Developing Historical Thinking Practices through Technology-Supported Inquiry

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Abstract: A panel representing five design studies will describe the approach each is taking to help learners develop historical thinking practices through technology-supported inquiry, and the results of research conducted on the projects over the past few years.

Overview of Symposium Panel

Over the past few years, there has been considerable explication of what it means to think historically (e.g., Epstein, 2003; Wineburg, 2001). According to this research literature, expert historians construct and critique accounts considering such issues as the differing perspectives of participants in events, and the bias and intention of different source documents. As our knowledge of what expert historical thinking entails has grown, the teaching of history has turned toward instructional models involving youth learners in genuine historical inquiry (e.g., Levstik & Barton, 1997). At the same time, technological aids to the teaching and learning of history, most often through some sort of "authentic" historical inquiry involving source documents accessed through hypertext and on the Internet, have increasingly been used (Britt & Aglinskas, 2002; Lipscomb, 2002). Within the context of these developments, this panel aims to explore the results of five design studies aimed at helping learners develop historical thinking practices through inquiry. We will examine varying learning environment designs, with each contributor presenting findings on two core aspects of historical thinking: consideration of multiple perspectives, and interpretation of historical source documents. Cross-study discussion will attempt to link types of scaffolding within the learning environments (software as well as human) to differences in the historical thinking accomplished.

Abstracts of Panel Participants

Digital Neighborhood Histories
Joseph L. Polman & Laura Westhoff

The Digital History Project seeks to engage high school-aged youth and preservice teachers in after-school activities during which they construct web sites about the cultural history of their neighborhood. The design of the learning environment was based on related literature and experience in after school inquiry-oriented and technology-rich learning environments, as well as the research on historical thinking and learning. Prior to the school year, the team developed a website to scaffold investigation of the neighborhood's history through a set of teaser questions, overviews, and digitized primary source documents about themes such as "where we play" and "how we change our community." During the semester, preservice teachers (PSTs) enrolled in Westhoff's

secondary social studies methods course worked with youth after school to decide on a focus of their inquiry in the neighborhood, inspect digitized source documents, formulate questions for oral history interviews, and conduct videotaped oral history interviews with community members from different generations. The PSTs and youth then analyzed these data to come to conclusions, and presented their findings on web pages incorporating text, images, quotes, and video clips. As part of their participation in the university course, the PSTs reflected on how the experience impacted their views of teaching and learning history. In this symposium, we describe the design of this learning environment for developing students' historical thinking and future teachers' pedagogical content knowledge (Shulman, 1987), and to report on the first year and a half of research on this effort.

The after school project was conducted in an urban public high school in a struggling neighborhood that is part of a coordinated redevelopment effort. The club meetings took place in rooms equipped with computers and Internet connections; there were eight meetings a semester. Data sources including field notes and videotapes, youth artifacts (notes, oral history interviews, webpages) and PST artifacts (fieldnotes, papers) were used to create case studies focused on the historical thinking development of the youth, and the pedagogical content knowledge of the PSTs. In our presentation, we will discuss several cases that illustrate the development of youth's historical perspective-taking, and use of various sources, including direct observation, interviews, and historical documents.

Tracking Canada's Past
D. Kevin O'Neill, Elahe Sohbat & Mahboubeh Asgari

As globalization and a flourishing variety of "new histories" are making their presence felt, it is more important than ever for students not only to learn the revered stories of their society, but to better understand the *nature* of historical knowledge. Without this meta-knowledge of history, students will fail to understand why and how historical accounts may differ. Unfortunately many students do not develop the ability to think maturely about conflicting accounts of the past, because they are shielded from multiple perspectives on historical events and people they study in school (Barton, 1997). History textbooks tend to present a single, homogenized perspective on events, in an impersonal "voice of History" (Wineburg, 2001) that obscures the decisions made by the historian in constructing the account. Tracking Canada's Past is an educational network for high school students, aimed at deepening their understandings of the nature of historical knowledge while they cover mandated content. The central theme of the network, developed over the past two years, is the building of Canada's first transcontinental railway (the Canadian Pacific). Given its important role in developing the country, this theme provides entrée into a wide array of research topics. In the network, students develop historical research questions, pursue them using primary source evidence from local and Internet sources, and write historical accounts to represent their understandings. Throughout the 10-week project (designed to be "threaded" with other curriculum units), students have access to one anothers' developing research through a shared Knowledge Forum (Scardamalia and Bereiter, 1994) database. They also have guidance from volunteer on-line mentors with expertise in historical research and knowledge of themes related to the railway.

In 2003, the project involved 150 students in four high schools. Extensive data were collected about the participants' backgrounds, their engagement, and expected outcomes, in an effort to understand for whom the project worked, and why. A key outcome measure related to students' conceptions of historical sources and methods, both before and after participating in the project. The following results from the 2003 implementation are suggestive: (1) 49% of participating students advanced on a measure of historical meta-knowledge based on Shemilt (1987); (2) advances were *not* significantly related to measures of socioeconomic status; (3) advances *were* significantly related to the type of guidance offered by mentors; (4) some of the largest advances were made by students who did not intend to pursue postsecondary education. As would be expected, the project interpretation and implementation varied from classroom to classroom. Some surprising between-class differences in outcomes will be discussed. For example, we expected that students who carried out the most hands-on work with archival materials would make the greatest gains on our measure of historical meta-knowledge; but this turned out not to be the case. The implications of this and other results will be discussed.

Facilitating Multiple Perspectives to Promote Historical Argumentation Skills in a Multimedia Learning Environment
Namsoo Shin & Steven McGee

Argumentation is essential in social science, especially history, for promoting students' critical thinking and decision-making (National Center for History in the Schools, 1996). Yet, the results of prior research indicate

that current education has little impact on students' argumentation skills in history (Doppen, 2000; Patric, 2002). Students' shortcomings in argumentation may be because they do not have many opportunities to use primary source documents to explore history from multiple perspectives. A multimedia learning environment, Foundations of Freedom™ (http://www.cet.edu/constitution), was created to help teachers overcome these deficiencies in history instruction. Additionally, prompts were developed to facilitate students' consideration of multiple perspectives for successful arguments. Within Foundations of Freedom (FOF), students develop their abilities to think historically through work with primary sources and multiple, conflicting accounts. In order to scaffold students' consideration of multiple perspectives, the FOF software program provides background information from various perspectives based on each module's theme. A search engine was designed to encourage students to collect evidence from multiple perspectives. The Electronic Notebook—with Bookmarks, Summaries, and Outline—was designed to facilitate students using source documents as evidence.

The participants in this study were 9th – 11th grade high schools students. Each group of 2-3 students was assigned to either the Multiple Perspective or the Document Type condition. In the Multiple Perspective group, students worked with a multiple perspectives checklist and the search engine to collect information. In the Document Type group, students worked with a document type checklist and the search engine to collect information. Prior to using the program, students were given a pretest measure that included 25 multiple-choice questions related to constitutional themes and an open-ended task similar to the questions that appear in the software. This instrument was again given immediately after students completed the program. Student papers were scored according to five rubric dimensions: a claim, multiple perspectives, evidence, the limitations of one's own decision, and an opposing position (Voss, et al, 1986). The prompting checklists and rubric systems will be presented in the session, along with observations and log analyses of students' experiences over 10 class periods. Student responses will be analyzed for the quality of their claim, the number of perspectives, the evidence, the statement of limitation, and the discussion of opposing positions using 2 x 2 ANOVA: Pretest vs. Posttest, and Multiple Perspectives FOF vs. Document Type FOF. In the pre- and posttest analysis, results will be presented on the effects of a focus on multiple perspectives on developing a successful argument in history. We will discuss how the comparison of Multiple Perspectives FOF vs. Document Type FOF shows the differential impact of two prompting strategies on students' development of argumentation skills.

Teaching the Teaching of History with Digital Resources: Possibilities and Limitations of an On-line Inquiry Project in a Methods Course
Josh Radinsky

Digital resources to support historical inquiry have grown immensely, including the establishment of a number of stable digital libraries with large primary-source archives. How do history educators engage students in asking and investigating meaningful historical questions with these archives, and conducting reflective inquiry with the documents? Reflection in historical inquiry is characterized by, among other things, the development and refinement of critical questions about historical actors; articulation and examination of ones own assumptions; and the active and critical coordination of theory and evidence (Wineburg, 2001). If these habits of mind are important for students to develop, it is essential that pre-service teachers learn to exercise them and cultivate them in students.

For three years we have facilitated an inquiry project as part of the core methods course of an undergraduate Teaching of History program at a large urban university. The inquiry project involves pre-service teachers using on-line sources (primary texts, secondary sources, census data and maps) to research the Great Migrations of African Americans from the rural South to the urban North in the early 20th century. Pre-service teachers use a collection of resources, with a data table for collecting notes in the form of claims and evidence. As a final project they create their own web pages detailing a historical argument about the migration, with each claim linked to supporting evidence. The project was designed to help pre-service teachers develop their own skills and habits of reflective historical inquiry, and to provide a model of digital archive use that would be manageable and flexible enough for an average urban high school classroom. Pre-service teachers' projects created over the past three years provide insights into strengths and limitations of the assignment, and suggest themes of interest for historical inquiry with digital resources in general. In this analysis we identify common modes of use of primary documents, secondary texts, images, and data representations, and the relationship of these modes of use to the structure and strength of the historical arguments presented.

Promoting Discipline-sensitive Argumentation across History & Science in Elementary School
Philip Bell

What is the proper relation between the K-12 curriculum and specific forms of disciplinary inquiry whether we are talking about the historical interpretation of primary sources or the scientific review of published research? The specific images of disciplinary thinking that we elect to promote in the classroom need to be authentic, compelling, and viable (Bell, in press; Wineburg, 2001). But, how do students come to make sense of the knowledge work of *different* intellectual disciplines that they encounter over the course of a typical school day? This presentation reports on an analysis of classroom talk and interviews with sixth-grade children and their teacher about how they came to inquire into such historical questions as why did Rosa Parks stay in her seat that day on the bus in 1955 and scientific questions like what causes objects to sink and float. This work has taken place within a research effort focused on promoting student's epistemological clarity about the nature of argumentation as it occurs in different disciplines (Stevens, Wineburg, Herrenkohl & Bell, submitted). We scaffolded 5th and 6th grade students in forms of historical and scientific argumentation and studied their epistemological growth and conceptual understanding in disciplinary-sensitive ways. In describing the nature of historical inquiry Collingwood (1946) detailed the transition of the discipline from a 'scissors-and-paste' methodology focused on the weaving of explanation from pieces of perceived truth to a contextualized critical history where even sources known to be biased accounts can serve historical interpretation. Can sixth-grade students construct critical histories if scaffolded in the interpretation of primary source documents? Or, do they enact some form of a scissor-and-paste epistemology? Perhaps they think principally through a schoolish epistemology involving received accounts of people, places, and events as settled knowledge. This work explores if it is possible for student to come to consider 'point-of-view' with fidelity to the epistemics of the discipline in question when engaged in argumentation? Grounded accounts of the epistemic activity and perspectives of the teacher and students engaged in this design experiment were developed through conversation analytic and participant case study methods. I describe the multiple ways in which participants came to constitute the notion of 'point-of-view' in their talk from a corpus of 361 instances occurring within 84 segments over the course of 10 days of instruction. Through eight identified forms of point-of-view children employed sophisticated features of historical sense-making, including consideration of the plastic and social nature of human memory, the motivated interests of witnesses and participants, the spatial arrangement of an historical event, and the influence of individual prior knowledge on the interpretation of an event. Comparisons will be made to parallel talk of the same students thinking about 'point-of-view' while engaged in scientific inquiry. I interpret these findings within the theoretical frames of curriculum enactment during design experimentation, folk theories of mind and lying, a reconsideration of developmental constraints on argumentation, perspective-taking from social psychology, historiography, and the philosophy of science.

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