

Toward a Virtual Field Trip Model for the Social Studies

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Abstract

In the current state of social studies education, field trips are being cut from many schools' curriculum. While not a true substitution, today's technologies provide some opportunities through virtual field trips (VFTs) to simulate these experiences, engage students in knowledge production and disciplined inquiry, and have interactions with the dedicated staff members from these historic sites. Many of the current VFTs, however, fall short of this goal and instead serve as an updated form of a content delivery model, with little interaction or student engagement in historical issues. This article describes research on field trips, hybrid distance learning models, and virtual field trips in the social studies and other areas, as well as a critical case study of one of the most prominent and long lasting virtual field trips, Colonial Williamsburg's Electronic Field Trip program. A model for future social studies VFTs and ways to integrate these VFTs into authentic social studies instruction are developed. The case study revealed a number of key issues that arise in the development and execution of VFT programs, and the ensuing VFT model should be helpful for teachers and VFT developers.

Field trips have long been used as a context for teaching and learning in the social studies and especially in history education (Noel, 2007). Field trips can provide students the opportunity to construct knowledge actively through interacting with historic places, experts, and artifacts. When integrated into the curriculum and not used as rewards, field trips can be among the most valuable and effective modes of history teaching, especially local historic sites (Noel, 2007).

Current issues such as standardized curriculum, lack of funds, and overloaded schedules have forced many teachers to forgo field trips (Nespor, 2000). In their place, many teachers now incorporate “virtual field trips” (VFTs) that offer access to historic sites or artifacts more easily than traditional fieldtrips via some form of Internet or other distance learning network (Tuthill & Klemm, 2002). These VFTs share many of the affordances and constraints of traditional field trips.

Although they are often praised for being authentic and interactive, neither real nor virtual field trips guarantee academic success. As Bellan and Scheurman (1998) noted, “Either kind of field trip can be a monumental waste of time,” because teachers often use docents or staff as “babysitters,” students are not well prepared for the trip and spend their time wandering around, the site is too overwhelming to process in the time available, and the field trip is viewed as an end in itself (p. 36). VFTs often invoke similar results, with the computer serving as babysitter and students being overwhelmed by the amount of information available on field trip sites.

Field trips are not commonly used to engage students in authentic experiences that help them get the most out of interacting with the places, experts, or artifacts that field trips provide – even though these authentic experiences are key to working toward larger goals of social studies education such as student tolerance and democratic citizenship. This study presents Colonial Williamsburg’s Electronic Field Trip program (found at <http://www.history.org/history/teaching/pscufs/>) as an instrumental case for generating a conceptual model for authentic VFTs that can be used to support the creation and utilization of additional VFTs in the social studies.

This study addressed three main questions:

- What would a model social studies VFT look like?
- How can teachers, teacher educators, and instructional media developers better utilize VFTs to engage their students in authentic experiences?
- How does Colonial Williamsburg’s Electronic Field Trip Program inform the conceptualization of a model VFT?

In this article, key elements of a model field trip are induced from the body of research on authentic learning and pedagogy, field trips, virtual field trips, and other hybrid distance learning models. These elements are then utilized as a framework to analyze one of the most popular, robust, and longstanding VFT programs, Colonial Williamsburg’s Electronic Field Trip (EFT).

Throughout this article, the acronym VFT is used in reference to virtual field trips generally, and EFT is used in reference to the particular case of Colonial Williamsburg’s program. The analysis of the Colonial Williamsburg EFT program is then used to inform the development of a conceptual model for constructing and using VFTs in the social studies with the potential to engage students in authentic and powerful learning experiences. The term *authentic* is often used to describe history related field trips, but authenticity as a concept remains somewhat contested in the field of education (Shaffer & Resnick, 1999).

Commentary on this analysis from two Colonial Williamsburg staff members who worked on the EFT were solicited and are available in this issue of the journal. Throughout this article, this commentary is referenced as “Colonial Williamsburg Response,” along with the response number. In each case, a link will be provided to the respective comments located elsewhere in this issue of the journal. This article closes with some implications for teacher educators who wish to prepare teachers to use VFTs in their classes or who wish to promote the use of VFTs in social studies.

What Makes a Field Trip Authentic?

Historical field trips have long been viewed as providing the opportunity for students to engage in authentic learning activities through the examination of historic sites, interaction with interpreters and experts, or exposure to artifacts. Authentic learning, according to Shaffer and Resnick (1999) includes several characteristics: “(a) learning that is personally meaningful for the learner, (b) learning that relates to the real-world outside of school, [and] (c) learning that provides an opportunity to think in the modes of a particular discipline” (p. 195). Field trips to historic sites hold the potential to address these aspects of learning if students engage the site in some meaningful way, and activities in which they are engaged include some form of historical interpretation or the contemplation of rich historical questions or problems.

Nespor (2000), in her study of the role of field trips in elementary classes as vehicles for exploring and constructing the concept of “public space,” noted that field trips have the potential to be powerful, authentic, and “real world,” because they disrupt the often mundane process of schooling and “transport young people off school grounds for part or all of the day and allow them to interact informally without the stringent monitoring and evaluation characteristic of regular school activities” (p. 29).

Along similar lines, Newmann and Wehlage (1993) argued that authentic instruction in or out of schools occurs when “(1) students construct meaning and produce knowledge, (2) students use disciplined inquiry to construct meaning, and (3) students aim their work toward production of discourse, products, and performances that have value or meaning beyond success in school” (p. 8). They believe that disciplined inquiry is comprised of students being engaged in higher order thinking, deep knowledge acquisition, and substantive conversation among students (or students and experts; Newman & Wehlage, 1993; see also, Scheurman & Newmann, 1998).

In keeping with Newman and Wehlage’s arguments, as part of an authentic field trip, students should be actively engaged in asking, answering, and discussing questions that arise during the trip—or discussing and attempting to answer questions that arose during the preparation activities prior to the trip. Ideally, students should also be engaged in utilizing the tools of the discipline, be it archaeology, historical inquiry, or another field. Other characteristics of authentic instruction, according to Newman and Wehlage (1993), include “connections to the world beyond the classroom,” a goal a VFT should be

in a position easily to fulfill. In the context of history education, an authentic field trip experience should involve historical inquiry or analysis before, after, or during the field trip (ideally students have a task to perform during the field trip); confronting controversy in history; and exploring the role of historical agents (Levstik & Barton, 2005).

Elements of a Powerful Field Trip and Challenges to Making it Happen

If the goal is a field trip that engages students in authentic learning, it is important to identify elements or characteristics of effective field trips from the literature. Noel (2007) identified three main elements of a “winning” field trip:

- Field trips need to have a connection to the curriculum and should be timed to line up logically with curriculum.
- Teachers need to work with field trip site personnel to enhance student learning.
- Teachers need to prepare students in class before the trip, especially through the use of materials from the field trip site, such as relevant primary documents or artifacts.

In their study of the roles of teachers and field trip site personnel, Noel and Colopy (2006) found a frequent lack of communication between the two groups and misperceptions of each other’s roles regarding the field trip. Field trip site personnel believed their role was largely motivational, and though they often developed curriculum materials for teachers, they asked for little feedback as to how these resources were used.

In addition, Noel and Colopy found that teachers reported the desire to have curriculum and materials that were designed to be flexible and adaptable depending, for example, on their needs, time limits, and grade levels. Flexibility in the types of activities and preparation is often needed because of the logistical issues that occur when taking students on field trips, especially those that are further away (e.g., bus issues, school cancellation, or delays; Nesper, 2000).

Other earlier studies in both social studies education and science education promote conclusions similar to those identified by Noel and Colopy, and emphasize the need for some kind of debriefing activity following the field trip that ties directly to the curriculum (e.g., Confar, 1995; Cox, 1993; Griffin & Symington, 1997; Priest & Gilbert, 1994). These debriefing activities may involve some kind of authentic assessment of what is learned aligned with the characteristics of authenticity (Newmann & Wehlage, 1993; Wiggins, 1989). Nesper (2000) noted that many schools, especially those lacking financial resources or those operating within a heavily standardized and restrictive curriculum, struggle to take field trips that align with their curriculum or face other obstacles to having successful field trips.

The Added Value of Going Virtual

What then is the added value of going virtual? It is easy to imagine the flexibility and logistical powers of going on a field trip without leaving the

school building, but VFTs may add value in additional ways. Some research has compared traditional field trips to VFTs, primarily in fields other than history such as science and geography. When compared to traditional field trips, VFTs do not equate (Spicer & Stratford, 2001; Stainfield, Fisher, Ford, & Solem, 2000), but when combined (e.g., participating in a VFT to prepare for a field trip) or used as a replacement for a lecture or other lower level thinking activity, students felt they gained a greater depth of knowledge (see also Tuthill & Klemm, 2002).

In studies involving K-12 students, students and teachers were motivated by the interactive components of their respective models (RAFT and Adventure Learning), which relied on interaction with experts in the field (via video or online), student-centered approaches to curriculum, and face-to-face activities back in the classroom (Bergin et al., 2007; Doering, 2007; Riedel, Doering, Scharber, & Ernst, 2007).

Although these studies employed some analysis of empirical data, they focused primarily on motivation and student beliefs rather than identifying what students gained from participating in the online environments. In the only study where student learning was examined, Cassady, Kozlowski, and Kornmann (2008) used student test data collected by the Grand Canyon National Park staff, and found that students who were engaged in all aspects of the VFT they studied (e.g., prebroadcast materials) performed significantly better on the tests than did students who participated only in the live broadcast.

Literature that examines the use of VFTs in the social studies largely serves to advocate uncritically for the advantages of VFTs (e.g., Willis, 1999; Wilson, 1997; Wilson, Rice, Bagley, & Rice, 2000), point out the strengths and shortfalls of VFT programs or sites (e.g., Bellan & Scheurman, 1998; Cox, 1993; Gubala & Acer, 2006), or help teachers to either use or build their own VFT (e.g., Bellan & Scheurman, 1998; Lacina, 2004; Wilson et al., 2000). Similar to the research on traditional history field trips, little analysis using empirical data exists and even less critical examination of the content and pedagogy in VFT programs.

Professionally developed VFT programs designed for use in classrooms, like the ones studied by Cassady et al. (2008) and Riedel et al. (2008) are structured as hybrid distance learning modules that incorporate classroom activities with media and interaction with other students and experts. Most VFTs identified in the social studies literature, however, are little more than Web scavenger hunts or Web inquiry activities at best, as they do not incorporate elements viewed as vital to a successful field trip (e.g., interactions with other students or experts and artifacts or historic sites).

Components of successful hybrid online educational models, including VFTs, share several critical attributes (Bellan & Scheurman, 1998; Bergin et al., 2007; Doering, 2006; Stainfield et al., 2000):

- Inquiry or problem-based curriculum aligned with clear objectives (including but not limited to state or national standards)
- Collaboration and interaction opportunities synched with the curriculum (e.g., between students, experts, teachers)

- Media (e.g., online environment, video, and email) used to enhance the curriculum
- Pedagogical guidelines to assist teachers in using the media and curriculum

Shaffer and Resnick (1999) argued similarly that new media (e.g., computers, video, and communication technologies) can help provide the components of authentic learning by promoting connections with others outside of the classroom, including other students and disciplinary experts (e.g., historians), and also provides access to information that may otherwise be unavailable because of distance, time, or cost. Figure 1 illustrates the common elements induced from the authentic learning and pedagogy, field trip, and virtual field trip/hybrid distance learning literature. These elements are used as the framework to analyze how well Colonial Williamsburg’s EFT aligns with these authentic field trip elements and what other themes emerge from the analysis that might inform the development of a conceptual VFT model for future historical sites.

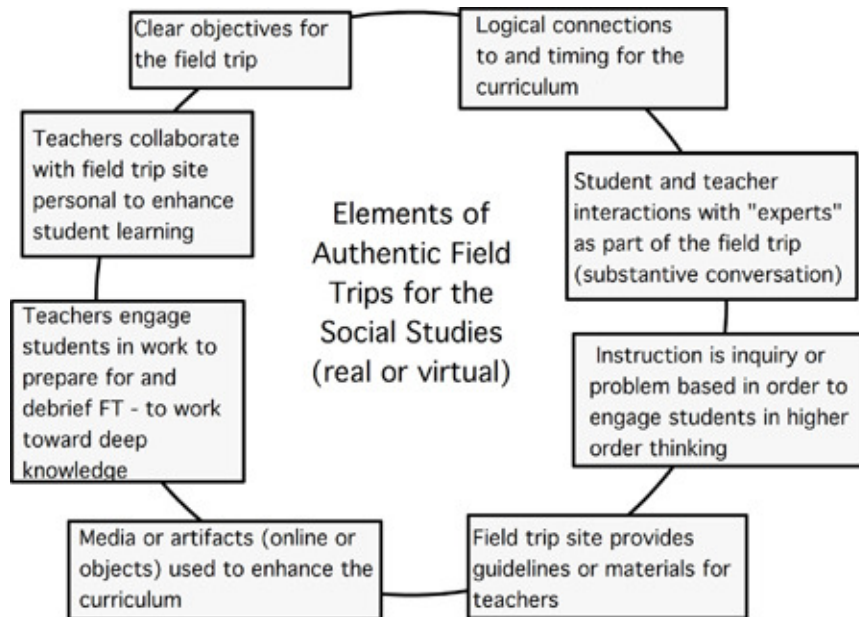


Figure 1. Elements of authentic field trips.

Study Objectives and Case Selection

In order to examine how these elements might be operationalized in a social studies VFT and to better understand what a model field trip may look like, Colonial Williamsburg’s EFT program was selected for analysis, because it appeared to include all of the elements. Three criteria were utilized for selecting a case for study:

- All of the authentic field trip elements were included in the field trip.

- The field trip served a substantial national audience of teachers and students.
- The site or program was designed specifically for social studies courses with stated goals related to history or social studies education.

Case study, which is not a method “but a choice of what is to be studied” (Stake, 2000, p. 435), was used to bound the analysis, with a focus on examining all facets of the structure, materials, and curriculum associated with the VFT.

Colonial Williamsburg’s program was selected after an extensive examination of available and commonly utilized VFTs, identified through a search of the social studies professional literature and online resource lists. Other VFT programs that met some of the criteria include those that incorporated virtual museum sites such as the Smithsonian, virtual tours at sites such as the White House and the United States Capitol, historic sites such as Fort Ticonderoga and the Plimoth Plantation in Massachusetts, and professionally designed historical VFTs such as Pathways to Freedom created for Maryland Public Television by Thinkport. (**Editor’s Note:** URLs for each of these sites can be found in the [Resources](#) section at the end of this paper.)

Of the VFT programs identified, only Colonial Williamsburg’s EFT (<http://www.history.org/trips/>) program appeared to incorporate most of the elements of an authentic VFT in some form, was easily accessible, and had staff willing to participating in the study.

Data Collection and Analysis

This instrumental case study, defined by Stake (2000) as a case that “provides insight into an issue...that facilitates our understanding of something else” (p. 437), provides insights into the nature of what comprises an effective VFT model. The overall goal of the study was to generate theory conceptualizing an effective VFT model, using Colonial Williamsburg’s EFT program as an instrumental case. Although the findings of this case study are not generalizable to all VFTs, case study can be used effectively to generate theory that can then be used to conceptualize a model for VFTs (Yin, 2003).

Multiple sources of qualitative and quantitative data were utilized for this mixed methods naturalistic study (Lincoln & Guba, 1985). Qualitative data included the content of the field trip program resources, curriculum and media collected from the two sample modules (e.g., The Slave Trade and Jamestown Unearthed); semistructured interviews with Colonial Williamsburg EFT production staff; observations of a classroom engaged in the Jamestown Unearthed EFT module and a “behind the scenes” observation of the live broadcast during The Slave Trade module; and student and teacher data collected from student phone calls, discussion boards, and email logs.

Colonial Williamsburg also provided data collected from open-response items on a participant feedback survey. The frequency statistics from the survey were included in an internal report by Lisa Huevel (2008a), with subsequent analysis of qualitative and quantitative data performed as

part of this study on the raw survey data (Heuvel, 2008b). This survey was sent to all subscriber schools ($n = 2,297$) and had a 15% return rate ($n = 343$). The largest demographic group of teacher participants taught third through fifth grades (56.86%), was between the ages of 41-60 (67.8%), and had taught over 10 years (69.5%).

Quantitative data in the form of descriptive statistics from the Colonial Williamsburg participant feedback survey were utilized to identify themes and improve reliability through triangulation of multiple data sources. These data allow for a thorough examination of the EFT model and how it is intended to be used, the modes of producing the modules (e.g., goals, decision-making, and production of different elements), and some insights into how they are used in the classroom, as well as their potential for implementation and ability to engage students in powerful and authentic experiences.

Data collection and analysis was conducted over a 6-month period from January through June 2007. Semistructured interviews were conducted with EFT production staff in order to understand the roles of the individuals involved in producing the EFTs, their beliefs about the goals of the EFTs and rationale for their process of production, and insider perspectives on two modules in particular, *The Slave Trade* and *Jamestown Unearthed*.

The interviews were transcribed along with the video and were coded line by line using a constant comparative method (Glaser & Strauss, 1967). Initial codes were based on the conceptual framework (e.g., goals for students, including disciplined inquiry, and higher order thinking), with new codes being induced as necessary. Email, discussion board, qualitative survey data, and activities data were coded similarly and used to answer the types of questions students were asking and being asked.

The primary researcher and an assistant analyzed the interactive activities on the Web and in the curriculum in order to assess what students would potentially know and be able to do as a result of completing the tasks. After initial inductive coding, codes were collapsed into coherent themes and then compared with themes from across all data sources. Quantitative analysis of survey data included calculation of means, median, and mode from raw data collected as part of a survey of EFT subscribers (Heuvel, 2008b).

Finally, themes that emerged from the analysis across data sets and EFT model components were examined to assess their potential for engaging students in an authentic field trip experience. These themes were then used to develop a more robust model for designing and implementing VFTs. Reliability of the findings was achieved through triangulation of multiple sources of data and through member checks with participants. In addition to a broad review of the Williamsburg EFT program, two EFT modules were studied in depth, *The Slave Trade* and *Jamestown Unearthed*.

Case Study: Colonial Williamsburg's EFT Program

Colonial Williamsburg entered the VFT business in the early 1990s with its EFT program and remains one of the most popular commercial VFT

programs in history education. It is one program in the Educational Outreach section of the Colonial Williamsburg Foundation. They produce three new EFTs per year and distribute a total of seven EFTs a year that engage upwards of 3,500 schools and over 1 million students nationwide.

The initial EFTs were essentially interactive educational television programs that combined video transmitted via satellite and public television stations with students phoning in with questions for a panel of costumed historical interpreters and historians during live segments. The EFT modules are designed for use in social studies classrooms in grades 4 through 8, with the majority of use taking place in fourth through sixth grade. According to a survey of EFT users, they are also being used sporadically across the K-12 curriculum in some schools (Heuvel, 2008a).

The present EFT program includes modules that span topics including the life of a slave in colonial Virginia, colonial currency, the life of women in the colonial era, and behind-the-scenes episodes such as Jamestown Unearthed, which looks at the job of archaeologists and their finds at the historic site of Jamestown, Virginia. Each EFT module is part of a season for at least 2 years, and the video portion of the program can be purchased for continued use. The directors of the program include at least one EFT a year related to African American history (usually in February) and have expanded their scope to reach topics outside of colonial Virginia and the 18th century.

The current EFT model includes multiple ways for students to participate, but at the center is the original live video broadcast with call-in segments. These live broadcasts take place 1 day a month during the school year at 10 am and 1 pm Eastern Standard Time and last for 1 hour. Figure 2 illustrates the EFT model with its various resources and modules.

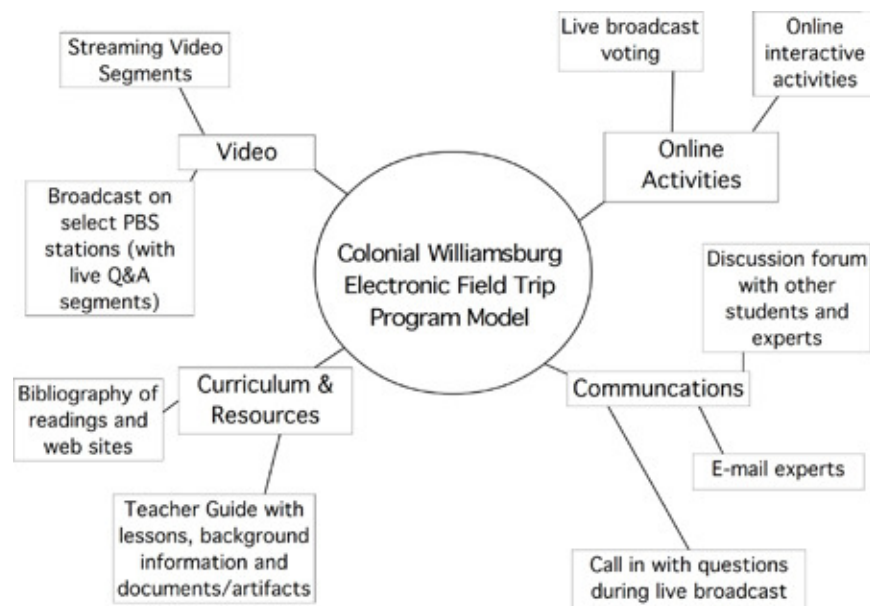


Figure 2. Colonial Williamsburg’s EFT model.

Live Broadcast

The original core of the EFT program, the 1-hour live broadcast is transmitted via participating public television stations, satellite feed, and the Web and includes three preproduced segments (also available as on-demand streaming video on the EFT site) interspersed with three live segments that include a panel of experts hosted by two local students. The experts often include historical interpreters who appear as characters in the dramatic video sections and a moderator that is usually a contemporary historian. Students have the opportunity to call a toll-free telephone number to ask the panel a question. These calls are selected randomly and screened to identify good, or at least new, questions, and the rest of the calls go into a call room where volunteer experts answer the students' questions off air. In addition, two questions are posed during the live broadcast for students to vote on – such as “Can archeology change how history is written and told?” during the *Jamestown Unearthed* video. Results of the vote are then reported at the end of the live segments.

Online Interactive Activities

Online activities include Flash animation activities related to the topic, but not necessarily aligned with the video or curriculum; these activities range from “choose your adventure” types of narratives to games simulating the interception of slaver ships in order to enforce the banned slave trade in the early 1800s described in *The Slave Trade EFT*. These activities are available throughout the year but are not archived online or as part of the DVD for the EFT.

Communication Opportunities With Experts

Students have access to experts via the phone calls during the live broadcast and for about an hour afterward. Students can also ask questions via email or in a discussion forum set up for the module and moderated by EFT experts. Discussion forums are kept active for usually a month or so after the broadcast (although one individual said she replies to emails even later). Emails are sometimes responded to from a character in the EFT, for example, the character Sojourner Truth may answer an email as part of *The Slave Trade EFT*.

Curriculum and Resources for Teachers

A pdf file containing a curriculum and resources is available on the module website, and links to more resources (especially primary sources) and an extended bibliography are also provided. The curriculum is written by a team of teachers hired by Colonial Williamsburg and organized and edited by a Colonial Williamsburg staff member. The curriculum often emphasizes the analysis of primary sources, usually documents or images, as well as general background information. Other resources include important terms with definitions, a timeline, and a background essay.

How Does Colonial Williamsburg's EFT Serve as a Model VFT?

The goal of the EFT program is representative of Colonial Williamsburg's mission and its foundation overall: that learning about the colonial period and the founding fathers (as well as other key figures) through “experiencing” living history will help to promote effective citizenship. One of the directors of educational outreach explained,

This is the core, key part of the mission of the [Colonial Williamsburg] foundation that these stories about early America are the way in which citizens learn their job. There's no owners manual for the Republic. The only way Americans know what it is they have to do to manage the Republic is by going back in history and seeing how others have dealt with that challenge. So what happens if we raise a generation of kids without history?....If we raise kids who don't understand these stories, then they don't understand their job or responsibilities....You look at most civics and government programs and they are really clear about defining what rights Americans have, I don't think we're as good about responsibility, everybody needs to go out and vote and be a democratic society as we get people engaged everyday. That's what American history teaches.

This goal seems to fit nicely with the goal of a field trip of any sort, specifically that interacting with historic sites, agents, and related issues will engage students in a deeper understanding of the past and provide knowledge and tools for citizenship in the future. However, this vision of citizenship and citizenship education is also somewhat narrow, especially if the experiences do not engage students in well-structured problems (Bellan & Scheurman, 1998). The degree to which Colonial Williamsburg's EFTs are structured to engage students in problem-based learning is the focus for the following findings and relates to the overall affordances and constraints of the Colonial Williamsburg EFT model.

Engaging Topics and Media

Many of the topics selected for the EFT modules are relevant to the upper elementary and middle school curriculum and provide opportunities for classes to explore and discuss important historical events and issues. For example, the 2006-2007 season included *The Slave Trade*, which focused on American enforcement in 1820 of the official end of the American slave trade (the law banning slavery was signed in 1808), and *Jamestown Unearthed*, which examined archaeology and the original Jamestown settlement site.

Other EFTs produced that year focused on the battle of Yorktown, freedom of the press in colonial times, and colonial era geography and map making. Other seasons have included modules focused on the historic role of women (*Remember the Ladies*, 2006), schooling (*A Publick Education*, 2004), the Cherokee nation (*Emissaries of Peace*, 2008), and the concept of patriotism and revolution (*Founders or Traitors?*, 2008).

Of the various components of the EFTs, the teachers surveyed identified the video ($m = 1.54$ on a scale of 1 = *very useful* to 5 = *never use*), online activities ($m = 1.55$), and Internet resources (including the teacher's

guide and curriculum; $m = 1.77$) to be the most useful (Heuvel, 2008b). The EFTs with topics that provide more depth or additional perspectives to the regular curriculum are most popular with teachers and illustrate the potential to engage students in important historical issues and events in authentic ways. Of the almost 200 responses on an item asking EFT subscribers to identify a favorite EFT, 35% identified one of the episodes focusing on slavery or African Americans (No Master Over Me, 2008; The Slave Trade, 2007; Chained to the Land, 2006). In addition, Revolution-era modules such as Founders and Traitors (17%) and disciplinary related modules such as Jamestown Unearthed(11%) were also popular.

Another strong theme was the teachers' beliefs that their students found the videos engaging. Teachers also reported that particular modules, such as No Master over Me, helped them to challenge students' preconceptions about the past, while presenting a more complex picture of the past. For example, teachers noted that No Master Over Me helped to "dispel slavery stereotypes" and present the complexities of slavery, especially as many students "had a hard time believing that there were free blacks in the South."

In addition to providing some worthwhile topics, the production values of the historical reenactments and other video segments are especially high, which makes sense given that most of the EFT production team members were trained in commercial video production or similar fields, along with other members who were trained as historians or in museum education programs.

Many teachers in the survey noted the quality of resources, especially the primary sources and lesson plans, and the visually rich aspect of the videos as strengths of the EFT program. For example, one teacher explained that she found the video portion of the EFT to be the most useful. She responded that when using the videos "students are able to 'personalize' the characters and events from their text. It also helps them develop higher level thinking skills by thinking historically, putting themselves in the situation being studied [and through] seeing all sides of an issue." Similarly, another teacher, who is located in California, noted that her students "were transported to another time and place during the EFT" because of the rich video and interesting historic locations.

Although the production values are high and the topics worthy, there is no curriculum included specifically to help teachers engage their students in wrestling with the larger questions that are raised in the video clips or help them get the most out of the live broadcast, even though EFT staff believed that raising these important and difficult questions was their most important goal.

Missed Opportunities for Discussion and Student Construction of Knowledge

Through the interviews with EFT staff, it was apparent that they viewed their role as providing opportunities for students to raise questions about what they see in the videos – and then ask the questions during phone-in segments—promoting aspects of their concept of citizenship. One Colonial Williamsburg staff member explained the goal of the video.

We create attention in a dramatic segment because we are trying to actually provoke kids to ask questions, and then use that as an excuse in the live question/answer session to try and amplify something....[For example], we had a Black woman and man betrothed to each other, physically separated and it becomes a really hard visual way to drive home how terrible this system of racially based slavery actually is. And you can't mitigate that in some way, but it raises questions that kids ask. But then you have a question and answer session where you have a chance to highlight those points and bring out those issues to look at both ends of the equation.

Although question-and-answer sessions are built into the live broadcast, few questions are actually included. Only a dozen or so are included in the live broadcast (others are answered offline), and the nature of the interaction is more question-and-answer than a discussion that could be used to gain a deeper understanding, a feature integral to "substantive conversation." Put another way, students are not engaged in knowledge construction or disciplined inquiry where they seek out the answers to their questions. Instead, they are given a high-quality but matter-of-fact answer.

For example, the following question and response illustrate how the expertise of the Colonial Williamsburg, or in this case Historic Jamestowne, historical reenactors can act as experts, just as they do for actual field trips. However, since the questions are isolated and not discussed further, they do not promote knowledge construction or inquiry among students. Instead, the questions reinforce a transmission style approach to teaching history.

Student from South Pasadena, California: Why did they [Jamestown colonists] not go back to England after people started to die?

Anas Todkill (Jamestowne Historical Interpreter): When we first arrived, we were all understanding that we were to work for the Virginia Company and we made an agreement that we were to stay there and search for gold, establish ourselves as best we could, and search for a passage to the North and West. But again, we agreed we would stay there and those of us, lesser sorts, soldiers and servants, couldn't afford to pay our passage to buy ourselves out of an agreement.

The historical interpreter, Anas Todkill, provided an interesting response that teachers could use to discuss a number of issues that faced the Jamestown colony, including the makeup of the Virginia Company, their goals, and the structure of English society at the time. However, the live broadcast is not easily conducive to this type of discussion as currently configured and supported. Unless the teacher is already an expert on the topic and has prepared students to discuss these issues, the opportunity for depth will likely be lost.

Overall, despite being the most popular aspect of the EFT and a primary goal of EFT production staff, the live broadcast functions as a form of content delivery, not as a medium for engaging students in discussions of the controversies in history as intended by Colonial Williamsburg.

However, one teacher who was observed during the *Jamestown Unearthed* broadcast attempted to engage her students in a discussion of the role of archaeology in history and in an analysis of some of the ideas from the video. The survey data suggest her efforts may be an anomaly. Instead, teachers use the videos to support lower level work, as evidenced on a survey item that asked teacher participants to provide an example of use of the EFTs.

Responses indicated that the majority of teachers reported having students view the broadcast in isolation. Approximately 70% of the survey respondents described their major use of the EFT as viewing the video or using the video as a form of content. Other teachers noted that they utilized the curriculum or had students come up with discussion questions during the viewing that were subsequently used as part of their postviewing discussion, but these latter examples were not the norm.

Communication Does Not Necessarily Equal Substantive Conversation

Through the EFT modules, Colonial Williamsburg staff members provide ample access to experts during the live broadcast and via email and phone calls and for at least a month afterward via email and the discussion forums. Analysis of these interactions revealed a lack of real substantive conversation or depth of knowledge in these interactions, largely because these elements are not well integrated into the curriculum. Most of the experts answering the phones are not historians but volunteers who come in on broadcast days to help answer the phones.

Questions were more fact based than analytical or evident of higher order thinking. In fact, most could have been easily answered if students had been prepared for the broadcast using the provided curriculum or even by discussing the topic in class in any manner. For example, one question that got on air during *The Slave Trade* broadcast was “Was there any other way slaves got here other than on ships?” This may be a legitimate question in a fourth or fifth grader’s mind, but it shows there was probably little preparation for the topic or depth of knowledge being acquired even for those grade levels. ([Colonial Williamsburg Response 1](#))

Teachers reported that the email ($m = 2.61$, on a scale of 1 = *very useful* to 5 = *never use*), online forum ($m = 2.72$), and online vote ($m = 2.76$) components of the EFT were viewed as among the least useful. Although the phone-in component was much more useful and motivating for students, it also served as a source of distraction and frustration. These data suggest that many teachers simply show the live broadcast and have students call in with questions but do little substantive preparation for participating in the field trip or debriefing afterward. ([Colonial Williamsburg Response 2](#))

An example of how the phone-in system can be distracting was evident in a class of fourth graders who were observed as part of this study. The students in the class were much more interested in getting on air during the live broadcast of the *Jamestown Unearthed* video with their question, or having students from their school get on air, than paying attention to either the broadcast, the questions being asked, or the

answers being given by the experts. During the preproduced segments, many of the students were distracted and not paying attention to the video. This changed when the live panel came on and their classmates were attempting to call in their questions. The teacher used the transition to the live panel to regain the students' attention by noting, "We will find out about the questions when the panel comes on."

When the live segment ended, students teased their classmates who had been unsuccessful at getting their questions on air, exclaiming, "You didn't get on." This lack of attention to the pretaped segments and emphasis on the live segments happened despite a lot of time spent in the classroom preparing students for the topic and what appeared to be a good job by the teacher of trying to engage students in the content being viewed and issues raised.

In fact, the class became so obsessed with getting a question on air that the room exploded with cheers when one of their fellow students from across the hall made it on. At the same time, the students expressed disdain and grumbled when multiple students from Summerville, New Jersey, were able to ask their questions on the air.

Although the teacher asked questions and engaged students in content from the broadcast such as the voting, their attempts to call in seemed to be as much a distraction as it did a motivator. The phone calls are the primary way of communicating with experts, with hundreds of calls logged per broadcast versus a total of only 74 postings on the discussion board. In fact, the discussion board was the least used form of communicating with experts, despite over a month of open activity. ([Colonial Williamsburg Response 3](#))

Obviously, most teachers were utilizing the live broadcast, email, and phone systems but not some of the newer components of the EFT, such as the discussion forum. The discussion forum was largely used as an alternative to email. When using email, students did not ask or answer each other's questions as one might expect, but instead posted questions that CW experts then answered. For example, one forum that was part of the Jamestown Unearthed EFT asked students to weigh in on the question, "What is challenging about studying history?" Of the thousands of students that participated in the EFT, only two from the same seventh-grade class responded in the forum, which was then followed up by an answer from one of Colonial Williamsburg's experts.

Student 1 [7th grade]

Studying history can be hard because records weren't always kept. If they were they are usually not in a good condition.

Student 2 [7th grade]

Studying history can be hard because things that were in one place 400 years ago are now under dirt or they might have disintegrated. So it takes a while to actually get facts.

Jamestown Archaeology Assistant

Studying history can be hard, but also fascinating. Records can be found in so many places, the challenge is to find where they are. Families kept records, churches kept records as did counties

and states, and those are often in different departments like land deeds, wills, military records or even police records.

This example from the discussion forum illustrates a missed opportunity and the limits of the tools. Here, students simply responded to the question and waited for feedback from the expert, instead of asking further questions or responding to each other's postings. Also, after the expert posts, there were no further responses, as if the question had been answered correctly and there was no reason to pursue the topic further. Overall, the EFT provides exceptional access to experts, but does little to help teachers get the most out of these interactions in terms of substantive conversation. This situation mirrors the constraints of field trips, specifically that there is a lack of preparation on the part of teachers for the field trip and that student interaction with field site personnel are often not substantive and do not promote desired types of authentic inquiry ([Colonial Williamsburg Response 4](#)).

Limited Disciplinary Inquiry

Similarly, disciplined inquiry and higher order thinking have not been structured into the two most popular components of the EFT, the video/live broadcast and the online activities. The videos do attempt to raise important questions and include engaging and worthwhile topics, but the online activities (primarily Flash-based Web games and interactive timelines) tend to trivialize these topics or provide little in terms of higher order or disciplinary thinking.

For example, one of the Web activities that accompanies The Slave Trade EFT places students in the role of a U.S. Navy captain charged with the task of catching illegal slave ships in the Caribbean. The students guide their small ship icon to "intercept" other ship icons that appear on the map, and then a pop-up box tells them whether they have intercepted a slaver vessel or a merchant ship. The goal of the game is to show the students how difficult it was to catch slaver ships, but the most intellectual work they are asked to do in order to "succeed" at catching slavers is using their mouse to click on other ship icons and wait for feedback from the game – hardly engaging higher order thinking or applying what they had learned about the attempts by the U.S. to stop the slave trade.

Later examples of these online activities show more promise. For example, an activity from Emissaries of Peace (2007) asks students to actively negotiate a treaty between the British and Cherokee Nation in 1721 through selecting various options on trade, land sales, and establishing borders. The activity essentially forces the students, in the role of the Cherokee, to submit to English demands in order get the treaty negotiated, which likely simulates what occurred at the time. This activity may better engage students in developing empathy with the Cherokee and an understanding of the strategies used by the British to take native lands, but would need to be accompanied by a careful teacher debriefing in order for students to gain a deep understanding of the issues involved. Unfortunately, there is no curriculum to help the teachers utilize the online activities toward these goals. ([Colonial Williamsburg Response 5](#))

Better examples of disciplinary inquiry come in the teacher's guide and lesson plans that are included as supplements. These lessons rely heavily on primary sources, such as historical artifacts and documents. EFT staff work with teachers to select artifacts and construct lesson plans that ask students to do some initial analysis and interpretive work related to the theme of the module. For example, The Slave Trade module included activities using etchings of slave ships and a personal account of the Middle Passage written by Olaudah Equiano, an African slave known more commonly as Gustavus Vassa.

The activities associated with the artifacts engage students in comparing and contrasting meanings that are interpreted and in attempting to identify bias and "trustworthiness" of the documents as historical sources. For example, one activity asks students to compare the disparate points of view on the slave trade of Equiano with those of a British doctor, George Pinkard. These activities, if carried out as designed, would engage students in some aspects of "doing history," as described by Levstik and Barton (2005), through disciplined inquiry.

Other activities focus more on comprehension, reading maps, and developing a broader understanding of the content. These lesson plans do not often link directly to the videos, online activities, or the larger questions raised in the video, and thus, leave it up to the teacher to figure out how to engage students in the video as a source. This task may be difficult for teachers with a background in social studies education, let alone for general education elementary teachers who are responsible for all subject areas and may not have as strong of a background in this subject area. Unfortunately, expertise is provided only via the phone during the live broadcasts, via email, and on the discussion boards after the viewing.

Lack of Curricular Connection and Curricular Interconnectedness

Though the production values are high and the live broadcasts impressive, the structure and timing of the modules are problematic in this time of high stakes testing and accountability. In many school districts across the country, social studies is being diminished in the elementary curriculum. Even in schools where the subject is widely and frequently taught, teachers often have less autonomy in structuring the scope and sequence of what they teach. The Colonial Williamsburg EFTs often do not line up with the state or school curriculum guidelines. For example, one surveyed teacher noted, "My biggest struggle is [that] the [EFT] timeframe does not correspond with the timeframe based on the NY curriculum."

In addition, the live broadcasts occur twice on the broadcast day, thus providing a timing problem for teachers in upper elementary or middle schools, who have less flexibility in their schedules. As one teacher reported, "Since I teach four classes of social studies it was difficult to schedule all classes to see the live broadcasts." Though the video is available throughout the year as streaming video, it is only during the live broadcast that students are able to call in or email with questions related to the video.

In addition to the timing issues with the EFT broadcasts, there is a lack of connection between the various parts of the EFT program. Although the separate components of the EFT provide high-quality instructional resources and curriculum, different Colonial Williamsburg production teams produce these components independently. These teams share the general EFT topic and meet periodically to see what the other is doing, but often work independently for long periods of the process, leading to some inconsistencies, few connections, and little scaffolding between components. As noted previously, the curriculum provided does not include the video segments or online activities. The lessons are designed to be used independently of the videos, as preparation for or as extension after the viewing. No curriculum or discussion model is provided to help students debrief or discuss the important questions raised during the viewing of the video. ([Colonial Williamsburg Response 6.](#))

Since the primary element being used from the EFT was the live broadcast, according to survey results, one might deduce that teachers are showing the broadcast and holding informal discussion. Given the complex and often controversial nature of the video content, support for discussion on the videos is important. For example, in *The Slave Trade* video, an ethical dilemma is raised during one scene as a family discusses the banning of the slave trade at the dinner table. In the discussion an uncle who is a slaver challenges his brother and sister-in-law to debate on why the slave trade was bad but their owning slaves was not. This scene raises interesting questions for later discussion. The EFT provides no guidance as to how to manage controversial discussions. If teachers are not trained to facilitate controversial issues discussion in their classrooms, they may shy away from having these important conversations in their classes. At minimum, the EFTs could support teachers with experts available via email or in the discussion forum to facilitate these structured discussions and move away from a question-and-answer format. Without this support, most teachers and students miss out on a powerful opportunity for an authentic substantive conversation.

Maybe Too Flexible – Not Enough Guidance for Teachers

The materials and resources, including the videos and supplementary curriculum, are largely well done as individual components and are designed for maximum flexibility by teachers, but almost to a fault. As none of the EFT staff members have classroom teaching experience, they make a number of assumptions that are considerate of teachers but not always grounded in the realities of teaching and teacher education. They are wary of being too prescriptive in their EFT components and explained that they did not want their curriculum or materials to be invasive or “teacher proofed.” For example, one member of the production staff explained their goals for this approach for teachers and view of what teachers need.

...Whatever an organization with the expertise that Colonial Williamsburg has can support teachers in the classroom and can provide them with modules that are self-contained but can be expanded in all directions. You have the program itself where students can view, you have the web activities which are available on line to the subscribing schools, you have bulletin boards and forums that they can post to ask questions on fieldtrip day, they

can call in and ask questions as you know already and are put on air, and aside from that there are also teaching materials available online for the teachers to support them with primary sources, and with the best that this organization can give.

Unfortunately, they assumed that the teachers using the curriculum are as skilled at teaching with film and historical thinking strategies as are the teachers who helped to write the curriculum. Often, they are not (Conklin, 2008). The production staff also assumed that the goals of the various components are suitable for most classes and that teachers know how best to reach these goals.

Each module provides a useful list of resources to read more in depth about the topics. This feature is important because most teachers of the upper elementary grades do not have a strong background in history or teaching history (Conklin, 2008). These readings do not provide the scaffolding or professional development necessary for teachers to be able to utilize the powerful aspects of the EFT successfully and engage their students in aspects of authentic pedagogy and historical thinking. In the end, most teachers are likely showing the live broadcast, asking some comprehension questions, and moving on to the next topic.

Just Because You *Can* Doesn't Mean You Necessarily *Should*

Over the years, the EFT modules evolved from standalone, live broadcasts with the ability to phone in questions to an online system that incorporates curriculum, online activities, discussion forums, emails, and more. According to production staff, these online components were added as the technology became available but were not created to meet particular goals for the whole curriculum. Instead, they were developed as motivating activities to engage students in the content. It appears that the addition of the online activities is a case of having a new tool and finding ways to use it rather than having a genuine need or goal for which the tool serves as a possible solution.

For the online activities, the production team relies on an outside Web producer because “he has a foremost understanding, a very 21st-century cutting edge understanding of how you use these Web activities.” Regardless, the core of the model is still the live broadcast, and it appears from the survey data that most teachers (primarily in elementary classrooms and with over 10 years’ experience) still use this component. Also likely is that these teachers have been using the EFTs from the early years when they were the only media component (other than the teacher guide). Therefore, the online activities are probably used as a motivational activity but not necessarily incorporated into any kind of depth of study.

This approach is similar to the way they were used in the classroom that was observed. Essentially, the teachers treat the online activities and discussion forum in a way similar to EFT production staff, as an add-on that teachers and students are welcome to use but not as an important component for learning the larger goals of the EFT module ([Colonial Williamsburg Response 7](#)).

Implications and Conceptual VFT Model

Colonial Williamsburg’s EFT program serves as a useful case to identify the promise and potential pitfalls in designing and using VFTs to engage students in authentic and powerful social studies learning experiences. The EFT programs production values are high. Certain aspects of the program are designed to engage students, but the program overall has not evolved enough from its original educational television model to work well in today’s teaching environment. The findings from this case provide important information for developing successful virtual field trips.

Figure 3 illustrates a conceptual model that incorporates the characteristics for a successful VFT. These characteristics were generated from the literature and the case study findings presented in this report. Inside the outer ring are potential modes of engagement for students in the VFT. These modes of engaging students in authentic learning experiences should increase as more technologies are developed or become accessible.

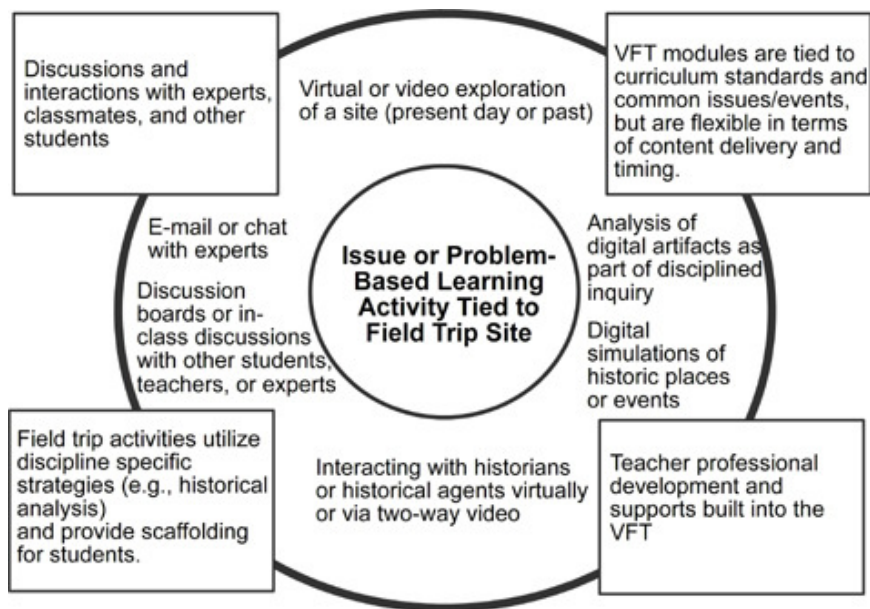


Figure 3. Conceptual model for authentic social studies VFTs.

1. In order to be used successfully with a larger audience of upper elementary, middle school, and high school classrooms, a model VFT module should be designed for use at various times over the course of the year, and at multiple times during the day. While the live broadcast of the Colonial Williamsburg EFT is powerful, it is impractical for many schools where teachers have little control over their schedules or curriculum.

By constructing modules that can be used year round, or in cycles throughout the year (e.g., a new version of the module begins monthly), a maximum number of teachers and students can experience the VFT. This flexibility in timing will also allow teachers to utilize the VFT in close concert with their curriculum, a key element identified by Noel (2007). A more flexible delivery system for the EFT modules will also resolve issues teachers face when their curriculum does not line up with the EFT broadcast dates.

2. Students and teachers benefit from scaffolding (students) and professional development (teachers) for VFT success. The VFT could include activities that will scaffold students into the VFT and training (either virtual or in person) and help sites for teachers to best take advantage of the VFT and related activities. Even if teachers are relatively technology literate in that they know how to access the online components of a VFT (e.g., email, Web activities), that does not necessarily mean they are prepared to help students fully engage in what they are learning from these activities, as is evident in the teacher survey responses.

The Colonial Williamsburg EFT program in this case includes an excellent curriculum, but it does not tie directly to the widely used live broadcast part of the EFT. The EFT has the potential to raise questions for students about persistent historical issues, but teachers were not provided a framework for helping students make sense of those issues by employing disciplinary inquiry, other than emailing or calling an expert ([Colonial Williamsburg Response 8](#)).

A better model of professional development for in-service or preservice teachers for field trip preparation is run by Historic Jamestowne for their traditional field trip program, which invites teachers to visit the site during the summer, meet with guides, and collect resources for planning pre-field-trip activities. A similar program could be successful for VFTs. (**Editor's Note:** URLs for each of these websites can be found in the [Resources](#) section at the end of this paper.)

Go North, a hybrid distance learning science and geography “adventure learning” program, similarly prepares teachers who want to use their program through workshops and online modules. These pre-field-trip experiences give teachers a chance to learn about the site, get a lay of the land, and have ideas for activities to center the visit. These types of activities will also help teachers to be more involved on the day of the field trip and less reliant on guides to do all of the intellectual work with the students. Teachers should be involved from the beginning in order to make the VFT a success, and not leave the learning up to the students and docent computer, as learning will likely not happen without teacher support.

3. Interactions with experts are important, but interactions between students and between students and experts are even better. An even more powerful scenario might include students engaging with students from other schools, as happens on many real field trips and in other virtual programs, such as the Deliberating in a Democracy and Go North programs. Student-to-student substantive conversation, facilitated by

experts and teachers is the best course to an authentic field trip experience (Newmann & Wehlage, 1995).

Professional development needs to be provided for teachers who may not be comfortable engaging their students using new technologies such as discussion boards in their classrooms, in open discussions of difficult issues (e.g., slavery), or in examining how the video portions of a VFT act as historical sources with values and perspectives from the present as well as the past. This professional development could be done via streaming video sessions, help sites, or through workshops. As technologies rapidly change and schools spend millions of dollars, this type of professional development as a form of teacher education is more important than ever in helping teachers utilize the technology effectively and needs to address curricular and pedagogical issues, not only technical ones.

4. Field trips need to be issue or problem based, and students need to be engaged actively in disciplinary (and disciplined) inquiry. Structuring the activity around a problem or issue and engaging students in using disciplined inquiry to investigate it is key to any authentic learning (Newmann & Wehlage, 1993; Shaffer & Resnick, 1999). The Colonial Williamsburg EFT program does a great job of raising issues during the broadcast, but does little to engage students directly in the intellectual work of coming up with answers or interpreting what they see. This occurs to some degree in other parts of the curriculum, but should be integrated as a whole for the best experience.

Quest Atlantis, a problem-based environment education simulation, is a great example of how students can be engaged in site-specific problem solving from a distance while also being engaged with experts and other students. There are numerous models for doing disciplined inquiry in the social studies (e.g., Levstik & Barton, 2001; Van Sledright, 2004) and some models of using online primary sources to engage students in problem-based learning (e.g., Historical Scene Investigation) that could be incorporated into a VFT experience for students.

The most challenging part of designing a successful VFT is developing a model that is flexible, well scaffolded, and connected to the curriculum. For this reason, many teachers are developing their own field trips (e.g., Wilson et al., 2000). Unfortunately, these VFTs lack the resources and production values of those like Colonial Williamsburg's program. Regardless of the delivery technologies used (e.g., video, digital simulation, chat, or discussion board), the heart of a successful VFT is student engagement in an issue or a problem and scaffolding. A better solution may be for virtual field trip producers to work more closely with teachers to develop sophisticated and authentic experiences for students that also align with curriculum standards and timing.

Implications for Social Studies Teacher Educators

The most important implication of this study for teacher educators and professional development personnel is to emphasize lifelong learning and to instill a desire to continue developing media literacy skills. Teacher educators and professional developers should instill the value of technologies in instruction among the teachers they work with, but also

should discuss the limits of technology. With media such as VFTs, teachers should serve as gatekeepers while facilitating academic engagement among their students. This work requires a careful integration of these media as part of the curriculum and a central emphasis on students' actively and authentically engaging the materials.

This case study of VFTs and the resulting model for designing and implementing VFTs highlights the need for teacher development, knowledge of media, and ability to actively engage students in higher order thinking and substantive conversation as part of these naturally motivating and technology rich activities. Without actively engaging in authentic VFTs, students will not gain the skills or knowledge that make these types of activities worthwhile, both academically and for the development of skills necessary for democratic citizens. Such skills include the ability to deliberate on important issues with experts and to use media in critical and productive ways.

For teachers, two frameworks may be useful in thinking through how to implement the VFTs. Newmann and Wehlege's (1993) model of authentic instruction (see also, Newmann, King, & Carmichael, 2007) is helpful, as the focus in this model is on what students are being asked to do intellectually as part of the field trip, from higher order thinking to substantive conversation. This focus on student intellectual work will help shift the notion of a VFT as a model for transmitting information to a more student-focused activity centered on building knowledge.

In addition, the technology, pedagogy, and content knowledge (TPACK) model (Mishra & Koehler, 2006) provides another possible framework for integrating VFTs. Hammond and Manfra (2009) offered a social-studies-centric TPACK approach for integrating technology that focuses pedagogical decisions on a spectrum of actions including giving, prompting, and making. VFTs entail a mixture of giving (i.e., students are given information in dynamic and active ways) and prompting (i.e., students are encouraged to dig deeper and think critically about places and events in history), and making (i.e., students are asked to apply what the knowledge they have produced in different forms). Together, these two models provide frameworks for integrating technology into pedagogy that keep the focus on context and on what students are being asked to do intellectually, with others, and with media in VFTs.

Conclusion

In this article, a critical case study of Colonial Williamsburg's EFT program, one of the most prominent and longlasting VFT programs, was used to develop a model for future social studies VFTs. This critique was situated within the literature, and ways to integrate VFTs for authentic social studies teaching and learning were offered. The case study revealed a number of key issues that arise in the development and execution of VFT programs. These findings should be helpful for teachers and program developers. In addition, teachers may find this model helpful for developing other types of curriculum that center around historical sites, events, or periods that involve digital media but are not specific to a field trip format.

One major finding from this study is the need for more teacher education around the use of VFTs to help make student learning more authentic and aligned with the disciplines of the social sciences. VFT developers need to work more closely with teachers to develop resources such as tutorials or training modules that deal with how to take advantage of field trip components to engage their students in authentic learning. Despite millions spent every year on technology in schools, there are still real needs for teachers to learn how to incorporate them into their teaching. As field trips have a prominent position among teachers of all generations, VFTs may serve as a gateway to engage those who are less prone to the use of technology to develop some skills and become more comfortable teaching with it.

It is unfortunate that in the current state of education in most states field trips are being cut from the curriculum, and students will not be able to feel the crisp sea air when visiting Boston Harbor, the sounds of the excited crowds when another artifact is pulled from the ground at the Historic Jamestowne archaeological dig site, or the view of Lake Champlain from the redoubts of Fort Ticonderoga. While not a true substitution, today's technologies provide some opportunities through VFTs to simulate these experiences, engage students in knowledge production and disciplined inquiry, and have interactions with the dedicated staff members from these historic sites ([Colonial Williamsburg Response 9](#)).

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Resources

Deliberating in a Democracy - <http://www.deliberating.org>

Fort Ticonderoga - <http://www.fort-ticonderoga.org>

Go North - <http://www.polarhusky.com>

Historic Jamestowne - <http://historicjamestowne.org> and
<http://www.nps.gov/colo/forteachers/planafieldtrip.htm>

Historical Scene Investigation - <http://www.wm.edu/hsi/>

Plimoth Plantation - <http://www.plimoth.org>)

Pathways to Freedom - <http://pathways.thinkport.org/following/>

Quest Atlantis - <http://atlantis.crlt.indiana.edu/>

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