

The Effects of Multimedia-Supported Problem-Based Historical Inquiry on Student
Engagement, Empathy, and Assumptions about History

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Running Head: PROBLEM-BASED HISTORICAL INQUIRY

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Abstract

This paper extends a continuing line of inquiry investigating how multimedia resources might be joined with other support structures to effectively implement problem-based historical inquiry (PBHI) activities for students in secondary social studies classrooms. Two history teachers with experience in PBHI implemented a technology-supported civil rights unit in their classrooms. Analysis of culminating student presentations determined that students developed competent positions reflecting understanding of and engagement with the central unit problem. Student interview and observational data suggested that students believed that their experiences with the multimedia environment provided a more authentic context for encountering historical content, provoked a more empathetic view of historical dilemmas, and encouraged meaningful encounters with historical issues that promoted retention and engagement.

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Background

Over the past several years, researchers have posited that the investigation of authentic, complex problems is an effective method to deeply engage learners with a variety of content and develop better decision-makers and problem-solvers (Jonassen, 1997, 1999). Problem-based learning activities provide learners with opportunities to move beyond the memorization of discrete facts in order to critically examine complex problems. In problem-based learning activities, learners interact with a wide variety of resources, develop strategies for utilizing those resources to address authentic, content-specific problems, and present and negotiate solutions to those problems in a collaborative manner (Hannafin, Hill, & Land, 1997). There are numerous examples of successful implementations of problem-based learning in a variety of content areas, including mathematics (CTGV, 1992, 1993), science (Linn, Shear, Bell, & Slotta, 1999; Loh, Reiser, Radinsky, Edelson, Gomez, & Marshall, 2001; Pedersen & Liu, 2003), and literature (Jacobsen & Spiro, 1994). In social studies and history classrooms, however, problem-based curriculum reform has not been widely accepted and adopted by teachers (Saye & Brush, 2004; Zukas, 2000) despite the fact that social educators have advocated that social studies and history instruction move away from the goal of mere retention of historical information towards “...understand[ing] history as a problem-solving activity...” (Dundis & Fehn, 1999, p. 273).

Effective Problem-Based Inquiry in the Social Studies Classroom

Although developing the ability to reason critically about complex problems is important in any content domain, social problems require a different kind of reasoning than well-structured problems of logic (Perkins, Allen, & Hafner, 1983). Social problems are ill-structured, multilogical, and controversial. To develop persuasive and reasonable potential solutions to historical problems, learners must be able to critically examine conflicting perspectives and logics and weigh the plausibility of various problem solutions. This requires learners to remain *engaged* in the problem for an extensive period of time, and to *weigh competing perspectives*, or critically examine various points of view regarding the historical problem (Parker, Mueller, & Wendling, 1989; Saye & Brush, 1999).

Engagement with the problem. In order to solve complex historical problems, learners must be able to apply previously learned knowledge in unique and novel ways. However, learners must first genuinely engage the problem to develop the rich, divergent knowledge base necessary for critical reasoning about social issues (Newmann, 1991). Researchers have found that novice problem-solvers (such as those found in high school history classes) tend to focus only on the two-dimensional surface features of an issue. Experts incorporate an abstract third dimension, broader conceptual structures that help them organize and analyze data in order to reason through a problem (Spiro, Collins, & Thota, 2003; Spiro & Jehng, 1990). Many times, novice learners tend to examine social problems superficially, and fail to put in the time and effort necessary to understand the depth and complexity of an issue (VanSickle & Hoge, 1991; Wineburg, 1991). Students tend to perceive history as an authoritative narrative rather than as claims about the past

to be evaluated (Holt, 1990). In addition, teachers have often been unsuccessful in motivating students to persist with exploration of the topic to develop deep knowledge (Newmann, 1991; Onosko, 1991; Rossi, 1995). Because they do not find history relevant or engaging, students resist the sustained study of a topic.

Weighing competing perspectives. To fully understand complex social problems, learners must also be able to account for and understand competing perspectives regarding an historical topic. Newmann (1991) identified a series of competencies necessary for higher-order critical reasoning in social studies. One of the most critical competencies is empathy, an ability to view the world from the perspective of another. Learners must be able to engage in critical discourse aimed at clarifying understanding about an issue and apply evaluative criteria to develop defensible decisions about a social problem. Many of these competencies must be used in concert by the learner to engage in persuasive reasoning: taking an informed stand that provides an elaborated, convincing defense for a position (Newmann, 1990). However, persuasive reasoning is not enough to achieve the critical reasoning required for effective problem-solving. Competence regarding civic issues demands active empathy as well as persuasiveness. One must be able to reason dialectically; that is, recognize and genuinely entertain a set of beliefs and values which are not one's own (Parker et. al, 1989).

A formidable task in any setting, critical reasoning about the past is even more demanding. Achieving empathy for the figures of historical dilemmas requires an individual to entertain the perspectives of those who are distant from the reasoner in time or cultural space (Barton & Levstik, 2004). It requires not only a disposition to do so, but

a substantial amount of historical knowledge to be able to understand the context in which the historical figure lived (Ashby & Lee, 1987; Yeager & Foster, 2001).

Multimedia Learning Environments to Support Problem-Based Inquiry

Theorists have claimed that more authentic learning experiences may produce greater student engagement with content (Choi & Hannafin, 1995; Newmann, Wehlange, & Lamborn, 1992). Some researchers have suggested that rich, authentic contexts that can be facilitated by multimedia learning environments encourage students to become engaged with the content, explore more deeply, and develop more complex views of issues (Dwyer, 1994; CTGV, 1992, Kinzie & Sullivan, 1989; Pedersen & Liu, 2003). In addition, tools and resources available in multimedia learning environments may be used to help scaffold more disciplined inquiry into ill-structured problems (Hannafin, Land, & Oliver, 1999; Jacobsen, Maouiri, Mishra, & Kolar, 1996; Land & Zembal-Saul, 2003; Masterman & Rogers, 2002). Research investigating the use of hypermedia scaffolding to support students' historical problem-solving suggests that such support may improve conceptual representations of knowledge and analytical rigor (Hynd, Hubbard, Holschuh, Reinking, & Jacobsen, 2000; Perfetti, Britt, Van Dyke, & Gabrys, 1999; Spoehr and Spoehr, 1994).

Findings from the initial studies in our present line of inquiry support such claims. When compared to peers who encountered the topic in a more traditional expository classroom setting, students who studied the civil rights movement using a problem-based multimedia-enhanced learning environment demonstrated greater engagement with the content and more empathetic understandings of historical dilemmas (Brush & Saye, 2000; Saye & Brush, 2002, 1999). We hypothesized that multimedia-supported

environments may promote the prerequisites of effective historical problem-solving: greater engagement with content and empathy for alternate perspectives. Also, our initial research has suggested that conceptual and strategic scaffolds embedded within a multimedia learning environment may assist students with analyzing historical data and synthesizing the data in order to develop more persuasive arguments regarding specific historical points of view (Brush & Saye, 2001; Saye & Brush, 2002).

Purpose of Study

This study extends our previous research (e.g., Brush & Saye, 2000; Saye & Brush, 2002; Saye & Brush, 1999) in order to discover whether multimedia resources and scaffolding might be joined with other support structures to support student engagement and historical empathy during a problem-based activity in social studies. We seek to: (1) determine if multimedia-supported learning environments may help encourage greater learner engagement with an historical problem, (2) determine if multimedia-supported learning environments facilitate learners' acquisition of historical empathy and recognition of competing perspectives regarding an historical problem, and (3) explore how structured inquiry activities and support structures embedded within multimedia learning environments may impact students' epistemic assumptions about history.

Method

Participants and Setting

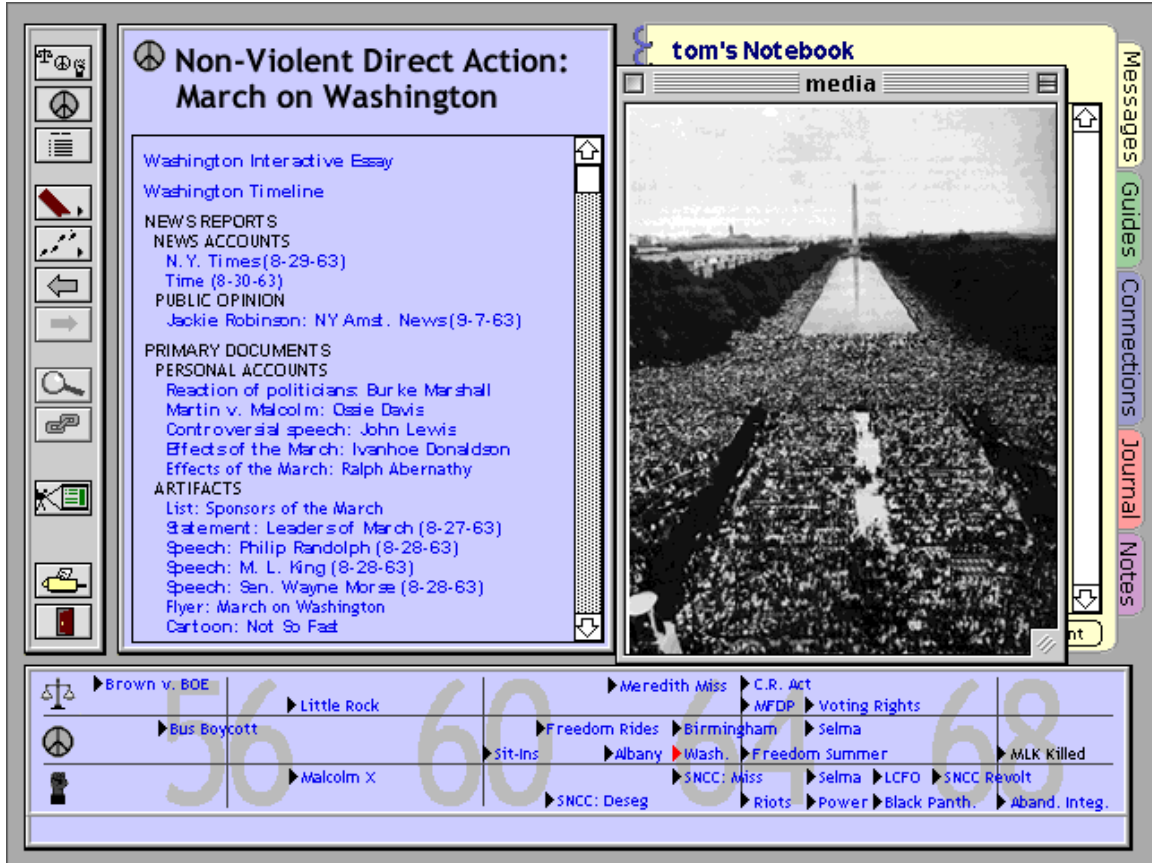
Participants included 45 students in two 11th grade history classes. The classes were required of all high school students. Two veteran social studies teachers with experience in problem-based historical inquiry were recruited to implement the problem-

based unit in their classrooms. The classes occurred in different high schools. One high school was located in a small blue-collar city in the southeastern United States. The second high school was located in a small southeastern city that is home to a land-grant university.

The *Decision Point!* Multimedia Environment

Decision Point! (DP) Civil Rights is an integrated set of multimedia tools for exploring and presenting social studies content, and a problem-based unit for using these resources (Brush & Saye, 2004). DP includes two basic components: an interactive database of multimedia content resources related to the civil rights movement and scaffolding tools to support collecting, analyzing, and evaluating historical evidence and presenting conclusions. The database is organized conceptually into three strands that represent the principal change strategies employed by the movement: legal challenges, non-violent protest, and Black Power. Within each strand are seven to eight events associated with that strategy. Each event features an introductory essay, a timeline, and a number of associated documents. Featured documents include primary and secondary text, images, audio, and audiovisual media (see Figure 1).

Figure 1. The DP environment.



Our unit scenario placed students in the roles of consultants to civil rights leaders immediately following the assassination of M. L. King, Jr. in 1968. Student teams answered the unit problem: What strategies should be pursued in 1968 to continue the struggle for a more just, equal society? Each team used the DP database and tools to explore specific movement events from 1954-1968. After researching their assigned events, members of the research teams re-formed into new decision-making teams and used the information they gathered to develop arguments to support the best course of action to address the central unit problem. Each group then constructed a multimedia

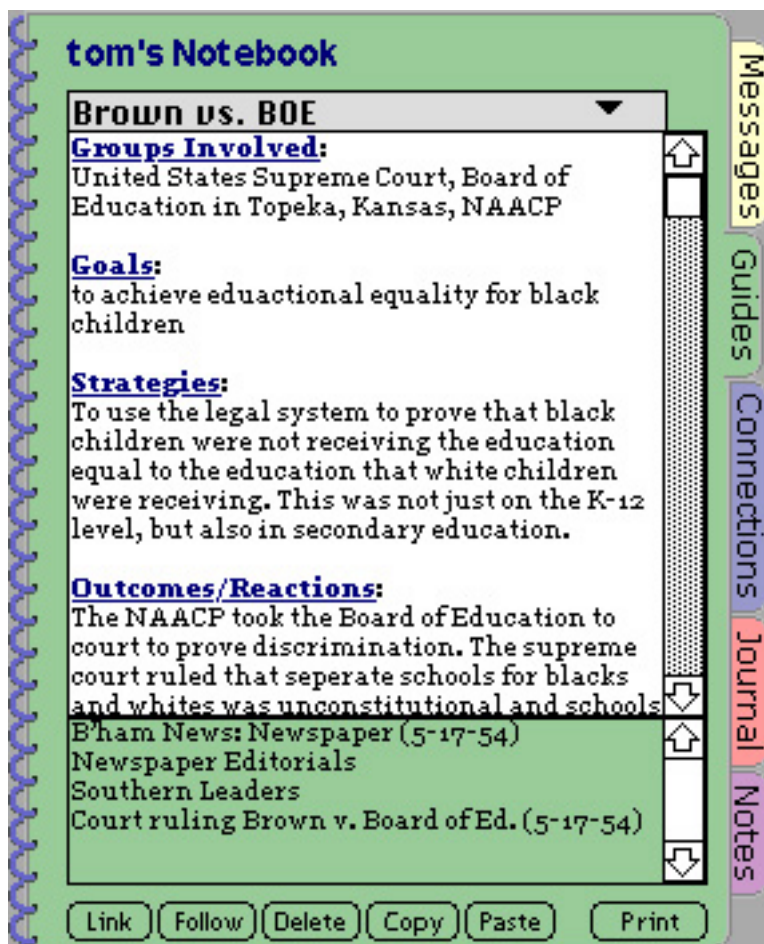
presentation designed to persuade the audience that their solution to the problems was the most appropriate.

Scaffolds embedded in DP. Within the DP environment, we embedded a variety of scaffolds to assist students in determining what data to consider when solving a problem, monitoring and regulating their progress, and considering alternative solutions to the unit problem (Brush & Saye, 2001). These scaffolds are described below:

Interactive essays. Each of the events within the DP database contains a hyperlinked “interactive” essay that provides students with a conceptual scaffold for that event (Hannafin et al., 1999). To extend the integration of the interactive essay with the other documents in the database, hyperlinks are embedded in the essay linking specific contextual areas of the essay with specific primary documents.

Student guides. The “guides” section of the student notebook offers a conceptual scaffold by providing data analysis categories similar to those that an historian might use to organize and synthesize evidence about an event (see Figure 2).

Figure 2. *Guides* section of the student notebook.



Storyboard template. We developed a storyboarding process to assist students with planning the scope and sequence of their presentations. Groups used a five-page template that corresponded to the sequence they were expected to follow in developing and delivering their presentations (see Figure 3). This sequence included a description of the group they were representing, an overview of the problem, a summary of the proposed strategy to solve the problem, a list of arguments for the strategy, and a list of arguments against the strategy.

Figure 3. Sample storyboard template.

Presentation Storyboard: Screen 1
Description of Problem

Text Showing on this Screen:

Different Groups Have Tried Different Tactics

- * Legal Challenges
- * Civil Disobedience
- * Separation from Whites

We Are More Divided Than Ever

What Will Work Best in the Future to Create An Equal America?

List of Supporting Media

PCT-Voting Drive-1 [MFS]
PCT- NY Times- Johnson Signs Bill [VRA 65]
PCT- Fire Hoses with Fireman #1 [B'ham]
PCT-Black Power-AL Journal [Blk Pwr]

Script for This Screen:

Our problem: How can we create a more equal America?
Different groups have tried many different things:
Legal Challenges [show link 2]
Civil Disobedience [show link 3]
Separation from whites [show link 4]

We are more divided than ever [return to link 1]

Design and Data Sources

Our research can best be described as a design experiment. Design experiments view innovative teaching as an experiments occurring in the” multiply confounded” world of real classrooms rather than controlled environments (Brown, 1992). From this perspective, innovative educational environments and activities may be simultaneously designed, implemented, and studied.

For this study, data sources included classroom observations, teacher and student interviews, and examination of culminating student presentations and the class discussions that took place after the culminating presentations.

Classroom observations. All classroom activities were observed and videotaped in the two classes. Observations focused on student interactions with the technology and embedded scaffolds, student questions/discussions with the teacher and their peers, and students' management strategies for completing the problem-based unit.

Student interviews. Six students from each class were selected from a pool of volunteers. Selection criteria attempted to maximize diversity in gender, ethnicity, and course GPA. These students participated in 30 minute interviews conducted by the researchers. Interviews were audiotaped and transcribed. Questions solicited students' evaluations of the strengths and weaknesses of the DP unit activities, scaffolds, and the ways the activities and scaffolds affected their learning.

Teacher interviews. Participating teachers also took part in post-unit semi-structured interviews. The interview sought their perceptions about the strengths and weaknesses of the unit and any effects that the changes had on student learning and the classroom environment. Each teacher interview lasted approximately 45 minutes and was audiotaped and transcribed.

Student presentations. Culminating multimedia presentations for each student group were videotaped and examined for depth and quality of reasoning about the unit problem. Researchers examined the extent to which student groups were able to use historical evidence to make persuasive arguments regarding the central unit question from the perspective of the organization they were representing.

Procedure

The civil rights unit was designed to last for 10 class sessions. Each class period lasted approximately 90 minutes. Each of the teachers began the unit by introducing the purpose of the unit and the overarching unit problem. They then presented an introduction to the Civil Rights Movement as a social phenomenon.

Once the introduction was completed, the teachers divided students into seven two- or three-student data gathering groups. Each of the groups was assigned two specific events within the database (e.g., “Birmingham” and “Albany”) Paired events represented two pivotal episodes within a particular change strategy strand. Often, the paired events represented different strategies and outcomes. Each group used the “guide” scaffolds available in DP to collect data relevant to their two assigned events. Students were given two class sessions to complete data gathering activities.

Once students completed their data gathering, the teacher combined the groups to form five expert presentations groups. Each group was required to assume the role of “consultant” to a specific activist group or organization: the US Government, the Southern Christian Leadership Conference (SCLC), the Mississippi Freedom Democratic Party (MFDP), the Black Panthers/Separatists, or the Student Nonviolent Coordinating Committee (SNCC). These groups were required to utilize the data they had collected in the previous activity in order to develop multimedia presentations that provided persuasive arguments for the predominant change strategy advocated by the organization they were representing. As with previous groups, each presentation group had access to a computer with the DP environment. A student presentation tool integrated within DP provided a pre-defined structure for the presentation and tools, and allowed students to

link supporting multimedia evidence from the database to help support their arguments (see Figure 4).

Figure 4. The DP student presentation tool.

Possible Consequences

- Violence by Authorities Creates National Publicity That May Bring Pressure for Change
- Use of Force in Selma Puts Pressure on Congress to Pass the Voting Rights Act
- BUT
- Some Who Were Attacked Lost Faith in the System & Became Radicals

Supporting Links:

- PCT-Protesters Attacked By Mob-Jackson MS
- PCT-Aniston - Burning Bus
- PCT-Cartoon: Mockery of Our Law

Remove Move Up Move Down Show Link

The presentation groups were given three class sessions to plan for and create their presentations. Groups were required to use the storyboard template to plan their presentations, then receive approval from their teacher prior to creating their presentations using the DP tools. On the final two days of the unit, each of the groups gave their presentations to the class using the presentation tool.

The researchers observed each classroom session. In addition, the class sessions were videotaped. Approximately one week after the end of the unit, one of the researchers conducted the post-unit student and teacher interviews.

Results and Discussion

As stated previously, this study seeks to: (1) determine if multimedia-supported learning environments may help encourage greater learner engagement with an historical problem, (2) determine if multimedia-supported learning environments facilitate learners' acquisition of historical empathy and recognition of competing perspectives regarding an historical problem, and (3) explore how structured inquiry activities and support structures embedded within multimedia learning environments may impact students' epistemic assumptions about history. Each of these areas is discussed below.

Student Engagement with the Problem

Analysis of observation and classroom video data suggested that students participating in the DP unit appeared to be highly engaged with the central problem and maintained that engagement throughout the unit. Student interview data indicated that students believed that their experiences with the multimedia environment positively impacted their level of engagement with the historical content. For example, when asked what was different about this unit, one student stated: "...we got to see like actual footage of things that are going on right now, I mean we could've watched the video of all of it. I think it was a lot more interesting to have those little clips we could look at and just actually see, like half of it." When asked what he thought was important about the unit, another student said, "...it changed [my views] because we got to look at people's, like,

views on like what's happening. Not just reading about what happened. We got to see people's opinion on it and how everyone had a different, like, perspective of what went on." Another student stated, "...that it really makes you think, I mean, put yourself in what happened back then compared to now. I see how much things have changed throughout history, that makes history fun."

Several students also implied that their use of the multimedia database would assist them with retaining the information more effectively than if they were to read the information from a textbook. As one student stated, "...I think it makes it more enjoyable, I don't know, maybe that's just me, but I like it a lot and being able to watch the video footage and things like that just kind of reinforces it and makes it kind of stick in your mind...I'll retain it more and it beats reading out of the book, unless you have a photographic memory." A second student stated, "It [the multimedia] helped me because I'm a visual learner and when I look at pictures while I'm trying to learn about something and I'm looking at pictures of people and I'm seeing videos and I can hear their voices, it sticks in my mind better than if I just read it on paper...". Another student discussed how the resources available in the DP database greater breadth of knowledge regarding the Civil Rights Movement:

"Cause, you know, everybody knew Martin Luther King, and everybody knew about the SCLC, NAACP, but they never knew about the Greensboro Four or the Mississippi Freedom Democratic Party. Malcolm X, I mean, you know a little about Malcolm X, but not as much, and [the database] helps us out..."

Students' dialogue during in-class discussions also demonstrated a high level of engagement and depth of thought, particularly during student group presentations. In the following dialogue, a group representing the MFDP was arguing that the federal

government wasn't involved enough, and the teacher pointed out that there might be other factors that influenced the effectiveness of the federal government:

T: "What, then, is the major problem with the federal government trying to enforce law?"

S1: "Well, they didn't enforce it enough because they were afraid that people would stop voting for them..."

T: "Well, but there you're right, but who's resisting this change most, class?"

S1: "The government."

T: "State governments are. It's hard to get something done at the federal level if the states are so resistant, most definitely. So they were fighting those kinds of episodes and I think that's why the federal government was slow to get some things accomplished."

T: "Other questions for this group?"

[Pause]

S1: "But you also saw, in Little Rock, how well it worked. Those kids got to school all right..."

T: "Um-hmm. And where else did it work well?"

S1: "University of Mississippi."

T: "And where else?"

S2: "Alabama."

T: "University of Alabama, yeah. Three very landmark cases..."

In this example, the teacher was pointing out that there may have been mitigating circumstances related to the lack of effectiveness of the federal government in certain situations. However, even after the teacher let the group "off the hook" by asking for questions from the audience, group members persisted with a discussion about ideas that they were able to support with factual evidence from the period under study. Such

persistence suggests authentic engagement with thinking about historical issues. The students were interested in the problem not because the teacher directed them to discuss it; they were genuinely entertaining the issue.

Data also demonstrated that students were able to effectively engage in dialogue with their peers and use artifacts available in the DP database to debate competing perspectives regarding civil rights issues. In one group presentation, students used a political cartoon from a Montgomery, Alabama newspaper to argue that self defense advocated by the Black Panthers was not an effective means to bring about social change. The cartoon depicted a figure representing the Black Panthers and a figure representing the Ku Klux Klan pointing at each other through a mirror. However, a student in the audience debated the accuracy of the message presented in the cartoon:

T: “What have we got here?”

S1: “It’s showing that they’re both [Black Panthers and KKK] looking kind of the same. It’s a cartoon.”

T: “So, what’s this about?”

S2: “It’s showing the, trying to show the strong similarities between the two groups.”

S3: “They’re both using violence to get their way.”

S4: “You don’t see the difference?”

S3: “Hmmm?”

S4: “I mean, the KKK, they’re the ones who started the violence. The other group, they were just protecting themselves. That’s the big difference.”

In this example, the student took issue with the analysis that the KKK and the Black Panthers were using similar tactics. He was able to analyze the message presented

in the cartoon and effectively discuss how the cartoon may have misrepresented the position of the Black Panthers. In addition, the student was able to apply knowledge of the period to assess the validity of arguments made in an historical artifact of the period. One could argue that if the student were not actively engaged in analysis of the position presented by his classmates, he would not have been willing (or able) to analyze the historical artifact and provide a valid criticism of his peers' use of that artifact to support their position.

The teachers implementing the unit also believed that the multimedia available in the DP database facilitated student engagement in the topic. One teacher commented, "Decision Point I thought was great because it's multimedia at its best. There were speeches, there were songs of the time, there were newspaper articles, magazine articles, there was, of course the interactive essays and then they were getting to put that together in a multimedia presentation, which is what they like to do. And I never saw a time when I didn't think that they were not involved. I thought they were always engaged...". The second teacher stated that the structure of the DP unit may have had a positive impact on students who had typically demonstrated a lack of interest in history. He said, "I'm thinking of two students in particular...they were more engaged in the content and I think that shows when we started getting into the slides and the music and even the documents and discussions and the small group discussions I noticed they were more attentive...".

This teacher continued by describing the differences he observed in the two students:

"One Malcolm X student was not very motivated in the past, didn't have a lot of skills, didn't exhibit a great interest for school at all, but really took this project and ran with it. He just loved it. He showed that genuine interest and was doing his work without having to have any prompting by me, which was unusual. And the Black Panther group, that student, he would sleep, show up late, sometimes wouldn't come...chronic absenteeism, but he was there every day. Their

presentation was one that I wasn't expecting to be outstanding, and it really was. I think overall it was a good presentation, but for them it was tremendous.”

Historical Empathy and Recognition of Competing Perspectives

Observation and interview data provided evidence that students demonstrated empathy towards the multiple viewpoints of key organizations involved in the Civil Rights Movement. The degree of student empathy for the perspectives of historical figures was suggested by the fact that many of the student groups actively maintained the roles assigned to them for their presentations throughout post-presentation discussions, and used those perspectives as a means for explaining the course of action they promoted (Barton & Levstik, 2004). The following is an excerpt of a ten-minute dialogue among students that occurred after one group (students S2, S4, and S5) representing the Black Panthers/separatists' view presented a rationale for African Americans to defend themselves from violence committed against them. Other students in the class took issue with the idea of “self defense” against violence:

S1: “I'm not sure I understand what you're talking about self-defense for if your're gonna say that, if you're gonna go...”

S2: “That's self defense...”

S1 “No it's not self defense, man! I mean, if they went and attacked a bunch of people...”

S2: “We're saying if...someone's attacking me I'm going to attack them back to get them away from me, we're not just going to randomly go up to people and attack them. It's self-defense in the aspect that that's the only way to keep people away from them. If they're attacked, they're going to attack back. That's the self-defense part and that's...when the violence is incorporated...and also, separation, if we separate from the white people, if they try to use force to take our communities then we're going to use force and violence against them.”

S3: “That's retaliation.”

S1: “Everything you’re talking about is just only going to do more violence, we attack them, they’re, we’re going to attack them back, and it’s just going to turn into some kind of a shoving match until we separate, and then there’s still going to be all this conflict between these two people.”

S2: “When we attack back, we’re going to be strong enough so that the white people won’t come back.”

S1: “It’s always going to be strong enough, but they’re always going to come back.”

S4: “Nonviolent protestors have been protesting for hundreds of years, it didn’t work, the Black Panthers came along in the 60s and you see how much got done, look at us now. Exactly!” [laughter]

T: “You’re, you’re equating equality with what the Black Panthers did.”

S4: I’m not saying they [Black Panthers] were completely responsible, I’m saying it’s part of their movement and...the government and different law enforcement agencies realizing that, ‘Hey, these people are going to fight back’, you know, it’s going to make them think twice before they send dogs after them and shoot them with fire hoses.”

T: “[S5].”

S5: “I think what a lot of people don’t understand is that, what they did was give a lot of black people a will to fight...they gave them something to stand up for...that Black Power thing...that raised their motivation, gave them a reason to fight. Before then, they wanted to fight back but they didn’t get anything done and when the Black Panthers came along they gave them something to do, a way to get involved.”

In this example, it should be noted that the most vocal proponents of the Black Panthers’ perspective were middle-class white students who were accurately conveying a perspective that could be reasonably expected to be very different in both chronological and cultural perspective from their own personal views. In addition, at the end of the dialogue, two students discussed how the philosophy promoted by the Black Panthers would make people “think twice before they send dogs after them...” and how the Black Panther movement provided African-Americans with “a will to fight” and “something to

stand up for.” In both of these cases, the students were explaining why the actions taken by the Black Panthers were understandable and perhaps even justified *at that time in history*. Discussions such as these may have been encouraged by more realistic encounters with events and actors available in the DP resources, and by providing students with opportunities to entertain a perspective (e.g., the views represented by the Black Panther Party) that they may not have considered prior to the DP unit.

A similar example of historical empathy can be found in the excerpt of the class discussion below. In this discussion, the teacher prompted the class to identify potential problems with the separatist strategy. However, students representing the separatist continued to defend their position:

T: “What kinds of problems do you see with this [the separatist view]...?”

S1: “They don’t want to be together. All of these [groups] suppressed blacks, and in the end they realized that there were a few that liked black people, but the rest of them [white people] are just ignorant and there’s no point in the black people being slowed down and they should just get away from them....”

S2: “At the time, [separation] seemed like a good idea, because segregation wasn’t working and they could see by the way they were treated when they tried nonviolent protest, how are they going to walk down the same halls and share the same bathrooms and eat in the same restaurants as these people, at the time it looked impossible so you can see why they moved towards separation....”

T: “That’s a great point. We’ve got the benefit of looking back 30 years...”

Here, students once again were justifying the strategies proposed by the separatists by placing themselves in the separatists’ situation at that point in time. By stating, “At the time, separation seemed like a good idea...” one could argue that the student was actively putting herself in the position of the separatists in the late 1960s. The student used the argument that nonviolent protest seemed to be ineffective in eliminating

segregation as justification for a move towards separation of the races. While this seems like a radical idea today, the student makes a strong argument from the perspective of those engaged in the struggle at that moment in history that separation was a valid strategy in order for African Americans to gain equal rights in the 1960s.

Comments made by students during post-unit interviews provided additional evidence that the unit may have assisted with providing students with more empathetic views for diverse perspectives on the Civil Rights Movement. These data support the assertion that the DP unit may have had a positive impact on students' abilities to demonstrate historical empathy when interpreting past events. For example, when if the DP unit activities helped her make sense of the time period, one student responded:

“It will in this case. You really get a taste for the, just the whole lifestyle and the whole, not just the actual fact, once again going back to fact, not just the fact of what happened in that time period, but the overriding, like, uh, historically how the society was set up and how, you see in these, in these things, you know, what life was like in that period, which has a lot to do with how you interpret the facts.”

The teachers also believed that the DP unit activities assisted students with acquiring more empathetic views of the events associated with the Civil Rights movement. As one teacher stated, “...they were hitting on all the key points in research they were doing. They weren't seeing it as the textbook gives it. They were seeing it as from the eyes of those who lived it. They were making an argument for those that they were researching, what they would have done.” The teacher also discussed how the activities assisted students with understanding some of the controversial issues associated with the Civil Rights Movement: “They actually got into the heart of issues and groups of people and what they were really feeling and why they disagreed with this group who

was fighting for the same cause. That’s something I had to think was totally new to them.”

Epistemic Assumptions About the History

Students participating in the DP unit tended to present distinct viewpoints regarding the nature of history and the usefulness of historical inquiry as it applied to their interpretations of Civil Rights events. Data indicated that some students maintained the belief that there was a particular “correct” view of various events. For example, one student described how examining the variety of data available in the database assisted with understanding what actually occurred:

“Well, even though they all have their own opinions, what actually went on that we, I think that we all understood that the event, or the chain of events that happened, even though there was people that saw it differently, but what actually happened, you know, we understood that. Like the boycotts and stuff, you know, that’s stuff that actually happened...”

While discussing the benefits of the multimedia available in the databases, another student stated, “...you just understand it better because you can see, uh, why there is, for example, controversy. You can understand where these people are coming from...So, I think, [the multimedia] just helps, helps you understand where these people are coming from and what exactly was going on.”

While both of these students discussed the benefits that the multimedia database provided in giving them access to more authentic information about the movement, history educators may not view this as a desirable outcome. Historians see history as an interpretation from evidence trails rather than a faithful reconstruction of an event (VanSledright, 2002). In this case, the students may have believed they understood “what exactly was going on.” This may represent a potential danger of providing access

to more realistic primary and secondary sources (such as photographs and video footage of historical events). Students may view these sources as immune to the biases associated with textual information, and thus more readily accept these sources as “what actually happened.”

In contrast, data demonstrated that to many students, interpreting historical events was many times a series of “opinions,” and that there was no real way of knowing which viewpoint or interpretation was most plausible. As one student stated, “...if you try to figure it [an historical event] out, you’re probably going to be wrong.” When asked how she decided what the correct view of an historical event was given information that supported two distinct interpretations of that event, another student replied:

“...I really don’t know... You can’t really say if you have those primary sources for sure, this is exactly what happened and my opinion is right and it’s the only opinion. Because everyone had an opinion back then...I do believe that a large portion of it is opinion and um, we see that, I guess.”

During a post-unit interview, another student had a similar perception of the difficulties with truly understanding the causes of historical events:

S: “A lot for other different speculations would happen, you get different views from other people.”

R: “Um, hum. So how do we ever really know what happened?”

S: “We really don’t.”

R: “You don’t?”

S: “They say the Great Depression was caused by the fall of the stock market, but who knows whether it was the stock market or not. That’s what makes history so funny, you don’t know nothing til you break it down. So in the end, it’s gonna be somebody’s opinion.”

These data demonstrate some of the challenges students face as they struggle to conduct disciplined historical inquiry. In the examples above, students had moved away from the belief that there was a “correct” view of history – however, they concluded that because individual accounts of historical events were nothing more than opinion, there was no real way of knowing what “really” happened. These findings are consistent with other research detailing the difficulties students have drawing conclusions from multiple sources (Ashby & Lee, 1998; Barton & Levistik, 2004; VanSledright, 2002). As Barton and Levistik (2004, p. 196) state, “[Learners] conclude that historical sources are always biased and incomplete, so there is no way of deciding what happened – one idea is as good as another.”

Implications for Design: Addressing the Challenges of Problem-Based Historical Inquiry

The results of this research have assisted us in refining our conceptions regarding the design of activities and support structures to address the challenges of problem-based historical inquiry, and suggested upper limits for what we may reasonably expect to accomplish with scaffolding support. In addition, we have attempted to test these activities in authentic classroom contexts. A few existing field studies have examined how we may support learners in small, well-defined reasoning tasks. Our line of research expands those inquiries to address the more complex challenge of interpreting data in a realistic, ill-structured setting in order to make reasoned decisions about social problems.

While these results provide some support to previous studies espousing the benefits of scaffolded multimedia learning environments to support problem-based inquiry (e.g., Choi & Hannafin, 1995; Jacobsen, Maouiri, Mishra, & Kolar, 1996; Land & Zembal-Saul, 2003; Masterman & Rogers, 2002), we do not wish to promote technology

as a panacea for the challenges teachers and students face when engaging in disciplined inquiry. In fact, data from this study demonstrate that there are still numerous barriers for both teachers and students during problem-based historical inquiry activities.

For example, after completion of the unit described in this study, the teachers were still disappointed with the quality and depth of student presentations addressing the central problem of the unit. Both teachers believed that additional situation-specific, or “soft scaffolding” (Saye & Brush, 2002) by the teacher was necessary for students to more deeply engage in the problem and address the multiple potential solutions to the problem. As one teacher stated:

“...I’m not sure they really saw the distinct difference that they needed to see between the very different ways of achieving civil rights...when they were doing their presentations, they didn’t do a very good job overall of taking media and placing it in the context of their arguments, what their goals were, what their arguments for the strategy or what they’re recommendation was against it. Some of the groups did not do that very well. They didn’t support what they were doing with evidence.”

The other teacher concurred, stating: “They understood the little pieces, but putting those pieces into a historical context and understanding the context in an intelligible way that was the hurdle I don’t think I helped them over, not as a group.”

These difficulties may be related to the design of the overall DP unit, and students’ abilities to acquire deep, broad views of the Civil Rights knowledge base through the unit activities. One hypothesis is that this with this particular unit, the problem was too expansive for students to achieve mastery in the time allotted to the unit. Both of the teachers expressed surprise at the length of time many students needed to complete unit activities, and concluded that they felt they may have “rushed” the students in order to complete the unit within the number of classes they had allocated. These data

suggest that multimedia resources such as those available in DP might be used more effectively if initial problems explored by students are smaller, more bounded, and thus more manageable within the limited time a teacher may have available to any particular topic.

However, even though the teacher believed that students could have used data more effectively and developed more sophisticated arguments to support their solutions to the unit problem, he still adamantly supported the instructional strategy used:

“The class as a whole I think they got a lot out of it. They may not have reached the lofty goals I had set in front of them before I taught the unit, but some of them were just tangential things like this kid that asked about democracy, that was a legitimate question she had and I think that in and of itself is a positive thing, that they were asking good questions. I think they know more about the Civil Rights Movement and have more historical empathy for it, and they know how that affected their lives...I think what they knew before the unit and what they knew after the unit is tremendously different. They know a lot more.”

We hypothesize that some support structures embedded within the DP environment may facilitate students' abilities to more effectively interpret historical events. In previous iterations of the unit (e.g., Saye & Brush, 1999), students many times ignored documents designed to facilitate their overall understanding of historical events (such as summarizing essays) and immediately examined the primary sources available in the database. This led to a one-sided view of an event based on the limited resources encountered by the students. However, analysis of data supports the hypothesis that the hyperlinked interactive essays facilitated students' conceptualization of the overall problem landscape. By using the contextual links embedded within the interactive essays to navigate to relevant primary sources, students had a context with which to relate primary information to the overall event being studied. As one student stated: "...if you

have [a link] in the essay, you have it in context with what it's talking about, so you know exactly what you're getting, or exactly what you're looking for if you have a paragraph on, you know, the violent outcomes of one of these situations and you want to go click to find a link for that you know exactly...what you're getting...".

In addition, the interactive essays may have also assisted students in more readily examining multiple representations and interpretations of historical events. During the post-unit interview, one student discussed the usefulness of the variety of viewpoints available by following the links embedded within the interactive essays:

S: "...just to see, different people's viewpoints on one subject, I mean, you have, probably twelve different viewpoints, you know, these links, on one subject, so you could get, if, um, you know, a segregationists point of view, uh, you know, from different people, which is interesting, which is always good when you're doing a project, like we did, where we have to, um, for slave, the audience in one case or another, um, it's really helpful to have different viewpoints to look at and to choose from so you can get kind of an overview of the opposing sides and what they thought, so I like that. I thought that made it a lot easier to make your own opinion, from looking at others opinions and a good fact that they had with their cases."

R: "Is that different in the way that you normally encounter historical accounts and studying history? Do you normally get different points of view like that?"

S: "Not, well, in the text, usually not, I mean, let's face it, I guess maybe U.S., or history texts can be a little bit biased and can be not so truthful to different points of view. So, I'd have to say now that you don't really get as much of that with a text or with a single source than you would with something like this software where you have more than one point of view."

There is also some evidence that student activities integrated into the DP unit may facilitate more disciplined inquiry. The culminating presentations, for example, provided the classroom teachers with opportunities to allow students to grapple with competing interpretations of historical events. During these presentations, teachers could promote dialogue among students in order to facilitate deeper understanding of controversial

issues, multiple interpretations of historical events, and to force students to weigh evidence in order to determine the most plausible interpretations of those issues. In the following excerpt from a culminating presentation, a group representing the SCLC was discussing the Albany movement and the effectiveness of the SCLC's strategies. The teacher challenged the group's interpretation of those strategies, and when group members had difficulty generating different potential solutions to the problem posed to them, a student from the audience provided an alternative interpretation for the class to consider:

T: "Why would a white police officer bail out Dr. King?"

S1: "I don't know why the whites would...because he liked blacks and he wanted Dr. King to keep protesting 'cause he believes in what he's saying?"

T: "That's a possibility, [S2] what do you think?"

S2: "He probably felt that what the whites were doing to the blacks was wrong."

T: "You think this white police officer had a conscience. He said, 'You know what, Dr. King is a good man, he's doing the right thing trying to get voting rights for people, trying to get civil rights, he doesn't belong in jail, I'm going to have him out so he can do more good...but Dr. King himself wanted to stay in jail, so if he wanted to help Dr. King and his movement it would make sense that someone who liked Dr. King would do what Dr. King wanted...so why, why would someone want him out of jail?...How about anybody in the audience, does anyone have a thought on that?"

S3: "Because he wanted, I guess like, Martin Luther King wanted to prove a point, I guess, if he didn't like Martin Luther King he'd bail him out just so he couldn't prove his point."

T: "Say that again, I don't think everyone heard it."

S3: "I said that I think he'd bail Martin Luther King out so that Martin Luther King couldn't prove his point. Martin Luther King wanted to stay in jail to prove the point that he would do whatever it takes to get civil rights and he gone ahead and got him out so he couldn't prove his point..."

T: I think that's a possibility, we have two different ends of the perspective to think of..."

Here, the teacher used the question and answer session of the group presentation to critically examine an historical event and weigh competing (and equally plausible) interpretations of an occurrence. In this case, the SCLC group asserted that Martin Luther King was bailed out of jail in Albany by a sympathetic white police officer because "...what the whites were doing to the blacks was wrong." The format of the culminating presentations allowed the teacher to guide the students in thinking of different interpretations of the event based on the information provided in the DP database. This open dialogue allowed students to re-examine the historical analysis presented by the group and come up with a "rival" interpretation. Interactions such as these may provide students with opportunities to weigh competing interpretations of historical events and draw conclusions based on the evidence available, as opposed to opinion and conjecture.

Data supported the assertion that providing students with scaffolding as they developed their culminating presentations assisted the conceptualization of their positions and the integration of relevant sources to support the organizations they represented in their culminating presentations. When asked if he found the storyboard scaffolds helpful, one student responded: "Yes they did [help us]. They really did and without those, we really didn't know what to do, in the beginning...". Another student explained why the storyboarding assisted with making a better presentation: "...you figure out what you wanted to say, and then when you got further along you could weed out what you didn't need or maybe add something that you [did need]...". When asked the same question, another student stated, "Yeah, you could organize yourself and get yourself planned prior

to it instead of just jumping into the presentation and doing, you don't know what you want to do." The teachers agreed that the storyboard scaffold assisted students with developing and defending the strategies promoted by their representative organizations. As one teacher stated, "...they did a good job, it was, you know, the...scaffold for them to fill out was thorough enough where they could tell us arguments for or against. Yeah, they can say arguments for and against and this is how we, this is what we were trying to accomplish, this is how we got there..."

Finally, data supported the notion that students' interactions with the DP unit may have provided them with a new perspective on the usefulness of understanding historical events as a means for making decisions as members of a democratic society. Students expressed their beliefs that history can play an important role in their current and future decision-making:

"...people lived it, so history is something that's gonna go on...forever, so, you know, it's interesting, and just to know things people have done in the past that affected how we live today, ...is interesting. ...you know, history repeats itself, so...I guess, we can learn from the past mistakes..."

We might hypothesize that the realism and increased empathy for historical actors provided in the DP environment caused students to see more relevance for how the past relates to their own lives. Once again, however, history educators take issue with the notion that "history repeats itself." Yet citizens and policy makers do commonly "draw lessons" from the past (Khong, 1992; Levstik & Barton, 2001). One of our continued challenges with students is help them see the uniqueness of historical events and distinguish how events were similar and different in seeking to use the past to inform the present. As the following student quote suggests, more realistic encounters with struggles

in the past may provide students with a greater appreciation of how hard democracy is to attain, expand, and keep:

“...the civil rights is like one of the best movements that took place in the United States and to me, I think it relates to how we look at us folks today. We sit close to each other, we talk, laugh, play jokes and all that good stuff, but back in the past you couldn't do that.”

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