Technology and Disciplined Inquiry in the Social Studies

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Abstract

More than 15 years ago, Martorella (1997) asked what has now become a seminal question in the field of social studies and technology; that is, "Which way to the sleeping giant?" (p. 511). He suggested a number of roles that technology can play in the social studies classroom. Although these roles are certainly relevant in 2014, the roles of computer (as well as other digital technology tools and resources) as a means to deeper engagement with content and as a means for students to share their understanding in rich, divergent ways have emerged as two of the more robust opportunities for technology in the social studies. In these 17 years researchers have begun to explore ways in which technology can support disciplined inquiry in the social studies—particularly in terms of engaging students in historical thinking and providing students with opportunities to demonstrate their understanding of social studies skills and concepts through the creation of content. In this piece we trace efforts to engage students in these two learning opportunities for technology in the social studies.

More than 15 years ago, Martorella (1997) asked what has now become a seminal question in the field of social studies and technology; that is, "Which way to the sleeping giant?" (p. 511). He suggested a number of roles for technology (or computers) within the social studies curriculum:

- Computer as alter ego.
- Computer as citizenship education.
- Computer as workplace.
- Computer as school.
- Computer as data gatherer. (p. 513)

Although these roles are certainly relevant in 2014, the roles of computer (as well as other digital technology tools and resources) as a means to deeper engagement with content and as a means for students to share their understanding in rich, divergent ways have emerged as two of the more robust opportunities for technology in the social studies.

In these 17 years, we have noted these two trends in the research literature. In the early 2000s, a number of studies explored how best to leverage Web-based archives and databases of digitized historical documents to "think historically" (Kobrin, 1996; Levstik & Barton, 2001; Wineburg, 1991) in K-12 classrooms. A number of social studies education researchers have explored efforts to leverage digitized primary source documents in this form of disciplined inquiry in history (e.g., Hicks, Doolittle & Lee, 2004; Friedman, 2006, Saye & Brush, 1999, 2004, 2006).

More recently researchers have explored how role playing games and simulations build both historical thinking skills and historical empathy (Atkinson, 2010; Devlin-Sherer, & Sardone, 2010; Lee & Probert, 2010; McCall, 2011). In geography education, Keiper (1999), Linn (1997), and Gomez (2103) have explored ways to leverage GIS technology to promote disciplinary thinking.

In terms of content creation, researchers have explored the use of wikis and collaborative word processors to enable students to collaborate on historical inquiry (Heafner & Friedman, 2008; Roberts, 2013; Stoddard, Hofer, & Buchanan, 2008). Others have explored how technology tools can be used to encourage democratic education (Hostetler, 2012), critical thinking and problem solving (Fitchett & Good, 2012; Ray, Faure, & Kelle, 2013) and support student exploration, inquiry and publishing (Gentry, 2008; Kulla-Abbott & Polman, 2008; Journell, 2009; Schneidermann, 2008). These studies provide some sense of the broad-ranging emergent scholarship on technology in the social studies.

Our work has examined technology as a support for disciplined inquiry and content creation within the social studies by exploring those technology tools and resources that are strongly connected with key social studies disciplinary practices that also seem to fit within a historical, geographic, economic, and civic classroom context. In this line of inquiry, we have studied the use of digital primary sources (e.g., see Swan, Hofer, & Locascio, 2008) as a way for students to work with the same historical sources as historians.

In our more recent and most sustained line of inquiry, we have focused on the role of computer as content-creation tool in the context of student-created documentary films (Hofer & Swan, 2007, 2008; Swan, Hofer, & Levstik, 2008; Swan, Hofer, & Swan, 2011). Primarily, we have worked within high-stakes testing classrooms alongside teachers who are attempting ambitious work (Grant, 2003) within practical constraints, including the scarcity of planning and instructional time, the inevitable challenges with technology access and troubleshooting, and the pressures of high stakes testing. Most recently, we have shifted our focus to uncover the possibilities to engage students in authentic intellectual work (as defined by Newmann, King, & Carmichael, 2009) in documentary creation.

In our most recent study, we analyzed a set of student-created digital documentary projects constructed in a standards-based, eighth-grade United States history classroom (Swan & Hofer, 2013). By holistically examining the student work throughout each stage of the process, we sought to ascertain the rigor of authentic intellectual work evident in the students' projects.

Although the students demonstrated a moderate to significant degree of authentic intellectual work in creating their films, we noted that the documentary medium is ill-defined for the K-12 classroom. Teachers and students may be avid consumers of media, including documentary films, but they are not necessarily proficient in effectively producing their own original work (Hobbs, 1998).

Filmmaking is an academic and professional discipline in and of itself, including different modes, purposes, techniques, and genres. Just as historical thinking scholars have tried to define the skills to be emphasized in the K-12 classroom, a clear delineation of filmmaking skills would be helpful for teachers as they design and implement filmmaking projects.

Guiding students in creating their own documentary films is a daunting proposition for social studies teachers who are responsible for teaching content and skills in a way that balances disciplinary skills and thinking with state-mandated tests that often emphasize a shallow understanding of content. Other researchers in history education have noted that novices often struggle with developing historical interpretations regardless of the medium (Levstik & Barton, 2005; Brush & Saye, 1999; Fischer, 1970; Saye & Brush, 2006; Stearns, Seixas, & Wineburg, 2000; VanSledright, 2002).

Students in our recent study were no different—creating a synthesized, evidenced-based interpretation was challenging. Teachers wanting to pursue documentary making as a medium for historical interpretation need to think about not only the challenges present with historical interpretation but also the challenges present in changing both the form and function of the interpretation using technology.

Even with all these challenges, however, we remain convinced that engaging students in authentic intellectual work is a worthy goal. We have consistently found in our research that students are both intellectually and affectively engaged in the process of content creation with digital tools—particularly through documentary making.

We have attempted to help teachers to leverage this engagement, combined with standards-based assessment, by designing and developing a four-phase classroom documentary facilitation process (Swan & Hofer, 2014). We worked with documentary filmmakers and teachers experienced in leading documentary projects to develop this production process and a complementary assessment rubric that we hope will highlight aspects of this work that honors the contributions from both disciplines of filmmaking and history. These phases and assessments can serve as pedagogical scaffolds for teachers and students, as well as an aid in researching classroom documentary projects.

Like other researchers, we continue to be inspired by Martorella's charge to awaken a potential giant for social studies education. Like many others, we were optimistic and excited about the possibilities of using digital technology tools and resources in ways that encourage disciplinary thinking 17 years ago. We have, however, been challenged to find content-based rationales for the use of technology in the reality of standards-based classrooms.

The narrative has shifted somewhat over the years to reflect a 21st-century skills approach to legitimize technology use in the classroom. Rather than engaging students in meaningful content-based learning, an emphasis on helping students develop the digital literacies they will need to be effective contributors in the global economy seems to be the more compelling rationale. In fact, we would assert that this challenge of identifying and then implementing disciplinary-based rationales for technology use is more persistent and problematic than the typical barriers often cited limiting technology use (e.g., access to computers, software difficulties, etc.).

The recent standards reform movement offers much promise in reconciling the tension of ambitious instructional practice and pressing curricular demands. The Common Core English Language Arts standards (as well as the College, Career, and Civic Life, or C3,

Framework for Social Studies States Standards, National Council for the Social Studies, 2013) include an overwhelming emphasis on student skill development and the use of digital technologies to meet these new standards.

For example, in the C3 Framework, students are asked to communicate conclusions using multimodal technologies as a means for producing the results or conclusions of an inquiry (p. 19). In Dimension 2 of the C3 Framework, students are expected to use a variety of discipline-specific tools to investigate the four core social studies disciplines of civics, economics, geography, and history (p. 41).

Aligning with the literacy standards, in Dimension 3, students gather sources using Web-based search engines and databases (p. 54), and in Dimension 4, students are encouraged to produce conclusions to their inquiries using a variety of modalities, including documentary making (p. 60).

As these standards are implemented over the next 15 years, teachers will be not only encouraged, but required to think about the ways in which technology can support these new aims. As teacher educators, we can work alongside teachers as they navigate these challenges and determine which digital technology tools and resources are best aligned to disciplinary skills and support students' curriculum-based learning needs. Perhaps this convergence of sweeping reforms brought on by the standards movement and a more mature educational technology research agenda will create an environment that will further rouse the giant from its slumber.

References

Atkinson, T. (2010). Virtual worlds. In A. Hirumi (Ed.), *Playing games in school: Video games and simulations for primary and secondary education* (pp. 381-408). Eugene, OR: International Society for Technology in Education.

Black, P., & William, D. (1998, October). Inside the black box: Raising standards through classroom assessment. Phi Delta Kappa, 1-12. Retrieved from http://faa-training.measuredprogress.org/documents/10157/15652/InsideBlackBox.pdf

Devlin-Scherer, R., & Sardone, N. B. (2010). Digital simulation games for social studies classrooms. *The Clearing House, 83*(4), 138-144. doi:10.1080/00098651003774836

Fischer, D.H. (1970). *Historians' fallacies: Toward a logic of historical thought.* New York, NY: Harper & Row.

Fitchett, P. G., & Good, A. J. (2012). Teaching genocide through GIS: A transformative approach. *The Clearing House, 85*(3), 87-92. doi:10.1080/00098655.2011.628713

Gentry, J. (2008). E-publishing's impact on learning in an inclusive sixth grade social studies classroom. *Journal of Interactive Learning Research, 19*(3), 455-467.

Grant, S.G. (2003). *History lessons: Teaching, learning, and testing in U.S. high school classrooms.* Mahwah, NJ: Lawrence Erlbaum.

Heafner, T. L., & Friedman, A. M. (2008). Wikis and constructivism in secondary social studies: Fostering a deeper understanding. *Computers in the Schools, 25*(3/4), 288-302. doi:10.1080/07380560802371003

Hobbs, R. (1998). Literacy for the information age. In J. Flood, S. B. Heath, & D. Lapp (Eds.), *Handbook of research on teaching literacy through the communicative and visual arts* (pp. 7-14). New York, NY: Simon & Schuster Macmillan.

Hofer, M., & Swan, K. (2008). Technological pedagogical content knowledge from the ground level: A case study of a middle school digital documentary project. *Journal of Research and Technology Education, 41*(2), 179-200.

Hofer, M., & Swan, K. (2007). [Reprint] Standards, firewalls and general classroom mayhem: Implementing student centered research projects in a social studies classroom. *Contemporary Issues in Technology and Teacher Education, 7*(2). Retrieved from http://www .citejournal.org/vol7/iss2/socialstudies/article1.cfm

Hostetler, A. L. (2012). Democratic use of blogs and online discussion boards in social studies education. *Social Education, 76*(2), 100-104.

Journell, W. (2009). Maximizing the potential of computer-based technology in secondary social studies education. *Social Studies Research & Practice, 4*(1), 56-70.

Kulla-Abbott, T., & Polman, J. L. (2008). Engaging student voice and fulfilling curriculum goals with digital stories. *THEN, 5,* 38-60. Retrieved from http://thenjournal.org/feature/160

Lee, J. K., & Probert, J. (2010). Civilization III and whole-class play in high school social studies. *Journal of Social Studies Research, 34*(1), 1-28.

Levstik, L. S., & Barton, K. C. (2005). *Doing history: Investigating with children in elementary and middle schools* (3rd ed.). New York, NY: Lawrence Erlbaum Associates, Inc.

Martorella, P. H. (1997). Technology and the social studies - or: Which way to the sleeping giant? *Theory and Research in Social Education, 25*(4), 511-514.

McCall, J. (2011). *Gaming the past: Using video games to teach secondary history*. New York, NY: Routledge.

National Council for the Social Studies. (2013). *College, career and civic life framework for social studies state standards*. Washington, DC: Author.

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts & literacy in history/social studies, science, and technical subjects*. Washington DC: National Governors Association Center for Best Practices, Council of Chief State School Officers.

Newmann, F. M., King, M. B., & Carmichael, D. L. (2009). *Teaching for authentic intellectual work: Standards and scoring criteria for teachers' tasks, student performance and instruction*. Minneapolis, MN: Tasora Books.

Ray, B., Faure, C., & Kelle, F. (2013). Using social impact games (SIGS) to support constructivist learning: Creating a foundation for effective use in the secondary social studies education. *American Secondary Education, 41*(2), 60-70.

Roberts, S. L. (2013). The "Chalk Talk" 2.0: Using Google Docs to improve the silent discussion in social studies. *Social Studies, 104*(3), 130-136. doi:10.1080/00377996.2012.703972

Saye, J. W., & Brush, T. (1999). Student engagement with social issues in a multimedia-supported learning environment. *Theory and Research in Social Education, 27*(4), 472-504.

Saye, J. W., & Brush, T. (2002). Scaffolding critical reasoning about history and social issues in multimedia-supported learning environments. *Educational Technology Research and Development, 50*(3), 77-96.

Saye, J. W., & Brush, T. (2004). Scaffolding problem-based teaching in a traditional social studies classroom. *Theory and Research in Social Education, 32*(3), 349-378.

Schneiderman, B. E. (2008). Creating a learning space that is virtual and experiential. *Journal Of Aesthetic Education, 42*(2), 38-50.

Stearns, P.N., Seixas, P., & Wineburg, S. (Eds.). (2000). *Knowing, teaching, and learning history: National and international perspectives*. New York, NY: New York University Press.

Swan, K., & Hofer, M. (2014). *And action: Directing documentaries in the social studies classroom*. Lanham, Maryland: R&L Education.

Swan, K., & Hofer, M. (2013). Examining student-created documentaries as a mechanism for engaging students in authentic intellectual work. *Theory and Research in Social Education, 41*(1), 133-175.

Swan, K., Hofer, M. J., Locascio, D. (2008). The Historical Scene Investigation (HSI) project: Examining the use of case based historical instruction in the fifth grade social studies classroom. *International Journal of Social Education, 22*(2), 70-100.

Swan, K., Hofer, M. & Swan, G. (2011). Examining authentic intellectual work with a social studies digital documentary inquiry project in a mandated state-testing environment. *Journal of Digital Learning in Teacher Education, 27*(3), 115-122.

Swan, K., Hofer, M., & Levstik, L. (2007). And Action! Students collaborating in the digital directors guild. *Social Studies and the Young Learner, 19*(4), 17-20.

VanSledright, B. (2002). *In search of America's past: Learning to read history in elementary school*. New York, NY: Teachers College Press.