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**Archeology of a Virtual Tour:
Uncovering the Layers of Student Engagement
with Complex Issues of Race in Digital Space¹**

“I didn’t really know all that much about slaves and how poorly African-Americans were treated, but once I experienced this whole slave ship idea, I realized how horrible it must have been for them and how they were discriminated against and I never really realized how bad it was for them and this changed my opinion ... because in a lot of ways I think I had not really been around the African-American discrimination. But when I realized that this stuff was still going on, it really changed my feelings about it.”

—Danielle, Grade 7

A year before Danielle made the above statement to a community audience at the Gevirtz Graduate School of Education, University of California, Santa Barbara, she, along with two of her sixth grade classmates, had studied in-depth issues of the Middle Passage of the slave trade. They worked with their teacher and the Center for Literacy and Inquiry in Networking Communities (LINC) (formerly known as the Center for Teaching for Social Justice [CTSJ] <http://education.ucsb.edu/linc>) to design and present a virtual tour to 4th, 5th, and 6th grade students of an exhibit of artifacts from the only known wreck of a slave ship found in the western hemisphere. In and through their work, the Santa Barbara students and their teacher made this important historical resource on the Middle Passage available to Sacramento students through a live videoconference.

This article provides a narrative account of the multiple layers of work necessary for students to engage with complex issues of race. Underlying the presentation of the multiple layers involved in this multi-faceted project is an ethnographic perspective on the social construction of knowledge called Interactional Ethnography (e.g., Green, Dixon, and Zaharlick, 2003; Castanheira, Crawford, Dixon and Green, 2001). This approach, based on two decades of ethnographic research in classroom and community settings, guided our multi-level and multi-method analysis. We draw on this virtual interactive tour of the exhibit, *A Slave Ship Speaks: The Wreck of*

the Henrietta Marie, as an anchor for a telling case (Mitchell, 1984) for presenting what we were able to uncover (Green, Skukauskaite, Dixon, and Cordova, 2007). Through unfolding the layers of work for both audience and docents participating in the virtual tour, we demonstrate how innovative technologies have the potential to bring new dimensions and resources to students inquiring into complex issues.

We use the metaphor of an archaeological dig to frame the uncovering of the layers of work undertaken by a diverse group of actors (i.e., students, teachers, museum personnel, university educators, and technology support staff) and the multiple areas of understanding made possible through this work. Central to the presentation of this work are four inter-related principles of practice guiding the development of this educational innovation: preparing the mind and building a repertoire for action, engaging in and/or with the complex content, taking action from what is learned for self or others, and going public to share what is learned. These principles will be examined as the layers are uncovered.

When Video Conferencing Becomes an Educational Resource

Although video conferencing is becoming an everyday phenomenon across different public spaces (e.g., from news and entertainment on television to business, to the military, and even to some homes), it is not yet commonplace in K-12 schools, even where high-bandwidth highways and necessary technologies are available. In the instances where it occurs in educational settings, videoconferencing is generally used for distance learning to deliver content not available at the site, for virtual fieldtrips in which students interactively visit a site (e.g., another classroom, a museum, or a nature preserve) with a predefined tour or project, or for asking questions of experts (e.g., scientists, musicians). In many of these situations, teachers and students are invited to engage in pre-existing or packaged curricula or projects.

While distance learning methods, virtual tours and interactions with experts are making resources available and providing interactive opportunities to growing groups of students in particular classrooms, these approaches may not fully realize the interactive potential of these new tools and highways. Areas that have not been explored extensively include what is involved in, and what learning results from, opportunities where students are the authors and presenters of the complex material. Additionally, what the audience participants need to develop and take up in order to benefit from engaging with such material in virtual space has also not been explored.

In the following sections, we uncover the layers of work required of

presenters and audience members in the Henrietta Marie virtual tour to make visible the content, practices and consequences for those who participated in this student-directed, dynamic event (Goldman-Segall, 1997) and for those supporting the design and development of the event (Bloome, Carter, Christian, Otto, and Shuart-Faris, 2005). As we will show, this approach to working on complex issues using the digital highway involved new roles and expectations, as well as new opportunities for learning for teachers, students and other participants.

First Layer of Excavation: Establishing the Boundaries of the Dig

The virtual tour described in this article contributes to our understanding of highly interactive uses of video conferencing. Although the virtual tour via videoconference could be viewed as a one-time event, the ethnographic analysis showed that the event was grounded in complex layers of preparation and communication, enabling the student docents to take 4th, 5th, and 6th grade classes (each with approximately thirty students) on three successive one-hour interactive tours. The layers undergirding the moments of the virtual tours are central to understanding the presentations of the complex information and interactions that occurred during the tours (Castanheira, Crawford, Dixon and Green, 2001). To make visible the work entailed in creating this seamless virtual event, we describe the work of different actors and layers of connections across communities involved in helping students learn about the Middle Passage.

Sixth grade students in this project were involved in designing and authoring the content of the tour and served as cultural guides (docents), with necessary expertise to present and respond to anticipated as well as spontaneous questions from tour participants (Tomlinson, Green, Grace and Ho, 2004). Other students (4th, 5th, 6th graders) were involved in preparing to be the audience for the tour of the Henrietta Marie. The LINC Center members served as the architects, linking the Santa Barbara Community (Building Bridges Community Coalition), the museum exhibit by the Mel Fisher Foundation (<http://www.melfisher.org/henriettaexhibit.htm>), the CENIC CalREN Highway (California Research and Education Network <http://www.cenic.org>), the technical community, and K-12 educators and students from two areas of California in this collaborative project (Yeager and Elder, 2005). The Center members also served as technical supporters for the teachers and students prior to and during the event.

The teachers from the two areas of California helped students prepare for the event in different ways. Danielle's teacher, Jean Rogers O'Reilly, guided the study of the Middle Passage, and the construction of the content of the tour. She also participated with her students in the docent train-

ing for the exhibit and then served as a co-docent with one of the three students for her own class when they visited the exhibit at the Karpeles Manuscript Library in Santa Barbara. From Sacramento, Gail Desler, a Fellow of the LINC Center, identified the teacher and student participants from the Elk Grove School District and served as the cultural guide for technology. She also presented to the participating classes ways of approaching the historical content (e.g., introduced Henrietta Marie materials and ways of communicating in videoconferences). Furthermore, she arranged to bring students to the California State University (CSU), Sacramento Campus Distance Learning facilities for the videoconference, as direct links were not possible from the school site. The 4th, 5th and 6th grade teachers in Sacramento, who attended the tour with their students, supported them in preparing for the tour by introducing the historical context for the exhibit to students who had been actively engaged in social science inquiry in their classes.

Information technology specialists at the Gevirtz Graduate School of Education (GGSE), University of California at Santa Barbara (UCSB), the UC Office of the President, and CSU Sacramento (Distance Learning Facility) were instrumental in insuring the successful connection and streaming of the virtual tour. The CSU-GGSE team modified and supported the use of multi-media facilities for use by K-12 students and teachers. For the tour, the UC office of the President created a bridge between the CSU network and the UC network to establish a highway for the tour to travel.²

What this overview of the “dig” makes visible is that there were multiple actors, multiple roles and multiple sites necessary to support access to this tour. Further, as will be elaborated in the next sections, for the various actors to support the work of the students as docents and audience members, new understandings and practices were needed across the group (Yeager and Elder, 2005).

The Second Layer of the Excavation: Uncovering the Work in the Community

The opportunity to create the virtual tour began with a community event sponsored by Building Bridges Community Coalition, a coalition to bridge diverse groups within the community and to provide spaces for community dialogues. The coalition grew out of work by members of the community to bring the Anne Frank Exhibit to Santa Barbara three years earlier. The Coalition raised funds to bring the Henrietta Marie exhibit, for fifth grade students in the county to attend the exhibit, and for a series of lectures and artistic events related to the exhibit.

The LINC Center was invited to participate in the Henrietta Marie

event to help develop additional educational resources and support student attendance and participation in the museum exhibit. This invitation created a synergy that led ultimately to the virtual tour. Center members proposed involving students and teachers in teams to serve as docents for the exhibit, particularly when schools were visiting. This use of students and teachers as docents was an innovation for the Henrietta Marie exhibit. The idea of using peers (third grade through high school) or intergenerational teams (teachers and students) surprised the directors of the exhibit, who agreed to work with the Center to explore this possibility.

Involvement of LINC Center members, teachers and students in the formal docent training by the Mel Fisher Foundation led to the development by Center personnel of a supplementary docent guide and a resource website that went beyond the information afforded in the training. The guide provided information about the actions and practices of being a docent for this exhibit. The website supplemented the teacher guide from the Mel Fisher Foundation and included ways of approaching the study of complex issues raised by the Henrietta Marie Exhibit. The website also provided information about academic and educational materials for use in the classroom related to the Middle Passage and African American experiences following this period (<http://www.education.ucsb.edu/linc>). In addition to these resources, the Center developed a survey for teachers (given to them at the exhibit site) designed to uncover how they prepared themselves and their classes for the exhibit, and an evaluative questionnaire for students who attended the exhibit. Furthermore, students and teachers were invited by the Building Bridges Community Coalition group, at the end of their tour, to write statements of hope that reflected actions they planned to take, which were then posted on a wall for visitors to read.

The Third Layer of Excavation: Uncovering the Work of the Classroom—Learning the Content of the Middle Passage

For students in Santa Barbara to translate successfully this community event and its complex content into a virtual tour, and for students in Sacramento to participate successfully in the opportunities created for them in the actual videoconference, many layers of work had to occur at the classroom level. While the Middle Passage and issues of slavery in the United States are part of the History/Social Science standards in California for the 5th grade, it is a content area that is not always presented in depth in classrooms, either because of a lack of available resources, lack of time for in-depth coverage, or because teachers are uneasy with the difficulty and complexity of the content. Therefore, it is important to understand the layers of work required of the teacher leaders to prepare *themselves* for

guiding students in constructing and participating in the virtual tour of the Henrietta Marie, as well as to sift through the more finely grained layers of student work.

In Santa Barbara, the 6th grade teacher, Jean Rogers-O'Reilly, had participated during the previous year in a teacher inquiry group, guided by faculty of the Center for Black Studies at UCSB (<http://research.ucsb.edu/cbs/>) in studies of the Middle Passage and ways to address and teach this complex content. She brought these resources and others acquired during her many years of teaching to the Henrietta Marie experience. Unlike other teachers who visited the exhibit with their students, she had additional access to the content of the actual exhibit because she participated in the docent training. Mrs. Rogers-O'Reilly drew on these resources in working with her class as a whole to prepare them for their visit to the exhibit and in working with the three students who would be docents for the virtual tour.

In Sacramento, Gail Desler had been a long-time intermediate-level teacher, with a focused interest in teaching history, before she became a teacher leader (technology support liaison) in the Elk Grove School District (Sacramento County). She had been a Fellow of the American Memory Project (Library of Congress), and had designed online interactive inquiry units in social studies and language arts, including one on the Middle Passage (Passages—An African-American Odyssey <http://imet.csus.edu/imet1/desler/passages/intro/intro.htm>). Mrs. Desler drew on these resources and others to help the three 4th, 5th, and 6th grade Sacramento teachers prepare their students to participate in the content of the videoconference as an audience for the virtual tour. She had an ongoing relationship with the teachers in developing social science inquiry projects for their classes. Critical to understanding the ways in which teachers prepared themselves and their students was the fact that Mrs. Rogers-O'Reilly, Mrs. Desler, and the three Elk Grove (Sacramento County) teachers communicated with each other via e-mail on a regular basis about what they were learning and studying with their students—and about preparations for the actual videoconference prior to the event.

Students in Santa Barbara began to prepare for engaging with and learning the Middle Passage content *with* Mrs. Rogers-O'Reilly when she, Danielle, and two other 6th graders participated in the docent training for the Henrietta Marie exhibit, with the intent that they would serve on docent teams guiding their own class when they came for a tour. Docent training included touring the exhibit, listening to content, and being provided with a docent guide with information about the content. Not only were students learning about the Henrietta Marie and the complex content of slavery and

the Middle Passage during this training, they were also afforded the opportunity to see and hear the narrative sequence of the tour in and through the work of an actual docent.

Since the Middle Passage was not required curriculum in the 6th grade and therefore not part of their current studies in history, the three student docents met with Mrs. Rogers-O'Reilly in a small group, read materials at home as well as in class, visited web sites on the Henrietta Marie and the Mel Fisher Foundation, and met regularly at lunchtime with a classroom volunteer/aide. During these lunchtime meetings, the students studied books about the Henrietta Marie (e.g. Sullivan, 1994. *Slave Ship: The Story of the Henrietta Marie*) and about slavery and the Middle Passage, discussed what they had read, and studied other materials about the Henrietta Marie and the exhibit, including a series of posters provided by the Mel Fisher Foundation, to learn about this complex content in order to help other students access it as well. In addition, when Mrs. Rogers-O'Reilly began helping her whole class prepare for its tour of the exhibit through the use of books and posters, the three student docents were able to serve as resources and further clarify what the class was learning about the content.

Fourth, fifth and sixth grade students in Sacramento also did not simply enter the Henrietta Marie through the virtual tour as an isolated event. The Sacramento teacher leader, Gail Desler, visited classrooms to work with teachers in preparing their students for the exhibit, building on what students had already learned in previous years and were studying in history/social science that year. The teachers had access to resources provided by LINC on its web site. In addition, they received the teachers' guide prepared by the Mel Fisher Foundation and a set of the same posters about the Middle Passage to which Mrs. Rogers-O'Reilly's students had access. Mrs. Desler and the other teachers used these resources with their students in order to prepare for the virtual tour.

For the three student docents in Santa Barbara, however, learning *about* the Middle Passage *as* content occurred simultaneously with learning and making decisions about the content in order to *communicate it* to others. This dual purpose for looking at the content—for self and others—contributed to what Danielle would later describe as “experience[ing] this whole slave ship idea.” To understand this simultaneity of purpose as well as the layers of work by multiple actors to accomplish this purpose, we explore another layer in our excavation: the creation of the actual virtual tour.

The Fourth Layer of the Excavation: Uncovering the Work of Creating the Virtual Tour—Making a Digital Video

Creating a virtual tour that could be accessed by students in Sacramento required both a focus on the content of the tour and on the technology needed to create and present the tour. This dual focus was grounded on two basic questions: what would be most important for 4th, 5th and 6th graders to see and hear? And how could this presentation of the exhibit best be created and shown digitally so that the tour could be presented ‘live’ in real time by the docents?

To address both questions, Center staff, the technology/media support team, and Mrs. Rogers-O’Reilly proposed videotaping the whole of the Henrietta Marie exhibit at the Karpeles Library, without sound. The tape was then edited to select segments and presented in a format that enabled the docents to narrate it in ‘real time,’ and to stop and start the tape at key points in order to extend their narration and/or answer questions in the moment from Sacramento. The staff at the Karpeles Library gave permission for the Center to video tape prior to the opening of the exhibit to the public. This permission to tape when the exhibit was closed was essential to making a tour that brought students at a distance *into* the exhibit without having to look over the heads of other visitors.

Students were not the only learners in this virtual tour/video conference event. Center staff members, who were not media specialists, learned what worked and did not work in video taping a ‘static’ exhibit. A first effort at video taping the exhibit, for example, was unsuccessful, as Center members learned how to pan, and not pan, with the camera, and what kind of light to use. In a return visit, they were better able to successfully make one complete raw video tape of the exhibit.

At the same time, the Santa Barbara teacher, Mrs. Rogers-O’Reilly, felt that it was essential for the three docents to revisit the exhibit to have time to study the individual components of the exhibit. In making this second visit, the docents shifted their angle of vision or perspective, looking at the exhibit through a lens that would help them to decide what parts would be important for their peers to see as part of their virtual tour. Technology support team members from the Media Research and Development Center in the GGSE video taped the students as they revisited the exhibit, creating a third raw tape from which to edit segments for the longer video piece that would comprise the actual tour.

The creation of the virtual tour then shifted back to the classroom, as the three docents discussed with each other and with Mrs. Rogers-O’Reilly what they understood about the content in the context of the exhibit itself. They began to construct a ‘storyboard,’ a narrative plan for the virtual tour,

of what they thought should be included, and in what sequence, based on what they, as 6th grade students, thought would be important for 4th, 5th and 6th grade students to know and understand about the Henrietta Marie and the Middle Passage. The decisions they made as authors, from their perspective as students and docents, of how the virtual tour should be organized, were based on what they had studied about the content, their previous studies of ancient Africa (part of the 6th grade curriculum), and their experiences of the exhibit itself. This did not always ‘match’ the narrative decisions made by the exhibit organizers.

The physical exhibit was mounted and organized so that visitors, after seeing a short video on the Middle Passage and the Henrietta Marie, encountered the bell from the Henrietta Marie, and then were taken through a series of exhibits on the history of the ship itself. They learned about the roots of the slave trade and its place in the context of economic trade between England and Europe at the time. Next, they learned about life as it would have been on the ship, including guns and cannons (how they were used, where they were kept, and for what purpose). Visitors then saw examples of African culture, such as art work representative of the slave groups brought to the West Indies on the Henrietta Marie, and finally were led into a reproduction of the hold where slaves were shackled on the ship. The student docents, in creating their storyboard, felt strongly that their virtual tour of the actual content needed to *start* with Africa and African culture. They believed the tour should begin with a focus on what those on the Middle Passage were being taken *from*, thus making visible the richness of what was in place and what was being lost.

Students and teacher, with the support of the Center staff, completed a storyboard of segments that began with views of them entering the Karpeles Library and signing into a guest book, in order to invite virtually students in Sacramento to join them and then proceeded to the section on African culture. The student docents then went back to their content studies to develop notes that were focused on the narrative ‘story’ they wanted to tell and the specific content they elected to share with others. At the same time, LINC Center staff and the technology/media support team began an editing process, based on the storyboard. A raw tape of what was edited was returned to the students and then became a resource as they constructed their note cards and began to practice their narration for the video. The simultaneous, reciprocal and intertextual nature of the process (Bloome and Egan-Robertson, 1993), through which the virtual tour was created, like the ways in which students accessed and learned the content, makes it impossible to tell a chronological, linear ‘story’ of how that process occurred and reveals the complexity of the work involved

in creating the virtual tour and the video conference event. The work in which multiple actors engaged to create the actual edited digital tour based on the narrative storyboard (and leading to the tape that students used to further refine their narrative) also reflects this multi-layered, intertextual and non-linear process (e.g., Agar, 2004. Santa Barbara Classroom Discourse Group, 1992).

The Fifth Layer of the Excavation: Uncovering Work in the Virtual Event—What happened when the Docents met their Audience(s)

While student docents, teacher, and LINC Center staff entered the video conference room on the day of the actual virtual tour with knowledge of the content of the tour (the Middle Passage), they also entered with varying degrees of understanding of the layers of technological work required to successfully conduct a tour. Docents would use *green screen* technology to conduct the tour for students in Sacramento. Students also prepared their minds for the technological side of their work as docents prior to the day of the tour. The Center technology liaison had to conceptualize what working with a green screen would look and sound like and communicate that clearly to the students. She did so by drawing a ‘comic strip’ of the process. Students and the teacher used this visual resource to prepare for what they would be doing during the actual tour. During the videoconference, docents sat in front of the screen, watching a monitor, while the video tour played and was seen by the audience, via the green screen, on the wall behind them. The edited video, controlled by Center and other technology support team members, was stopped and started and segments were revisited as docents signaled what they needed to communicate and as they answered audience questions in the moment.

Although the technology was new to the students, they quickly learned how to use it effectively. They were able to engage their audiences in a productive tour, as evidenced in the ways they presented the information, oriented to their audience rather than to the technology, and responded to the prompts and signals in both spaces, creating opportunities for interactions among participants across the two sites. Analyses of the three presentations showed relatively few content-related corrections and decreasing interventions from teachers from the first to the third tour, along with high audience orientation to and questioning of the docents (Tomlinson et al., 2004). Across the tours, the student docents gained competence in their role as docents, and demonstrated their ability to respond to requests for information. The student docents also incorporated information requested in one tour in their subsequent tours, increasing the information presented, and making visible the depth of their knowledge and their growing aware-

ness of audience needs. This increased awareness was articulated by their teacher during a presentation of the project to the community group at UCSB:

The technology part was very easy for these guys. I was extremely impressed with it, but for this generation it really was no big deal for them. . . I'm saying, This is happening in real time. We're really talking to Sacramento and they're saying, Yeah, Mrs. Rogers, okay. . . . It was so interesting that they are so comfortable with technology . . . that they were very much at ease. And we really did see when we did the virtual tour that the first time, they were pretty nervous. . . . By the second time, I mean, they were pros. You know, they're standing up here and pointing to these things [video streaming on a green screen], and the third time was very, very easy for them. (Jean Rogers-O'Reilly)

Preparation to be an audience member in order to participate successfully in this new interactive virtual space was also critical. Mrs. Rogers-O'Reilly helped students in Elk Grove to prepare for the tour and was supported in this by the LINC team. For example, since signaling turn taking in this new technological environment would be different, students were shown how to use hot-pink cards with question marks provided by the Center so that they could physically signal during the conference when they had a question or comment. They were prepared, given the state of the high-speed link at that time, to allow for a few seconds of 'wait time' as what people said was transmitted across the distance. When they entered the videoconference space, they quickly learned to turn their table microphones on when speaking and off when listening.

Examining the layers of work both before and during the conference shows the impact on the student docents and the Elk Grove student-audience as a group. Teacher comments also made visible another potential impact on individual students. For example, what occurred during the virtual tour seemed to indicate a particular kind of impact on those students often perceived as silent and/or disconnected from school. During the virtual tour, the following exchange between a Sacramento student and a docent occurred.

Student: If the slaves tried to kill the captain. . . If the slaves tried to kill the captain, would they shoot the slaves?

Docent: They would shoot the slaves; either that, or they would throw him overboard. And they would throw a lot of slaves overboard if they had a disease.

What was important about this seemingly ordinary action of asking a question, not significantly different from those of many of his peers, was that it *was significantly different* from this student's ordinary way of being in the classroom. According to his teacher, this Sacramento student had rarely spoken in class until this moment. His actions and his response to the opportunities afforded him by the video conference and by what students his own age were sharing with him made visible what was potentially available to him and to others like him in and through this kind of multi-layered connectivity (Yeager and Elder, 2005).

The Sixth Layer of the Excavation: Uncovering Unexpected Opportunities—The Elk Grove Challenge

One of the most surprising outcomes of this initial experience with videoconferencing occurred in the week following the virtual tour. On the trip back to their school site, the Sacramento students raised a challenge to the teachers and LINC staff. While they had been on the CSU Sacramento campus, they had three experiences: the virtual tour, a tour of campus, and interviews with a faculty member and three students who had grown up in migrant camps. The students interviewed these educators about their experiences in order to expand the knowledge they had gained from studying César Chávez as a local hero and related issues of life in migrant camps. On the bus home, the fourth grade students made a spontaneous link between these two important and powerful experiences—the video-conference and the interview. The Elk Grove students argued that *they* wanted the opportunity to take the role of experts by becoming cultural guides themselves, by having the three docents and their sixth grade classmates participate in a virtual interview. This would give the Santa Barbara students an opportunity to be interactive audience members, and the Elk Grove students the opportunity to share what they had studied. What was challenging for the Center and teachers and technology staffs was that the timing of this request came in the last two weeks of the Santa Barbara and university school year.

We took up this challenge, however, and with the support of technology people at the two universities, the Santa Barbara and Elk Grove School Districts, and the UC Office of the President, we scheduled and conducted our second virtual event—*Voices from the Fields* (June, 2002).

During this conference, four Elk Grove students interviewed Dr. María Mejorado, a CSU faculty member in Education, and three of her students in the teacher education program. The students in Mrs. Rogers-O'Reilly's sixth grade class in Santa Barbara participated by asking questions during the interviews. This event afforded students opportunities to explore the lived experiences of groups other than their own, opening new avenues of learning about history and its impact on people.

The Last Layer of the Dig: Uncovering New Understandings and Discovering New Directions for Learning

Since 2002, we have built on and extended what was learned from the Henrietta Marie event and a previous event.³ From two interactive videoconferencing events in one year, we grew to support 12 in a year, representing a variety of projects involving K-12 teachers and students in multiple geographic regions, including, for example, California, Nevada, and Georgia. Teachers and students, with the support of the LINC Center, have designed collaborative projects across distances in which students uncovered hidden histories. Students have explored Japanese American Internment, Chinese American experiences in California, including vanished and vibrant Chinatowns, immigrant stories, and school and community cultures and histories (Yeager and Elder, 2005), among others. In each of these projects, students collected oral histories, read primary source documents, studied artifacts, and developed ways of sharing their local findings with others across distances. Other students and their teachers have engaged in scientific inquiry and shared their research findings with scientists and other students across multiple sites (e.g., Profiles of Science in Action, http://www.mesaschool.org/index.cfm?fuseaction=dep_introanddept_id=1912). These videoconferences enable students to explore together global issues and ideas that surfaced through their study of and engagement with complex content in multiple disciplines.

Central to this new direction is the use of videoconferences for teachers to meet and plan for the collaborative inquiry projects. The initial conferences provided teachers with opportunities to share resources, to explore ways of integrating the project into their ongoing curriculum, and to plan ways of connecting students, both across the year and in two videoconferences. The teachers have connected their students through pen pal letters, exchanges of artifact boxes about their schools and communities, and password-protected blogs (e.g., *California Youth Voices*). The students and other members of their networking community for each project meet each other face to face in an initial videoconference to share their initial inquiry, creating a common community in virtual space, not just separate

communities. As one student spontaneously commented at the end of a conference, “*it was just like being in the same room.*” The second conference for the students is usually a formal research meeting, where students present their findings and dialogue about the larger implications of what each site shares within their common inquiry theme.

Central to all of these projects, including the Henrietta Marie, are the guiding principles of practice that insured that these events are not isolated, but rather are integrated into the ongoing curriculum across the year. While the videoconferences provide rich opportunities for students to “go public,” they are preceded by an in-depth and complex series of opportunities for learning (Tuyay, Jennings and Dixon, 1995), planning, and communicating.

We view these opportunities as ways of preparing minds for being cultural guides, historians (or members of other disciplines), and interactive partners. This range of opportunities enabled students to engage with each other and experts in the disciplines about complex content. Engaging with members of the discipline and academic content in this way enabled students to take action for themselves and for others by reporting and representing the lived experiences of people whose histories are rarely available in the public space. This enabled students to learn, explore and apply a range of complex literacy practices and genres.

For members of the LINC Center team one of the most important and unanticipated lessons from the Henrietta Marie was related to our role as architects and cultural guides for this type of complex learning event. As architects we became acutely aware of the need to understand the ways in which the different groups would contribute to an apparently *seamless* meeting in virtual space. As in any architectural project, we had to problem-solve in the moment as well as design plans for the project prior to the event.

We also had to learn about the disciplinary needs of each of the team members. For example, we had to learn the language of new technologies (e.g. green screen, plasma screen, and mixers). We learned this language so that we could build support for teachers and students in using these technologies. Further, we needed to learn about this technology and how to use it in order to negotiate between the different technology providers in these multi-site events. What we learned is that every site has its own language, equipment, and practices, which are not necessarily compatible across sites. Thus we became cognizant of the need in this complex, multi-site, multi-technology world of the 21st century for new educational roles and the potential for new jobs.

We also learned that teachers will use this technology for these kinds

of complex events when provided with appropriate support and cultural guides both for the content and for the technology. In the projects above, the teachers spent extensive time researching the content and participating with historians and others outside of the requirements of the normal school day. They brought a commitment to enhancing their knowledge base about complex historical issues related to race, culture and society, and understandings of new technologies and exploring ways that they could be productively integrated in the classroom. This finding challenges conventional beliefs that teachers are reluctant to use new technology to enhance the curriculum. What our experiences across the past five years have shown is that teachers often do not have sufficient time, support or access to learn ways of using broadband technology or the digital highway. Nor have the local schools had the resources to invest in the connectivity, equipment and personnel required for broadband or wireless use. What we have uncovered is that the problem may not rest solely in the availability of the technology but also in the availability of support positions. Today rich resources exist beyond the classroom in museums, in library collections, and universities, and other public institutions that remain untapped.

Over the past five years, we have learned that the issue is more multifaceted than merely tapping into such resources. One visible factor contributing to the complexity is the lack of funding for technological support and availability of connectivity and equipment (e.g. dedicated high-speed phone lines or wireless connectivity, videoconferencing equipment, and ways of penetrating existing firewalls). Beyond the equipment (the most visible constraint) are additional underlying factors. The second factor is the diminished opportunities for teachers to engage in ongoing professional development around innovative practices related to complex disciplinary content and the use of the digital highway. Related to this is a third factor: the general model for distance learning is often a delivery of instruction or content model.

The model that was presented in this article is *not* a traditional or conventional distance learning model where teachers and students engage in pre-defined curriculum. This is a dynamic model in which local academic work becomes the base for global connections and students and teachers learn together in new ways that permit sharing across sites. The fourth factor, one that is invisible in current reform contexts, is the narrowing of curriculum to a focus on reading and math skills development, leaving little space and time for science and social science inquiry, let alone art and music. This narrowing is often differentially applied across schools depending on socio-economic factors, even within districts. By narrowing the curriculum, what happens is that students may no longer come to sub-

sequent levels of schooling with understandings of complex content area knowledge in science, history and the arts (Gadsden, in press). Further, this narrowing process eliminates the potential for connecting personal and cultural histories to the curriculum. Although this is true for all students where the school district has elected to narrow the curriculum to meet standardized high stakes tests, it has particular impact on already underrepresented populations in that it creates an environmental deficit, narrowing the opportunities for learning for students. Further it makes invisible the contributions to society of the diverse groups whose histories contribute to the developments within our 'democratic' society.

In the five years since the Henrietta Marie project, we know that many people have been exploring the potentials of dynamic and multi-media-enhanced interactive video conferencing, as evidenced by such teacher-oriented sites as Edutopia (www.edutopia.org). Our goal in presenting the archaeology of a virtual tour in this article has been to create a map of the complex layers of work, often invisible, that underlie such projects. We do so in the hopes that this map can serve as resource for others who are beginning to design ways for students to explore complex and often difficult content, such as that represented by the study of the Middle Passage, in networking communities of learners.

We began this article with the voice of one of the Santa Barbara student docents for the Henrietta Marie video conference. We conclude with a voice from an Elk Grove student who participated in this virtual tour. We view this voice as representing the potential power of race and digital space as raised in this article.

"An important event to me was to see how they came over here and to see that there was a whole bunch of important events between there and here –and that my friends might have had ancestors that came from that ship and that's a lot of rich history that we learned."

—Elk Grove student

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Endnotes

1. We dedicate this article to Dr. Shirley Kennedy, whose vision brought the Henrietta Marie to Santa Barbara and made possible this virtual event. Further we would like to acknowledge the spirit, dedication and commitment of the students, teachers and administrators who have worked with the Center for Literacy and Inquiry in Networking Communities (formerly Center for Teaching for Social Justice) over the last five years to bring new directions to education.
2. Given advances in technology since 2002, a bridge is no longer necessary for a point to point conference.
3. The earlier event brought students and their teachers together with historians who were participating in an international conference on, *Race, Nation, Identity and Power* at UCSB. Middle and high school students, their teachers and administrators in Santa Barbara (at UCSB and the Santa Barbara County Office of Education) and Pt. Hueneme, CA (Ventura County Office of Education) met twice with four of the historians attending the conference. They met for dinner the night prior to an interactive videoconference from the three sites on the following day. The dinner event enabled the students, teachers, administrators and historians to talk informally, creating a common community for the virtual conference and providing the historians with an opportunity to learn about the questions of interest to this intergenerational group. It also enabled the participants at the three sites to meet each other and to develop a conversation.

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