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Effectively Using Presentation Technology in the History Classroom

Scott Louis Johnson
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ABSTRACT

Effectively Using Presentation Technology in the History Classroom

by

Scott Louis Johnson

M.A., University of Iowa, 1998

Doctoral Project Study Submitted in Fulfillment
of the Requirements for the Degree of
Doctor of Education
K-12 Teacher Leadership

Walden University
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Abstract

In spite of increased use of technology in the history classroom, the impact of technology remains low on student retention and comprehension of historical information. This project study examined the manner in which PowerPoint slides in history classes are formatted and the elements they contain for effective use. The literature related to best methods was reviewed to reveal practices that lead to the highest levels of comprehension and retention and how those practices could be implemented in PowerPoint presentations. This grounded theory study in the field of cognition and instruction centered on a high school that successfully implements technology in the history classroom. Qualitative data were obtained from interviews with 4 history teachers who used presentation technology on a regular basis and surveys that asked for both qualitative data and some limited quantitative data for demographic and background purposes of students and other teachers. Data from the study were viewed through the lens of schema theory. Findings indicated that bullets promoted memorization, and, as a result, information was placed in a narrative format. Findings also suggested the effectiveness of visual images and interactive activities and they were incorporated extensively. The project study's impact and the resulting implications for social change include increased retention and comprehension of history for students.

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Section 1:

The Problem

The push to raise standards and improve student performance in math and science has generated a great deal of media coverage and research. English education, especially in terms of reading and writing, has also been receiving that same kind of attention (Paxton, 2003). The one core subject area that continues to be relatively neglected, in terms of a real push by politicians to produce better results, is history education. As Professor Richard Paxton (2003) of the University of Wisconsin-Oshkosh wrote, “Scholarship on the teaching and learning of history is a relative academic upstart, all too often overshadowed by the much larger and more firmly entrenched fields of reading, writing, science, mathematics, and, yes, social studies research” (p. 272). Increasing numbers of teachers in upgraded 21st-century classrooms have begun using LCD projectors and PowerPoint. Although such technology has been placed in the hands of teachers, little training or instructional design on how to adapt the technology to particular academic subjects such as history or math has come with it. This is especially true of technology originally intended for use in the business world such as PowerPoint.

The history classroom has been and is being transformed by access to technology. Yet there is little literature on whether the change is necessarily positive in terms of improving student learning of the academic material. Indeed, in a relatively young field which has just emerged from politically charged debates over history content to debate what the best methodologies are, there are still many areas to be explored.

Rationale

The rationale for this project study rests on the evidence of the problem at both the local level and in the professional literature.

Evidence of the Problem at the Local Level

There has been widespread evidence of substandard test scores across all subject levels in the local district's public schools. That holds even in schools that have spent significant amounts of money on their technology initiatives (PSK12.com, 2010; Roberts, 2009) and have presentation technology available to students in every subject area and in most classrooms. The local public school district has had a composite ACT score for high school students of 17.3 for the most recent academic year and is receiving an F in social studies and science in comparison to the rest of the schools in the state, according to the latest "State Report Card on Schools."

Some private schools in the local area, however, have made effective use of presentation technology. One private school in the area, in particular, has become such a leader in the integration of technology into classrooms that its staff has hosted seminars and taught staff at other schools how to integrate technology into their classrooms. This school has high scores in comparison to the rest of the area and is saturated with technology, especially presentation technology (psk12.com, 2010), making it the ideal school to go to find out from teachers and students "what works" in technology saturated history classrooms. While the disparity in scores between this school and other schools in the area may have many causes, students and teachers at the high school in question can

provide positive insights on how presentation technology can be successfully integrated into the history classroom.

Private schools like this stand out, but the poor use of technology by most school systems, even when they have access to the equipment and software is unfortunately common across the country. In spite of the proliferation of 21st-century classrooms in more affluent school districts, history education in high schools in the United States has produced little in terms of student mastery of the basic facts of American history, according to recent results of the National Assessment of Educational Progress (2006). The 2006 NAEP results in U. S. history for 12th graders show that a majority of the nation's students, 53%, are not performing at or above the basic level. The "Basic Level" for 12th graders has been defined by the NAEP as follows: "Twelfth-grade students performing at the Basic Level should be able to identify the significance of many people, places, events, dates, ideas, and documents in U.S. history" (Lee & Weiss, 2007, p. 27). The basic level requires a simple and uncomplicated knowledge of fundamental facts and concepts in U.S. history. Although gains of 3% were made among the lower performing students in 2006, the 50% mark in terms of performing at or above grade level has not yet been reached. A number of newspaper surveys have indicated a "woeful ignorance of the national past by Americans with above average educational backgrounds" (McNeill, Kammen, & Craig, 1989, p. 275; Lehmann, 2010).

This problem, taken together with the NAEP results for the nation's 12th graders, a significant number of whom have attended college, indicate that a large number of students attending college do not even have a basic grasp of United States history,

making it difficult for any college class that assumes this knowledge is present to build upon it in greater depth. By logical extension, this pervasive ignorance of America's history, and history in general, has a wide array of negative effects, including a lack of willingness to participate in the political process, susceptibility to the most base forms of political advertising, and a feeling of disconnection with one's roots as an American and one's place in history (Lehmann, 2010; McNeill, Kammen, & Craig, 1989).

While the 2006 NAEP tests were being taken, technology had made its way into the history classroom in many schools across the country. The question is, Why is the technology enhanced method still so ineffective in increasing the retention and comprehension of history? This problem is complex and is rooted in the curricula that have been used, the methodology and technology that have been used to deliver them, and the changing ways in which the students who are participating in the curriculum approach and consume information. The attempts that have been made to solve the problem of the lack of retention and comprehension in the subject of history in general over the past 4 decades remain pertinent to the question of how to change the format of presentation technology to make it more "history friendly," because the two problems have the same cognitive theoretical foundations.

Evidence of the Problem in the Professional Literature

The literature in the field has documented the trends in the direction of poor performance in history comprehension and retention for some time. In the 1960s and 1970s a movement away from traditional history curricula and in the direction of a social sciences and current issues format called the "social studies" took place, resulting in a

fragmentation of the previous history curriculum and a reduction in requirements, especially in history courses (Bradley Commission on History in the Schools, 1989). This lack of emphasis on historical knowledge, along with poor methodology being employed by many teachers, led to a decline in basic historical knowledge among young people in the 1980s. In a 1987 survey of 11th graders,

One third of the students couldn't identify the Declaration of Independence as the document that marked the formal separation of the colonies from Great Britain, and, only 32 percent of the students surveyed could place the Civil War in the correct half century. (Davis, 1990, p. 10)

In 1989, The Bradley Commission on History in the Schools reported that 15% of students in America did not take any American history at all during their high school years and at least 50% did not take any Western Civilization or World history courses (p. 16). The effects on American history students were pronounced:

The surveys on historical illiteracy are beginning to numb: nearly one third of American 17-year-olds cannot even identify which countries the United States fought against in what war. One third have no idea what *Brown v. Board of Education* accomplished. One third thought Columbus reached the New World after 1750. Two thirds cannot correctly place the Civil War between 1850 and 1900. (Alter & Denworth, 1990, p. 1)

This information was a shock to many Americans, and political pressure caused changes to social studies.

During the 1990s and into the 21st century, efforts were made to reintegrate history into the core curricula of high schools across the country. The issue became a political football as the “history wars” of the 1990s erupted over what kind of emphasis was placed on what parts of the history content. The renewed focus on history content coincided with a movement to develop content standards and benchmarks across all disciplines. When content standards were developed in 1994 by a group of prominent historians led by UCLA’s Gary Nash and Charlotte Crabtree, there was an uproar among supporters of the more traditionalist conservative vision of history education. Lynne Cheney, for example, stated that important national personalities such as George Washington had been eradicated from these standards, and that the lack of emphasis on Washington and other founding fathers was purposefully and politically motivated (Nash, 1997; Wineburg, 2001; Wills, 2005). The 1996 Republican presidential candidate, Bob Dole, made political hay out of the issue in his campaign, calling those who would write such standards “worse than external enemies” (Wineburg, 2001, p. 4). Defenders of the standards responded that this more complex and less “heroic” depiction reflected the current consensus of the academic field on important characters such as George Washington and Abraham Lincoln and was a more accurate reflection of who they really were as people. The “history wars” of the 1990s caused a divergence over the content of history on a national level as two sets of standards were developed. Each was accused of emphasizing the content of American and World history with a progressive versus traditionalist bias.

What unfortunately was lost in this battle over content was that students still were not connecting with or effectively learning history, even though it had been reintroduced into the curriculum and history content rich social studies textbooks had been developed. In fact, there were no gains at all for high school students in U.S. history after the 1990s. As the NAEP results in 2001 showed:

In twelfth grade, at a time when students have usually completed their formal school studies of history, 57 percent fall below basic, an achievement level that denotes only partial mastery of significant historical knowledge and analytical skills. This finding duplicates exactly the awful results of the last U.S. History assessment in 1994. In no other subject assessed by NAEP do more than half of high school seniors register below basic. (Ravitch, 2002, p. 1)

The effects of this general ignorance of history among young people continue to be felt in the political arena, with an increasing amount of apathy among young voters, who were among lowest demographics in numbers when it came to voter turnout in national elections (Hebel, 2007). Fewer than half of those aged 18-24 voted in the presidential election in 2004, while nearly three quarters of those aged 55 and older voted (Hebel, 2007, p. 1). Reality shows on television have garnered much higher ratings than presidential debates (Bryant, 2005). In addition, it became apparent that the history content that students were learning, especially in the elementary grades was at times factually incorrect and Christopher Columbus myths (Singham, 2007) and George Washington myths (Rasmussen & Tilton, 1999) were being perpetuated and taught as

fact, and many textbooks contained inaccuracies and glossed over the darker chapters of American history, a realization that was popularized by the book, *Lies My Teachers Told Me* (Loewen, 1995).

Since the textbooks were once again content rich, but little progress in historical knowledge had taken place since its first measurement in 1994, it was obvious to serious academic researchers that the problem was deeper and more complex than just the content the students were being asked to learn. Indeed, the “history wars” over the precise political slant of that content did little to help young people learn more history. One prominent researcher who advocated the use of more primary sources as opposed to secondary sources in the history classroom posited that instead of focusing on “which history” should be learned the focus should have been on “why students should learn history” (Wineburg, 2001). History content should not be a political football featuring battles over the particular slant or interpretation of events. The focus should instead be how history can be more effectively related to students to allow them to more easily comprehend and retain the material.

The 21st-century classroom has a great deal to offer in terms of content delivery, and the traditional method of basing the class out of the textbook does not take advantage of the many resources now available to teachers. A shift towards reforming the methodology in history classrooms has occurred after the “history wars” because the amount of historical knowledge that stayed with the students who sat through several years of content rich high school history did not change much, according to the previously mentioned NAEP test results in 2006. Even in the technology rich present day,

with the many methodologies that have been made available to history teachers, most history teachers still use the traditional “teach from the textbook” method (Wiersema, 2008).

Definitions

Definitions for two terms used in this project study are needed because they are not commonly used outside the fields of technology education or social studies education. This makes the project study and its findings more accessible and usable to any who might want to make use of its findings.

Presentation technology: This encompasses many different types of software that are used to present information – generally in a slide format. The most popular of the presentation technologies available to the public is PowerPoint, a product of Microsoft Corporation.

Historical narrative: Historical information that is presented in a story format, causing increased interest from readers outside the field.

Significance

The use of PowerPoint on LCD projectors is becoming more dominant in American history classrooms (Slowik, 2004) as the first means of introducing technology into the classroom. This significant new step forward in changing the history curriculum coincides with a move by President Obama to seriously invest in school infrastructure across the country in his push to create computer saturated “21st-century schools” (Allen & Martin, 2008). The potential for social change, when more of America’s young people

understand and remember the story of their people, is enormous--especially when one considers the positive impact their vote in more significant numbers alone has made in the 2008 presidential election and could make in future elections. A new paradigm for a prototype American history PowerPoint curriculum as a starting point is what this project study will focus on.

Guiding/Research Question

The guiding question for this project study was, “How can presentation technology be more effectively adapted to the history classroom?” Although PowerPoint has been implemented in the history classroom, it likely has simply not been implemented effectively. Past research on this problem is sparse. Athanasopoulos (2004) found that the use of multimedia such as images, audio clips, and video clips caused students to get more meaning out of the presentation and that they were then more willing to go back to the textbook for more detail. Stephens et al. (2005) found that multimedia presentations such as the Digital History Project made historical learning more “content-rich and inquiry-based” (p. 151). These are important steps towards a better format for history presentation slides, but they are not a workable model in and of themselves because they did not attack the problem of how to best display the information on the slide. There was also little basis in cognitive theory for the overall slide design. This informed the creation of central questions from the guiding research question that became central to the study such as “What new innovations of the presentation technology’s uses and functions would be most beneficial in increasing student retention of the material and

why?” and, “What new innovations of the presentation technology’s functions would be most beneficial in increasing student comprehension of the material and why?”

Review of the Literature

A thorough review of the literature on history education must include a more detailed summary of the “history wars” of the 1990s. The *National Standards for United States History: Exploring the American Experience* (Nash & Crabtree, 1994) was put together from the work of a very large body of scholars under the direction of Nash and Crabtree (1994) of UCLA. They were not adopted, however, after the bitter debate over their contents began when Lynne Cheney and conservatives attacked the standards as too revisionist and lacking enough emphasis on important icons of American history like George Washington. In the “*Great American History War of 1994-95*” (Nash, 1997) this debate began in the following way:

Even before the release of the National Standards for United States History, the report swirled in a storm of controversy in the media, which peaked with an attack in the Wall Street Journal by Lynne Cheney, former chairperson of the National Endowment for the Humanities in the Reagan and Bush administrations. Cheney charged that the standards were a loaded document whose "authors save their unqualified admiration for people, places, and events that are politically correct," and that the standards offered heavy doses of multiculturalism and obsession with such things as McCarthyism (19 references), racism (the Ku Klux Klan is

mentioned 17 times), and mistreatment of indigenous peoples but give little attention to some of the core developments and figures of American history. (Evans & Pang, 1995, p. 118)

Nash responded by characterizing the reports as unfair and heavily biased. He went largely unheard, however, as conservative commentators like Rush Limbaugh (as quoted in Evans & Pang, 1995) jumped into the fray with comments like

What? . . . history is an exploration? Let me tell you something folks. History is real simple. You know what history is? It's what happened. It's no more. . . . The problem you get into is when guys like this [Gary Nash, the principal author] try to skew history by, "Well, let's interpret what happened because maybe we don't find the truth in the facts, or at least we don't like the truth as it's presented. So let's change the interpretation a little bit so that it will be the way we wished it were." Well, that's not what history is. History is what happened, and history ought to be nothing more than the quest to find out what happened. Now, if you want to get into why what happened, that's probably valid too, but why what happened shouldn't have much of anything to do with what happened? (pp. 118-119)

Nash (1995) responded to these arguments with his own analysis of the situation, which sought an explanation for the attacks by Cheney and Limbaugh:

What is really behind the nose-counting Cheney-Limbaugh attack is their anger at a set of standards that is not celebratory enough. Cheney finds

distasteful that students should study the KKK--once in the 1870s when it originated (134) [refers to page numbers in the National Standards for United States History] and again in the 1920s when it gained momentum (178-9). This puts U.S. history in a gloomy light. The only other example she cites in excoriating the "grim and gloomy" standards is McCarthyism (214-15). Indeed, the KKK is grim, and McCarthyism did involve corrosive innuendo that ruined the reputations of many Americans. These are gloomy episodes in American history. But will not American students be uplifted and enlivened in studying how most Americans put the KKK and McCarthyism behind them, understanding that by fighting back against movements that attacked our nation's founding ideals Americans defended democracy when it was being compromised? (p. 459)

In his defense of the standards, Nash (1995) stated that the real reason that the conservative right was upset was because the standards were not celebratory or triumphalist enough. The standards that Nash and his colleagues developed were honest about the darker chapters of American history but maintained a balanced approach. The approach that Nash and his colleagues took bothered national figures like Limbaugh and Cheney, who thought that to make students proud of their country, American history and its protagonists must be presented in a more heroic light. Nash went on to point out that this tactic is often used by dictatorships when they propagandize their own history and that the mark of a

free society is its ability to be honest about its own failings without becoming overly critical:

Authoritarian governments do not permit history textbooks or curricular frameworks that face dark chapters of their national history or tragic mistakes in their past. Authoritarian governments dictate relentlessly nationalistic history. Democracies, on the contrary, put their faith in an educated citizenry; they believe that by facing history directly and learning from the dark as well as the shining episodes of the past young people are best equipped to pass a reform-minded and resilient democracy along to their own children. The Cheney-Limbaugh attack calls for a sunny-faced, hero-driven history but such a set of standards would place this country's history education in the company of those of authoritarian regimes. (p. 459)

In spite of the seemingly counterproductive silliness of continuing such a debate after Nash's eloquent response (Adomanis, 1995), it has continued to rage in the political and academic arena sporadically up to the present. As recently as 2006, then Florida Governor Jeb Bush signed the Omnibus Education Bill, which banned historical interpretation in the classroom by stating "history shall be viewed as factual, not constructed" (Immerwahr, 2008, p. 199). This version of the bill was less harsh than the original version of the bill, which would have mandated that history in Florida's public schools "not follow the revisionist or postmodernist viewpoints of relative truth"

(Immerwahr, 2008, p. 199). The conflict was no less disconcerting to professional historians and history teachers, who realize that there are many debated points in history and far fewer undeniable “facts” than one might imagine.

When the emphasis in the field shifted from conflicts over content to pedagogy, that became an arena for a more healthy scholarly debate that was largely, with few exceptions, (Immerwahr, 2008) left to the academic community. The field of history pedagogy came into existence a long time ago, but a large variety of methods and the development of varied schools of thought is a recent development. There is, however, still no consensus of what the correct collection of “best practices” really are, either in the profession or in the public at large. As Paxton (2003) wrote,

Among adults, there is no general agreement about how to teach history.

Some suggest that holding students accountable for a set list of “essential” names, phrases, dates, and concepts is the best approach. Others advocate a quite different course of study, in which students mimic the work of historians, engaging in authentic problems through the use of primary and secondary historical sources. In fact, the manner in which young people come to understand the past has been given surprisingly little empirical attention. (p. 272)

The fact that the conversation over history methodology has just started in earnest in the last several decades means that the average teacher still has not been able to assimilate all of the advances that have been made. Indeed, a young field with varied meritorious pedagogical methods only exacerbates the problem facing the average history

teacher, who seems to be unsure how to employ them all and what order to employ them in. Thus, most history teachers do a little innovating, but mostly rely on the most common pedagogical method for transmitting historical information to students that has been employed for decades and is still employed widely today: to lecture from the textbook and to assign reading and workbook assignments from the textbook (Wiersema, 2008). Further studies have found that “67 to 90 percent of classroom instruction is structured around the textbook” (Myers & Savage, 2005, p. 18), which in essence means that the most traditional method is still the most common method and that is to lecture from the textbook and to use the provided worksheets and tests that the textbook companies produce. The 1994-2006 National Assessment of Educational Progress test results in U.S. history and many anecdotal pieces of evidence from the literature suggest that this, by itself, is a failed strategy. In addition, history gets reduced to factoids in many history textbooks or at least in their worksheets because they use a purely expository approach and as a result, the powerful drama of many events and the cause and effect relationships that make history interesting are lost (Sewall, 1987). “Many students see history as a series of isolated facts and are rarely able to discern reasons for decisions taken by national leaders or groups of people.” (Harniss, Caros, & Gersten, 2007, p. 101) The assemblage of a “list of facts to know” leads to memorization in short-term memory, which is quickly forgotten after the test, quiz, or worksheet is complete.

American high school students have changed as well in the past couple of decades. Students are affected by the world they grow up in, and there is mounting evidence to suggest that today’s typical high school student has a reduced attention span.

Students seem to be addicted to multimedia, and they seemed hardwired to a “multi-task lite” (Elias, 2005) mode of thinking. The literature suggests that they do not learn well from textbooks due to the textbooks’ lack of the constant media such as video and audio images that they spend their spare time consuming. It may be that the daunting “media desert” of mere paragraphs on a page causes a lack of motivation in students related to textbook learning because students have grown up in the “video-game age,” and to a certain extent, expect to be entertained. Textbooks, it may be, are just not seen as entertaining. Some researchers are hesitant to draw a direct link between the multimedia age and students ability to concentrate in school (Hede, 2002), while others such as British neuroscientist, Dr. Susan Greenfield (2008), have seen cause for real alarm.

Greenfield wrote,

The surrounding environment has a huge impact both on the way our brains develop and how that brain is transformed into a unique human mind. The pace of change in the outside environment and in the development of new technologies has increased dramatically. Our brains are under the influence of an ever-expanding world of new technology: multichannel television, video games, MP3 players, the internet, wireless networks, Bluetooth links.... Electronic devices have an impact on the micro-cellular structure and complex biochemistry of our brains. And that, in turn, affects our personality, our behaviour and our characteristics. In short, the modern world could well be altering our human identity. Already, it's pretty clear that the screen-based, two dimensional world that so many teenagers - and a growing number of adults - choose to inhabit is

producing changes in behaviour. Attention spans are shorter, personal communication skills are reduced and there's a marked reduction in the ability to think abstractly. (p. 2)

Greenfield's (2008) findings indicate that growing up in a world full of electronic devices may alter how students' minds work in terms of gathering and learning information. In addition, there is less patience on the part of the learner for non-entertaining activities, and books are not seen as either entertaining or a valuable source of information for learning new ideas since students experience "sensory deprivation" (Gozzi, 1995, p. 1). Textbooks often lack the visual and audio stimuli that can be found on television and computers (Gozzi, 1995). Textbook manufacturers have added quite a few pictures and sidebars to their texts, but this still does not seem to make textbooks (especially history textbooks) any more appealing to students (Sewall, 1998). When this is combined with the earlier criticisms of textbook/worksheet based learning as simple memorization and regurgitation for the most part, it is not hard to see why some researchers are stating that the dislike of history due to textbook-centered learning goes back to the upper elementary school years (Hornstein, 1990), during which time students are taught to read from textbooks, do worksheets and regurgitate information. Not only are there no media, there is also no engagement with the controversies of history, and "few children (or adults for that matter) would choose to engage in such activities" (Hornstein, 1990, p. 29). As a result of the complete lack of multimedia that students are used to and these bad experiences with memorization and worksheets in school, the subject of history and by extension textbooks in general, may not be a part of what

students see as their “quality world” (Glasser, 1999). This creates motivational problems that turn some assignments and even some entire curriculums on their heads because students will not or cannot bring themselves to read the textbook the way it needs to be read for learning to take place, even if they are taught how to do it (Cervone, 1983; Palmer, Smith & Davis, 1988; Villano, 2005).

Even when textbooks are reformed with the addition of primary sources, images and narrative, the activities that often come with them that teachers use are a problem as well. The worksheets and crosswords and multiple-choice quizzes have a tendency to boil history down to a list of easily memorized facts, which are then quickly forgotten (Miller & Stearns, 1995; Warren, 2007). For a very long time, there has been almost universal agreement in the literature that the old “memorize important facts by rote” method simply does not work very well (Harrington, 1884; Paxton & Wineburg, 2000; Robbins & Robertson, 1990) despite, again, the fact that this traditional method is still the most widely used method today (Wiersema, 2008). Academic professionals in the field have recognized this and as a result, the amount of literature in the field of history education on methodology has grown considerably since the “history wars” over content in the 1990s subsided. As the emphasis in the field became focused on pedagogy, several schools of thought have emerged on successful methodologies that have produced results.

The early history of history education focused on the outline of the content to be learned and, with occasional exceptions like Dewey, there was a consensus that a certain list of important facts needed to be “drilled into students heads,” making history textbooks a dry collection of facts until the 1960s and 1970s, when the “social studies

movement” caused a shift in focus to other important areas in the social sciences. Even though this did reduce the amount of history students were exposed to or crammed the history into a shorter span of class time, it was a part of the reform that looked to introduce more skill based activities into history and the other social sciences, and not simply to focus on content alone. Professional historians, on the other hand, have long observed that the textbooks themselves have to be rewritten to be less fact driven and more in the form of a narrative, which has a plotline that allows students to follow the story of history, along a chain of cause and effect that makes logical sense (Immerwahr, 2008). As a matter of fact, many popular history books written by historians follow the narrative format. Discrete facts from abstract expository passages in history textbooks (the majority of textbooks have used this structure) have been seen as counterproductive to the learning process because they do not lend themselves well to establishing a chain of cause and effect (Ciardiello, 2002). Such facts by themselves are disconnected from the “story of history” and are easily memorized and forgotten (Immerwahr, 2008; Paxton & Wineburg, 2000). Textbooks came under considerable criticism for perpetuating this trend in history education because they were “overly abstract, dense, dull and superficial” (McGraw, 1991, p. 4). To some extent American history textbooks themselves have been reformed by writers like former Stanford Professor of History, Thomas A. Bailey, whose narrative style has been found by students and teachers alike to be much more engaging (Deconde, 1987) and whose textbook, *The American Pageant* (Bailey, 1971), which is, as of 2011 still in its 14th edition (Kennedy, Cohen & Bailey, 2008), has become the standard textbook in advanced placement U.S. History courses and non-AP

courses alike (Deconde, 1987; New, 1990). Narrative history has also had its share of critics who see it as unable to give students the ability to do many higher order thinking tasks, which should be a part of a history curriculum (Karras, 1991). To avoid this pitfall, students must engage the narrative and draw out meaning, which promotes greatly increased comprehension (Immerwahr, 2008). The narrative presents a coherent story with limited detail and serves as a platform or a springboard from which a teacher can use as a means of merely touching upon a topic briefly or launch into a much more detailed narrative or constructivist lesson plan at his or her discretion, depending upon time constraints.

The use of historical narrative as a method for packaging history is also supported by the widely accepted cognitive theory known as schema theory which sees the mind's process of creating "schema scripts" as analogous to narrative text structure, making this type of text more memorable to students (Emerson, 1996), especially if it is full of suspense (Ohler & Nieding, 1996) The heavier involvement of the imagination and as a result the higher emotional value and mind generated images attached to the narrative text by students creates a higher likelihood according to cognitive theory that the events will be remembered as well (Paas, Renkl, & Sweller, 2004; Schillinger, 2007).

An early school of thought in history education methodology for concentrating on narrative and "bringing history to life" that draws upon the power of narrative in the oral sense rather than the written sense is a very successful strategy known as storytelling (Common, 1987; Emerson, 1996; Sanchez & Mills, 2005). Teachers who use storytelling as a strategy for American history "can relate to students the excitement, paradox, and

importance of the adventure story that constitutes American history” (Sanchez & Mills, 2005, p. 274). This method requires a teacher who can master the art of storytelling which requires emotional affect, and the ability to present character and plot and create suspense, but it creates “huge payoffs” (Sanchez & Mills, 2005, p. 274) as students automatically form the sights and sounds to go with the story in their mind’s eye with their imagination. Anecdotal evidence of the success of the storytelling strategy is backed by research relating schema theory to the storytelling method as well. Emerson (1996) conducted an in-depth study of how the method of storytelling plays into the mind’s natural schema based processes for remembering information. According to Emerson, the mind uses story scripts from a very early stage to remember sequences of events. These scripts become the architecture that later turns into “story schema” (Emerson, 1996, pp. 54-60), a great deal of which when connected with the sensory inputs of sight, sound, smell and taste, form the schemata (schema webs) of long-term memory. Storytelling plays into this process because, drawing upon the mind’s natural tendency to follow plotlines, it presents a plotline which ignites the imagination (which is already connected to prior experience stored in long-term memory). The mind naturally tries to predict the plot and when unexpected twists and turns take place the plotline is even more likely to find its way into students’ long-term memory (Emerson 1996). Story-telling also involves the emotions, suspense, and drama for the listener, who as a result develops empathy with the characters in the story. This method is a favorite learning method for younger students at the pre-elementary and elementary school levels, who are often held in rapt attention during the telling of a story (Cryan-Lewicke, 1991) because it fits so well with

how the mind naturally works. This continues to be the case, even as the mind matures and develops further capabilities as students grow older (Emerson, 1996). There is a significant amount of evidence that storytelling directly supports the transition of history from working memory into the long-term memory schema web by its very structure (Emerson, 1996). Storytelling naturally stimulates the brain to put the events into long-term memory schema as it does with any other real life event that involves suspense and emotion (Emerson, 1996; Sanchez & Mills, 2005). As a matter of fact, history itself shows that story-telling has been one of the most commonly used forms of effectively transmitting information in the history of the world. For many thousands of years of prehistory before the invention of writing, it was the only method. When ancient lake dwellers sat around fires and told stories and tribes transmitted oral traditions from one generation to another they were using this strategy, they just did not realize how well supported it would be as an effective teaching strategy by cognitive theory thousands of years later.

Another loosely grouped school of thought in history education methodology that took a different approach to content delivery than textbook or “stand and deliver” teacher-centered methods was the experiential learning methodologies (Byerly, 2001) movement, which included “hands-on” experiential student centered methods and the cooperative learning method. Experiential learning has also been termed “active learning” (Brill, 1996; Frederick, 1991) and has included cooperative and project based learning (Diffily, 2002; Ferretti & Okolo, 1996; Gültekin, 2005; Haggerty, 1972, Lambert, 1997; Vocke, 1992), classroom simulations (Menton, 1994) such as mock trial

simulations (Beck, 1999; Sanchez, 2006), role playing dramatizations (Chilcoat, 1989; Drake & Corbin, Howlett, 2007; Pattiz, 2005; Turner, 1985), and wargames (Burenheide, 2007), with some researchers even going as far as to suggest that history-based video games be used as a pedagogical tool (Hutchison, 2007).

Project-based learning allowed for more kinesthetic and tactile hands on experiences and resulted in the creation of many different types of demonstrations of student knowledge about a subject, while allowing for freedom of expression as well. Cooperative learning in the history classroom was found to have the advantage of social interaction and mutual discovery, both of which made learning more fun and more memorable for students (Haggerty, 1972; Vocke, 1992).

Further innovation along these lines led to the introduction of classroom drama and role playing (Morris, 2001; Turner, 1985) into the history curriculum in the form of classroom simulations which were very effective strategies for engaging students in history and helping them to comprehend, rather than just remember history content. This was because the classroom simulation's interactive nature produced so many sensory inputs, that it became easy for the mind to transfer the experience and the history that was a part of it into long-term memory schema. As Sanchez (2006) stated, "As an effective teaching strategy, the simulation can be a powerful instrument for engaging students in the learning process, and there is solid support to document its effectiveness" (p. 62). Simulations can include but certainly are not limited to mock trials, interactive war-games, history mysteries, stock market simulations, spy simulations, controversial topic debates (Dalton, 2005), United Nations simulations and newspaper/magazine staff

simulations. These activities are “especially effective with younger learners, who frequently require a concrete reference to make sense of complex concepts” (Sanchez, 2006, p. 62), but they are also effective with older learners as well for the same reasons. Students in a simulation such as a mock trial are not only placed within the roles of those who were there and are immersed in the details and decisions that those individuals faced, but they must also build and argue a case from the evidence which engages them in a great deal of higher order critical thinking. Students find the history much more interesting when they have had to face the same dilemmas that a historical figure faced. They also have fun doing so and this increases their “love of history.” Sanchez himself described the use of the famous trial that resulted from the Triangle shirtwaist fire and how it could be used as a classroom mock trial simulation. Sanchez showed how students found the history of that event much more interesting and easy to understand when they were put in the position of either prosecuting or defending the two factory owners.

Another type of classroom simulation is the wargame. Originally, wargames developed completely independently of the history classroom, but their applicability and their potential as a powerful tool of applied history has given them appeal as another classroom simulation that produces results (Burenheide, 2007). Students involved in a wargame have to strategize, use diplomacy, and attempt to get events to turn out in their favor. Classroom projects and simulations have become some of the most memorable events that students participate in when they take a history class, because they appeal to multiple intelligences and involve problem solving and analytical thinking (Morris, 2001). This, and the fact that they allow for alternative forms of assessment like authentic

assessment, has made them a powerful pedagogical tool. Scholars have used schema theory as a basis to prove the effectiveness of various experiential and active learning techniques that can be categorized as cooperative learning (Byerly, 1996; Duis, 1996; Lehman, 1996) and they closely model the experiential learning Dewey held as the greatest of pedagogical tools (Dewey, 1933).

Another school of thought in history education methodology that shares many ideas with Robert Gagne's instructional design movement (Richey, 2000) has been the central questions or "big questions" school of thought, which seeks to form history units around questions of meaning that engage students (Barton & Levstik, 1997; Ednacott, 2005; Onsko, 1992; Seixas, 1997). In this method of designing history units, students are presented with a problem that calls for higher order or critical thinking, usually posed in the form of a central question. They are then presented with a "hook" to interest them in the material and are then presented with the historical material in rich detail and a culminating activity from which they can deduce the answer to the central question posed to them at the beginning of the unit (Onosko, 1991). As a result of finding the answers to these central questions, some events start to have more significance than others and students can construct their own maps of historical significance as they engage historical details and events (Barton & Levstik, 1997). Some central questions speak to concepts in human history like freedom, political legitimacy, economic stability, and others and these concepts can be found in multiple units as recurring themes within history – even relating to current events to a certain degree (Ednacott, 2005; Simons & La Potin, 1992; Twyman, McCleery & Tindal, 2006). These concepts that are recurring sources of problems within

history can make history relevant and meaningful to students who otherwise would have no use for the past (McTighe, Seif & Wiggins, 2004). The movement towards concepts and central questions in history units has led to the production of thematic history units such as units on the “Civil Rights Movement” or the “Cold War” or “The Feminist Movement” which may coincide or overlap chronologically, but are bound by a common set of ideas and can be designed to give students the power to answer a central set of questions (Richburg, Harward & Steinkamp, 2000; White, 1995). These units often use graphic organizers to create an organizational chart of ideas that places them within a certain hierarchy, showing how concepts are related to each other and to historical events (Bean, Sorter, Singer & Frazee, 1986; Horton, Lovitt & Bergerud, 1990; Wilson, 2007). One important aspect of schema theory that the concepts or central ideas methodological approach lends itself particularly well to is the activation of prior knowledge and the connection of historical events to existing schema using the related concepts approach (Torney-Purta, 1991).

Another school of thought that has emerged recently, largely due to the influence of Professor Samuel Wineburg of Stanford University, is the primary sources and historical thinking movement, which seeks to have students engage in higher order thinking by having them “construct history” from the primary sources that historians use to put together their secondary source accounts such as textbooks (Barton, 2005; Fehn & Koeppen, 1998; Wineburg, 2001; Wineburg & Martin, 2004). Such instruction gets students to think critically about history because they see that the process of constructing history is difficult and full of ambiguities (Wineburg, 2001). The historiography or

debates in the field of history over the correct interpretation of the primary sources, are also illuminating to students as they begin to realize that history is not a series of facts to be memorized, but is a field full of uncertainty and disagreement (Wrobel, 2008).

Wineburg, who has become the clear leader of this school of thought, emphasized the critical thinking that students do when they compare and contrast varying primary sources, each with its own bias and point of view, in an attempt to come up with a complete picture of what likely happened. This process is what Wineburg has termed historical thinking, and it is a skill set that benefits the student far beyond the history classroom, with transferable research and analytical skills that apply to many other academic fields (Wineburg, 2007).

This movement has enjoyed strong support from historians and educators alike and has become the most recent primary vehicle of reforming methodology in history classes across the country. When a student reads a textbook statement such as “Lincoln believed that the slaves should be eventually freed,” Wineburg (2001) argued that students reading textbooks don’t see the complexity of Lincoln’s mix of carefully crafted political position and personal conviction or the intricate logical arguments that that statement summarizes from his battles with Stephen Douglas. If they were to read selected passages from personal correspondence with friends, and then some from some of his some of his speeches, and especially some of the Lincoln-Douglas debates, as he was on the campaign trail against Stephen Douglas, a much more complex picture emerges and students have to ask themselves why they see Lincoln saying two almost completely opposite things at various times. If these same students actually looked at the

text of the Emancipation Proclamation instead of reading a summary of it, they would have realized that Lincoln only freed the slaves in the rebelling southern states (which at the time he had little power to do), and not in the border states that were still in the Union. This almost certainly would have raised the question, “Why would he do this?” What before was a bland summary statement out of a textbook devoid of much real interest suddenly became interesting and students were engaged, because there was a mystery that needed to be unravelled (Barton, 2005). After students looked at the primary sources, they may have seen their textbook as biased in one direction or another because the textbook left out a certain point that is clear in the primary texts or glosses over some events altogether, and as they see the bias that historians and the primary sources themselves have when they do their own analysis (rather than relying on someone else’s account – complete with its particular biases) their understanding of history becomes more mature, complex and rich as a result. As Wineburg (2001) wrote,

The call to “understand the bias” of a source is quite common in the reflective writings of historians.... The literal text is only the shell of the text comprehended by historians. Texts come, not to convey information, to tell stories, or even to set the record straight. Instead they are slippery, cagey, and protean, reflecting the uncertainty and disingenuity of the real world. Texts emerge as “speech acts” social interactions set down on paper that can be understood only by reconstructing the social context in which they occurred. The comprehension of text reaches beyond words and phrases to embrace intention, motive, purpose, and plan – the same set of concepts we use to decipher human action. (p. 63)

Primary source analysis has become widely accepted as one of the most important components of history education, and entities like the National Archives and Records Administration have promoted efforts like the *Our Documents* campaign to get primary source analysis into history classrooms across the country.

There are two ways to integrate primary sources. They can be integrated as a part of an in depth research activity that takes a number of class days such as a paper and requires a great deal of time and energy or they can be integrated in small excerpts that enrich class lecture/ discussions. Professional historians are expert researchers themselves and this goes to the heart of the profession.

Most professional historians use complex acts of reconstruction to understand the past, examining fragmented and sometimes contradictory facts for evidence of trustworthiness, viewing documents as artifacts shaped by the events of specific time periods, and representing interpretations of contextually bound events. (De La Paz, 2005, p. 139)

Students can come closer to gaining this level of complexity in their thinking by engaging in research, and by writing persuasive essays and research papers (De La Paz, 2005; Dicke, 2007) or doing research projects, such as the popular and nationally prominent National History Day projects (Scheuerell, 2007). Writing and creating such products are absolutely essential experiences because they go to the heart of what historians do when they construct history, and students must think critically.

The latest school of thought in history education relates to the introduction of technology into the history classroom. The first attempts to discuss the integration of

technology into the history classroom centered on the resources that could be made available to students via CD-ROM or the internet. The Library of Congress (Chen & Fales, 1997), the National Archives and Records Administration (Potter, 2003) and specific sites dealing with specific topics in history (Bolic & McGlenn, 2004; Downs & Rakestraw, Ferrarini & Calhoun, 2007; 1997; Olwell, 1999; Shawhan, 1997) were all explored online as ways of expanding the resources available to teachers and students for use in the history classroom and there were predictions of a utopia that would be created by computers in the history classroom or a disaster that would ensue as students completely lost their bearings (Bass & Rosenzweig, 2001). Neither happened as the growing field of technology in the history classroom then moved towards inquiry based learning through computer simulations and archives, the placement of student work on the web, and the promotion of literacy in the history classroom through online reading and writing activities (Bass & Rosenzweig, 2001). Teachers were provided with alternatives to the textbook online (Schrum & Rosenzweig, 2001) as well. The focus in the field then shifted towards the enhancement of the teacher presentation with images (Blackey, 2005; Coohill, 2006) such as maps (Bednarz, Acheson, & Bednarz, 2006), visual presentation technology (Stephens et al, 2005) such as PowerPoint containing images (Fehn, 2007), audio technology (Lipscomb, Guenther, & McLeod, 2007) and audiovisual multimedia presentations (Hoover, 2006). Face-to-face communication over long distances via virtual field trips (Naik & Teelock, 2006; Risinger, 2005) and videoconferencing (Sainte-Marie, 1999) also became a focus and the field continues to

explore how technology that first came into use in the business world (i.e., PowerPoint and videoconferencing) can also be applied to the history classroom.

Research is also pointing out how history classrooms can have students create their own versions of recent phenomena in the mass media such as blogs (Risinger, 2006) and digital documentaries (Ferster, Hammond & Bull, 2006) to enhance their comprehension and retention of history. Schema theorists report significant increases in transfer of content to long-term memory schemata when audiovisual multimedia presentations are used in the classroom (Paas, Renkl, & Sweller, 2004). Researchers on the effects of media rich PowerPoint presentations point to students gaining more meaning from the lecture/discussion (Athanasopoulos, 2004). Critics have warned, however, that if the history classroom becomes too concept oriented or image and audio-visually based then it tends to completely ignore the textbook and promote trends towards illiteracy, rather than bringing a comprehensive, reading based solution to the problems facing history education (Wineburg, 2006; Wineburg, Reisman, & Fogo, 2007).

The problem of how to bring the history classroom into the 21st century in an effective manner that promotes retention and comprehension of the material is a complex one. The literature, while it does speak to the effectiveness of images and other multimedia in PowerPoint presentations in the classroom, does not speak to how to use multimedia presentations and promote literacy at the same time. There is also a gap in the literature as to how to incorporate the technology saturated classroom with other methodologies that have proven successful such as primary source analysis, storytelling, and cooperative/experiential learning.

Implications

A new history curriculum paradigm and its prototype base, a PowerPoint project, could have several possible effects on the future of the field of technology in history education. To avoid the repetition of the same mistakes the textbook makers and filmstrip makers often made, it needed to get away from rote memorization of “factoids” and move towards a more narrative approach. Being a curriculum that is ready to be used in the classroom, it could serve as an experimental model that could be modified further as more possibilities for making use of presentation software like PowerPoint are created by teacher leaders. It could also influence textbook companies to alter the way in which they create and sell PowerPoint presentations in their curriculum. PowerPoint alone is not the answer, but it can serve as a base that organizes historical information to which other methodologies such as storytelling, central questions, experiential learning, and primary source analysis will need to be included to create an environment in which the increased retention and comprehension of history occurs in the “21st century classroom.” Future research could center on how all of these methodologies could be most effectively inserted into the base provided by a piece of PowerPoint to maximize student comprehension and retention of historical material and as the capabilities of the technology change, further research will be needed on how it can be best adapted to the learning of history.

Summary

Knowledge of history remains one of the consistently lowest performing areas for American students despite several waves of reform. President Obama has made the

modernization of the nation's public school classrooms a priority. Current usage of PowerPoint technology does not seem to have a major impact on the continued improvement of learning in a local school district. Teachers have innovated and have found ways to make PowerPoint a useful learning tool in their classrooms, but their ideas have not been pooled and implemented with a cognitive theory based instructional design in mind. Thus, teachers are forced either to rely on the textbook entirely or in part or have the Herculean task before them of coming up with an entirely new curriculum that has all of the correct elements in the right order. Few have the time or energy outside of school to invent an entire history curriculum that will ignite the imagination of students. Yet there is a significant amount of evidence that growing up in the electronic age has altered how young people consume, retain and understand information. A project that explores how a powerful tool like PowerPoint, which is likely to be used in most 21st-century classrooms, could be specifically designed to maximize long-term comprehension and retention of history would be useful so that history units can be better adapted to the subject and to students' needs and favored learning styles.

Section 2:

The Methodology

Introduction

The ultimate goal of this project study was to produce a new method or paradigm for how best to instructionally design presentation technology slides around the material found in the subject of history. The main research question was, “How can presentation technology be more effectively adapted to the history classroom?” Its answer required a series of improvements that could be added to a history PowerPoint presentation. Since the majority of the useful data from the research was in-depth answers to open-ended interview and survey questions and difficult to measure on a scale, the research design paradigm for this project study was a qualitative case study. This enabled the gathering of highly-detailed, “best practice,” mostly open-ended data and ideas from teacher-practitioners who were already using PowerPoint in the history classroom.

This study was a grounded theory qualitative case study centered on the transformation of presentation technology using the observations of teachers, especially, and students. Nested within the larger case study was a smaller, descriptive, non-experimental quantitative component. The quantitative component of this study provided baseline data for the current use and consumption of presentation technology by the study’s teachers and students, thereby giving the qualitative case study an appropriate data-based backdrop. The quantitative component measured basic demographic characteristics of the population, attitudes towards technology, and which components of PowerPoint slides were preferred by students with which learning styles when it came to retention and comprehension.

The quantitative data thus gleaned did not have independent and dependent variables because it was not structured as an experimental study. Rather, it was descriptive as a non-experimental study (Creswell, 2004). These data were summarized in a descriptive manner to provide information used to legitimize and provide a basis for properly generalizing the study findings (Onwuegbuzie & Daniel, 2003) by showing the lens or pre-existing bias through which the particular teachers and students in the case study saw technology use in the history classroom.

While the quantitative data was of some small use when constructing the new paradigm for instructional design of history-oriented presentation technology slides, the vast majority of the particularly useful data for the central focus of this project study--creating a new instructional design paradigm for presentation technology in the history classroom--came from the open-ended survey and interview questions. The open-ended data and ideas were generated in this qualitative case study by looking in depth at four history teachers and the insights they had attained as they sought to experiment and implement innovative new “best practices” in a technology rich environment. A cohesive structure was given to these open-ended data by the grounded theory approach employed by the researcher in the data analysis. All data were viewed through the lens of schema theory, the most well-respected and thoroughly validated theory of cognition and learning in social studies education.

Other choices for a study methodology, such as quantitative and mixed methods studies, would have offered the ability to analyze experimental quantitative data on a Likert scale or such medium and garnered useful information about the present effects of

present practices. When it came to creating a better instructional design for PowerPoint slides, such an approach would have been less effective overall. It would have provided only patterns that revealed the benefits of the present design but not the kind of data needed to redesign the way in which history PowerPoint presentations are generally created, at least without exhaustive trial and error as variables were to be manipulated. Such studies would be useful future follow-up studies to this qualitative study, however, because they would provide concrete data to assess the effectiveness of the new method or methods that are suggested in this project study.

Data were collected in February 2011, starting with a series of surveys that were distributed by the researcher on Monday, February 8, 2011, and picked up from a central dropbox in the upper school office, where students were able to leave them at their own convenience by Tuesday, March 1, 2011. This coincided with interviews of four teachers, which were conducted on Friday, February 11, 2011. Teacher surveys were significantly modified from the nationally validated 2007 Teachers & Technology: A Snap-Shot Survey (Norris & Soloway, 2007,) and student surveys were significantly modified from the nationally validated EDUCAUSE Survey of Students and Instructional Technology: 2010 Questionnaire (ECAR, 2010) survey. Since the modifications were significant, the researcher tested the instruments for face validity before a panel of three experts and made modifications according to their recommendations before beginning the study. The results of the face validity test were shared with and approved by Walden University's Institutional Review Board and all members of the researcher's committee before research was started.

Data were recorded on paper surveys for both students and teachers. These were given to students and teachers by the researcher after assent and consent forms had been distributed with the surveys during a non-academic part of the day. The surveys were dropped off in a dropbox in a central location and then collected by the researcher. The researcher attempted to gather data on the extent to which PowerPoint is being used, and what positive effects the use of PowerPoint has had on teaching and learning in the history classroom. Interviews with the teachers were tape recorded, transcribed, and coded according to grounded theory approach with open codes that were developed from the research questions and axial codes that were developed from the types of possible improvements that can be made. Data were kept in a locked filing cabinet at the researcher's home office. The researcher filled a researcher role within the school and had not met any of the participants prior to their agreement to participate in the study and had not had prior to the study any contact with the school at which they teach.

Four high school social studies teachers, who currently implemented PowerPoint in the history classroom in a local technology rich private school, and respondents from a population of about 300 high school students, who have experienced the implementation of PowerPoint in the history classroom, were selected as participants in this project study because of their proximity to the researcher. Additionally, their school was nationally and internationally known for its implementation of technology initiatives. The main criterion for the selection of these participants was that, at the time the research was conducted, the teachers were using PowerPoint in the social studies classroom and the students had been or were being exposed to its use. Since this was also a case study, the smaller number of

teachers allowed the researcher to go into greater depth with each teacher on ways in which PowerPoint made a difference in their classrooms and ways in which the use of PowerPoint could be improved to have a more significant effect.

Since this was a qualitative grounded theory case study that focused on one specific school, the sample size remained relatively small for those teachers being interviewed so that their opinions and experiences could be adequately explored within the confines of the study. Similar case studies on this topic have used as few as one participant (Athanasopoulos, 2004), but the researcher wanted to include more than one point of view and err on the side of caution and therefore chose four. The participants were labeled Dr. A, Dr. B, Mr. C, and Mrs. D. Their names were changed to ensure their anonymity, and their wishes to remain anonymous were respected as a part of this study.

A group of 30 is normally considered large enough to give an adequately large enough sample for trends to emerge (Creswell, 2004), but the researcher chose to offer the survey to the entire student body of 297 high school students in order to give all students the opportunity to participate in the study. Out of the pool of 297 high school students who received surveys, 103 students, or 35% of the student population, voluntarily filled out surveys and returned them to the central dropbox, where they were picked up by the researcher. All teachers who taught high school and middle school history were given surveys, but only three high school teachers voluntarily returned their surveys. Potential teacher interviewees were initially contacted regarding their willingness to participate via email. Students and teachers who were to be surveyed heard an introduction to the project delivered by the researcher while they were gathered in an

auditorium and were awaiting the beginning of convocation on Monday, February 8, 2011. Surveys were then distributed to students and teachers, who voluntarily filled them out anonymously, and were later picked up from a central dropbox in the school office on Tuesday, March 1, 2011.

The four high school teachers were interviewed during open stretches of time during their parent-teacher conference day on Friday, February 11, 2011. All participants were informed that participation was voluntary and of their right to withdraw at any time, and not to answer any questions they did not wish to answer for any reason. Anything participants said that could result in harm to their careers or reputations was not used in the study. Participants' rights to anonymity and informed consent were established through informed consent forms that were approved through the Walden University Institutional Review Board (IRB Approval # 12-09-10-0350593). Further protection for the confidentiality of the participants was created by the researcher. The researcher kept the results under lock and key and maintained a strict discipline to only discuss the research with his committee members, and a peer reviewer in another state.

Quantitative data obtained from the student and teacher surveys provided a backdrop for the school setting in which the interviewees worked. Data were triangulated with the qualitative interview data during the data analysis phase of the study. The high school at which the teachers work was a private school in which every teacher and every student had a laptop. The teachers all have access to LCD projectors, which are in every classroom, and to extensive online libraries and resources.

Student survey data indicated the following demographic characteristics of the sample population ($N = 104$). The sample population was roughly equal in its gender ratio ($n = 53$ females, $n = 47$ males). Respondents were distributed by age as follows:

Table 1.

Respondent Population Demographic Data – Age ($N = 104$)

Student Age*	n**	%
14 years old	15	15%
15 years old	22	21%
16 years old	26	25%
17 years old	27	26%
18 years old	12	12%

*Note. Corresponds to Item 22 on the Student Survey (Appendix B)

**Note. One respondent left the question blank

The grade point average of student respondents was distributed as follows:

Table 2.

Respondent Population Demographic Data – Grade Point Average ($N = 104$)

Student GPA*	n**	%
GPA < 3.5	22	21%
GPA > 3.5	55	53%

*Note. Corresponds to Item 23 on the Student Survey (Appendix B)

**Note. Twenty-five respondents left the question blank

The results would seem to indicate that students who responded tended to have a higher grade point average, but a significant portion of the respondents, 25 students, left the

question blank, making it difficult to get a very clear picture of the student population regarding grade point average.

In terms of the types of classes that respondents typically took, the distribution was skewed towards the higher level classes for the students who responded to the survey. Students could mark more than one type of class and many did. The results from the respondents were as follows:

Table 3.

Respondent Population Demographic Data – Types of Classes Taken (N = 104)

Types of classes*	<i>n</i> **	%***
Special Education Classes	6	6%
Regular Education Classes	79	77%
Gifted Education Classes	60	58%

*Note. Corresponds to Item 24 on the Student Survey (Appendix B)

**Note. Two respondents left the question blank

***Note. Students could choose more than one option and many did

A majority of the respondents either agreed (38%) or strongly agreed (25%) that they enjoyed history as a subject and generally did well in it in terms of the grade they usually earned, while as significant minority (26%) remained neutral on the subject, and a small minority disagreed (5%) and strongly disagreed (5%) that they liked history as a subject or believed they liked history as a subject and generally did well in it in terms of the grade they usually earned.

The sample student population indicated the following breakdown in their preferences for the frequency of PowerPoint use by their teachers:

Table 4.

Respondent Population Preference Data – Frequency of PowerPoint Use (N = 104)

Preference on Frequency of PowerPoint Use*	<i>n</i> **	%
Prefer it never be used by the teacher	0	0%
Prefer it used in a limited manner by the teacher	9	9%
Prefer it used in a moderate manner by the teacher	66	64%
Prefer it used in an extensive manner by the teacher	19	18%
Prefer it be used exclusively by the teacher	8	8%

*Note. Corresponds to Item 1 on the Student Survey (Appendix B)

**Note. One respondent left the question blank

Students overwhelmingly wanted to see PowerPoint used in at least a moderate manner or more in the classroom, indicating an overall positive view of Power Point form respondents.

Students were also asked about how much exposure they had to the use of Power Point in the history classroom. This question was asking about their current history teacher's use of PowerPoint in the classroom but was not taking into account the experiences that students had in years previous with PowerPoint in the history classroom although later questions would draw upon both the present experience of students and their past experiences as well. The "snapshot" provided of the current use of Power Point should be looked upon with this in mind. Respondents indicated their current level of experience with the current use of PowerPoint in the classroom in the following responses:

Table 5.

Respondent Population Current Experience – Frequency of PowerPoint Use (N = 104)

Current Experience of Frequency of PowerPoint Use*	<i>n</i> **	%
Current history teacher uses PowerPoint every day	24	23%
Current history teacher uses PowerPoint 3 times a week	36	35%
Current history teacher uses PowerPoint once a week	17	17%
Current history teacher uses PowerPoint once a month	12	11%
Current history teacher never uses PowerPoint	13	13%

*Note. Corresponds to Item 1 on the Student Survey (Appendix B)

**Note. One respondent left the question blank

Most respondents to the survey had history teachers who currently used PowerPoint at least once a week, and this does not take into account the possible previous use of PowerPoint by history teachers in previous years during high school for these students.

Students were also asked about which components of PowerPoint slides were the most useful in helping them retain or remember information and they indicated:

Table 6.

Perceived Retention Efficacy Data – Power Point Components (N = 104)

Perceived Retention Efficacy of Slide Components *	<i>n</i> **	%
Visual components most useful for retention	66	64%
Audio components most useful for retention	14	14%
Arrangement of words most useful for retention	31	30%

*Note. Corresponds to Item 3 on the Student Survey (Appendix B)

**Note. Respondents could mark more than one answer

In terms of components of PowerPoint that best promoted student retention of history and how retention broke down according to each component, a sizable majority of students (64%) indicated that the presence of images, such as pictures, paintings, maps and charts, were an important component in helping them retain historical information, with one student commenting later in the short answer section that PowerPoint could be improved by the addition of visual aids, as he stated, “because when I remember material, images run through my head.” A minority of students (30%) indicated that the arrangement of words on the slide had an important effect on their ability to retain historical information, as well, while a small minority (14%) indicated that audio files that produce sounds had an important effect on their ability to retain historical information. When it was broken down by component, visual aids such as maps, visual aids such as pictures, and audiovisual footage all had majorities that indicated that students believed those components helped retention, while audio files and the arrangement of words on a slide were split on the issue with sizable minorities indicating that they believed those components helped, and sizable minorities remaining neutral on the subject.

In terms of how the varied components of PowerPoint affected student comprehension of historical material, the results were similar to the results for retention. The researcher made a distinction between retention and comprehension of historical material for students in the questions because that same distinction was made in the qualitative teacher interviews and the researcher was curious to see if there were any differences in how PowerPoint components helped students retain or remember information and in how PowerPoint components helped students comprehend or piece

together historical information (i.e., with chains of cause and effect for example). The respondents indicated the following about their opinion on the usefulness or efficacy of components when it came to their effect on their comprehension of historical material.

Table 7.

Perceived Comprehension Efficacy Data – Power Point Components (N = 104)

Perceived Comprehension Efficacy of Slide Components *	<i>n</i>	%**
Visual components most useful (Images, maps, etc)	56	54%
Audio components most useful (music, speeches, etc.)	13	13%
Arrangement of words most useful (bullets, etc.)	40	39%

*Note. Corresponds to Item 9 on the Student Survey (Appendix B)

**Note. Respondents could mark more than one answer

The results indicated that a majority of students (54%) believed images were important to their comprehension of material, while a very sizable minority (39%) believed the way words were arranged on a slide was most important to their ability to comprehend historical information, and a small minority (13%) believed sounds were important to their ability to remember information. When it was broken down by component, visual aids such as maps, visual aids such as pictures, audio files that produced sounds, and audiovisual footage all had majorities that indicated that students agreed that these were important to helping them comprehend historical material. They were split between sizable minorities for agreement and neutrality for the arrangement of words on a slide in terms of how much it helped them comprehend historical material.

A sizable minority of students said they got more involved in classes when PowerPoint was used, while a sizable minority remained neutral. A majority of students

indicated that they did not like learning history from the textbook, while a majority also indicated that they ended up memorizing bulleted information when PowerPoint slides were used. A majority found it easier to prepare for tests and quizzes when PowerPoint was used. A sizable minority of students indicated that they remembered information better when presentation technology like PowerPoint was used in general, while a majority indicated that they comprehended historical information better when PowerPoint was used.

Students answered several short answer questions at the end of the survey to provide the researcher with additional qualitative data. When asked about the arrangement of words on the slide and the use of visuals, an overwhelming majority of students indicated that they preferred the use of visual aids on PowerPoint slides, while a majority also indicated that they preferred the use of bullets, many of them explaining that it made the information easier to memorize. Students gave a wide array of examples of historical information that PowerPoint had helped them remember, including the murder of Emmet Till, which sparked the Civil Rights movement in America, Hannibal's invasion of Italy during the Punic Wars, Napoleon's invasion of Russia, class systems in China and India, and Jethro Tull (the British agriculturalist, not the band). Students listed adaptability, ease of use and access to information, the streamlining of information and the use of visuals as some of the greatest advantages of PowerPoint use, while they also listed student boredom due to its overuse by teachers, the impersonal, non-interactive way it is often used, and its tendency to promote memorization as its greatest disadvantages.

The teacher survey indicated that all of the respondents were high school teachers, 33% were male and 67% were female, They taught AP, Honors, and regular education courses, and they used PowerPoint at least several times a week. 67% were under the age of 40 while 33% chose not to answer the age question. Teacher responses indicated a high level of comfort with technology and PowerPoint in particular and a low level of need for further training, but there was a willingness to participate if trainings were offered. The teachers all agreed that all of the common components of PowerPoint slides helped students retain and comprehend information. More teachers were neutral on the question of whether students got more involved in class when PowerPoint was being used than agreed. More teachers agreed that PowerPoint enhanced teaching from the textbook and more also agreed that its use tended to cause students to simply absorb information without thinking about it critically. More teachers also agreed that students did comprehend cause-and-effect relationships better when PowerPoint was used.

In the short answer section where teachers were able to give some qualitative data, they indicated a strong preference for visuals, and also indicated that they used visuals like maps on PowerPoint to help direct activities like Battle Days, during which students were able to act out battles, the coverage of a variety of time periods in history, and the use of slides to show artwork in the humanities. The greatest disadvantages of PowerPoint were that teachers indicated that too much text can be a problem and that dim lights can cause students to get sleepy. As far as the greatest advantages of PowerPoint, teachers indicated that PowerPoint allows them to give dramatic glimpses into history, it provides background information that the teacher can consistently refer to, as well as

visual stimuli, and it allows students to see sequences of events and can “create a shared theatrical experience” the way other media might not.

Data obtained in the interviews provided the bulk of the qualitative material that was used in the study. The first of the four high school teachers, Dr. A, was interviewed by the researcher and had a number of comments to make regarding the use of presentation technology in the classroom. Dr. A has taught classes on political and social history and uses PowerPoint “very often” in the course of teaching those classes. According to Dr. A’s philosophy, history is not that much different from any other subject and she approached it in the same way that she approached any other subject. According to Dr. A, using PowerPoint had not really changed her approach in terms of goals for her classroom or the standards or benchmarks she was trying to meet. It had, however, made certain things “faster and more specific,” which in her opinion increased the quality of the learning because “the presentation was more pedagogically useful.”

In terms of how presentation technology had changed how her students experienced history, Dr. A noted that the students could “experience the lessons by getting them word for word or verbatim.” She is able to accomplish this by “sending the lesson to them in their emails” or posting “it on a forum or a blog – whatever the media du jour is.” She noted that PowerPoint had changed her class by allowing her to “go from slide to slide” and this increased the ease in which she was able to transmit information to students because, as she stated, “You don’t have to erase the blackboard, and it’s easier to read.” Dr. A noted that the introduction of PowerPoint into her teaching had not changed the way her class is structured beyond changing how the information is presented. She

noted that as a teacher she had to “think differently” because she needed different equipment. One of the biggest benefits to the use of PowerPoint, in her opinion, was that a teacher could “send lessons straight to your students if they didn’t see it.” She also noted improved clarity is a benefit because the information was easier to read, the contrasts were better, and just graphically it was far superior to writing on the blackboard. Another major benefit of using presentation technology was that “it’s faster and easier to save.” The biggest disadvantage, however, to the use of PowerPoint in the classroom was that teachers become too reliant on the equipment, and if it didn’t work then they were handicapped for that day of teaching.

The interview then covered the common components of a PowerPoint presentation and her thoughts on the value of each component. When asked about the placement of words on a slide, Dr. A noted that “our society is used to bullets,” but this had created a situation where too many bullets could be overwhelming, and kids said, “they get tired of PowerPoint,” if the teacher used it too often. In terms of pictures, Dr. A stated that their use in PowerPoint was “invaluable” because PowerPoint could present them so clearly and in so many flexible ways and the conversations students could have about a piece of art when discussing art history or cultural history were very pedagogically valuable because they were engaging in critical thinking when they critiqued artwork. As far as audio files went, Dr. A noted that they were valuable, but they were plagued with technical issues like volume control. Similarly, she noted that for animated graphics and video clips, “as long as they’re relevant they’re good,” but noted that they were often plagued by a host of technical issues as well. When looking at

interactive web-based files such as a web module, an online library, or an online museum, Dr. A stated that they were “invaluable” because the interactivity available through such media truly made our world a more “global society, creating new horizons for research and communication that were just never possible before,” but she cautioned that “just because it’s online doesn’t mean it’s real” which was something that the emerging tech-savvy generation now in school often lost sight of in the “virtual reality” they tended to inhabit. On the other hand, she noted that, while she herself was very comfortable with technology, many teachers were often hesitant to become as familiar with technology as their students already were, and this could be a barrier to effective communication, as well.

At this point the focus of the interview shifted away from technology and more towards what strategies tended to be the most pedagogically effective in getting history across to students. Dr. A noted that it was a disturbing trend that many teachers and students had become used to a very passive form of teaching in which information is handed to students and teachers became great actors and entertainers, the “sage on a stage” in the trade vernacular, but students did not do any of the “heavy lifting” themselves. Real history education, in Dr. A’s opinion, should be “based out of curiosity, the curiosity of the student.” She noted that committed teachers can touch upon the natural curiosity that lies within each student and awaken that curiosity, even if it had been dormant for some time.

When asked about what strategies were often the best in terms of improving student retention of historical information, Dr. A noted that students formulating their

own understanding and then writing it down was a great way to improve memory because “writing things down is a form of focusing and concentration,” especially when it was in the student’s own words. Simple repetition didn’t work because students were not focused. Dr. A went on to add that asking them directly to repeat something back in their own words was valuable because they have to reformulate it and make it their own. Many students in her experience, had found it hard to concentrate this much, however, because they were so wired towards multitasking. As Dr. A noted, “Multitasking is not necessary” when it comes to retaining history, “it’s a nice skill to have in an emergency – but it’s not the way to learn.”

When asked about what promoted comprehension in a history class, Dr. A stated that high level rigorous programs that promoted independent thinking and the ability to formulate logical thoughts and write them down like the International Baccalaureate Program had done it best in this country. She noted that many American students were “not hungry” as compared to their foreign competitors, who were highly motivated, and the obvious implication was that this was due to the lack of rigorous, student-driven programs like the International Baccalaureate Program which encouraged independent thinking. She went on to say that this is the kind of environment that promoted comprehension where students were able to have an “aha moment” often, and when this was happening “usually technology was turned off.” She went on to say that technology was not a bad thing, but if it was all that the teacher relied upon, then teaching really became more focused on entertainment. She stated that a teacher “used every tool available to them,” and technology was one such tool. She went on to say that just

because students these days seemed wired for entertainment, that did not mean that it was impossible to reach them. She said, “A good teacher... A good teacher does not give up on a student. A good teacher takes a student’s surliness, giddiness, confusion, inattention, any of those things and has to work with that.” If, for instance, according to Dr. A, the task at hand was to learn about the fall of the Berlin Wall, and if showing the excitement of that through a news clip was one way to do it, then technology was a useful tool. But it must not be left at simply showing the clip, because “it might not work for everybody because they might have no idea what they are looking at. They see a bunch of people jumping around yelling and screaming and lights. They have no idea. They haven’t been to Berlin so they don’t know. They haven’t lived through it.” Dr. A went on to say that a teacher needed to tap into their own sense of imagination and curiosity about the subject to gauge where students were likely at in terms of their understanding. Then the teacher needed to engage them in a discussion that brought out what they understood and knew, as a starting point from which the teacher could improve that understanding.

Dr. A stated that it was a fine art form to expose students to the fact that they were “young and unexposed” and yet not damage their egos in the process. Dr. A went on to state that many teachers were ignorant of the fact that much of what it took to be a good teacher had to do with understanding how students are motivated. As she put it, “the conundrum, the paradox is... you are either the only thing in the universe that is worth anything” or “you are complete dirt. Once you can come to terms with that, you are on your way, but until you can come to terms with that, you are adolescent and immature” in the teenage mind. She went on to describe how teenagers saw the world in very stark

terms. She stated, “You are either worth everything in the world – the world revolves around you – or you’re totally insignificant and useless. And I think this points to our teaching of history – we’ve erred on both sides. We’ve suggested that students were not worth anything and then we’ve suggested that everything they think of is brilliant.”

The interview with Dr. B also provided some interesting insights into the use of presentation technology in the classroom, as well as providing insights into best practices in the field of history education. Dr. B uses presentation technology like PowerPoint an average of two to three times a week, and when asked about the unique characteristics of history, as compared to other subjects, Dr. B stated, “Teaching them how to use primary sources and teaching them how to interpret them teaches them that they can form an opinion and it is actually valuable. I also think it’s very relevant. It never seems that way when you are teaching ancient Sumeria, but just knowing that the Mesopotamians invented the concept of the teenager, that always makes students sit up and say, “Oh.” You are sitting on this mountain that is the past and you don’t even think to question it.”

Dr. B noted that English as a subject was most similar to history in her opinion. In terms of how using presentation technology like PowerPoint has changed her approach to how she structures her history classes or social studies type classes, Dr. B stated, “It has certainly made it easier, especially with humanities, that all of my art slides are just on my laptop now on PowerPoint and you aren’t dragging out the overhead and trying to find things.”

In terms of how presentation technology like PowerPoint has changed how students experience history, Dr. B stated that it has made it easier for her to make “the

information available to them very easily,” but she also stated that in “history classes I find that I have to scale back what I am presenting because the less I present the more engaged they are.” When asked to clarify, she stated that students can be overwhelmed and find it hard to process when too many slides are thrown at them at once. However, Dr. B did note that it made complex events like the French Revolution more manageable and easier to break down because it allowed them to be presented in stages. She went on to add that old fashioned chalkboards had that capability, as well, but with presentation technology, the kids can have it available to them, the teacher can insert art, play musical clips, and show parodies, all while presenting the information in stages, so in essence, presentation technology is more versatile than a chalkboard or a dry erase board.

When asked what the top three benefits of PowerPoint technology are, Dr. B stated that it makes it easier for the teacher to stay organized, because “once it’s done, it’s nice to have it done, from the teacher’s perspective.” She went on to add that, “it can be tailored to different learning styles,” but stated that even though “it’s a nice asset to have, it doesn’t replace anything. It doesn’t replace intellectual discourse, but it supplements it really well.” As an example Dr. B explained that she could have students who are researching a particular artist send her paintings so she can quickly put them in a PowerPoint and as a class they could go through them together. The students are thus more involved because they are seeing and discussing their own particular research as a part of the presentation. There were, however, some dangers to using PowerPoint in the history classroom, according to Dr. B. For instance, oversimplification could be a problem because “with complex issues kids can often see only a couple of aspects to it

and then they just move on.” Dr. B clarified further by stating that she rarely did the traditional PowerPoint lectures anymore, because students spend more time copying the notes down than they do actually staying engaged with the material. Dr. B creates her own PowerPoints and uses resources like the Web Gallery of Art to create them.

At this point the focus of the interview shifted to the common components of PowerPoint and how each of those components seemed to affect student learning in Dr. B’s opinion. The first component the researcher asked Dr. B to comment on was the way the words were arranged on the slide. She stated, “It’s really hard to narrow down complex ideas into a bullet sometimes. It depends on the topic in history. I mean, I think in paragraphs, I write in paragraphs... but kids often don’t.” She went on to say, “What I generally do if I have something meaty is I won’t let them write it down. I’ll make them read it and think about it for a second and then we can all come back together and talk about it. Because otherwise they just copy down what you said and there’s not really any contact with what you are saying.” In essence, Dr. B concluded that the trick would be to get students away from blindly copying down material, which was a waste of time because they never really thought about it.

The next component of PowerPoint slides the researcher asked Dr. B about was images. She responded by calling paintings and photographs “hugely beneficial” and stating that “visual aids were always necessary in history.” She went on to state that images made history come alive and that they were just as valid a primary source as documents, but students and teachers were often unaware of how to read an image, which was a skill they picked up in a class like humanities. She said, “You have to learn to read

images like you read text, and that is a bit more sophisticated skill, but that is what we work on in the humanities.” She gave an example of a project that students did on the Renaissance and how they were able to read images and artwork from that time period to get an idea of what the artist was trying to say with his or her use of color and line, and they were also able to pick out the biases of the artist by differentiating between perspective and reality.

The researcher then moved on to the use of audio files in presentation technology slides, and Dr. B commented that, “kids get a little frustrated with audio just because they are not used to it any more. They don’t know a world where that was the primary form of communication because they have Skype and they have all of these other things now.” Having said that, however, Dr. B went on to add, “there’s not a whole lot of substitute.” She mentioned Churchill’s “Never Surrender” speech as an essential part of what students needed to hear when they studied World War II, because it made students feel like they “had more contact” with history “when they heard voices from the past.”

When asked about movie clips and animated graphics, Dr. B said, “I use them all the time. I don’t use them in PowerPoint, though.” She noted that difficult material like Shakespearean iambic pentameter, where students often got hung up on words, could be made much clearer with selected movie clips that helped students see the human interaction that was taking place in spite of the strangeness of the language syntax and vocabulary. Dr. B stated that “It makes the text much easier for them to grasp” because “they can get hung up on the words or on something they don’t understand the meaning of and then they see somebody do it and then they get the gist of it – even without

knowing all of the words. And then it makes it easier to go back and look at these particular words.” The next component that the researcher asked Dr. B about was web modules, online libraries, and online museums, and she mentioned that such components were very useful and she and her classes used online museums “pretty obsessively,” the only downside being not being able to see it in person.

At this point, the interview turned away from presentation technology in the history classroom and towards general strategies that made history memorable and increased student comprehension and retention. In response to a question about what types of activities made history most memorable, Dr. B. stated that the most memorable were the ones that immersed students in the time period and forced them to make decisions that people back in history had to make. She gave the example of having her Ancient History class make Greek shields and form a phalanx, stating that “they never forget that” because “we had such a good time and we had them die and people had to move up and step over them.” She stated that simulations really work well because, “It just makes it more real.” In addition, Dr. B said that she found that often “students didn’t have a lot of respect for the past” because they didn’t realize how difficult it was for people to accomplish what they did. When students were faced with the same choices, they gained an appreciation for that, and it made the history they were learning much more worthwhile in their eyes.

When the researcher asked Dr. B about what methods got the best results in terms of promoting student retention of information, her response was, “if they know why something happened they often can’t forget the event. So I really stress conceptualization

and understanding more than anything else.” If students knew the main concepts, the details were not necessarily as important and they would fall into place more easily if the students understood the big picture. When asked what methods best promoted student comprehension of historical material, Dr. B gave a multifaceted response. The first part had to do with visual aids, which included charts or Venn diagrams to give a concrete picture to the abstract concepts students were trying to absorb. The second part of Dr. B’s answer to this question was “Anything I think that they do on their own is sometimes helpful.” She stated that if the students were forced to go through and reformulate something in their own thoughts, then create some sort of product where they expressed that, it seemed to help tremendously in terms of their grasp on the central ideas. The third and final part of her answer to what methods best helped students comprehend history were what Dr. B called symbols they can unpack later or GOS’s (Gross Oversimplifications), which were key to remembering things through comprehension of those symbols. She used the example of the cathedral at Chartres as a symbol for the ethos that characterized the Late Middle Ages, which was “the idea that all of these people would devote themselves to one artistic achievement and none of them would ever be remembered for it. None of them even thought about, “Should I put my name on this?” because it just wasn’t in their mentality. Once you think of a cathedral you can sort of backtrack from that and undo a lot from that one symbol – you know, religion, views of God, the way the society worked, feudal system. It’s all kind of in that one thing.”

The third interview was with Mr. C, who provided more insights into the use of PowerPoint in the history classroom and into the best methodologies in the field of

history. He used PowerPoint to teach his classes two to three times a week. In response to a question by the researcher about what made history unique, Mr. C stated that it was the fact “that we can constantly go back and reinterpret history,” whereas with some subjects it might have been a little more cut and dried; with history one could “go back to what once was called the Dark Ages and create this idea that it really wasn’t all that dark after all. There was quite a bit going on academically, religiously, socially that we never really understood or realized was important.” He also stated that history was more accessible because it is easier for students to empathize with the different aspects of history than it is for them to do with science or math because of the human element in history. Mr. C also saw a lot of overlap between history and English, as well, because of the connection between literature and history.

When asked whether using presentation technology like PowerPoint had changed his approach to how he structured his class, Mr. C confided that it had not, because he was already very well versed in the use of technology and uses social media and sites like You Tube, which he used all the time. When asked whether presentation technology like PowerPoint had changed how students experience the delivery of information in his class, Mr. C stated that it was important to have that interactive aspect to class, so as long as PowerPoint was used to facilitate discussions, it created positive change. Mr. C also mentioned that PowerPoint really helped students in that it helps them “associate ideas with images or have those ideas represented in a little bit more tangible way.” When asked for an example, he mentioned that the use of maps “made the Peloponnesian Wars a lot easier to grasp, even though they can get fairly involved and complicated for ninth

graders.” Mr. C went on to mention that he was able to take the timeline of the Peloponnesian Wars and turn it into a story or a narrative using pictures, maps, and quotes, on PowerPoint, and as a result, he was able to have some significant success in reaching the students with the information. Mr. C cautioned, however, that the downsides with PowerPoint are that it can “become a rut” where a teacher does not differentiate instruction and students quickly get bored. He also mentioned that students can rely on the PowerPoint too much sometimes, “almost as a substitute for really knowing the material or for a deeper insight.” In response to a question about where he got his PowerPoints, Mr. C stated that he usually made his own because the PowerPoints that were distributed by the textbook companies simply “rehashed the text,” although they did at times provide useful images like charts, maps, and graphs.

At this point, the interview shifted toward an analysis of the different components of typical PowerPoint slides. The first question posed by the researcher had to do with the placement of words on the slide. Mr. C conceded that bullets were a concise way to package information, but the downside of bullets was that when some students “saw a bullet up there, they thought that was all there was sometimes.” These students may have written down the bullet and one or two other comments from the discussion, but they never went beyond the bullet, so all of the meaning and interconnectedness in the discussion behind the bullet got missed. Some students did not try to understand it more deeply, they just tried to memorize the bullet, and the brevity and “factoid-like” conciseness of the bullet actually promoted this approach. Mr. C commented further on the use of bullets by stating that he did not put definitions up on his slides because kids

would “simply copy them down and there was no dialogue.” Instead he tried to use questions and more open-ended arrangements of words to encourage kids to think critically about the material. The researcher asked if he used Socratic questioning to draw out meaning from the students, and he responded that his questioning strategy operated along those lines.

The researcher then asked Mr. C about the use of another common component of PowerPoint slides, pictures. Mr. C expanded upon his previous comments on the use of pictures in a PowerPoint by stating, “Well for history pictures are great because you get fourteen year olds in this classroom – you get 9th graders – 14 and 15 year olds – and they have no idea what something like Mohenjo Daro in India looks like, and they have no idea what the Great Wall might have looked like in its original construction phase.” Mr. C went on to state that by taking a PowerPoint and building in pictures that gave students’ minds concrete images they could hold on to, “it seemed more tangible. They could grasp the ideas.” Pictures were also great as a tool to get students to associate real world imagery with ideas and to have to think about it in the process. Mr. C described a class where he was having a discussion about the expressed, inherent, and implied powers in the US Constitution, and he was able to get students to think critically about the relationship between those powers by putting pictures up on PowerPoint slides and having students participate in an activity where he would show them a picture and try to get them to associate it with the expressed, inherent, or implied powers. This worked well according to Mr. C, and students responded positively to this activity.

The researcher then asked Mr. C about audio files such as music or recorded speeches, and he responded that, even though he has not used a lot of audio files, he has had some great success with the ones he has used like Orson Welles' "War of the Worlds" broadcast. His only advice was to keep the clips concise because they did not hold student attention very long. Student attention started to drift a lot quicker with audio because the video was not there to accompany it, and they were not used to that. The clips also needed to be relevant and exciting. The researcher then asked Mr. C about animated graphics and movie clips. He did not seem too enthusiastic about these however, commenting that sometimes they started discussions and sometimes the students seem bored with them. He did state that clips that are relevant to the students' present lives have a tendency to excite more interest. He said that this was the case when he used "a clip of Bill O'Reilly and Keith Olbermann attacking each other which stirred quite a bit of debate." Clips that had to do with current events or politics and could connect students to history tended to generate more interest.

The researcher then asked Mr. C about online modules, online libraries, and online collections of primary sources. Mr. C responded that he had used online modules like PoliticalCompass.org with students and had gotten positive results. He also went on to comment that online libraries like JSTOR and EBSCO were essential to student learning but were underused by students and sometimes even by teachers. Mr. C commented that sources from these collections were "very important, especially when it came to essay writing." He went on to comment that the rich array of sources that were available through those collections were much more reliable than what often passed for

sources from the internet. Mr. C then commented that the materials “that we have now needed to be more interactive, and more student-oriented instead of a visual aid like it was.” He went on to elaborate that Power Pont could become more interactive by using Smart Board technology to allow students to add their insights to the presentation as it was playing or having slides built in that were specifically designed to stir up discussions and debates.

As with the previous interviews, at this point the topic focus shifted away from technology to discuss methods that had produced the most memorable moments in a classroom and those methods that produced the best levels of retention and comprehension in history. When asked about the methods that produced the most memorable experiences for students, Mr. C commented that the activities that really provoked the best reaction for him are the ones that related most closely to students’ lives. Mr. C related an example where, after discussing political parties, he gave students a homework assignment which was “to write up a one page rant about political parties and why they don’t do what we said they are supposed to do.” He said the activity was a popular success because it gave students a chance to express themselves on issues that were important to them, and it had value in an academic setting. Mr. C went on to add that relating popular culture to activities always makes them much more memorable to students, as well. When the students were studying the Persian Wars in Mr. C’s Ancient History class, they were able to really key into the history that related to the movie “300,” which they had all seen.

The next question the researcher posed to Mr. C had to do with which methods he thought were best to promote student retention of history. He responded that, as far as retention went, the most significant factor in the retention of historical information was the drive and commitment of the students themselves. All of the tools they needed to succeed are before them, but some students were reluctant learners who only put in minimal effort and memorized and therefore did not retain the information they otherwise might have. As Mr. C put it regarding the memorizing that many students did to get by, “It was like a bucket, they filled it up and they dumped it out,” and they hardly retained any of it. As far as methods the teacher could use to reach students that promoted better retention of information, using examples and metaphors as much as possible made it much easier for students to better grasp and therefore better retain historical facts and concepts.

The researcher then asked Mr. C what in his opinion were the best methods for promoting the highest levels of comprehension of historical information. Mr. C gave a twofold response to this question. First, he replied that intellectual discourse that was as student driven as possible and that involved as many students as possible for as long as possible was by far the best method for promoting the highest levels of student comprehension of historical material. Second, he stated that students had to write in history class often and that they had to be able to formulate a thesis, use logic to construct an argument, and base that argument on solid evidence. As Mr. C stated, “They have to understand that when you make a point you have to have evidence, you have to be able to make logical connections. You can’t just say that A caused B and have no reason for it.”

The interview with Mrs. D also yielded some insights. Mrs. D indicated that she used presentation technology like PowerPoint about three times a week. When asked what was unique about history, she commented that it was unique in that it could incorporate all of the other subjects (math, science, literature, etc) in itself, and it was most similar to the subject of English because both English and history involve “the study of primary resources, the identification of audiences, and trying to filter bias.”

When asked by the researcher if using presentation technology like PowerPoint had changed her approach to standards and benchmarks or curriculum structure as she planned out her history classes, Mrs. D responded that PowerPoint allowed her to take it history into a lot more detail so she could cover it much more extensively than she could before with transparencies and handouts because “you’re not having to type it all out, write it all out, and copy it all off.” She added that “There not as much manual labor to it, I guess you could say,” for teachers and for the students as well because the presentation could be emailed to them. They could pull it out of their email after it had been sent to them by the teacher and “they could add whatever little extra details they wanted.” She went on to add that it made comparisons and contrasts easier and cited the example of covering Egypt where, “I can have a slide or a presentation about the changes in Egypt throughout time and then I can pop up the comparison next to it. I can do boxes to boxes. I can design it myself without it already being formatted for me in a way that might not fit my style.” The adaptability facet was a factor that really appealed to Mrs. D, who said, “Once you have a presentation mode that fits your style, you can get your point across a whole lot easier than trying to get somebody else’s point across.”

The researcher then followed up with a question about how presentation technology like PowerPoint had changed how students experience the delivery of information. Mrs. D responded that accessibility was a big plus in how students were receiving the information. She stated that “before we ever start class they download the PowerPoint, they have it there on their computers. They can add their own notes to each individual slide at the bottom. So it’s like giving them a handout except it’s downloaded on their computer, and they can go in and edit it at any time without having to scratch it out and make it messy and keep it organized, but we’re unique though because most places don’t have every kid with a laptop either.” She added that “it held the kids accountable for the information” as well. She found this to be especially useful in meeting the requirements of specific IEP’s that required the student to get the notes ahead of time. Mrs. D liked the fact that she did not have to single certain kids out for special treatment because now everybody in the class was getting the notes through the PowerPoint being sent to them via email.

In response to a question by the researcher about the top three benefits of using presentation technology like PowerPoint in the history classroom, Mrs. D said, “Oh, I can’t imagine ever going back to the way it was.” She went on to add that the top three benefits as she saw them were first, the “consistency of the information students were getting from class to class so details weren’t being missed.” Second was the benefit of being able to easily use visuals to “put pictures to words,” and in response to the researcher asking for clarification, Mrs. D said, “Well, it’s not just pictures, it’s videos. I incorporate video clips, I can embed You Tube. We have certain subscriptions to

Discovery Channel and I can pull off specific clips.” Mrs. D went on to explain that the selected short movie clips provided excellent audiovisual background for certain topics that made those topics much easier for students to grasp. The third benefit was the ability of the teacher to adapt the presentation at any time depending on circumstances, like having a lecture go off on an unexpected but useful tangent – slides on that information can be easily added into the presentation and then emailed to students. Mrs. D gave an example of how a class simulation over Greece led to an in-class debate over the rights of islanders and the ethics of the Delian League and the Peloponnesian League. In response to the increased interest in this particular topic, Mrs. D was able to go back into the PowerPoint, add slides that covered the topic in more detail, and send the new version of the PowerPoint to the class via email. In response to a question about where she got her PowerPoints, Mrs. D said that she generally created her own. In her experience, the “cookie cutter” PowerPoint presentations created by the textbook companies were unappealing to students because they lacked a certain level of “pizzazz.” They were also unappealing because they were “the textbook on a slide” in bullet form, and they lacked the primary sources and open-ended questions that could stir classroom debate.

At this point, the interview turned to an analysis of the common components of PowerPoint slides. The first component that the researcher asked Mrs. D about was the arrangement of words on a slide and what her experience had shown her about the traditional method for organizing information, the bullet method. Mrs. D replied that in some cases you have students “who will take a bullet and who will expand upon it on their own.” While in other cases you will have students “who are not as self-motivated to

take notes.” For those students, “that’s all they got” because they simply memorized the bullet and on an assessment or evaluation those students simply regurgitated the bullet, but were unable to expand upon it more. When asked if bullets should be changed, she said that the only change she would have suggested was that they should add in some narrative from the textbook in the notes portion of the slide to give the students more information, but in a way that they could edit. When the researcher asked Mrs. D for how students typically react to a seeing a picture on a slide, she responded that pictures were “good visual aids” that “break up the monotony of the text,” but the effect they had all depended upon what the teacher did with the image. When asked to clarify, Mrs. D explained that the teacher needed to provide students with information about the picture such as what the picture was about, what kind of impact it had, what region that it came from, and what story that it told.

The researcher next asked about the audio file component of PowerPoint slides such as music or recorded speeches. Mrs. D said that they were very effective because music could get students excited about a topic, and recorded speeches were, in essence, primary sources, just spoken rather than written, and they deserved the same level of analysis that the written ones did. The only downside to adding such files to a PowerPoint, according to Mrs. D, was that once so many are added, the file became so massive that it became almost impossible to email it to students because of the amount of computer memory it took up. The researcher then asked Mrs. D about animated graphics and video clips. Mrs. D responded that video clips always seemed to work well, and animated graphics were great for showing comparison and contrast. She gave the

example of an animated map that “could show early settlements versus first level of migration, second level of migration.” The fact that it showed movement made it extremely useful in terms of explaining concepts to students. The only downside to using video clips and animated graphics was the space requirement on the computer’s hard drive.

Mrs. D was also asked about interactive web-based files such as web modules, online libraries, and online museums by the researcher. She responded that web based modules where students went through and did an activity were good as a “five minute brain break” but tended to work less well as students got older. Mrs. D stated that this was because the majority of the web based modules that she had seen on the internet having to do with the subjects she had taught are geared more towards younger kids. She also related that online libraries were the wave of the future and that her school was moving toward being “textbookless,” where students were given articles and primary sources by the teacher to read rather than pages out of a textbook, more along the lines of a college class, which made online libraries like GALE very valuable. She also mentioned that it would be “great to have kind of a forum or a workspace set up between professionals to share information,” and she believed that down the road, textbook companies were going to have to set up an online community so that teachers could share information, and “instead of buying textbooks they were buying presentation modes and connections to online sources – databases and not just paragraphs on a page.”

At this point the interview moved away from the technology angle and focused on what methods made history the most memorable to students and what methods seemed to

best target student retention of historical material and student comprehension of historical material. When asked what methods made history most relevant in general, Mrs. D stated that bringing in angles on a historical subject that made it relevant to their lives really seems to work best. Mrs. D related an example where she was using social networking type technology similar to Facebook to create a “virtual online Greek civilization” where students “all had their own little personal profiles, they all had their own little Greek characters and they were all put into a polis.” Students could then be placed in situations where they faced the same situations other people faced, and they were able to engage in intrigue and politics, battling against one another in a simulation that really put them in the shoes of people in the ancient world. Mrs. D. said, “One of the things I try to do is to get them to understand that these people who lived four thousand years ago are just people and they have the same emotions, the same ideas - they cheat each other, they are greedy, you know, they still have the same drives.”

Next the researcher asked Mrs. D about what kinds of activities best promoted student retention of historical material. She stated that competitive games that are created with technology such as Jeopardy review games worked well in terms of helping students get information down. She also stated that “it helped with the retention of facts that they had to apply them to a bigger picture.” The researcher then asked what methods seemed to work best in terms of increasing student comprehension of historical material. Mrs. D gave a twofold response to this question. First, she responded that “real world situations” and connections that make it relevant to their lives like drawing parallels to the modern world and modern events really seem to make a difference in terms of students grasping

the “chains of cause and effect.” Simulations and scenarios that put students in the shoes of ancient people worked along the same lines and for the same reasons. Mrs. D gave examples ranging back to her Greek polis social networking activities where students were “living someone else’s life” to simulation scenarios like an activity on Hammurabi’s Code where she had students make their own laws which produced a discussion over the consequences of making certain kinds of rules. Another example she gave was an activity on Virgil’s *Ode to Love* where students have to write their own love poems. Secondly, she said that charts, maps, timelines and Venn diagrams, and compare and contrast charts all made historical material easier to learn.

Conclusion

The central questions that guided data analysis in the major qualitative component were, “What new innovations of the presentation technology’s uses and functions would be most beneficial in increasing student *retention* of the material and why?” and, “What new innovations of the presentation technology’s functions would be most beneficial in increasing student *comprehension* of the material and why?” The minor quantitative component was descriptively summarized in a cross-sectional matrix. This created a baseline of learning preferences, attitudes, needs, and demographic characteristics for the sample population that served as a data set that patterns in the qualitative data could be checked against through triangulation of the data. Criteria that were used to analyze the qualitative data from the open-ended comments on the surveys and the interview data included the following: degrees of benefits to retention of information and degrees of

benefits to comprehension of information that are derived from visual aspects, audio aspects, text aspects, and audiovisual aspects of PowerPoint slides.

Three research questions guided the minor and descriptive quantitative component of the study. The first was, “What are the basic demographic characteristics of the sample population?” This descriptive research question yielded a useful analysis of useful data in deciding the generalizability of the findings. The second research question was, “What components of PowerPoint slides do teachers and students prefer for the purposes of retention and comprehension according to student learning styles?” Since all student learning styles must still be accommodated for, all of the varied components (maps, pictures, music, audio files, movie clips, etc.) of PowerPoint were still included. These data just gave the study a useful picture of what components are effective for different learners in a sample group of learners. The data tended to reflect what many studies have already noted: there are more visual learners than audio learners in a particular group. The third and final research question for the descriptive quantitative component was, “What are teachers’ general past experiences with presentation technology like PowerPoint, and how did those experiences and teacher attitudes towards technology in general affect how they currently made use of presentation technology?” The data showed that teacher attitudes towards technology in this school were positive in some way, and they made use of PowerPoint as a result of the positive experiences they had with technology. Since the quantitative data served as a backdrop of information against which the qualitative data could be analyzed and triangulated, a small quantitative analysis of the Likert scale information was performed, and some patterns were noticed,

as mentioned above, that reflected what was already well established in the literature in the field about learning styles. Since only three teacher surveys were returned it was hard to gather much data that could have generalizable uses in the teacher survey Likert data, but the teacher survey data when it was viewed with the student survey data, did provide enough of a data backdrop that triangulation was possible as a validity check on the generalizability of the findings. The coding procedure was to use SA for Strongly Agree, A for Agree, N for Neutral, D for Disagree, and SD for Strongly Disagree. The table below summarizes what was described in earlier tables about the learning preferences that students indicated that they had as it related to the retention and comprehension of historical material, but no tests for significance were done with the data.

Table 8.

Student Learning Style Preferences Quantitative Background Data (N = 104)

Learning Style Preference*	Visual Images	Sounds	Arrangement of Words
Helps with Retention**	64%	14%	30%
Helps with Comprehension***	54%	13%	39%

*Note. Respondents could mark more than one category. This quantitative data was for descriptive purposes only – There were no tests done for significance. All survey items can be viewed in their entirety in Appendix B

**Note. Corresponds to Item 3 on the Student Survey (Appendix B)

***Note Corresponds to Item 9 on the Student Survey (Appendix B)

represented the breakdown of the Likert scale data, which were keyed to the items on the student survey and which showed patterns indicating that students believed visual aids such as maps and pictures did help them retain and comprehend historical information much more clearly (Items 4, 5, 10, and 11). A smaller but still significant minority believed audio aids helped them retain and comprehend information (Items 6 and 12) as

well. The other significant patterns in the data showed that students disliked learning strictly from the textbook (Item 16) and many believed having information in the form of bullets made it easier to memorize information (Item 17). This descriptive background of the student population from the quantitative data was used to confirm the validity of the findings from the qualitative data from the teacher interviews and the open ended survey questions through the process of triangulation.

The qualitative data were analyzed according to the grounded theory approach. The cognitive theory that served as the lens through which all data were viewed was the oldest and most widely accepted cognitive theory in the field of education, schema theory. Schema theory held that the underlying goal of all education was to move information from short-term memory or working memory into long-term memory, which was constructed out of bits of information called schema. According to the theory, the schema in a person's long-term memory have a certain logical structure to them and for information to most easily move from a person's short-term memory (where it would soon be completely lost when new sensory data came in) it had to hook into the web of information already present in long-term memory through the activation of prior knowledge, and it had to fit into the format that all other schema were in, as well.

Evidence of quality and procedures for establishing the best possible accuracy and credibility of the findings were established through triangulation of data, since there were three data sources and both qualitative and quantitative data to work from, and through peer debriefing. A University of Iowa PhD in German with an emphasis in Second Language Acquisition (where she demonstrated in her dissertation her experience in the

fields of cognition and instruction) who has been teaching for about 10 years (2 years of which have been teaching history at the elementary level) agreed to serve as the peer debriefer for the study, and she was able to bounce ideas back and forth with the researcher and provide critiques as he developed his conclusions from the data.

Discrepant cases were included in the analysis and discussion of the data and were regarded as part of the overall data pattern. Again, the coding procedures that were used for summarizing the non-experimental quantitative data were to code survey data with the letters SA through SD according to their Likert scale answers on retention and comprehension with SA being “Strongly Agree,” A being “Agree,” N being “Neutral,” D being “Disagree” and SD being “Strongly Disagree.” For all qualitative items, the data analysis was done by placing the ideas and innovations in a series of open categories that were developed by the research questions and further axial categories which were determined by patterns in the data and through the lens of the theory that the study is grounded in, which was schema theory. This informed the creation of a new paradigm for how to instructionally design PowerPoint slides for a history presentation and that served as the basis for the project portion of this project study. The project was to create a prototype, ready-to-use, new PowerPoint presentation covering a portion of American history, and it was to be instructionally designed according to the new instructional design paradigm developed from the data analysis.

The qualitative data from the interviews and from the short answer sections of the student and teacher surveys was first categorized in a process known as open coding by the broad outlines developed by the research questions which were

1. Techniques that more effectively adapted PowerPoint to history as a subject in general (Open Code 1)
2. Elements that made history easier for students to retain (Open Code 2)
3. Elements that made history easier for students to comprehend (Open Code 3)

The researcher developed a chart based on the open coding and went through each interview and the collated student survey and teacher survey data and looked for patterns in the data keeping in mind the basic tenets of schema theory as a guide to look for the patterns. Data that seemed to fit the open categories was highlighted, and summaries of that data were placed in the chart. The researcher then went through the chart and looked for patterns. When a pattern began to emerge, the researcher took a particular color highlighter and began highlighting data that fit that pattern in a particular color, developing sub-categories across the open categories in a process known as axial coding.

The axial subcategories that emerged follow:

1. Techniques that more effectively adapted PowerPoint to history as a subject in general.
 - a. Change in components to make it more “history friendly” (Axial Code 1a)
 - b. Change in the level of interactivity to make it more “history friendly” (Axial Code 1b)
2. Elements that made history easier for students to retain
 - a. Components that promoted retention (Axial Code 2a)
 - b. Methodologies that promoted retention (Axial Code 2b)

3. Elements that made history easier for students to comprehend
 - a. Components that promoted comprehension (Axial Code 3a)
 - b. Methodologies that promoted comprehension (Axial Code 3b)

The table that the researcher created and coded is located in Appendix D, and the conclusions that emerged from this analysis of the data were as follows:

Conclusion 1: Change from bullets to narrative to force students to engage the text more_ (Axial Code 1a). Schema theory agreed with this change. According to this theory, memorization did not promote learning; it went into the short-term memory and left again. On the other hand, story format (narrative) very powerfully promoted retention in long-term memory as well as connections to prior knowledge (as a continuation of the story already located in long-term memory) because that was the way schema were structured in the brain (Emerson, 1996). Triangulation of quantitative and qualitative data from student and teacher surveys with the qualitative data from the teacher interviews supported this change as well. Students indicated that they preferred bullets (Item 26 on student survey) because it made information easier to memorize, and it was very clear from schema theory that memorization did not promote long-term learning, and teachers indicated that they agreed that students tended to simply absorb information and not think critically about it (Part VI: Item 3 on teacher survey). Schema theory indicated that if students were not thinking critically about information or reforming it in their minds, then it would tend to stay in short-term memory and fail to connect to the web of schema that made up long-term memory.

Conclusion 2: Increased interactivity made PowerPoint more adaptable to history because student opinions and analysis of history could be given a more prominent place (Axial Code 1b). Schema theory agrees with this change. When students made comments and contributions to a work, they were often speaking from their own prior knowledge which helped move information from short-term memory into long-term memory. Triangulation of quantitative and qualitative data from student and teacher surveys with the qualitative data from the teacher interviews also supported this change. Students indicated overwhelmingly on Item 29 that one of the greatest disadvantages of the use of PowerPoint was that it was not interactive and that it was boring. Teachers indicated on Part VI Item 1 that they were 67% neutral on the question of students becoming more involved in class when PowerPoint was being used, and on Part VII: Item 5, one of the teacher comments was that a future improvement on PowerPoint would be making it sync up with survey technology so that students could become more involved in the presentation.

Conclusion 3: The consistent use of images such as pictures helped promote retention of historical material (Axial Code 2a). Schema theory agreed with this change. The linking of concepts to concrete images and other sensory data helped move them into long-term memory. Triangulation of quantitative and qualitative data from student and teacher surveys with the qualitative data from the teacher interviews also supported this change to PowerPoint slides. Students overwhelmingly indicated that pictures help retention and comprehension and they wanted more of them in PowerPoint slides (Items 5, 11, and 26) Teachers agreed that the use of images such as pictures improved the

retention and comprehension of history (Part IV: Item 2 and Part V: Item 2), with one teacher commenting that images could create “dramatic visual/spatial glimpses into history.” (Part VII: Item 4).

Conclusion 4: The consistent use of methodologies that simulated reality or immersed students in a time period such as audiovisual footage could do in conjunction with a PowerPoint presentation helped promote student retention of historical material (Axial Code 2b). Schema theory agreed with this change. The linking of concepts to concrete images and other sensory data helped move them into long-term memory. Triangulation of quantitative and qualitative data from student and teacher surveys with the qualitative data from the teacher interviews supported this change as well. Students agreed in large majorities in the student surveys that the use of audiovisual footage promoted retention and comprehension of historical material (Items 7, 13 and 30), and teachers also agree in the teacher surveys that it makes a significant impact on student retention and comprehension of historical material (Part IV: Item 5 and Part V: Item 5).

Conclusion 5: The comparison and contrast of images such as maps, charts, and other visual aids helped students better comprehend history (Axial Code 3a). Schema theory agreed with this change. The linking of concepts spatially to concrete images and other sensory data helped move them into long-term memory. Triangulation of quantitative and qualitative data from student and teacher surveys with the qualitative data from the teacher interviews supported this change, as well. Students agreed by large majorities that spatial diagrams such as maps were useful for both comprehension and retention of historical material (Items 4, 10, 27 and 30). Teachers also agreed in

significant majorities that the use of components in PowerPoints such as maps, diagrams, and charts were useful for both comprehension and retention (Part IV: Items 1 and 2, and Part V: Item 2). In the words of one teacher, “Words/concepts spatially arranged can be powerful - e.g. on a map or a process flow diagram.”

Conclusion 6: Modalities and materials within PowerPoint that encouraged classroom discussion/interactivity promoted comprehension (Axial Code 3b). Schema theory agreed with this change. Discussion and interactive engagement with other students and the teacher forced students to wrestle with and engage the meaning of a text. In order to effectively discuss the meaning of a text, students must have already formulated a basic logical understanding of it, and this promoted the movement of that information from short-term memory to long-term memory. Triangulation of quantitative and qualitative data from student and teacher surveys with the qualitative data from the teacher interviews supported this change as well. Students indicated that discussion and interactivity were much better than the teacher rolling through the slides (Item 30). As stated previously, teachers made it clear on Part VI Item 1 that they were 67% neutral on whether students became more involved in class when PowerPoint was being used with one of the teachers commenting that that students needed to “become more involved in the presentation.”

The researcher assumed that all of the subjects who were participants in this project study were answering all of the questions to the best of their ability and were being as honest as they could when they provided answers. This study confined itself to interviewing at least four teachers in the history department at a local school, as well as

surveying students in the upper school (Grades 9-12) and all of the teachers in the social studies department. The limited school size, the limited number of answers being used from the original surveys on the modified surveys, and the small number of teachers who were participating may limit the generalizability of the findings to all schools across the country. The generalizability of the findings may also be limited by the skewed nature of the sample of respondents to the student survey as compared to the general student population across the country. The respondents who decided to voluntarily turn in their surveys tended very heavily towards the high end of the GPA spectrum, and the vast majority of the respondents indicated that they liked history as a subject. As a result, this population and the results obtained from it may not be as representative of the views and needs of students who are not high achievers. The small number of teachers who returned the teacher survey may limit the generalizability of the findings as well. While the private school in question is racially diverse, it is not as diverse as the general population in terms of student socioeconomic status. The students at this school also had access to a higher level of technology than students in the general population do, and they are exposed to a more challenging curriculum in the AP (Advanced Placement) and IB (International Baccalaureate) programs. This may also hurt the generalizability of the study's findings. Nevertheless, in spite of the limitations listed above, the researcher was still able to take direction for the future of PowerPoint from this cutting-edge school.

The results of this grounded theory qualitative case study pointed to several positive changes for the use of presentation technology in the history classroom. These include changing the format of the words on slides to thwart memorization by students

who have fallen into the habit of easy rote learning and forgetting; increasing interactivity to stimulate student interest and make learning less passive; the heavy and consistent use of images on every slide to give students visual aids to help promote retention; the consistent use of audiovisual footage to promote student retention of the material; the use of diagrams, maps, charts, and other means of spatial organization of material to promote student comprehension of material; and the use of modalities and materials within PowerPoint that promote student retention and comprehension of material. These conclusions informed the creation of a new type of PowerPoint presentation which was more history friendly and which promoted better retention and comprehension of historical information. When asked to speculate on the future of presentation technology, Dr. B pointed to a new type of presentation technology that moved in a non-linear fashion called Prezi. The new presentation, in addition to being posted in traditional PowerPoint format once it is approved, will also be developed in Prezi, which stores everything online, eliminating the storage and transmission problems associated with PowerPoint slides. This presentation was meant only to facilitate and supplement good teaching, not replace it. It cannot be used all of the time, and as the qualitative interview data made abundantly clear, many of the most memorable activities students participated in, such as classroom simulations or historical immersion activities cannot be integrated into presentation technology. As Dr. A pointed out, often the biggest “ah-ha moments” and the best learning take place after the technology has been turned off.

Section 3: The Project

Introduction

Presentation technology like PowerPoint was originally designed for the business world and to suit the needs of the business world. As a result, when it was adopted in the classroom by some enterprising educators, the format that PowerPoint had traditionally followed in the business world became the format that it followed in the classroom. However, to take one example, the reduction of a historical narrative to a series of bulleted “factoids” is a format rife with pedagogical problems, which were amply demonstrated in both this study’s findings and the literature in the field. The fact that bullets were ill-suited to the retention and comprehension of history created a need for a new format for presentation technology, specifically adapted to the pedagogical needs of history learners. This need resulted in the creation of a new instructionally designed PowerPoint prototype, which is the project that is described below, and which was instructionally designed according to the findings of both the study and what was established as effective in the literature.

Description and Goals

The lens through which all of the evidence and conclusions of this grounded theory study and through which the instructional design of this project were viewed was schema theory. Schema theory was suitable cognitive foundation for an instructional design that centers on skill acquisition (Suzuki, 1987). The conclusions of the grounded theory qualitative case study suggested the following instructional design goals for the

completion of the project portion of the study which entailed the creation of a PowerPoint that teachers could use:

1. The format of the words on slides had to be changed in order to thwart memorization by students who chose the easy way out.

2. The use of the PowerPoint had to increase interactivity to increase student interest and make learning less passive.

3. Images had to be used consistently across all slides and as much as possible to insure that students had the visual aids necessary to “put pictures to words” in the words of Mr. C and as a result to help promote retention,

4. The consistent use of simulation activities and audiovisual footage (which provided a sort of simulation or immersion experience for students) had to be a part of the presentation in order to promote better student retention of the material.

5. The use of diagrams, maps, charts and other means of spatial organization of material had to be employed to promote student comprehension of material.

6. The better use of various modalities within the software and the introduction of materials like primary sources within PowerPoint had to be employed in order to promote student retention and comprehension of material.

The improved PowerPoint project was completed according to the data gathered and the suggested directions for future research and effective methods in the literature. This project was a U.S. History PowerPoint that encompassed the most recent part of U.S. history from the end of World War II to the 2008 presidential election. Each of the six goals was met by the researcher in the construction of this PowerPoint, which ended

up being 312 slides. Covering all 312 slides would probably be difficult in any class except possibly at the college level. The large number of slides were included, however, so that the PowerPoint was adaptable to the particular portions of history that a teacher might want to cover. The teacher could choose which slides he or she would like to cover in the custom slide show option under the slide show menu tab in PowerPoint.

Instructions for how to do this are available in a short curriculum guide that accompanied the PowerPoint slides.

To meet the first goal, the researcher put the historical information for each slide in a concise narrative format. Each slide contained information in narrative form for the teacher and students to discuss and in addition students would get all of the slides of information in a notes packet so they were not scrambling to write things down. Their task, rather, was to draw out main ideas and summarize the narrative on each slide – but they could still go back and look at the narrative because it was in the notes packet. The content was presented in a specially designed PowerPoint presentation that combined visuals (Fehn, 2007) with “nutshell narratives” (Tamura, 2003), and that differed in some significant ways from how PowerPoint was traditionally used. The content in the PowerPoint presentation was arranged chronologically and contained historical narrative rather than bulleted facts (Immerwahr, 2008; Tamura, 2003; Wineburg, Reisman, & Fogo, 2007) as well as images (Coohill, 2006; Fehn, 2007) and audiovisual materials (Hoover, 2006) on the slides.

The research in the field on the benefits of the narrative format over the copying or listing of facts informed the structure of the information on the PowerPoint slides.

Students already had the entire contents of the PowerPoint slide on their notes packet which was included as well, so the largely detrimental practice of mindlessly copying down information (Paxton & Wineburg, 2000) was not encouraged. Instead of listing bulleted facts for students to copy, each slide had a nutshell narrative on it from which students had to summarize the main points, forcing them to engage and think about the text. These nutshell narratives were platforms or starting points that could serve as the beginning of a more in depth lesson and could be connected to the textbook or if the information was going to be covered just in passing due to time constraints, they could serve as a quick outline of the content for cause and effect reasoning purposes. In a perfect world in which all of American history is covered over the course of 2 or 3 years, every slide could serve as a platform for an in-depth activity. However, since most United States history classes are considerably shorter with many teachers being expected to cover the entirety of United States history in the space of one year (McGlenn, 2007), in many cases some slides could be quickly mentioned, while others could be covered in much more depth.

There was no precedent in the literature of the field for the use of anything different from bullets in PowerPoint slides. Since too much text could also be a problem, the literature in the field does point to a compromise between the two in nutshell narratives (Tamura, 2003). These nutshell narratives were originally student created paragraphs that a teacher had her students create to formulate a better understanding of history, but which the researcher could also create to effectively package historical information on PowerPoint slides.

The researcher created the text on each of the nutshell narratives in his own words by summarizing historical works from a wide variety of primary and secondary sources. This included textbooks, history books, and primary source accounts by the people who were eyewitnesses to history. The textbooks included *The American Pageant Fourteenth Edition* (Kennedy, Cohen, & Bailey, 2008) and *Out of Many: A History of the American People Third Edition* (Faragher, Buhle, Czitrom, & Armitage, 1999). Additional information on the Cold War was obtained from *Vietnam: A History* (Karnow, 1997), *Presidents' Secret Wars: CIA and Pentagon Covert Operations from World War II Through the Persian Gulf War* (Prados, 1996) and *Killing Hope: U.S. Military and CIA Interventions Since World War II* (Blum, 2000). Additional information on the civil rights movement was obtained from *Parting the Waters: America in the King Years 1954-1963* (Branch, 1998) and *Eyes on the Prize: America's Civil Rights Years 1954-1965* (Williams, 1987). Additional material on the presidents and presidential campaigns was found in *Presidential Anecdotes* (Boller, 1981) and *Presidential Campaigns* (Boller, 1985). Additional information on the counterculture of the 1960s was found in *The Sixties: Years of Hope, Days of Rage* (Gitlin, 1987). Every effort was made to maintain a balanced and unbiased point of view and was neither too “triumphalist” nor too “revisionist” as a result (Zimmerman, 2002). Where there are widely divergent points of view or uncertainties on a particular topic they were all mentioned. International perspective (Lyons, 2005) was achieved by coverage of events of importance in world history which allowed the teacher to establish chains of cause and effect that were crucial

to building student understanding and this provided a more cosmopolitan international perspective on American history.

To meet the second goal, the short curriculum guide, which is included with the PowerPoint, attempted to create a more interactive atmosphere in the classroom and connect history to students' prior knowledge by starting every class with a 5-minute discussion and summary of the important news or current events (Deveci, 2007; Doyle, 1990) taking place in the world, an activity that students should find intrinsically enjoyable because it affects the world they live in (Passe, 2008). This has the added benefit of connecting historical knowledge to the prior knowledge about current events that students had in their long-term memory. It makes the discussion of history more relevant because it connects it to the world in which students live.

To meet the third goal, each slide included pictures (Coohill, 2006; Fehn, 2007; Stephens, Lehr, Thorpe, Ewing, & Hicks, 2005) and to accommodate for the other learning styles that may be present among students they would also include audio technology where copyright law permitted (Lipscomb, Guenther, & McLeod, 2007). The pictures were gathered from public domain collections such as the Library of Congress and the National Archives and Records Administration, and collections where permission to use the image was granted as long as it was not being used for the purposes of monetary gain under licenses like the GNU Free License or under permission from the copyright holder. These pictures were often found in large open source, public domain, and free image collections on the Internet like Wikimedia Commons.

To meet the fourth goal the researcher encouraged the use of historical simulation activities and the use of selected short clips of audiovisual material, but was limited in what he could put in the actual PowerPoint itself due to copyright law and the dearth of useful audiovisual footage from this time period that was in the public domain. However, this problem could be solved if the researcher were to make the PowerPoint available on the internet where You Tube videos could be embedded and fair use would apply since the footage would not necessarily be distributed but would simply be on a website that teachers could access to make their presentations. Alternately, the researcher placed a bibliography of videos in the curriculum guide that could work well as audiovisual support materials from which clips could be drawn.

To meet the fifth goal, the study and the literature suggested that maps and diagrams were of critical importance and as a result the PowerPoint will made extensive use of maps and charts to describe the Cold War, conflicts like Korea and Vietnam, and each election from 1948 up to 2008. Students could also be asked to create a timeline of the events in the unit that had a flowchart of cause and effect in it where they could be asked to pick out the ten most important “turning point” events and could be asked to give a reason why they thought they were important (Alleman & Brophy, 2003) as they related them to their own thoughts about history and current events in the news. They could also be asked to create a flowchart of a cause and effect chain of a selected series of events. The timeline and the flowchart could even be combined. This would activate students’ prior knowledge by connecting their prior understanding of historical events to the events being studied in the unit and it also served as a graphic organizer which helped

students create a “big picture” or framework to place events into (Bean, Sorter, Singer, & Frazee, 1986; Horton, Lovitt, & Bergerud, 1990).

To meet the sixth goal, the curriculum guide included strategies to facilitate intellectual discourse and high level discussion (Hess, 2004; Monahan, 2000; Pennel, 2000) over the analysis of primary sources (Wineburg, 2001) or the facts of the history contained on the slides themselves. One method recommended for facilitating discussion which this project recommended because the literature supported such a high level of comprehension from its use is the Reciprocal Teaching Approach (Lederer, 2000; Palinscar & Brown, 1984, 1986) of having students summarize the historical narrative on the slides, coming up with their own main points, having them question the content and receive clarification from the teacher and then having predict what will happen next. The Direct Explanation Approach (Duffy et al., 1987) of the teacher directly explaining what he or she is thinking could be used to model metacognitive historical thinking (Wineburg, 2007) was another powerful tool that gets students involved in metacognition as they read and historical thinking as they considered the sources and context of the slide. When the two methods were used together in a combined approach (Alfassi, 2004), the literature suggested it produced dramatically improved results, even with bilingual students in comprehension and retention (Alfassi, 2004).

The literature also pointed to the value of the teacher as a Socratic questioner and metacognitive modeler, who brought to life a lively classroom discussion (Hess, 2004; Monahan, 2000; Pennel, 2000) of the the chronological cause-effect relationships that make history appealing and cause it to more easily be entered into the students’ long-term

memory. By using these methods which were outlined in the PowerPoint curriculum guide teachers could point students to cause-effect relationships (Ashby, Lee, & Dickinson 1997; Lee, Ashby & Dickinson, 1993) and get students to think about the historical significance (Barton & Levstik, 1997; Seixas, 1997) of the material they are looking at in the larger context of history without actually explicitly telling them what those points were. This keeps students from falling back upon the old habits of rote memorization for the quiz or test that they may be used to.

Another important way to facilitate discussion and get students involved in a discussion or debate was for teachers to employ lessons dealing with primary sources (Wineburg, 2001; Barton, 2005). The literature also overwhelmingly indicates that the curriculum must include the very important aspect of primary source analysis (Barton, 2005; Fehn & Koeppen, 1998; Wineburg, 2001; Wineburg, 2007), and a bibliography of the best collections of primary sources both online and in book format were included in the curriculum guide. Wineburg (2001) encouraged teachers to go beyond the textbook and introduce students to primary source materials in order to encourage the absolutely essential constructivist critical thinking by students about history that is key to their ability to transfer history into their long-term memory schema web.

All of this is not to say that other strategies should be employed by the teacher as well. Teachers should also do activities away from the PowerPoint, when it is turned off, including doing some storytelling (Emerson, 1996; Sanchez & Mills, 2005), or starting a very memorable experiential learning experience through the use of a week long classroom simulation (Menton, 1994).

Rationale

The rationale for this project lay partly in the local problem in the public schools in the community which was emblematic of a larger problem within the education system as a whole and partly in the literature which suggested a number of roads for possible reform of the history curriculum which included but were not limited to PowerPoint based presentations. Since the goal was to increase retention and comprehension, this project produced a usable curriculum which could be tried by teachers and which could then subsequently be further modified. It made use of the data from the study conducted at the local level to decide what modifications needed to be made to PowerPoint to make it more “history friendly” and to promote better retention and comprehension of historical material.

Review of the Literature

Literature regarding the application of cognitive theory to the instructional design of history units is virtually nonexistent. The closest anyone ever came to applying an overarching strategic organization to history units was the concept of curriculum mapping (Jacobs, 2004), which has been a buzzword concept since 2004. While curriculum mapping organized information strategically it was not always according to a cognitive theory. However, the literature suggested that curriculum mapping or the strategic organization of content and methods over units can be done according to the cognitive model known as schema theory because “schema theory explains the internal conditions of learning which can be applied to instructional design” (Suzuki, 1987, p. 2). Schema theory and the successive information processing models that have been derived

from it suggest that as a cognitive model, it is well established, and validated. According to the literature “the most extensively developed and validated models of memory for the semantic content of experience are the information processing models” (Nuthall, 2000, p. 86). While individual lesson plans may have incorporated cognitive theories like the schema theory into the classroom (Duis, 1996) there was no literature on the construction of units and overall instructional design of a US history curriculum from beginning to end based on a cognitive theory such as schema theory. Indeed, most of the literature spoke to methodologies that work, but with few exceptions (Emerson, 1996) did not attempt to construct an understanding of how the method fit within accepted cognitive theory about how the brain works.

The way in which the mind works has been a source of fascination and frustration for philosophers from the time of Aristotle and for educational researchers in America since John Dewey began questioning the nature of thinking in the early part of the twentieth century. Dewey’s work laid some important foundations for schema theory. Dewey began by observing that the mind engages in a stream of consciousness during the waking hours and is constantly engaged in the task of thinking (Dewey, 1933). As Dewey (1933) stated, “In a sense, a thought or an idea is a mental picture of something not actually present and thinking is the succession of such pictures” (p. 5). Dewey differentiated reflective thinking, however, from the type of thought that provides the “entertainment afforded by a train of agreeable mental inventions and pictures” (p. 5). To Dewey, reflective thinking was a series of thoughts that led to a goal or conclusion and reflective thinking, as he defined it, was necessary for the process of inquiry to take

place. The process of inquiry to Dewey was that logical, scientific method of building knowledge from evidence that has been the process by which all knowledge has been assembled and vetted against experience. Regarding history education, Dewey wrote,

If the aim of historical instruction is to enable the child to appreciate the values of social life, to see in imagination the forces which favor and allow men's effective co-operation with one another, to understand the sorts of character that help on and that hold back, the essential thing in its presentation is to make it moving, dynamic. History must be presented, not as an accumulation of results or effects, a mere statement of what happened, but as a forceful, acting thing. The motives--that is, the motors--must stand out. To study history is not to amass information, but to use information in constructing a vivid picture of how, and why men did thus and so; achieved their successes and came to their failures. (p. 151)

The active involvement of the mind in a complete experience rather than the rote memorization of book knowledge was one of the great themes of Dewey's work (Dewey, 1933).

Since Dewey's time, the formal theory known as schema theory was based off of ideas first mentioned by Jean Piaget (1926) as organizational structures for thoughts, by Frederic Bartlett (1932) as reconstructive memory, and by David Ausubel (1967) as advance organizers. It was first formalized as schema theory by Richard C. Anderson, (1977) who based his work off of findings by Rumelhart and Ortony (1977). Schema theory originally proposed that the mind compartmentalizes experiences and information

into discrete packages called schema and that all schema are logically categorized with similar schema in a branching format and that these branches are all connected together in a large web of experience and information that make up a person's view of the world (Anderson, 1977). Schema theorists further theorized that new information was easier for the mind to learn if it had some "prior knowledge" within the schema web to attach it to (Kintsch & Van Dijk, 1978; Pearson, 1979), and the "schema web" of categorized chunks of information retained permanently by the mind was referred to as long-term memory (Munroe & Rigney, 1977). This was distinguished from working memory, also known as short-term memory, which was filled up and erased on a regular basis to accomplish routine tasks (Morgan, 1981; Munroe & Rigney, 1977). According to the literature, schema theory has become one of the major pillars of educational psychology and instructional design since the late seventies, "becoming central to most theories of cognitive psychology, as well as to many versions of constructivism" (Dahlin, 2005, p. 287). Schema theory, particularly with its emphasis on prior knowledge, has been applied to the development of specific lesson plans in the field of history education with some encouraging results. Duis (1996) used a policy planning activity to activate students' prior knowledge before teaching an American history unit on Reconstruction. He had his students do an activity where they were faced with the problem of dealing with the defeated South after the Civil War. They were given the task of coming up with public policies that would effectively solve the problems facing former slaves and other groups that needed social services, land and protection. As students grappled with the issues facing these people, they could relate their situations to some they had some

familiarity with, such as those of disaster victims or refugees, activating their prior knowledge. When Duis then presented the competing plans that Lincoln, the Radical Republicans and Johnson came up with, he reported a much increased level of comprehension and retention based on average test scores and other informal measures of student knowledge (Duis, 1996).

Schema theory is hardly the final word on how the mind works, however, and it has come under some criticism. Even though most cognitive and educational psychologists take the existence of schema for granted because of the overwhelming circumstantial evidence for their existence, there is no empirical biological data that can yet verify their existence (Dahlin, 2005). The exact nature of how schema function is not well understood either. According to the theory, humans create this schema structure (or long-term memory) in their minds by gluing together experiences and information with “bits of sense” (Dahlin, 2005, p. 294) or connective logic, but the question remains of how the brain forms this glue or meaning that holds the schemata web together. While schema theory is still in the process of being fully understood, the theory does successfully describe what so many researchers have found to be true in so many cases that it does provide as firm a basis as can be had presently until the inner biological workings of the brain are more fully understood (Dahlin, 2005)

More recent comprehensive theories of memory that are based on schema theory include the information processing theories of memory that still use schema structures, but break memory down into types and study the interplay between different memory systems, such as episodic memory, linguistic memory and mimetic memory (Nuthall,

2000). Further theories along this line such as cognitive load theory focus on the interplay between working memory (short-term memory) and the existing schema web (long-term memory) and attempt to find the conditions under which the information in working memory is best transferred to the schema web without becoming lost (Paas, Renkl & Sweller, 2004; Sweller, van Merriënboer & Paas, 1998). Cognitive load theory points to the negative effects of repetition and the positive effects of varied instruction (Sweller, van Merriënboer & Paas, 1998) or “differentiated instruction” (Protheroe, 2007; Tomlinson, 1999) as the buzzword has become known. More recent advances in cognitive load theory have separated visual and audial working memory and have found significant increases in transfer to long-term memory schemata from the use of audiovisual multimedia presentations (Paas, Renkl, & Sweller, 2004). Other successful unrelated theories of cognitive structure such as Howard Gardner’s multiple intelligences theory have been positively correlated in terms of data interpretation with schema theory (Meade & Cubey, 1996). With the weight of the many decades of research and refinement that have gone into schema theory, such a cognitive model will serve as a strong theoretical foundation for any coherent instructional design strategy that is applied to creating a history curriculum, whether it is technology saturated or not.

Implementation

Once the PowerPoint Project has been approved by the committee and the school, the researcher will distribute it to teachers by creating a website where they can access the PowerPoint slides online. This will either be done via the traditional means of putting PowerPoint slides on the web or through Prezi, a new non-linear web based presentation format suggested by Dr. B, which zooms in and out of a central picture to present information. Teachers will then be able to access the website and do their presentations without worrying about the burden of trying to have enough hard drive space to do the presentation. The student notes packet would be made available for download on the website, as well as the short curriculum guide or could be distributed through a database such as ERIC. The website could offer a space where teachers and students could collaborate and offer suggestions for the modification existing slides or the creation of new ones.

Potential Resources and Existing Supports

Many school districts across the country including the local public school district are making computers and LCD projectors available to teachers and this is creating a potential community of history teachers who could collaborate online to take this new instructionally designed PowerPoint to new levels and to expand it to cover all of American history. Many schools, like the one at which the study was conducted, already provide technology to students and teachers and they provide a community that would be able to use the new prototype PowerPoint right away.

Potential Barriers

As the student surveys showed many students have fallen in love with bullets for the wrong reason, because it makes information easy to memorize. There may be some resistance among students and even among teachers as well to moving away from this easy but pedagogically wrong methodology towards real comprehension of the material which produces real retention of it. Lack of access to computers and LCD projectors presents another significant barrier to the potential implementation of the product of this project study.

Proposal for Implementation and Timetable

The proposed project will be implemented according to the following timetable:

- Starting in June 2011 after the project has been approved it will be placed on the Web and will be made available to teachers through a traditional website and through Prezi.
- The curriculum guide and the notes will also be made available as well and teachers will be able to access them through the Web and through ERIC.
- A collaborative space would be set up on the website that allows teachers to post comments and make suggestions for improvements or new slides. Teachers could also create a test bank to allow for the evaluation of student retention and comprehension of the material.
- Over the summer, the online discussion would most likely center around the history content itself, as teachers would have not yet had the opportunity to see its effects in the classroom.

- As the new school year begins in August of 2011 teachers and students could post their reflections on the pedagogical usefulness of the format and changes could be made to the format from that point forward.

Roles and Responsibilities of Student and Others

The student researcher will serve as the website manager and will maintain the website and be responsible for moderating discussions on the collaborative space there for teachers. The student researcher will also serve as a teacher leader by continuing to update the prototype PowerPoint project with new slides and information potentially provided by other teachers and students as well. Other teachers and students could become leaders in particular areas of history where they have specialized knowledge or expertise and could become teacher leaders in their own right by sharing their insights with other history teachers via the website.

Project Evaluation

The evaluation of the project will be in the form of formative goals since this is a first step in a new direction and the eventual goal is to improve how PowerPoint is formatted in the field of history education. This would best be assessed in the early stages through qualitative feedback from teachers and students, but would certainly point the way towards more rigorous quantitative assessments of the effect this new format has on student comprehension and retention of historical information. The goal is to find out if the new format for PowerPoint is more effective than the old format. Since other teachers and students will have a chance to comment on the message boards on the website, the

teacher will be able to receive feedback as to how useful the new format is and what improvements would make it better. This will serve as a powerful reflective indicator of whether this attempt to redesign PowerPoint was a success or not. If there are no responses on the website the researcher could direct several colleagues in the local area to the website and then ask for their reactions.

Implications Including Social Change

This project study has significant implication in terms of social change both at the local level, in the public school districts that need guidance in the proper use of PowerPoint in the history classroom and in a far reaching sense as well.

Local Problem Implications

The implications within the local public school district adjacent to the school where the study was done – this public school district where scores on standardized test for history were very low – even by state standards - could be a renewed love for history among students, and more effective use of the classroom technology that was provided to the public schools in the technology initiative that they just implemented. This could lead to an increase in test scores and some methods may lead to cross curricular benefits such as an increased ability to draw inferences from and summarize passages of text and a reduced antipathy towards textbooks on the part of students.

Far-Reaching Implications

On a larger scale, with President Obama's much needed plan to rebuild America's decaying educational infrastructure and to create 21st-century classrooms that are saturated with technology across the country, the findings of this project study have the

potential implication of making a significant difference in how textbook companies and PowerPoint vendors create and use PowerPoint in the history classrooms of tomorrow.

Conclusion

This project has the potential to break students free of the old “rote memorization” of strings of facts that the bullet format of PowerPoint currently invites and it could create a curriculum that would engage students with narrative text and get them to draw conclusions and think critically about history. Even a step in this direction would do American history education a real service. The project will create an engaging PowerPoint curriculum that will cover the time period from the end of the Cold War to 2008 using all of the latest innovations suggested in the literature and combining those suggestions with qualitative data gained from interviewing technologically expert history teachers who are currently using PowerPoint in their classrooms on a consistent basis already.

Section 4:

Reflections and Conclusions

Introduction

The creation of this project has been a transformative experience for the researcher, who has been able to, for the first time as an educator, find an outlet where his passion for history could be channeled into a product that could allow him to provide some leadership to other teachers in the field. During this entire process the researcher developed a metacognitive reflective process about the study, the project, and what the whole progression had said about his own teaching strategies. This reflective process moved into the possible future impact his research might have as well.

Project Strengths

The project has several strengths when it comes to addressing the problem. The first strength is that it forces students to engage a narrative text. This is critical when it comes to overcoming the habit of rote memorization. The project also contains a great number of maps and pictures - at least one or more for each of the 312 slides. These provide concrete anchors for students to latch on to in order to make events more memorable to them. The content that the history presentation covers and the breadth in which it covers it, going far beyond the textbook in some areas like the Cold War, is also a strength, because it allows the teacher to draw webs of logical connection between events while maintaining chronological continuity and the fact that it is covering recent history makes it easier to draw connections to current events and this makes it pertinent to students' lives. Another strength of the project is that it recognizes the limits of what

technology can and should do within the classroom. It is designed, according to the curriculum guide, to supplement good teaching and intellectual discourse, not to replace it.

Recommendations for Remediation of Limitations

One of the most significant limitations of the project itself are the United States copyright laws that must be respected by the researcher, especially when it comes to audiovisual footage of events more recent than World War II. One recommendation that the researcher could and did to remediate this problem is to provide teachers with a relatively short list of DVD based videos that they could purchase and which would then provide extensive footage for clips that could then be shared with students. An alternative solution would be to base the presentation solely on the web where the copyright restrictions would be less stringent than if the researcher were to distribute an actual PowerPoint presentation. Further remediation for the limitations of the sample size and demographic characteristics could be made with the thoughts and insights of other teachers from around the country being added by providing a “collaborative space” on the website where teachers and others such as professional historians and students could offer their insights.

Scholarship

The researcher learned a great deal about scholarship in the course of this project study from both the process of reading the literature in the field and applying the principles gleaned from careful research to the creation of a product, and from the interaction the researcher got to have with master teachers during the interview process,

which inspired the researcher to become a better teacher and a continual learner himself. Data based decision making is critical to the development of effective pedagogical tools. Scholarship involves a real scientific approach to the problem that does not work from assumptions or hunches but from data viewed dispassionately through the lens of a theory. The scholarship in the field of history and technology education has expressed excitement about the future possibilities that technology can provide, but the larger scholarship in the field of history education and cognitive learning theory brings the technology into perspective as one very powerful tool in an arsenal of pedagogical tools available to the teacher. It is clear from both the study and the literature that real teaching involves more than just the presentation of material – students must engage both the material and other minds in the room to come away with a valuable pedagogical experience. In the words of Dr. B (personal communication, 2/11/2011), “technology cannot replace intellectual discourse.”

Project Development and Evaluation

Through the reflective process the researcher learned that project development is an arduous process that requires careful attention to data, theory and content. In the development of this project the researcher stepped in the shoes of the research scholar as he conducted a study and looked at what data was saying, but not only that, he also had to become the academic scholar and through a review of the literature, he had to interpret that data according to a theory. Finally, the researcher had to step into the shoes of the historian and decide what information was essential to include and how to phrase it in a narrative that was accessible to student reading levels and vocabulary. The researcher

found the role of historian to be a very challenging one because it is difficult to gauge what historical information is best to include and inevitably the researcher's biases towards political and military history would pull him away from the cultural history that is equally as important and the researcher would have to make a conscious effort to include the history that he did not have as much of an inclination towards. Having the textbooks available as a guide made this process much easier, because they are well balanced books written by some of the most eminent historians in the field, but the researcher found that the textbooks sometimes would only briefly mention or would entirely gloss over certain subjects. For instance, during the Cold War, the true extent of the CIA's involvement in the affairs of countries all over the world is never really made clear. The researcher was grateful for the flexibility PowerPoint offered that allowed him to bring in the very recent histories that have been written about CIA interventions around the world. This is a painful story to delve into at times because one does not want to believe that one's country could be capable of certain things, but it is a story that needs to be told, and when it is looked at in its entirety, it certainly makes the current web of international relations much more clear. For example, the animosity of countries like Iran towards the United States has its roots in the Cold War and going beyond the textbook into some of the great history books that have been written about the time period certainly makes the relationships much clearer. In spite of the effort of the researcher there will doubtless be glaring gaps in the history of the time that more eminent historians will point out. Hopefully such historians, who teach in universities all over the country,

would be willing to lend their expertise to the online that history educators from across the country will hopefully be able to have over the internet.

Leadership and Change

The researcher has learned a great deal about teacher leadership and change throughout the course of this study. Teacher leadership means more than simply charging in and yelling, “Follow me!” to one’s fellow teachers. The researcher learned, especially from the time he got to spend with master teachers during the interview portion of the qualitative study, that leadership in the world of history education is really more about collaboration where the teacher leader simply tries to facilitate the beginning of a discussion, and then allows other teachers to enlighten the community as whole with their area of expertise and the insights that they have gained through years of experience. The researcher was struck during the course of this study how many incredibly talented teachers are out there and what a shame it is that the field as a whole doesn’t get more of an opportunity to hear the wisdom that they have gleaned from their years of experience. The idea that the internet could unite a group of teachers in a “collaborative cyber space” where the benefits of the expertise, wisdom and insight that a particular teacher may have on a particular slide or topic in the PowerPoint could be shared by other teachers across the country is an exciting one. The possibilities for change in the field of history education and in society at large are tremendous.

Analysis of Self as Scholar

The researcher learned that he was more comfortable as a scholar than he thought he would be, because even though the task seemed daunting at first, once he got involved in the literature review and the actual research, he found the process to be quite enjoyable. The researcher realized that being a first rate scholar is in essence, a scientific process, where the researcher is looking to make data based decisions to improve curriculum or practice. The whole process has created a renewed appreciation on the part of the researcher for other researchers in the field and the value for practitioners in the classroom because data based decision making is the best way to improve practice. The researcher found that although he found patterns in the quantitative data to be somewhat interesting, that he found qualitative research to be much more interesting in terms of the data gleaned and what could be done with it. Future research by the researcher would focus on the qualitative methods as a result of what the researcher learned about himself during the research process.

Analysis of Self as Practitioner

The revelations to the researcher about the methods that master teachers use to reach students and the defects that their methodology revealed in his own teaching practice was perhaps the most surprising part of the whole process for the researcher. The researcher found that he had been limiting himself to far too few methods in the classroom as a teacher and that what he had believed passed for differentiated instruction really didn't meet the same standards that other teachers had for differentiated instruction. The students made some revealing comments about what constituted a

positive learning experience for them as well in the qualitative section of the surveys. They were much more easily bored and far more eager to remain interactive on a regular basis than the researcher originally thought. The collegial atmosphere of the room that was described in the master teacher's classrooms was something that the researcher found to be an area in which he could a great deal of improvement. The ways that teachers found to empower students and make them a more integral part of the intellectual discourse in the room from their descriptions made the researcher want to learn more from them about how to foster that kind of atmosphere in his own classroom.

Analysis of Self as Project Developer

As the researcher went through the reflective process on the development of the project, he realized several important truths about himself as a project developer. The first thing that the researcher realized was that the process of creating a historical narrative was a very enjoyable aspect of the project. The researcher was able to "unleash" his passion for the subject of history and add in the parts of the story that he felt were important for students to understand. Books that the researcher had read simply because he wanted to further understand a part of history became useful as sources that added important additional information and dramatic detail to the textbook accounts. The researcher also realized that curriculum development is partly about student motivation. It was clear from student responses on the surveys that the textbook was terribly un motivating for them. Hopefully the shorter amounts of narrative will seem more manageable and students will be willing to engage the narrative. Project development is not the straightforward process that it first seemed to be because sound instructional

design needs to be based on data, cognitive theory and the precedents that have been set in the literature.

The Project's Potential Impact on Social Change

The project has the potential to give history teachers a resource that is ready for classroom use and a prototype that they can use to develop their own slides about other parts of United States history beyond the years 1945-008. While the local private school has no real problems of pedagogical methodology of any magnitude that need to be addressed, this project will serve as an important pedagogical resource for teachers in that school system and serve to amplify an already strong program there. The project will, however, be very useful in addressing the local problem in the public school system because the local public schools received a grant that allowed them to give all teachers laptops and put an LCD projector in every classroom. The project will be especially useful to teachers in that system who do not have the experience with technology in the classroom that students and teachers at the private school have by providing a ready to use resource for teachers in the public school system that they can use to address student retention and comprehension of historical information. This, in turn, will help the local school district turn around the failing grade in social studies that it is currently getting on its statewide report card for schools.

Implications, Applications, and Directions for Future Research

The importance of this project study is that it found a way to potentially solve two problems at once by getting students to engage “nutshell narratives” and giving them concrete images, sounds and audiovisual materials to engage at the same time. The new

format for the slides may serve to solve a dilemma that is reflected in the literature.

Although some researchers have made compelling cases for the use of pictures in PowerPoint slide shows to create a “visual historical narrative,” (Fehn, 2007) they have been criticized by other leaders in the field for concentrating on images which students find easier to work with while “we are in the midst of a literacy crisis” (Wineburg, Reisman and Fogo, 2007, p. 151) and this raised concerns that “a decreased emphasis on writing and reading will exacerbate the literacy gap between the rich and the poor – not ameliorate it” (p. 151). The new format for slides developed in this project has the potential, if it meets with success to combine the use of powerful visual images with the use of a historical narrative, so that students are getting the benefit of both. Instead a “one way or the other” mentality, this new format could have the potential to combine the best aspects of both points of view. The implications for future research are richly varied. The effect of this new instructional design for slide format needs to be studied and students of teachers who effectively use this method need to be compared to the students of teachers who effectively use other traditional methods such as bullet points or textbooks.

According to the teachers who were a part of the study more research needs to be done on how to get other computer based technologies to “talk” to PowerPoint so that tools like Google Earth or iTunes could effectively insert media into a presentation. These teachers also suggested that further research needs to be done on ways to make PowerPoint more interactive so students could respond to questions using “clickers” and find other ways to engage the presentation on the screen interactively. The teachers would also like to see research done on how “collaborative spaces” could be created on the internet where

teachers could interact and build a project together from all over the country and around the world. Another future direction for research would be how technology could become more three dimensional in terms of being able to virtually walk around objects in an online museum. New forms of presentation technology would require new instructional design paradigms as well, and this would also be an area for future research.

Conclusion

The researcher discovered a large number of new facets to himself as a scholar, practitioner and project developer, while finding areas in which this project inspired him to significantly improve his own practices as a teacher. The implications for positive change on both the local level and on a larger scale for increasing student retention and comprehension of historical material are tremendous, especially as more and more schools across the country embrace the 21st century classroom with its technological capabilities. Future directions for research include combining the power of visual imagery with the need to get students to engage narrative text and draw meaning out of it. Future directions also could include ways to make PowerPoint more compatible with other technologies and the possibility of creating “collaborative spaces” where teachers could build and modify presentations together on the internet.

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Appendix A

Interview Guide

Scott Johnson

Topic: Effectively Using Presentation Technology in the History Classroom: A Qualitative Project Study

The **purpose** of this study is to discover a new paradigm for how to instructionally design presentation technology slides to maximize students' comprehension and retention of historical material.

Research question: How can presentation technology be more effectively adapted to the history classroom?

Respondent

A current or past teacher of history classes at *****School.

Interviewer

Scott Johnson

Transcriber

Scott Johnson

Time and Duration

There will be five simple questions and eight open ended questions in which the interviewer will ask several follow up questions.

Method

The interview will occur either during the teacher's planning period or after school in his or her classroom with the door shut and no one else present. The interview will be audio recorded.

Privacy, confidentiality, informed consent

The respondent will sign an IRB approved informed consent form to participate in the study and will be under no coercion to participate.

Background Information

1. Date:
2. Time:
3. Name:

4. What classes do you currently teach?

5. What classes have you taught in the past?
6. How often do you use presentation technology like PowerPoint to teach your classes?

Use of Presentation Technology

1. What are some of the unique characteristics of history as opposed to other subjects such as math or science?
 - A. What other subject area is history most similar to? Why?
2. Has using presentation technology like PowerPoint changed your approach to standards and benchmarks or curriculum structure in your history classes? How? Examples?
3. How has presentation technology like PowerPoint changed how students experience the delivery of information in your history class?
 - A. Could you describe any vivid examples of how presentation technology like PowerPoint affected the delivery of information in your history class?
 - B. Could you describe any historical events that students found easier to understand because of the use of technology in the classroom?
 - C. How does teaching a class using presentation technology like PowerPoint compare to any history classes you have taught that made little or no use of technology (if that has been the case)?
4. What are the top three benefits in general of using presentation technology like PowerPoint to teach your classes about history in your opinion?
 - A. Can you give me a specific example of how you saw _____ benefit play out in a classroom situation?

- B. Can you give me a specific example of how you saw _____ benefit play out in a classroom situation?
- C. Can you give me a specific example of how you saw _____ benefit play out in a classroom situation?
5. What are the top three biggest problems in general of using presentation technology like PowerPoint to teach your classes about history in your opinion?
- A. Can you give me a specific example of how you saw _____ problem play out in a classroom situation?
- B. Can you give me a specific example of how you saw _____ problem play out in a classroom situation?
- C. Can you give me a specific example of how you saw _____ problem play out in a classroom situation?
6. Where did you normally look to find the presentation technology that you have used?
- A. If it is self made ask what sources he or she used to construct the PowerPoint.
- B. Do you feel like the creators of that presentation technology did a good job in constructing the presentation technology?
- What are the top two things they did very well in your opinion?
 - Can you give a specific example of how each affected instruction in your class?
 - What are the top two things they did very poorly?

- Can you give a specific example of how each affected instruction in your class?
7. How do students typically respond to the following common components of presentation technology slides?
- A. Let's look at words or information in a bulleted format
- How do students typically react to this component? Examples?
 - What are the benefits of this component in its current format?
 - What are the problems with this component in its current format?
 - If anything were possible (feel free to think “outside of the box” here), what changes would you suggest might be made to the format or use of this component?
- B. Let's look at the use of pictures such as paintings or photographs
- How do students typically react to this component? Examples?
 - What are the benefits of this component in its current format?
 - What are the problems with this component in its current format?
 - If anything were possible (feel free to think “outside of the box” here), what changes would you suggest might be made to the format or use of this component?
- C. Let's look at the use of audio files such as music or recorded speeches
- How do students typically react to this component? Examples?
 - What are the benefits of this component in its current format?
 - What are the problems with this component in its current format?

- If anything were possible (feel free to think “outside of the box” here), what changes would you suggest might be made to the format or use of this component?
- D. Let’s look at the use of audiovisual files such as movie clips or animated graphics
- How do students typically react to this component? Examples?

 - What are the benefits of this component in its current format?

 - What are the problems with this component in its current format?

 - If anything were possible (feel free to think “outside of the box” here), what changes would you suggest might be made to the format or use of this component?
- E. Let’s look at the use of interactive web based files such as web modules, online libraries or online museums
- How do students typically react to this component? Examples?

 - What are the benefits of this component in its current format?

 - What are the problems with this component in its current format?

 - If anything were possible (feel free to think “outside of the box” here), what changes would you suggest might be made to format or use of this component?
- F. Are there any components in presentation technology that don’t currently exist that you would like to see somebody create in order to better promote student learning?

8. What really motivates or excites students in your experience when it comes to learning history?
9. What experiences in the history classroom really make history content memorable for students so that it is easy for them to recall it? Why? Examples?
 - A. Are there any other experiences that make content memorable? Why? Examples?
 - B. Are there any other experiences that make content memorable? Why? Examples?
10. What experiences in the history classroom really make history content easier to comprehend for students so that they understand how the information fits together in terms of cause and effect?
 - A. Are there any other experiences that make content easier to comprehend? Why? Examples?
 - B. Are there any other experiences that make content easier to comprehend? Why? Examples?
11. In your opinion, what is the most important, retention or comprehension of history? Why? Examples?
12. Can you think of any capabilities that PowerPoint does not have now that you would like to see it have in the future?

Follow up or simple clarification questions may include:

Could you give me an example?

How did you feel about that?

Why was it interesting to you?

Could you give me more detail?

The interview will end with the interviewer thanking the respondent for his or her time.

Appendix B

Student Survey

1. Which of the following best describes your preference with regard to the use of information technology in your courses?

- I prefer taking courses that use no information technology.
- I prefer taking courses that use limited information technology.
- I prefer taking courses that use a moderate level of information technology.
- I prefer taking courses that use information technology extensively.
- I prefer taking courses that use information technology exclusively.

2. How often is presentation software such as Power Point being used in your history courses during the current school year?

- Every Day
- An average of three times per week
- An average of once a week
- An average of once or twice a month
- Never

RETENTION: Please give your opinion and comment on these statements regarding your experiences with how different aspects of the use of Power Point in your history class helps you remember information.

3. When I remember history, it comes to my mind most easily in the form of:
 Visual images Sounds such as voices Words
 Comments:
4. I find that visual aids such as maps on a Power Point slide, help me better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
5. I find that visual aids such as pictures on a Power Point slide help me better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
6. I find that audio aids such as music or recordings of historical events such as speeches help me to better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
7. I find that audiovisual aids such as footage of historical events or movie clips help me to better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
8. I find that how words are arranged on slides help me better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

COMPREHENSION: Please give your opinion about the following statements regarding your experiences with how different aspects of the use of Power Point in your history class help you understand how history fits together or makes sense. Please add in any comments that would further clarify your answer.

9. When I understand history, the chain of events and how one caused another comes to my mind most easily in the form of:
 Visual images Sounds such as voices Words
 Comments:
10. I find that visual aids such as maps on a Power Point slide, help me better understand history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
11. I find that visual aids such as pictures on a Power Point slide help me better understand history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
12. I find that audio aids such as music or recordings of historical events such as speeches help me to better understand history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
13. I find that audiovisual aids such as footage of historical events or movie clips help me to better understand history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
14. I find that how words are arranged on slides help me better understand history.
 Strongly disagree Disagree Neutral Agree Strongly agree

GENERAL: Please answer the following questions add in any comments that would further clarify your answer.

15. I get more involved in courses that use visual presentation technology than I do in those that that don't.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
16. I like learning strictly from reading the textbook better than I like learning from Power Point slides
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
17. When Power Point is used I find myself doing a lot of memorization of the bulleted information for tests and quizzes
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
18. I find it easier to prepare for quizzes and tests when Power Point slides are used by the teacher
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
19. I find that I remember more history when Power Point slides are used by the teacher
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:
20. I find that I understand history better when Power Point slides are used by the teacher
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

DEMOGRAPHICS

21. What is your gender?
 Male Female
22. What is your age?
 13 14 15 16 17 18
23. What is your cumulative grade point average (GPA)?
 Under 2.00
 2.00–2.24
 2.25–2.49
 2.50–2.74
 2.75–2.99
 3.00–3.24
 3.25–3.49
 3.50–3.74
 3.75–4.00
 Don't know
24. I have the following classes as a part of my schedule (Mark all that apply)
 Special education classes Regular education classes Gifted education classes
25. I like history and generally do well in history classes in terms of the grade I usually earn
 Strongly disagree Disagree Neutral Agree Strongly agree

SHORT ANSWER

26. In your experience how is information usually presented on Power Point slides (the most common method is the use of bullets) and how helpful is this to you?
27. Could you write down an historical event or person that you remember from history class, and what part of any Power Point presentation being used helped you to remember it?
28. What are the greatest advantages in your opinion to the teacher using Power Point in the history classroom?
29. What are the greatest disadvantages in your opinion to the teacher using Power Point in the history classroom?
30. If you could suggest any improvements to Power Point for the history classroom that you haven't yet seen, what would they be?

Appendix C

Teacher Survey

Please take a moment to fill out this short survey. The survey provides a snapshot of how prevalent the use of presentation technology such as Power Point is in history education today, and what you, as an educator, believe about the benefits of this technology. The information from this survey will be used to pinpoint the ways in which presentation technology such as Power Point can be best designed and used in the history classroom.

PART I: DEMOGRAPHICS:

Teacher:	Pertinent Subjects Taught:	Age:	Gender:
<input type="checkbox"/> Elementary	<input type="checkbox"/> AP level history	<input type="checkbox"/> 20-29	<input type="checkbox"/> Male
<input type="checkbox"/> Junior High	<input type="checkbox"/> Honors level history course	<input type="checkbox"/> 30-39	<input type="checkbox"/> Female
<input type="checkbox"/> High School	<input type="checkbox"/> General education history course	<input type="checkbox"/> 40-49	
<input type="checkbox"/> Post Secondary	Specify era: _____	<input type="checkbox"/> over 50	

How often is presentation software such as Power Point being used in your history courses during the current school year?

- Every Day
- An average of three times per week
- An average of once a week
- An average of once or twice a month
- Never

How much access do you have to the necessary technology and equipment to consistently run Power Point in your classroom?

- As much access as I need
- I have access most of the times that I need it
- I have access half of the times that I need it
- I have access only rarely when I need it
- I do not have access

Part II: NEEDS: What, if anything, do you need to make the use of presentation technology such as Power Point a more integral part of your lessons? Use the numbers 1 to 5 where 1 represents a less urgent need and 5 represents a more urgent need.

Should Power Point be a more integral part of your history classroom? Yes No
If you answered "Yes" please answer items one through twelve below.
Otherwise please skip to the next section.

Needs:	Less Urgent					More Urgent	Not Certain
	1	2	3	4	5		
1. Time to learn to use Power Point	1	2	3	4	5		X
2. Time to change the curriculum to better incorporate the Power Point technology	1	2	3	4	5		X
3. Training with Power Point technology	1	2	3	4	5		X
4. Training with curriculum and pedagogy that integrates Power Point technology	1	2	3	4	5		X
5. Proper equipment to effectively use Power Point	1	2	3	4	5		X
7. Technical support to keep the equipment working	1	2	3	4	5		X
8. Power Point software that lines up with the textbook	1	2	3	4	5		X
9. Resources that illustrate how to integrate Power Point technology into the existing curriculum	1	2	3	4	5		X
10. Experience with technology-enhanced curriculum units in my classroom	1	2	3	4	5		X
11. Opportunities to work with colleagues to become more proficient using technology-enhanced curriculum units	1	2	3	4	5		X
12. More compelling reasons why I should incorporate Power Point presentation technology into the classroom	1	2	3	4	5		X

Part III: ATTITUDES TOWARDS TECHNOLOGY: Please circle the number that best reflects your belief, where 1 = Strongly disagree, 2= Disagree 3 = No opinion/not certain, 4= Agree and 5 = Strongly Agree.

	SD					SA				
	1	2	3	4	5	1	2	3	4	5
1. I believe that textbooks will be replaced by electronic media within 5 years.	1	2	3	4	5					
2. I believe that the role of the teacher will be dramatically changed for the better because of technology within 5 years.	1	2	3	4	5					
3. I believe that the role of the teacher will be dramatically changed for the worse because of technology within 5 years.	1	2	3	4	5					
4. I believe that I am a better teacher with technology.	1	2	3	4	5					
5. If my district offered free Internet based professional development activities, I would use them voluntarily.	1	2	3	4	5					
6. Technology can help accommodate different learning styles.	1	2	3	4	5					

Part IV: RETENTION: Please give your opinion about the following statements regarding your experiences with how different aspects of Power Point in your history class allow you to help your students better remember historical information. Please elaborate as much as possible in the comments area under each question as to how each part of Power Point helps students to remember history better.

1. When the majority of my students remember history, my impression is that it comes to their minds most easily in the form of:
 Visual images Sounds such as voices Words Some Combination
 If you chose "Some Combination," please explain.

2. I find that visual aids such as maps on a Power Point slide make it easier for me to help students better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

3. I find that visual aids such as pictures on a Power Point slide make it easier for me to help students better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

4. I find that audio aids such as music or recordings of historical events such as speeches make it easier for me to help students to better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

5. I find that audiovisual aids such as footage of historical events or movie clips make it easier for me to help students to better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

6. I find that how words are arranged on slides make it easier for me to help students better remember history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

Part V: COMPREHENSION: Please give your opinion about the following statements regarding your experiences with how different aspects of Power Point in your history class allow you to help your students better understand how history fits together or makes sense. Please elaborate as much as possible in the comments area under each question as to how each part of Power Point helps you to help students understand cause and effect relationships better and comprehend history in general.

1. When the majority of my students understand cause and effect relationships in history, my impression is that it comes together in their minds most easily in the form of:
 Visual images Sounds such as voices Words Some Combination
 If you chose "Some combination," please explain:

2. I find that visual aids such as maps on a Power Point slide make it easier for me to help students better understand cause and effect relationships in history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

3. I find that visual aids such as pictures on a Power Point slide make it easier for me to help students better understand cause and effect relationships in history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

4. I find that audio aids such as music or recordings of historical events, such as speeches, make it easier for me to help students to better understand cause and effect relationships in history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

5. I find that audiovisual aids such as footage of historical events or movie clips make it easier for me to help students to better understand cause and effect relationships in history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

6. I find that how words are arranged on slides make it easier for me to help students better understand cause and effect relationships in history.
 Strongly disagree Disagree Neutral Agree Strongly agree
 Comments:

Part VI: GENERAL: Please answer the following questions to the best of your ability

1. I find that in general, students pay more attention ask more questions and get more involved in my classes when I use visual presentation technology, than when I choose not to use such technology.
 Strongly disagree Disagree Neutral Agree Strongly agree
Comments:

2. I can improve my teaching from the textbook when I use Power Point slides
 Strongly disagree Disagree Neutral Agree Strongly agree
Comments:

3. When Power Point is used I find that my students tend to simply absorb the information and not think about it critically.
 Strongly disagree Disagree Neutral Agree Strongly agree
Comments:

4. When I use Power Point slides I find that students find it easier to prepare for quizzes and tests than they do when I do not use Power Point slides.
 Strongly disagree Disagree Neutral Agree Strongly agree
Comments:

5. I find that students retain more of the information that is being presented when Power Point slides are being used compared to when they are not being used.
 Strongly disagree Disagree Neutral Agree Strongly agree
Comments:

6. I find that students comprehend cause and effect relationships more easily when Power Point slides are being used compared to when they are not being used
 Strongly disagree Disagree Neutral Agree Strongly agree
Comments:

Appendix D

Qualitative Data Analysis Open Coding and Axial Coding Chart

Open and Axial Codes	Interview A	Interview B	Interview C	Interview D	Student Surveys	Teacher Surveys
<p><u>Schema Theory Lens for all data</u></p> <p><u>Open Code</u></p> <p>1. Techniques that more effectively adapted PowerPoint to history as a subject in general</p> <p><u>Axial Codes</u></p> <p>a. Change in components to make it more "history friendly"</p> <p>b. Change in the level of interactivity to make it more "history friendly"</p>	<p>Society expects bullets</p> <p>Kids bored by ppt</p> <p>Record lectures</p> <p>Student motivation is one of the primary problems – how to show students that they are untutored without damaging their egos is the key</p> <p>Interactive discussion is the key</p>	<p>History is unique/similar to English-their opinions are valuable and it's relevant to kids</p> <p>Paragraphs are better for transmitting more complex concepts</p> <p>Kids tend to copy bullets without thinking</p> <p>Bullets can tend to oversimplify material</p> <p>Ppt makes complex concepts more manageable</p> <p>Online storage and access like Prezi</p> <p>Virtual museum would be great</p> <p>Intellectual discourse is key to retention and comprehension</p>	<p>History is unique/similar to English – relevant to kids and more accessible</p> <p>More interactivity and student oriented stuff is needed</p> <p>Bullets are concise but they promote memorization – students memorize constantly – it's like a bucket they fill it up and they dump it out.</p> <p>No substitute for intellectual discourse</p> <p>Questioning (Socratic) and discussion are key</p>	<p>History is unique/similar to English-you can analyze sources and filter bias</p> <p>With ppt you can take it into a lot more detail so you can cover it more extensively</p> <p>Comparisons are easy</p> <p>Interactivity is key – Greek Facebook</p> <p>It would be nice for textbook companies to add narrative text to the notes sections of slides</p>	<p>Most students state they like bullets but many students state the reason why is because it makes information easy to memorize</p> <p>A few students recognize that bullets hurt comprehension because of the tendency that most students have to memorize them</p> <p>Students feel PowerPoint is too passive and is not interactive enough</p>	<p>More technologies need to be able to "talk" to PowerPoint so that there is a more user friendly interface</p> <p>Concise text is most effective</p>
<p><u>Open Code</u></p> <p>2. Elements that made history easier for students to retain</p> <p><u>Axial Codes</u></p> <p>a. Components that promoted retention</p> <p>b. Methodologies that promoted retention</p>	<p>Pictures are invaluable</p> <p>Audiovisual clips are good as long as they are relevant</p> <p>Students have to take some responsibility for their own learning</p>	<p>Conceptualization helps promote retention</p> <p>Retention best improved by simulations that place them in the shoes of those who were there</p> <p>Movie clips help students get the gist of what was going on</p>	<p>Pictures make concepts and ideas more tangible to students</p> <p>Simulations like "Battle Days" are very memorable to students</p>	<p>Incorporate video clips, embed you tube – gets massive</p> <p>Images are effective w/info</p> <p>Add pizzazz to make it memorable</p> <p>Some students just memorize – and it depends on them</p>	<p>Advantages of PowerPoint – streamlines information and breaks it up into manageable chunks</p> <p>Pictures make it more memorable</p> <p>Video clips make it more memorable</p>	<p>Pictures and interactive games are most effective in increasing retention</p> <p>Visuals can make a dramatic impact on students</p> <p>Shared theatrical experience</p>
<p><u>Open Code</u></p> <p>3. Elements that made history easier for students to comprehend</p> <p><u>Axial Codes</u></p> <p>a. Components that promoted comprehension</p> <p>b. Methodologies that promoted comprehension</p>	<p>Online museums are invaluable – creates a global society for research and communication</p>	<p>Gross oversimplifications or symbols give students something to latch on to and think about when they try to understand an era</p> <p>Charts and Venn diagrams make history easier to comprehend</p>	<p>Textbook companies need to add the stuff that promotes discussion (primary sources, review questions) into the PowerPoints they produce</p> <p>Storytelling, maps, pictures, charts and quotes help students grasp information.</p>	<p>Ask a lot of open ended questions</p> <p>You can give the ppt to the kids and they can add their own notes</p> <p>Compare and contrast with maps</p>	<p>Disadvantages of PowerPoint</p> <p>It's boring because it's not interactive – some students have grown to hate it.</p> <p>Strong dislike expressed for the textbook by many</p>	<p>Process flow charts are effective in getting students to comprehend connections</p>

CURRICULUM VITAE

Scott Johnson

Education:

M.A., Social Studies Education, University of Iowa, Iowa City, IA 1998
Concentrations: American History, World History and Geography

Prior Experience:

History Teacher, 2006 - 2009
Thomas Jefferson Independent Day School
Courses: AP Comparative Government, AP US Government, Geography, Ancient History, Medieval History, American History

History Teacher, 2002 - 2006
Marshalltown High School
Courses: Honors American History, American History, World Cultures, International Relations

Special Education Teacher, 2001 - 2002
City High School
Courses: SCI Special Education

Instructor, 2000 - 2001
University of Dubuque
Courses: U.S. History to 1865, U.S. History 1865-Present

Awards and Honors:

- * National History Day Teacher of the Year Award for the State of Iowa, 2004
- * Caring Coach Award, 2001 Iowa Games

Skills and Qualifications:

- * National Board Certified Teacher in Middle and Upper School History, 2004-Present

References:

Excellent references available upon request