world.

In 2002, Scott County Schools and the Scott County Public Library in Georgetown, Kentucky, forged a partnership designed to help their children build storytelling and technology skills through learning and preserving their community's stories.[1] Inspired by the late storyteller Dana Atchley, the community project allowed students, teachers, and residents to work together through the library to tell their stories digitally through three-minute videos. In videos available on the Scott County Digital Storytelling website, teachers' reflections show that in addition to being an entertaining and fun project, the digital storytelling project was an important learning experience for students. They were able to gain computer and technology skills that are crucial for any student in the Internet age.[2]

When done as a part of children's programming, digital storytelling can help build the 21st century skills that children will need to succeed in school and eventually in the modern workforce. In Scott County, teachers felt that through the digital storytelling experience, students were able to gain competence in skills considered an important part of the local schools' standards. According to the book *Digitales, the Art of Telling Digital Stories*, students were able to gain effective communication skills and experience in specific areas that teachers felt were important:

- Interactive communication
- Interpersonal skills
- Personal and social responsibility
- Technology literacy
- Relevant, high-quality products
- Basic and visual literacy
- Curiosity, creativity, and risk-taking[3]

Digital storytelling does not need to be an additional task or more homework for students; it teaches skills that fit well within common learning guidelines set forth by many school districts. By working with students (and librarians), teachers can use digital storytelling as a fun and engaging learning activity for students. Of course, in order for teachers to be able to implement these programs, they must have the skills to create a digital story themselves—we'll cover this in chapter 5.

Educational Standards and Their Role in Libraries

The Scott County partnership shows the educational significance of digital storytelling as a library program. Librarians are de facto educators—whether they are in a public school, public library, or academic library setting, they help perpetuate the acquisition of knowledge. Public or school libraries will be used by students as tools to help with their education. Thus, it's important for librarians

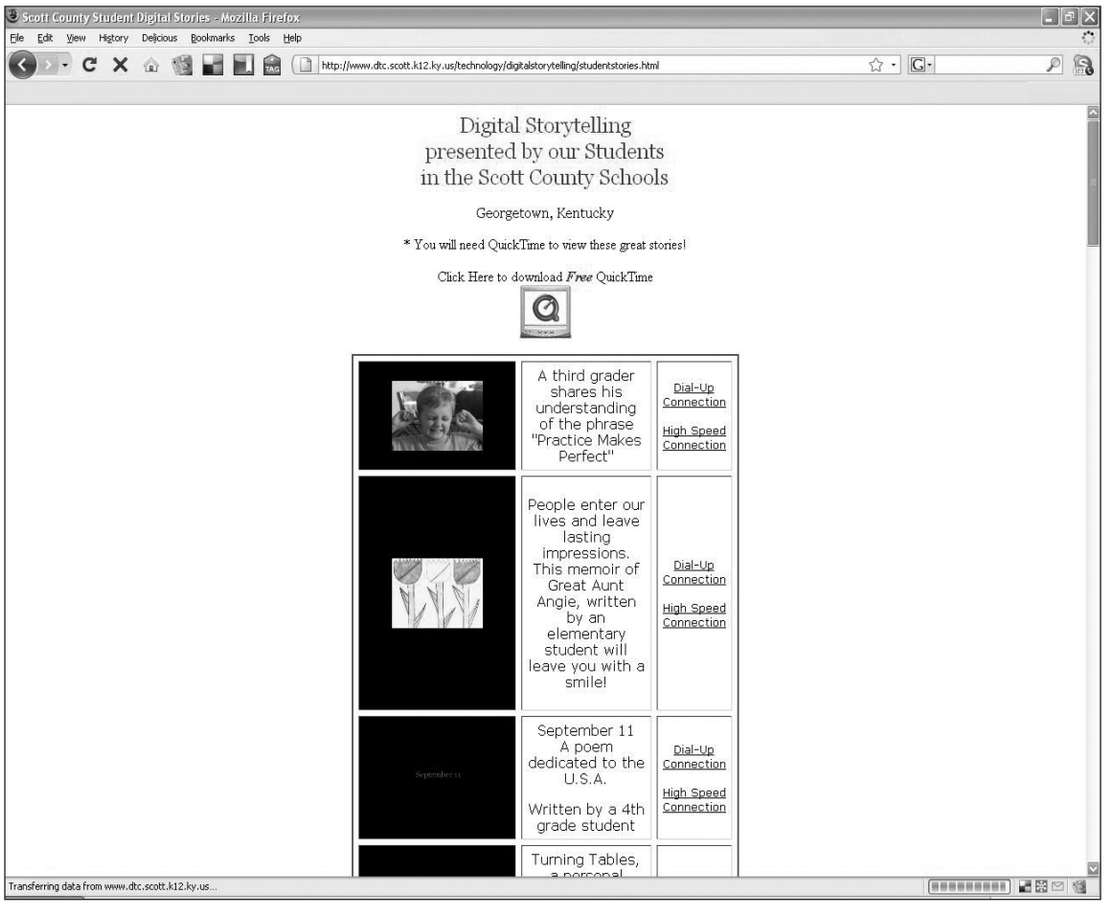

Figure 6
The Scott County Public Schools website contains an archive of digital stories created by students.
http://www.dtc.scott.k12.ky.us/technology/digitalstorytelling/studentstories.html

to strive for resources and programs that help students meet the educational standards that their schools may be following.

The International Society for Technology in Education (ISTE) has suggested standards not only for students but for teachers and administrators as well. ISTE is a nonprofit organization that "provides leadership and service to improve teaching, learning, and school leadership by advancing the effective use of technology in PK–12 and teacher education."[4] ISTE developed the National Educational Technology Standards and Performance Indicators for Students (NET•S) in 2007. The six standards ISTE has developed for students are as follows:

1. **Creativity and Innovation.** Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
2. **Communication and Collaboration.** Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
3. **Research and Information Fluency.** Students apply digital tools to gather, evaluate, and use information.
4. **Critical Thinking, Problem Solving, and Decision Making.** Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
5. **Digital Citizenship.** Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
6. **Technology Operations and Concepts.** Students demonstrate a sound understanding of technology concepts, systems, and operations.[5]

When we take a close look at these standards, we can see that several digital storytelling programs in libraries have helped students move towards the goals set by

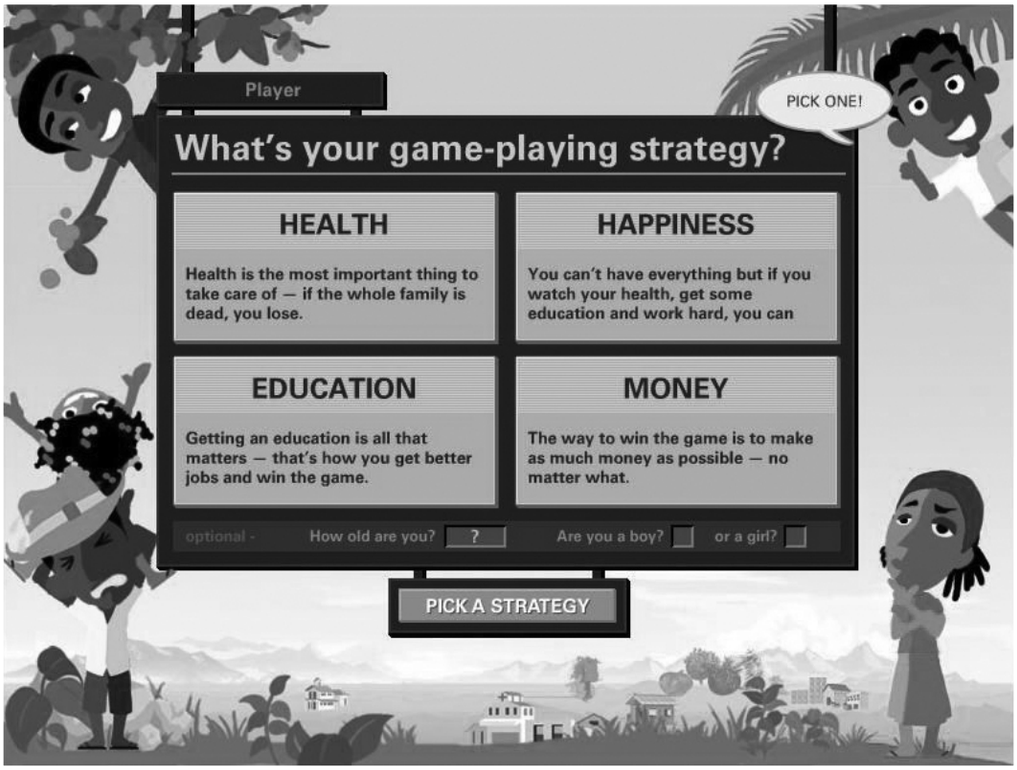

Figure 7
Ayiti, the Cost of Life, a game designed in collaboration between Global Kids Playing 4 Keeps program's youth leaders at South Shore High School in Brooklyn, NY and the game design company GameLab.

ISTE. In 2009, several branches with the New York Public Library Teen Services partnered with a nonprofit organization called Global Kids, which runs a program called Online Leadership. One of the outcomes of the partnership was a digital youth media and technology festival at which the teens showcased their work to an audience of peers and adults.[6] The partnership worked to develop participants' knowledge about serious contemporary issues like human trafficking or genocide–this was the "story" that these students created. Participants then took the information that they learned and converted it into a digital format that could be presented at the festival. Students used media like movies, digital comic books, and audio to engage an audience and show what they had learned.

This project clearly falls under ISTE's first standard, creativity and innovation. By taking information in traditional formats (newspaper articles, books, etc.) and converting it to an interactive media format requires both knowledge of the subject at hand and the ability to think about it in a creative fashion. When students are able to look at their research and translate it to a story, it becomes more personal and meaningful to them because they've engaged with it and learned to think about it in a new way. The project itself was innovative, but students involved seem more likely to engage in creative and innovative thinking as a result of the exercise.

The program is also an excellent example of how digital storytelling can help students work to achieve ISTE's second standard–communication and collaboration. The fact that the culmination of the partnership was the youth media festival allowed the teens from various library branches within New York City to come together and present their projects. The results clearly showed how the team had collaborated as part of the development and planning for the project. They were able to share their knowledge with others, particularly with adults who might not normally have worked with them in the library.

ISTE's concept of information fluency was also a central tenet, as students gathered and used information about their topic from variety of digital resources, including online games and websites. In some cases, the game related directly to the topic at hand. For instance, a game called *Ayiti* explores the topic of poverty directly; players take the role of a poor person trying to make ends meet.[7] In other instances, students used online games as digital tools to explore the more conceptual elements of how to tell a story. One project focused on the issues of drugs and violence. Using a free game-design program called

Gamestar Mechanic, players enacted different scenarios (story lines) that incorporated the concepts of levels, points, goals, and consequences into very real scenarios.

Gamestar Mechanic site
www.gamestarmechanic.com

By creating a video as the end result of their work, the participants had to use critical thinking and problem solving in order to convey a coherent message. When making the video, the students had to make decisions about which information to include and about how to most effectively format that information to convey their message.

The end result of this process was an outstanding exercise in what ISTE would call digital citizenship. By using digital media to research a serious issue and then convey messages about it to other people, the students participated in a commendable act of teaching and awareness-raising. This is analogous to the informal code of ethics used on social networks like Facebook and websites like YouTube. You are free to explore and post, but there is an understanding that irresponsible material will be flagged and deleted, and those who post it may be penalized.

Finally, by using the technology of online games to delve deeper into a serious topic of their choice, participants were able to gain a better conceptual understanding of the technology that they were using. In order to conduct online research and create a video, the students had to learn how to use software and search on the Web in new ways.

There are a wide variety of educational standards in American institutions. This is only one example, but it is easy to see how the concept of digital storytelling is broad and flexible enough to help students achieve almost any set of educational standards.

21st Century Skills for the Workforce

In 1999, the U.S. Department of Education and other agencies published a document titled *21st Century Skills for 21st Century Jobs*. The report asserts that the skill sets needed to succeed in the modern job market are rapidly changing and are much more technological in nature than in years past. The executive summary states:

> In the workplace of the 21st century, the Nation's workers will need to be better-educated to fill new jobs and more flexible to respond to the changing knowledge and skill requirements of existing jobs. Meeting the challenge of employment and training will call not only for the best efforts of employers, educators, trainers, labor unions, and individual Americans, but also for new forms of cooperation and collaboration among those groups. Lifelong skills development must become one of the central pillars of the new economy.[8]

We've already seen how storytelling, both traditional and digital, can function as a learning mechanism for all age groups. In that sense, the skills one can learn from digital storytelling are relevant for the 21st-century job market in a general way. By looking more closely at the contents of the report, we can see how digital storytelling can teach specific skills Americans will need to compete in an increasingly technology-oriented workplace.

The Department of Education report breaks modern skill sets down into basic skills (reading, writing, and computation), technical skills (computer), organizational (communication, creative thinking, problem solving, analytical), and company-specific skills.[9]

This issue of *Library Technology Reports* contains several examples of how digital storytelling helps develop these skill sets. Storytelling is an intellectual exercise, and like all intellectual exercises, it develops the basic skills described in the Department of Education report. Digital storytelling, no matter how technical it can get, helps to build the basic skills of reading, writing, and computation. Technical skills are also a fairly obvious component of digital storytelling. In New York Public Library program, participants didn't merely use the computer skills that they had; they *built* their skills by learning to use new software and games to tell their stories.

As we've seen throughout this report, digital storytelling programs are usually collaborative programs. By working in groups, or building stories through interactive games or social networks, participants in digital storytelling build organizational skills. Digital storytelling, like traditional storytelling, is an exercise in communication and a creative process that requires participants to visualize and use their imaginations. We've also seen how digital storytelling can be adapted to different scenarios—museums, academic libraries, schools, and other environments. With this high degree of adaptability, it's not hard to imagine a creative thinker finding company-specific uses for digital storytelling.

Any librarian can tell you firsthand how our profession exemplifies the need for a changing skill set. Thirty years ago, many librarians did not use computers in their day-to-day work; the majority of reference sources were in print. Today, most library functions involve computer interaction. The information requests we receive from patrons reflect this change. In the past, most requests involved books—today they involve websites, audio, video, social networks, and other media.

In the context of preparing patrons of all ages for the workplace, it's important to state again that librar-

ies are more than warehouses of information—they are community centers with an obligation to provide services tailored to the patrons in that community. Whether you are in a public library, a special library, or an academic library, you are in an institution that plays a role in educating the community that it serves. It's important that the programs offered by the library be educational and practical, and not just entertaining.

Notes

1. Scott County (KY) Schools, "Digital Storytelling in the Scott County Schools," www.dtc.scott.k12.ky.us/technology/digitalstorytelling/ds.html (accessed Sept. 1, 2009).
2. Scott County (KY) Schools, "Digital Storytelling at Eastern Elementary," www.dtc.scott.k12.ky.us/technology/digitalstorytelling/ee2nd_t1.mov (accessed Sept. 14, 2009).
3. Porter, Bernajean, Digitales, the Art of Telling Digital Stories, Bjpconsulting, 2005, Page 63.
4. International Society for Technology in Education, "About ISTE," www.iste.org/am/template.cfm?section=about_iste (accessed Sept. 1, 2009).
5. International Society for Technology in Education, *The ISTE National Educational Technology Standards and Performance Indicators for Students* (Eugene, OR: ISTE, 2007), www.iste.org/Content/NavigationMenu/NETS/ForStudents/2007Standards/NETS_for_Students_2007_Standards.pdf (accessed Sept. 1, 2009).
6. Heidi Singer, "Gaming for a Better World: Teens Advance Social Causes Using Digital Media," Global Kids news release, June 24, 2009, www.globalkids.org/?id=13&news=31 (accessed Sept. 1, 2009).
7. UNICEF, "Game: *Ayiti: The Cost of Life*," Voices of Youth website, www.unicef.org/voy/explore/rights/explore_3142.html (accessed Sept. 1, 2009)
8. Lisa Stuart with Emily Dahm, *21st Century Skills for 21st Century Job* (Washington, DC: GPO, 1999): iii, www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/16/79/fd.pdf (accessed Sept. 10, 2009).
9. Ibid., 2.