



Technology: An Integral Part of Students' Learning and Lives

Joseph O'Brien

Fourth graders Darrell and Sonya use a laptop to access their school online account. They download the digitized videos that they and their classmates recorded the previous week of school buses unloading students at school. The existing traffic plan has created confusion for students and adults alike, so several weeks earlier the fourth grade teachers challenged their students to come up with a better plan. While Darrell, Sonya, and the other students in their class screen the videos, students in another fourth grade class review answers to an online questionnaire about the existing plan that was completed by parents. Eventually, the students propose a new traffic pattern for the drop-off area in front of the school, which the principal posts online.

What if this fictitious use of technology was the norm? While addressing a relatively simple matter of local concern, this vignette illustrates the potential of technology for learning about and acting on civic matters. Such use of technology needs to become an essential part of students' preparation for life in a digital society. As Chester notes, "We are on the eve of the emergence of the most powerful communications and media system ever developed." This development requires an "intense and well publicized debate about where our digital society is headed"—a debate that addresses "how our media can foster civic participation [and] make our government more accountable to the public."¹ Rheingold shares this view: "We need a clear citizens' vision of the way the Net ought to grow, a firm idea of the kind of media environment we would like to see in the future."² In heeding their advice, the National Council for

the Social Studies is working with the Partnership for 21st Century Skills both to help shape this "citizens' vision" and to better prepare young people as future adult citizens to participate in an "intense and well publicized debate."

Traveling with Technology on Route 21

According to "Maximizing the Impact," a 2007 report co-authored by the International Society for Technology in Education, the Partnership for 21st Century Skills, and the State Educational Technology Directors Association, our society needs "citizens who are globally aware, civically engaged, and capable of managing their lives and careers, and young people who are economically and financially literate and fluent in information, media and technology skills."³ In an effort to assist with the preparation of such citizens, a host of businesses, educational organizations, and civic groups

formed the Partnership for 21st Century Skills (P21).⁴

Two major endeavors undertaken by P21 are individual statewide initiatives in places such as Massachusetts, North Carolina, and Wisconsin and collaborative efforts with content area professional organizations (such as NCSS and the National Science Teachers Association) on the development of Information and Communication Technologies Literacy Maps. Information about the statewide initiatives is found at P21's "Route 21" site, www.21stcenturyskills.org/route21/. NCSS has worked with P21 on the second endeavor to produce a Social Studies Information and Communication Technologies (ICT) Literacy Map (www.21stcenturyskills.org/documents/ss_map.pdf). The development of the ICT Map complements the organization's ongoing review of *Expectations of Excellence: Curriculum Standards for the Social Studies* and its efforts to make the use of technology a more integral part of professional development services.

The Social Studies ICT Literacy Map is broken into the following skill categories: creativity and innovation; critical thinking and problem solving; communication and collaboration; information literacy; media literacy; ICT literacy; flexibility and adaptability; initiative and self direction; social and cross-cultural skills; productivity and accountability;

and leadership and responsibility.

Each skill within a category of skills is connected to a theme, which provides a content context for a sample student outcome and an example to accompany the outcome. The student outcomes and examples are provided for 4th grade, 8th grade, and 12th grade. Finally, specific technology tools typically are identified in the “Supporting Structures” section. The accompanying sidebar provides an example of a student outcome and student example found in the “Information,

Media and Technology Literacy” category.

While the Literacy Map contains largely hypothetical examples of student activities designed to fulfill each outcome, the examples provided here have been carried out by teachers and are matched to one relevant student outcome.

Noteworthy Features of ICT Literacy Map

Given the recommendations for improving *Expectations of Excellence* and the

need to ensure that the Literacy Map serves as a useful guide, the document is designed to reach as broad a range of K-16 social studies educators as possible. Several features are worthy of note.

Range of Technology Use: Since access to different types of technology and policy related to the use of technology varies across schools and districts, the student outcomes and examples range from low to high end use of technology. The outcomes and examples also address the use of a wide variety of technology,

Grade 4 Skill Area: Information Literacy **Theme:** Civic Literacy

Outcome: Conduct an interview related to an important issue in a student’s life or community; evaluate the information; and create a slide show that describes the main points of the discussion.

Sample Student Activity: Casey Juliano, a kindergarten teacher in Nevada’s Clark County School District, works with students to create an electronic big book about their respective families. Parents are informed of the project and are asked to submit a digital photo of the family. The students also use Kid Pix to draw pictures of their families. During a series of vocabulary exercises, students compose a sentence about their families and captions for the family photos and their drawings. The pieces are gathered together in a Power Point presentation, which teachers can use at Back-to-School night.

Grade 8 Skill Area: Collaboration

Outcome: Assess their performance as a group and develop and implement a plan to work together more productively.

Sample Student Activity: Nick Lawrence, a first year 8th grade teacher at the East Bronx Academy in New York City, is having his students use digitized primary sources. Since keeping track of group work is a difficult task, particularly for a beginning teacher, he is having them use a Wiki. He also has them using a discussion board as they respond to each group’s posting on the Wiki. He is now better able to assess group work, as well as to track the evolution of their ability to interpret primary sources over several units by referring back to prior postings.

Grade 8 Skill Area: Information Literacy **Theme:** Financial Literacy

Outcome: Create and organize original information data sets about key issues in the community, state or nation using a variety of tools.

Sample Student Activity: Karen Phua of Oaks School in Oceanside, New York, has her students research the standard of living in several nations that they are studying. She teaches 6th grade, but higher grade levels can also benefit from this activity. They use online interactive graphing tools to organize and display information and use the results to determine which nations have the highest and the lowest standards of living. After discussing the implications of a low standard of living for a nation’s people, the students then conduct online research on organizations that seek to address problems that arise from a low standard of living. (For more information about Ms. Phua’s lesson, and that of Ms. Juliano, refer to the NCSS Bulletin, *The Digital Age: Technology Based K-12 Lesson Plans for Social Studies*).

Grade 12 Skill Area: Collaboration **Theme:** Civic Literacy

Outcome: Reach consensus on a viable action that could be taken relative to a political or social issue and then act accordingly.

Sample Student Activity: Andrew Nussbaum, a government teacher at Free State High School in Lawrence, Kansas, and sponsor of the school’s Social Awareness club, has his club members choose an issue to address each year. While researching issues online, a student came across the Invisible Children site (www.invisiblechildren.com), which is dedicated to the repatriation of child soldiers. Using the information provided at the site, the students organized an electronic and person-to-person fundraising drive, the proceeds of which were donated to a repatriation program.

Grade 12 Skill Area: Critical Thinking **Theme:** Global Awareness

Outcome: Using sound reasoning and relevant examples, students analyze the historical evolution of a contemporary public policy issue, place it within a historical context, and use a digital publishing tool to report their work.

Sample Student Activity: Tonda Jones, who teaches at North Broadway Education Center in Leavenworth School District, had her students learn about the Holocaust by first learning about the genocide in Darfur using You-Tube. Once her students had learned about what was happening in Darfur, they compared it to what occurred during World War II. Students also investigated examples of online teen activism in response to the Darfur crisis, which caused several of them to donate money or to send “care” packages to relief agencies.

such as Geographic Information Systems (GIS) programs, presentation tools, and online search engines. Finally, the Map illustrates how to use similar types of technological tools to develop different skills, such as the use of social networking sites to organize student projects or to engage in civic action and of digital means to communicate with public officials or to study primary sources.

Relation between Outcome and Student Example: While most of the outcomes address skills critical to social studies, such as researching information and working in groups, the use of technology to exercise such skills adds a different dimension to them. Researching online information, while related, is distinct from researching information in a school's media center. In turn, working in face-to-face groups is different from working in groups via a social networking site. The student examples are designed to help illustrate how to distinguish such skills when used with technology. Realizing the disparity of access to technology and the constant evolution of technologies, the student examples strike a balance between the possible and the potential.

Emphasis on Civic Action: While Menezes argued that "citizenship education should ... focus on students' empowerment for assuming an active role in the [democratic] process and defining and expanding citizenship itself," the Tourney-Purta and Lopez report noted that "there is hesitation about whether and how to incorporate enhanced opportunities for students' voice and input in their schools and classrooms."⁵ Emerging forms of technology are offering educators richer and more varied means for students to learn the knowledge and skills necessary to become civically engaged, but also to do so within the context of their classroom. The sidebar on page 384 illustrates the example presented in the opening paragraph.

Conclusion

While the Social Studies ICT Literacy

Map represents the culmination of the collaborative effort between NCSS and the Partnership for 21st Century Skills, it also is but part of an ongoing effort by NCSS to provide guidance on how best to help young people learn to effectively use technological tools for academic and civic purposes.

As noted in the NCSS "Technology Position Statement and Guidelines," while "we cannot predict the future, we can anticipate where the emerging communication and information technologies might take us and start discussing how best to prepare ourselves and our students for what might occur."⁶ The partnership effort with P21, more effective use of technology in its professional development services, and the creation of online professional communities attest to the organization's plans to help K-16 educators better prepare their students to respond to Chester's call for an "intense and well publicized debate about where our digital society is headed." 🌐

Notes

1. Jeff Chester, *Digital Destiny: New Media and the Future of Democracy* (New York: The New Press, 2007), xv.
2. Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier*, 2nd Revised edition (MIT Press, 2000), 6. Online version available at www.rheingold.com/vc/book/
3. Information Society for Technology in Education, Partnership for 21st Century Skills, and State Educational Technology Directors Association, "Maximizing the Impact: The Pivotal Role of Technology in a 21st Century Education System," (2007):3. Available at 21centuryconnections.com/node/374.
4. Background and mission statement available at www.21stcenturyskills.org/index.php.
5. Isabel Menezes, "Participation Experiences and Civic Concepts, Attitudes and Engagement: Implications for Citizenship Education Projects," *European Educational Research Journal* 2, no. 3 (2003): 432; Judith Torney-Purta and Susan Vermeer Lopez, "Developing Citizenship Competencies from Kindergarten through Grade 12: A Background Paper for Policymakers and Educators," *Education Commission of the States and National Center for Learning and Citizenship* (August 2006): 15.
6. National Council for the Social Studies. "Technology Position Statement & Guidelines," *Social Education* 70, no. 5 (2006): 330.

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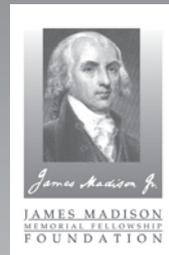
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