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**WIRED STUDENTS, MOTIVATED LEARNERS:  
THE EFFECTS OF CLASSROOMS FOR THE FUTURE TECHNOLOGY  
ON STUDENT MOTIVATION AND ACHIEVEMENT**

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Submitted in partial fulfillment  
of the requirements for the degree of  
Master of Education  
Moravian College  
Bethlehem, Pennsylvania  
2009

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## **ABSTRACT**

This qualitative research study examined the effects of Classrooms for the Future Technology on student motivation and achievement. The participants were twenty-eight ninth-grade students in a college preparatory American history class. During the course of the study, the students were introduced to a variety of new technologies in my classroom, including individual student laptops, an interactive whiteboard, a video camera, a digital camera, a color printer/copier/scanner and a webcam. In addition, the students were given access to a wide variety of educational programs with which to use their creativity in developing projects. To ensure validity, student responses were reprinted as they were stated by the students themselves. I did not correct grammar or punctuation. This study set out to find if using various forms of technology in the classroom fostered student motivation and led to higher achievement scores. Through analysis of the data, it was determined that student motivation was greatly increased through the use of the classroom technology. When the students were engaged, they were motivated to learn, and as a result learned more at a fundamental level. Teaching through technology, while valuable, is not sufficient – it needs to be supplemented with teacher-led instruction because the students need a foundation for the material they will be researching and presenting in their projects.

## **ACKNOWLEDGEMENTS**

First and foremost, I would like to thank my students for their participation in the study. Without them, this study would never have happened. The students were eager and willing to become research participants and give honest feedback regarding their exposure to technology in the classroom. I would also like to thank Dr. Patricia Mulroy for giving me the permission to conduct a study on the effectiveness of a grant that our school district had been given. I also owe a big thank you to Mrs. Hollie Schooley, my Classrooms for the Future coach. Without her help, I may have just gone crazy using all the new technology with a classroom full of rambunctious teenagers.

I would like to thank my research group who allowed me to vent my frustrations throughout the entire process. They were there for me when I needed them most and were able to answer some of the most difficult questions I encountered with my study. We have become like family. However, I would never have had the chance to meet these wonderful people if I had not taken courses under the guidance of Dr. Joseph Shosh and the rest of the M. Ed. faculty at Moravian College. These professors have given such great dedication and commitment to seeing myself and other thesis candidates succeed in this rigorous program. Even greater, I need to thank Dr. Jack Dilendik for being my thesis chair. The confidence he gave me in my work was the motivation I needed to

finish my study. In addition to Dr. Dilendik, I owe a big thanks to Mrs. Schooley and Mrs. Robin Lutchter for graciously agreeing to sit on my thesis committee.

Lastly and most importantly, I want to thank my friends and family for putting up with me always being “busy with my thesis.” My parents and siblings always encouraged me to do better and go further. My parents told me to never let anyone get in my way of accomplishing my goals. The greatest thanks of all goes out to my husband, Eric, and daughter, Marley. They have put up with endless nights of me sitting in front of my laptop with stacks of books and papers next to me. From the late nights of class to the early weekend mornings analyzing my data, they have supported me and helped me get through the difficult times. Eric, I thank you for giving me the time to work on this study and being the shoulder to cry on when I got frustrated. Marley, I thank you for being my distraction and forcing me to take well-needed breaks to play with you. Both of you made the process a whole lot easier.

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## RESEARCHER'S STANCE

*“The object of education is to prepare the young to educate themselves throughout their lives.” – Robert Maynard Hutchins (1899-1977)*

As a sixth-year teacher, I have been searching and experimenting to find that secret technique to use in the classroom that would make students love learning and be motivated to learn like I was in school. Well, maybe I should be more realistic. In high school, I was one of those students who went through the motions and showed up everyday simply to fulfill the attendance requirements to play the sports I was involved in. Do not get me wrong; I liked school and many of my teachers, but not for the reasons that I want my students to like school today – for the valuable learning experiences that prepare them for their future. I want my students to be excited for my class. Ironically, if you had asked me what I wanted to be in high school, I would never have imaged to say “I want to be a teacher when I grow up.” For me, there was just something missing . . . that “wow factor” to motivate me to learn.

It was in college, where I began my studies to become a physical therapist, that I decided I wanted to be a teacher. That revelation came from a few different places. I had a running partner who was a middle school social studies teacher; I was also taking the required general education history class in college when I realized I liked learning about history. Maybe it was that I just enjoyed listening to the stories. My college professors had that “wow factor” that I needed to get

hooked – they could tell interesting stories to get the class to learn about historical events. As my new aspirations sent me down to the secondary education department at East Stroudsburg University, I thought, “this is a great idea.” I enjoyed learning about history; wouldn’t it be fun to teach it?! I also thought, “How hard could it be?” Oh how naïve I was.

As I began my journey, I focused on figuring out that “wow factor” it takes to make students lifelong learners (or at least four-year long learners in the high school). Do I need to be strict or funny? Do I need to know more about history or educational practices? What can I do to make my lessons stick? These are just a few of the questions that I was asking myself. It was a constant struggle between putting more emphasis on the content or the effective classroom practices that I was learning. Which was more important, the information that I was teaching or the methods I was going to use to deliver that information?

Once I began my teaching career, I still struggled to find that magical touch to get my students to care about and enjoy their learning. Then, I started looking into the reasons why I was still in school taking classes. It has been twelve years since I graduated from high school, and I have been taking classes every year since. I love learning new things, but how could I pass that love on to my students? What is it that I enjoy about learning? As I took a look into my learning, I found out that I enjoy the accomplishment of a job well done. I also enjoy collaborating with my peers and developing new ideas. Most importantly, I

love discovering new things, and I love being able to relate that information to something in my own life. In order to get my students to appreciate hard work and a satisfied feeling of accomplishment, I needed to connect with the students like my professors and classmates connected to me. My students need to get motivated. Then I had an idea. That idea evolved into my action research. Why not conduct a study on the benefits (or lack thereof) of using technology in the classroom?

Sometimes when I think of the impact technology has on our lives, I imagine something along the lines of the *Disney* animated flick, *WALL-E* (2008). In the movie, humans have destroyed the Earth and are now living aboard a spacecraft where everything is done by computers and robots. Human civilization has evolved into overweight, underactive, out-of-shape blobs of laziness that can barely think for themselves. Of course it is a children's movie, but it plays into the fears that technology will take over every aspect of our lives, worse yet, take over our jobs. I have come across many teachers who resist the implementation of technology into their classrooms out of fear that a computer might take over their job. While that is hardly the intention of using technology in the classroom, it is a big commitment to bring about such change. The reason I have chosen to become a teacher who uses technology in the classroom came in a roundabout way beginning with my early interests in school and technology. The lesson of the

movie is that while technology is great and helps us get through many aspects of our day, it is just a tool to assist us in those aspects, not to do them for us.

I can remember as a child when our parents bought the first “family” computer. It was in the late 1980s, and it was a *Commodore 64*, you know – the one with the dark green screen and bright letters. No frills. No Internet. It was just the new computer and whatever programs my oldest brother, Joe, installed. Whether he knew what he was doing is up to interpretation – he was the one who decided to “clean” the hard drive with Q-tips and rubbing alcohol thereby ending our relationship with our first computer. As I got older I remember technology as the freezing cold computer lab in the back room of the library in high school. It was also the laser discs that Mr. Smith, my high school Physics teacher, showed off so proudly but never gained enough mainstream popularity to last. Technology was also my first email address in my freshman year of college. That was real excitement! Even better was my first cell phone, albeit analog, but I could still talk on the phone and not tie up the Internet line at my parents’ house. There was also my first automatic camera. The thrill that came along with not having to hear the noise of manually winding the film in my old camera was amazing. That camera later evolved into a digital camera that allowed me to upload pictures right to my computer. This was a miracle in itself since I no longer had to drop off rolls of film at my local drugstore only to have printed pictures returned several days later with only a few I actually wanted.

As a teacher, my experiences with technology in the classroom were limited. There were basic requirements in my teacher preparation classes to fulfill the technology credits (make a transparency, send an e-mail, make a photocopy), but nothing like there are today. We have come a long way from using the overhead projector with black and white transparencies that go unchanged year after year. The greatest possibility of allowing my students to interact with technology was taking them to the library's computer lab (which was not in a secluded room, but right between the stacks of books). This was an intimidating experience for me and the students. There were so many rules and regulations to follow. Rule #1: Make sure the students do not go on any unapproved Websites! How could I possibly watch over thirty students who are spread out in the library at the same time? Rule #2: Make sure no students are sharing accounts! How could I tell? Once the students logged in there was no way of telling what name they were logged in under. The list of rules went on and on to the point that many teachers (myself included) feared taking a large class to use the computers.

By my fourth year of teaching, I had volunteered to be a guinea pig in the new Classrooms for the Future initiative happening at my school. Unfortunately, I never received any training or equipment before I took a new job in another school district. Luckily for me, I was once again chosen as a guinea pig in the new district to join the Classrooms for the Future initiative. This time I decided to stick around and experience the magic of intergrating technology into the

classroom. To this point, I have received minimal training on the equipment and I am prevented from using many of the programs due to restrictions placed on us by the Information Technology department in the school. I have tinkered with just about everything I have been given as part of the technology grant and have incorporated technology into every single unit we study in all my classes. I am currently taking classes to become more prepared for using technology effectively in my lessons. There have been many ups and downs since I have been working with the technology initiative, and I decided to study those ups and downs for my action research.

During my study, I tried to incorporate more uses of technology into the learning that was taking place my classroom. I am one of ten teachers with Classrooms for the Future rooms that contain student laptops, an interactive whiteboard, an LCD (liquid crystal display) projector, Webcam, video camera, digital camera and a lot of new computer-based programs. The purpose of my study is to examine the effects of the technology on student motivation and achievement. Will the technology be the “wow factor” that I am looking to give my students? Will the students be more interested with playing with the equipment and programs or will they remain focused on the task at hand? This study is not intended to be the answer that teachers are looking for to keep students motivated. It is a summary of the notes that I made while observing the students interact with technology in the classroom.

## LITERATURE REVIEW

*“Who dares to teach must never cease to learn.”*  
– John Cotton Dana, Librarian (1956-1929)

Ever since *A Nation at Risk* (1983) highlighted the inadequacies in American education, there has been a push to better prepare our students for their future in the workplace. According to the study, there was a “rising tide of mediocrity that threatens our very future as a Nation and a people” (p. 5). It warned that Americans, in their toleration of poor schools, had “been committing an act of unthinking, unilateral educational disarmament” (p. 5). Patricia Cross (1997) explained that *A Nation at Risk* was published when the United States was involved in the Cold War with the Soviet Union and the American government was looking for ways to surpass our enemies, especially in areas of science and technology (Cross, 1997). The report concluded that there was a lack of skills in employees entering the workforce due to inadequate educational experiences. Further adding fuel to the fire was a report from Colorado Governor Richard Lamm entitled *Megatraumas: America at the Year 2000*. In the book, Governor Lamm concluded that “the future of the nation and its productivity depends on the knowledge and skill of its workers. No other resource even approaches an educated citizenry as our most valuable one” (p. 121).

Now, the shift in 21st century learning has become the focus of many educational systems. New, innovative teaching ideas focus on the notion of

taking the 20<sup>th</sup> century tools and procedures out of our 21st century schools. There are many classrooms in my district today that employ the same traditional method of lecture, little interaction and whole-group instruction. Students are not being engaged in those classrooms and are therefore not bringing a positive learning attitude with them. The new 21st century school wants teachers to spend significantly less time lecturing and more time working with small groups of students and interacting with individual students. The new 21st century also calls for incorporating engaging activities that require higher-order thinking with project/problem-based learning. The shift is moving away from worksheets and toward “real-world, hands-on products” (Ardo, 2008).

Although we are not involved in the Cold War anymore, we are still in close competition with other nations of the world. For starters, employers, once looking for an employee with a high school diploma, are now demanding a more educated workforce – workers who can read and compute and think and solve problems (Cross, 1997). With a seemingly endless list of careers related to information technology (Reeves, 2005), students need to be prepared for their future with the skills needed to become desirable employees. It is the obligation of the public schools to prepare students to enter the workforce because education has always played a major role in how the economy is shaped (Fisk, 2001). In order for students to be prepared, they have to “buy in” to their learning. They have to be interested in the topic and want to learn. Our students need to be ready

to join in with the global economy and work in jobs that will help advance our society (Wells and Steptoe, 2006). As teachers, we cannot improve student learning without the active and intelligent participation of students themselves. Students need to become lifelong learners who are going to have to learn to assume more responsibility for the direction and quality of their own learning (Cross, 1997).

It is important to prepare our students with 21<sup>st</sup> century technology because estimates show that nearly fifty percent of the work force will soon be involved in gathering, processing, retrieving or analyzing information (Shaver, 1999). While that is not the only reason to incorporate technology into the classroom, it is a significant rationale. Through the use of technology in the classroom, students will be more engaged and therefore more motivated to learn the content (Prensky, 2001). The students need to have the proper skills necessary to bridge the digital divide (McGee and Diaz, 2007) to succeed in the future globalized world. The 21<sup>st</sup> century has come about on the tail of globalization. Companies rely on technology that provides immediate results to carry out their day-to-day business transactions, from their office to anywhere in the world, with an Internet connection (U.S. Department of State, 2007). According to the influential book, *The World is Flat* (Friedman, 2005), our schools have the responsibility to prepare students for what opportunities await them.

The concept of creating access to classroom technology for all children while using the technology to support both workforce preparedness and high-level learning for all members of a democratic society is a very important step to take. While we prepare our students for the globalized world, we need to keep the students' current interests in mind. K. Patricia Cross summarizes major reports of last few decades that not only stress the importance of student preparation but also student motivation in the classroom (1997). If students cannot make the connections to the work they are doing, even with the technology, they will not be prepared. School leaders and policy makers need compelling evidence that using technology to expand global understanding results in meaningful learning and student achievement (Roberts, 2004). The characteristics of a 21st century classroom will be very different from those in the past because the new focus is on producing students who are highly productive, effective communicators, inventive thinkers and masters of technology (Commitment to the Role of the Teacher as Facilitator of Learning, 2007). Developing those skills in the classroom will not only create higher-achieving students, but also highly-desired workers in the globalized world.

### **Classrooms for the Future**

Classrooms for the Future is a program designed to create learning environments that students will find engaging and that will pique their interests - a critical component to boosting student achievement. If schools are to adequately

prepare students for the new globalized job market, our school's settings must be transformed to reflect this new landscape and students must achieve at higher levels. Classrooms for the Future will do that. (Jobe, 2008) Putting technological resources at our students' fingertips is the focus of governmental programs throughout the United States (Jobe, 2008). In Pennsylvania, Classrooms for the Future was designed to recognize and embrace the need for high school reform, enabling teachers to use technology as an effective tool for educating students, and preparing students to enter and successfully compete in the ever-expanding high-tech global marketplace (Jobe, 2008). By giving our students the access to technology in the classroom, they have more opportunities to learn for themselves (Long, 2008).

According to Pennsylvania Education Secretary, Gerald L. Zahorchak, "Classrooms for the Future also helps students see how their academic coursework relates to the world outside the classroom, giving deeper meaning to what goes on inside and outside the school" (Ardo, 2008). Classrooms for the Future's plan for creating engaging learning environments for students is a critical component to motivating students to improve academic achievement (Jobe, 2007). This initiative is programmed to transform the way high school teachers teach and how students learn through enhanced technology, laptop computers and other state-of-the-art resources. Our students today have been termed digital natives – people who have never known a world without instant communication.

The problem is, many educators (and other adults) are digital immigrants – people who are still coming to terms with how to check their cell phone’s voice mail or view a digital video on YouTube (Prensky, 2001). Students are native speakers of technology, while often parents and educators speak DSL, digital as a second language (Jukes and Dosaj, 2003).

By incorporating technology into student learning through programs like Classrooms for the Future, students are able to experience a change in classroom practice and in student-teacher relationships, feel increased engagement, have responsibility for their own learning and develop the skills needed for the 21st century, while increasing their academic achievement (Jobe, 2008). The world has changed; now the classroom needs to change with it (Wells and Steptoe, 2006). As we move further into the 21<sup>st</sup> century, we begin to look for ways to motivate students to take an active role in their learning. By doing this, we are placing a responsibility and accountability on students that future employers are looking for. In addition, there are more skills that employers are looking for that teachers can “teach” their students. Such skills are spelled out in the EnGauge Report and include digital-age literacy, inventive thinking, effective communication and high productivity (NCREL, 2003). Classrooms for the Future is about recognizing the need for reform in order to teach these skills. Teachers need to understand the role of technology as a catalyst for achievement and be receptive to adopting practices that may be unfamiliar (Jobe, 2008).

## **21st Century Skills**

Digital-age literacy includes the various competencies expected in a 21st century workplace. The levels of literacy range from basic literacy, being able to read, write, listen and speak, to global awareness, understanding how nations, individuals, groups and economies are connected and how they relate to one another (NCREL, 2003). Using technology to engage the students teaches them to share ideas, information and creations. This can be accomplished by using technologies that students are familiar with such as blogs, IM-ing, podcasts and Webcams (McGee and Diaz, 2007). Students today are so digitally connected it is as if they were born with their own ringtone and MySpace™© pages (Long, 2008). Teachers need to take advantage of those connections to motivate the students to learn. Students truly hate their time being wasted, especially on meaningless tasks (Prensky, 2005).

Inventive thinking is the ability to think outside the box. This ranges from adaptability and managing complex tasks to higher-order thinking and sound reasoning. This array of thinking begins with recognizing and understanding that change is constant to being able to analyze, compare, infer, interpret, evaluate and synthesize (NCREL, 2003). In order to achieve these skills, students must be actively engaged in their learning, thinking, questioning, analyzing information,

etc (Cross, 1997). The computer brings to education a technological ability to store, sort and analyze information that, as an ideal, can “help free learners from tedious, low level tasks,” allowing them to concentrate on higher-order tasks (Shaver, 2001).

Effective communication is the ability to clearly communicate with a wide range of audiences. It is important to be able to communicate with collaborative groups as well as individuals. Communication revolves around teaming, intrapersonal skills, personal responsibility and civic responsibility (NCREL, 2003). Research shows that students who work with others for a specific purpose in a shared work area learn to collaborate more effectively (Jukes and Dosaj, 2003). Students can communicate with each other using such tools as editing and writing tools, virtual communities of practice (VCOPs) and Wikis (McGee and Diaz, 2007). In a previous study on student use of technology, The CEO Forum Report showed that students using various software applications (such as those available today) spent more time on task, were engaged in the subject and conducted more sophisticated inquiries and analyses (1999).

High productivity is expected of 21<sup>st</sup> century workers who are required to prioritize, plan and manage by effectively using real world tools to produce relevant, high-quality products (NCREL, 2003). In school, it is the duty of teachers to teach these skills. High school students are poised to enter the global marketplace or to continue their education beyond pre K-12 and it is our

obligation to prepare them, within a short window of opportunity, for a “flat world” in which opportunities for jobs and higher education are highly competitive (Jobe, 2008). The influence of technology will go beyond new equipment and faster communication, as work and skills will be redefined and reorganized (NCREL, 2003).

### **Traditional Classrooms v. Digitally-Connected Classrooms**

Thirty years ago, students did not have access to information and news from outside the United States (Roberts, 2004). There were few direct comparisons of education systems outside of the United States to our own. Students with round-the-clock, high-speed Internet access have more opportunity not only to be content consumers, but also creators with a global audience – they have the chance to be “publishers, movie makers, artists, song creators and story tellers” (Long, 2008). Today’s students are born into the Information Age and have more opportunities to be successful in their future endeavors when they are exposed to new technologies and information (Roberts, 2004). Today’s students are growing up with technology and in a cyber-world (Jobes, 2008). The role of the educator is to engage students to want to learn; students who are not engaged in what they are doing are not learning to their full potential.

There have been multiple studies on the difference between a traditional classroom and a digitally connected one. Chalkboards, blackboards and textbooks are still essential components for educating students today, but there is no

question that in order to adequately prepare students for life beyond the classroom we must incorporate a greater level of technology into our schools. By introducing students to these resources, we are helping to ensure our students will be best prepared to grasp new technological trends and utilize them to their fullest advantage (Jobe, 2008). During the decades affected by *A Nation at Risk*, classrooms were teacher-centered and focused on content coverage. The teacher played the role of a lecturer while students memorized information. Education was more of a “one size fits all” with whole group configuration and a single learning modality. Students memorized information and recalled it solely for the purpose of a test. Classrooms were isolated and students were encouraged to work individually. The curriculum was highly dependent on the textbook and technology was a luxury. The 21st century classroom focuses on student-centered learning, where students “learn by doing.” Instead of memorizing the information, the students use the information in real life situations. The teacher’s role becomes one of a facilitator who encourages flexible grouping, collaborative assignments and performance based assessments. Multiple teaching and learning modalities are incorporated while promoting higher-order thinking skills. Students are exposed to multiple sources of technology because it is fully integrated into the classroom (Commitment to the Role of Teacher as Facilitator of Learning, 2007).

Linda Roberts (2004) agrees that there has been a shift in trends in the classroom from the traditional to the digitally connected one, but she notes that the shift needs to go further. She adds that students need to be prepared for the world after high school. Technology and 21st century learning are becoming increasingly linked in the minds of leaders within business, government and education. Basic skills, mastery of core content, problem solving and inquiry, technological literacy, global awareness and the ability to work across cultures are now considered essential skills for the 21st century.

There is also a difference between traditional technology classrooms and new technology classrooms. Traditional technology classrooms typically have input devices (computers, DVDs, smartboard), output devices (LCD projectors, monitors, connected podiums) and student resources (desktop computers). The new technology classroom takes the equipment of the traditional classroom one step forward. The new classroom is much smaller, highly interactive, powerful and flexible (Schoomer, 2000). There are fewer boundaries in the new classroom and students have a greater access to resources beyond the traditional setting.

### **Engagement and Motivation**

Bringing technology into the classrooms not only prepares students for life beyond the classroom, it also spurs a new sense of motivation to learn. Unfortunately, there are children today who spend much of their day learning in the same way their grandparents did and as a result school seems rigid,

uninteresting and unyielding to many students (Nussbaum-Beach, 2003). The current school system needs to be changed because it is far too often designed for preparing students to work in factories or in agriculture (Jukes and Dosaj, 2003). Students today learn differently than previous generations and as a result they feel disconnected from schools that were designed for another time (Oblinger and Oblinger, 2005). Controlling environments reduce a student's sense of autonomy, decrease intrinsic motivation and result in poorer attitudes and performance in the classroom (Rovai et al, 2007). Marc Prensky put it directly saying "Today's kids are challenging us to engage them at their level, even with the old stuff, the stuff we all claim is so important, that is the 'curriculum'" (2005).

Today's learners demand to be engaged. According to Prensky (2005), there are three types of students: those who are truly self-motivated, those who go through the motions, and those who "tune us out." Prensky believes our current school systems deal with the first two groups reasonably well, but the third group is the real challenge. Students today want teachers to make the material relevant to their lives and serve a purpose. Students do not want to ask "Why do I need to know this?" and be told "Because I said so, that's why!" To engage students, we need to get to know them and find out how they learn best. Since today's students live in a digital world, our schools must adapt instruction to complement learning in today's environment (Jobe, 2008). We have the opportunity and the responsibility to utilize research-based, technology enabled practices to thrill, to

inspire and to capture the imagination of our students. Classrooms for the Future is about creating environments for deeper cognitive development through inquiry, real and relevant project-based learning and differentiated instruction (Jobe, 2008).

The 21st century high school requires new models of teaching, learning and meaningful assessment. Technology is one of the most exciting and significant ways to support and facilitate high school reform (Jobe, 2007). According to Prensky (2001), today's student is better at multitasking and responding faster to expected and unexpected stimuli. That stimulus can be technology. Technology provides access to the information, tools and personnel that were once only available through extended research and in laboratories (Hubbell, 2006). The team that compiled the CEO Forum Report on School Technology and School Readiness (1999) concluded that technology has demonstrated a significant positive effect on achievement. Educational technology has been found to have positive effects on student attitudes toward learning and on student self-concept. The report also found that students felt more successful in school, were more motivated to learn and had increased self-confidence and self-esteem when using such things as computer-based instruction. Computer-based instruction does not necessarily mean the students are learning from the computers. The Report identifies computer-based instruction as a strategy to incorporate new learning environments that focus on student-centered

learning, multisensory stimulation, multipath progression, multimedia, collaborative work, information exchange and inquiry-based learning that leads to critical thinking.

Students rely on schools to provide them with the opportunity to interact with technology. Students also want to be engaged in what they are learning. Since our students come to us with media-based learning styles, they synthesize and process experiences rather than information (Nussbaum-Beach, 2003). Teachers need to tap into that technological knowledge to bridge the gap between the content and the experience. By using digital media and Web-based tools, students can build their own learning experiences, construct meaning and collaborate in teams on authentic content-based problems. It is important however, to focus on student passion and interest, not machines and software. Today's digital natives are passionate about team-based learning approaches because of their vast digital gaming experiences (Prensky, 2001).

There are some key differences between digital natives and digital immigrants. Digital natives prefer receiving information quickly from multiple multimedia sources. Digital immigrants prefer slow and controlled release of information from limited sources. Natives also prefer multitasking, while their counterparts favor singular processing. Pictures, sounds and video take precedence over text in the digital native brain processes. Natives also choose to interact and work with others while immigrants tend to work independently.

Digital native learners look to learn for “just-in-time” (as in, right before they need to use it) while oftentimes digital immigrant teachers teach “just-in-case” (as in, it is on the test). Most importantly, digital native learners would rather have instant gratification and learning that is relevant, useful and fun (Jukes and Dosaj, 2003).

### **Teacher Preparation**

The key principle for incorporating technology into today’s classroom is to provide teachers the necessary technology-related professional development. Suggestions should be presented to teachers to encourage a change in current teaching practices, which would have a significant impact on the motivation and achievement of students (Jobe, 2008). Research shows that one of the primary reasons for teacher job dissatisfaction is the inability to foster a relationship and make connections with their students (Hull, 2004). All teachers need room to learn and grow in their work environment. Stagnation is the downfall of an effective classroom. In order to fix this problem, school districts need to offer specialized in-service time to teach educators how to make a connection with their students. Most school districts have implemented teacher induction programs to help new teachers adjust to their new profession. These programs have reduced the amount of teachers that leave the profession within five years.

Teachers need to learn and prepare to step away from lecturing and move toward the role of facilitator. Teachers must know how to act as the facilitator.

They need to establish and foster cooperation among students and encourage students' curiosity and intrinsic motivation to learn (Commitment to the Role of the Teacher as Facilitator of Learning, 2007). Teachers are entrusted with mastering the skills necessary to incorporate technology into the classroom and model those skills for the students.

Teachers are also the doorkeepers for providing technology-rich learning experiences. The CEO Forum Report (1999) showed a high correlation between student performance and motivation and teacher preparation. Staff development should include time to spend working with media specialists who promote a wise use of resources, not just using the technology as busy work (Anderson, 2000). Effective technology integration is achieved when its use supports curricular goals. It must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts (*Edutopia*, 2008). Best practices in a technology-rich classroom centers around the student's interests. In a similar program to Classrooms for the Future, *Apple's* Classrooms for Tomorrow helps schools engage students with a 21st century digital learning environment that mirrors the way they live – and increasingly would like to learn (Apple, 2008). The *Apple* program, which began in schools in 1985, also stresses that students learn better when they are engaged, and research on what engages today's students points to technology.

### **Cautions**

Teachers need to be aware of their students. Not all students are ready for immersion into a new world of technology. Although school may be the only place for a low-income child to experience the ever-expanding world of technology, it is important to be aware of frustrations and other behaviors that come along with things that are new and different. Some at-risk students do not have access to technology every day and may have to play catch-up to learn the technology as well as the skills and content that teachers are presenting in the classroom. Some students may concentrate more on the technological tool and not the lesson that is being explored (Long, 2008). It does take time for students and teachers to become acclimated with the technological tools. Once the novelty of the equipment and programs wears off, the technology can be used as commonly as paper and pencils (Jobe, 2008).

Zhao, et. al. (2002) concluded in their report on technology innovations in the classroom that teachers need to look carefully not only within themselves but also at their technological and social environments before they begin to implement innovative uses of technology in their own classrooms and teaching. This report cautions that simply using technology in the classroom is not the only key to student engagement; it is how the teacher is prepared to use the technology to foster student growth by taking into account the environment students live in today. It is the responsibility of the teacher to be innovative with the technology.

According to The Johns Hopkins University Center for Technology Education's evaluation of Talbot County Public Schools One-to-One Laptop Initiative (2007), by incorporating technology into the classrooms, four goals can be achieved: increased student achievement, effective use of technology for instruction, increased student engagement and improved educational access for at-risk students. This report was generated to determine the effectiveness of *Apple Computers'* initiative to give all a students a laptop. The report found a significant increase in achievement by students who used the laptops, particularly the students whose teachers had at least two years of experience using educational technologies. *Apple's* one-to-one initiative is not just about using the technology, it is about focusing on high-quality instruction that skillfully integrates technology to improve student learning. By simply incorporating technology in the classroom, a new learning process is created that results in a new learning environment. Educators benefit from the program because they also have increased knowledge of computer-based instruction, confidence to try new approaches and motivation to adapt the technology to meet the demands of the curriculum (JHU CTE, 2007).

By using technology in the classroom, pedagogical changes can lead to changes in student learning. Creating lesson plans that include inquiry-based learning will challenge the students to dive deeper into their knowledge and look for meaning in the information. Before technology became widely used in

education, the typical classroom was filled with students reading textbooks and answering questions. Since then, educational pedagogy has come a long way. Students are now involved in simulated field trips, taking tours of virtual museums, and having video conferences with students across the world (Jobe, 2008). Students are more engaged in their learning due to the new hands-on approach to classroom activities.

Teachers need to learn how to use the technology and equipment before sending students out on their own to explore the technology and programs. Teachers also need to carefully evaluate any task that involves the Internet. Anyone can put anything on the Web with no constraints of peer review or editorial oversight that comes with textbooks and other materials (Shaver, 2001).

### **Implications for Practice and Follow-Up**

If Classrooms for the Future technology and strategies are implemented well, teachers should spend significantly less time lecturing and more time working with small groups of students and interacting with individual students. Teachers should be able to engage their students in higher-order thinking activities using problem-based and project-based learning. Finally, teachers should be shifting the nature of their assignments from skill and drill worksheets toward real-world and hands-on projects (Ardo, 2008).

The literature supports project-based learning because inquiry that fosters critical thinking allows the students to be part of the learning process (Jobe,

2008). The students will have experiences that allow them to make connections with their material they are learning (Prensky, 2005). When those connections are being made, the students are invested in their learning and therefore engaged in the learning process. Through the incorporation of project-based (inquiry-based) learning activities, students will be more actively engaged in their learning which will lead to increased achievement (Prensky, 2001).

Linda Rief (1999) suggested that teachers ask themselves a few key questions in preparation for inquiry-based instruction, "When was the last time I really learned about something in depth? How did I go about learning it? How do I know I know this?" (p. 3). Exploring our own learning motivations and processes helps us to examine our teaching. In an attempt to answer questions like those Rief posed, research studies conclude that being interested in the topic, having a plan for how to research it, and having a purpose for engaging in the project are integral parts of their own learning and thus need to play a larger role in their teaching (Owens and Teale, 2002). Rief (1999) further explained that the implementation of technology with inquiry-based instruction encourages students to think differently about school. Access to technology makes school seem more "real world" to the students and therefore, their learning pushes the boundaries of the traditional school curriculum. Students are no longer limited by the materials available in their school or local community, nor are they confined to studying topics presented in their standard textbooks. Instead, students can use the tools of

technology as starting points from which to extend and refine their explorations. It is the exploration of relevant material that leads to increased engagement.

The times are changing for instructional practices in the classroom. Technology is being incorporated into lesson plans more than ever. With proper teacher training, student motivation to learn can lead to increased levels of achievement.

By trying something new and creating activities that are relevant to the students' interests in technology, there will be a greater chance for student success in a 21st century classroom.

## RESEARCH DESIGN AND METHODOLOGY

*“The job for us is to develop a way to teach children without demanding instant perfection or without giving in to every whim.” – Jeannette Galambos Stone, Educational Specialist (b. 1919)*

### Setting

I teach in a rural, non-diverse (94% Caucasian), public high school where a vast majority of the 1,200 students come from farming families. They spend much of their time outside of school tending to farm animals and taking care of family chores. The school district is one of low socioeconomic standing and we have a very small tax base due to lack of industrial development in the area. A majority of the students receive free and reduced lunch. Receiving the grant to bring in Classrooms for the Future technology was an initiative designed to improve the overall performance of our students in the district.

My decision to complete an action research study on the effects of using technology in the classroom to increase student motivation and achievement came last spring. I was one of the original teachers chosen to experiment with incorporating different aspects of technology into my daily lesson plans. I teach three ninety-minute blocks of American history per day. After six weeks into my study, I decided to change my research group to my ninth-grade college preparatory American History I class as the focus of my research. This class is an equal mix of boys and girls with various learning styles, interests and behaviors.

At the beginning of the study I secured approval from the college's Human Subjects Internal Review Board (see Appendix: A), a committee set up to review research studies and ensure the confidentiality and safety of the research participants. I followed ethical guidelines of action research and begin by using only data of student volunteers using pseudonyms to ensure confidentiality. Both my assistant superintendent and the parents of the students involved in the study provided informed consent for research study participation (see Appendix B & C). Students were not penalized for opting not to participate in the study; however, they were aware that all activities were the same for participants and non-participants. Students could also withdraw from the study at any time without penalty. All data were maintained in a secure place inside my home. As soon as my research study is complete, the data that was collected and stored will be destroyed.

My methods for research included different strategies for data collection that allowed me to answer my research question. I included various mediums of data collection in order to allow the students to express their feelings about the Classrooms for the Future technology verbally and informally to me. I did not ask a lot of questions; I simply asked open-ended questions in an informal setting. I asked that the students be open and honest about the impact of the technology on their learning. I maintained a field log through participant observation and conducted multiple surveys, interviews and analyses of student work.

### **Participant Observation**

The bulk of my data sources came from participant observation through the maintenance of a field log, which Connelly and Clandinin (1988) refer to as an “out of body experience.” (Pg. 106) I wrote down as many things that were happening in my classroom as I could to relive them upon later analysis. I observed my students and kept the log of field notes as suggested by Holly, Arhar and Kasten (2005). My personal thoughts and feelings were put into brackets (Ely, Vinz, Downing and Azul, 1997) to differentiate between reflections and observations. Being a participant observer in my classroom allowed me to go about my teaching practices like I normally would and to reflect as often as I could on my students’ behaviors and experiences in my class. I observed my students verbal and non-verbal behaviors on a daily basis. I also monitored student behavior to see if the students were focused on the task at hand or if they wandered off and began doing their own thing. During my observations, I took note of any changes in behavior while working with technology, both positive and negative in my field log.

### **Student Surveys**

I administered multiple student surveys (See Appendices D-I), a technique suggested by Connelly and Clandinin (1988), by using the online tool *Survey Monkey*. Written student surveys, an approach affirmed by MacLean and Mohr (1999), allowed me to gather information on student familiarity with technology. I

surveyed how often my students use computers, the Internet and other technology that we would use in the classroom. I decided to use the online survey tools since my research is about technology in the classroom. I surveyed the students prior to the study, after every major project/activity involving different facets of technology and after the study was completed. I also gathered information on how the students viewed the use of technology in the classroom. Questions on the surveys were phrased so the students could give short explanations to their responses. Each survey included questions that asked what aspects of the technologically enhanced projects they liked best and which they disliked.

### **Student Interviews**

In order to get more intimate responses to student feelings on the technologically infused curriculum in my classroom, I conducted student interviews. They were informal and unscheduled and the students were randomly chosen. I asked the students to elaborate on the idea of using the technology equipment and programs. They also explained what they wanted to do with the equipment as well as what activities help them learn best. Once I asked my standard questions in the interviews, I then let the students guide the rest of the interview by basing my follow-up questions on their prior responses. Ely, Vinz, Downing and Anzul (1997) suggested that the students' answers that came as a surprise would be the most helpful to my study. Student interviews are also important for the triangulation of data (Holly, Arhar and Kasten, 2005). Being

able to speak to my students one-on-one gave them the opportunity to voice their praise and concern with the use of technology in the classroom.

### **Student Work**

I saved a lot of student work that included the use of technological programs and equipment associated with Classroom for the Future. I either printed an electronic copy from the student database for online assignments or asked to keep original assignments from hard copy work. I selected student work that was exceptional and fully encompassed all that I wanted the students to achieve with each project as well as student work that just met the stated requirements. I chose a few examples of student work for each assignment that showcased a variety of learning levels and learning styles. I analyzed the work to determine if the technology helped the students accomplish the goal of the assignment and helped the students understand the concepts.

### **Trustworthiness**

Since there has been very little research completed on the impact of Classrooms for the Future technology on student motivation and achievement, I hope my study will be one that educators will refer to in their quest to incorporate technology and learning in the future. To ensure validity in my study, I triangulated the data collected with the research I analyzed and the questions that I looked to answer. Burnaford, Fischer and Hobson (2001) refer to triangulation as “a term used for the conscious intersecting of multiple methods of data

collection.” (Pg. 70) While Ely, Vinz, Downing and Anzul (1997) referred to the comparison of multiple forms of data as “crystallization,” a term first used by Laurel Richardson (1994). It is important to have multiple data sources in order to properly analyze and compare the information.

In an effort to bring credibility to my action research study, my reflective journal became helpful in data analysis. I looked for patterns and relationships in my thoughts to help draw conclusions to the data (Ely, Vinz, Downing and Anzul, 1999). I wrote down what was going through my head (ie; “What do you mean your project won’t save?” to “Why can’t we simply just use flash drives?!?!”) and what I was observing in the classroom. I kept my journal and my log of field notes close to me so that I could reflect during class activities or shortly after. I tried to capture the moments in my journal as they happened so I did not forget anything. I also read my journal weekly to see if I was being an effective facilitator and to determine what more needed to be done to motivate the students and create better learners using the technology.

I fully understand that my research analysis is ongoing (Holly, Arhar and Kasten, 2005). As I gathered samples of student work involving Classrooms for the Future technology, I began to compare the level of work to previously assigned work not using the technology. Also, by using vignettes, pastiches, I-stories and other analytic devices (Ely, Vinz, Downing and Anzul, 1999), it was easier to refer back to my data research. My teacher inquiry support group helped

me maintain my trustworthiness as a teacher researcher by reviewing my data collection, keeping me on track and on pace and being a positive influence when things got difficult. Those teachers in my group helped clarify points that were confusing and they also helped me to decipher my field notes and data collection. My team was a tremendous aid to the difficult task of being a teacher researcher.

## INTRODUCTION TO TECHNOLOGY IN THE CLASSROOM

*“Education is not the filling of a pail but the lighting of a fire.”  
- William Butler Yeats, writer (1865-1939)*

### **Classrooms for the Future Training**

A few years ago, in a previous school district, I was one of a select few teachers that applied for and was approved to become a Classrooms for the Future teacher. This meant that my room would be equipped with an interactive whiteboard, a projector, a video camera, a digital camera, new speakers, a printer, student laptops and my very own laptop. When I first heard of the program, I was interested in the fact that I could have my very own laptop and projector for classroom use. I was also excited for the interactive whiteboard as I had used one a few summers earlier in a technology in education graduate class. Unfortunately for me, before the equipment ever arrived and before I received any training, I decided to change school districts.

When I was hired by my current school district, I had a few friendly faces to welcome me; the principal of the high school was my former assistant principal at the high school where I previously taught. Furthermore, the new assistant superintendant for the district was my previous principal. Both had accepted positions in the district before I came. At a faculty meeting in the fall of that year, the principal announced that the district had received the Classrooms for the Future grant and were looking for teachers who would be interested in being the

“guinea pigs” to implement the new program. I was excited and disappointed at the same time. Here was my chance to get involved with an interactive classroom once again; the problem: I did not have a classroom to call my own.

In order to be eligible for the grant, I had to have a classroom that I stayed in throughout the day. It had to be secure, not a modular and have enough space to put a laptop cart, whiteboard on wheels and a cart for the projector. The room also needed a cabinet that had to be outfitted with a padlock. At that point, I had none of those. I decided to approach the principal and ask him my options. He told me that not many teachers were interested in trying the program (apparently thinking it would fail) and there were spots left. I asked about my status as a roaming teacher, and he said he would take care of that. Starting with the spring semester, I was assigned my own room and was approved to be a Classrooms for the Future teacher.

Once I was settled into my new classroom (and no longer roaming!!!) I was told that I needed to attend training in order to acclimate myself with the new technology. I had a series of training sessions at the local intermediate unit that introduced us to the equipment. Up until the third training session, I had not been given any equipment that was part of the grant. Then I received my first teacher laptop, along with a strict set of rules. Most of the rules that came along with the laptop were easy to follow, except for the ABSOLUTELY NO FLASHDRIVES rule. It was very difficult to understand the rule (and still is); worse yet, it was

more difficult to face the ridicule from fellow trainees during technology training with other districts. Another thing I learned was that our new *Lenovo ThinkPad* laptop computers were installed with the latest version of *MicroSoft Windows Vista*, but our technology department took off the program in favor of an older version. The good news for me is that we were operating using the PC version of the grant rather than the *Apple* version (which I had never used before).

The majority of the training the original eight Classrooms for the Future teachers received at the beginning of the initiative was how to use and incorporate the interactive whiteboard into our lessons. The training was very intimidating because there was so much to learn. To create an interactive presentation using the software, I had to expect to allocate at least four hours for a twenty-slide presentation. There were so many new features to learn how to use. It was very complicated. The most frustrating part was the fact that I still did not have my new equipment for my classroom. That would come a few weeks later.

### **First Attempt at Using Equipment**

About two months after the equipment was sent to the school, I finally received my laptop cart, printer and other pieces of technological equipment. The problem that arose was that I was never trained on any of the programs or the other equipment besides the interactive whiteboard. I had to learn how to use the video camera and the digital camera myself. I then enlisted students to help me tinker with uploaded videos and images. Then came experimentation with the

programs that were used to create a finished project. Windows Movie Maker and Photo Story were two of the main programs in the Classrooms for the Future grant. I had never used either of them. It took a little time to get used to each program and I am still learning how to do new things within the programs, but I have enough of an understanding to model for my students how to use each one. There were other programs and equipment that came along with the grant but I was not allowed to use them. The Webcam was off limits because the head of technology did not want to allow access to the program that runs the Webcam. The program has a chat feature that could be tempting for some students to use for non-educational purposes if not properly supervised.

When it came time to teach my classes (and myself in some instances) how to utilize the programs and equipment, I had the help of my Classrooms for the Future Coach. She was available to answer any questions I or any of my students had about any of the programs that we were working on. She would come into the classroom and give help assisting the students in learning how to use some equipment. It helped to have two people to support the students who were trying out the equipment for the first time. By the end of the school year, I was able to incorporate technology into many of the lessons that I taught.

### **Curriculum Integration**

Incorporating a new concept into any curriculum takes careful planning. Using technology is no different. I had to go through my entire curriculum to find

where I could best integrate the technology that I was given into my daily lessons. The first place I looked was with already established group projects. I thought it would be fun to create online projects and performance projects using as much of the equipment as we could integrate. Instead of having the students draw their posters for such things as amendments and newspaper headlines, they would now use Microsoft Publisher and design a more colorful and interesting poster. I also started to plan projects that involved videos and Photo Stories instead of oral reports. On a more extreme end, I thought about changing the required research paper to designing a Website devoted to their chosen topic.

All of the ideas went through my head from the moment I received my equipment, but I wondered if I would truly be able to pull off such a transformation. I spent every spare moment trying to create elaborate projects with enough explanation and demonstration to not confuse the students. They were still confused. I modeled what I expected out of projects and even showed the class work that I had created using the software and equipment. It was a trial and error semester where I learned a lot about how to *correctly* incorporate technology into my curriculum. I learned a lot from myself and others in the Classrooms for the Future program. I now know that technological-infused assignments are not a replacement for all learning activities. I also know that the new projects have to be well thought out and presented to the students in a clear and concise manner. By the end of the semester, I had transformed my

curriculum to include at least one major project and at least two class assignments that use the technology resources we were given. I was given a checklist that helped me determine if the technology project I created was going to help the students learn. I needed to stick to the fact that curriculum creates the flow of the lesson and teaches the students, not the technology. Here is the checklist I abide by:

- What is the purpose for the project?
- What part of the curriculum did the project cover?
- What standards are addressed?
- What big question will it help the students answer?
- Why is the technology needed?
- What specific pieces of technology are needed?
- Is there a backup in case there are technological glitches?
- Will the project be graded by the same rubric as a non-technology project?

## THIS YEAR'S STORY

*“It is the supreme joy of the teacher to awaken joy in creative expression and knowledge.” - Albert Einstein, Scientist (1879-1955)*

The beginning of the semester that I conducted my study was a confusing one. I knew I wanted to study my last block class because they were such a dynamic mix of students. There were nineteen students; eighteen were boys (one lonely girl) and sixteen of them had individualized education plans (IEPs) all different from one another.

As the students filed in the door the first day of classes, I thought I had an interesting crew coming in. I saw a sea of camouflage, *Carhartt* and steel-tip work boots. The majority of the students work on farms before and after school. They also attend the Career Institute of Technology (the local Vo-Tech) for programs such as welding, masonry and auto mechanics. There was Nathan, a large, blonde football player with an IEP for anger management due to previous incidents of desk throwing and pencil stabbings. Next to him was Matthew, a polite, quiet student with a devious side that he used to get his friends in trouble and avert the teacher's eyes away from his inappropriate behavior. In the back of the room was John, a student dealing with the recent, tragic passing of his father. He was also dealing with anger management issues and learning disabilities. Probably the most notorious of my new students was Thomas. Thomas was loud, disruptive and had his own behavior plan designed by the head of special

education and the principal. The lonely girl in class was Denise. At first she hated being the only female, but then seemed to get used to the attention she drew from all the boys in class.

When it comes to technology, few of them have a cell phone and even fewer have a computer at their home. Of course on the first day of school, the entire class was quiet. I thought, “What a well behaved bunch a kids. Here is my chance to make a difference in their lives and show them how technology can make their lives easier, even on the farm.” So I decided to jump into the semester with the thought that I could incorporate technology into this classroom and give the students a chance to use programs and equipment that they might not have ever used before. I introduced the study that I was conducting to the group (actually I covered the study with all my classes, just in case) during the first week of classes. The students were excited. I told the students that I was still in school [to which they thought I was much younger than my twenty-nine year . . . since I was still in school] and that I needed to do a big project that studies my students. I told them that I chose their class to be my “guinea pigs.” When I brought the idea up to the class, they were like a group of puppies just wanting to please. I got comments like, “Are we going to be famous?” from John, to which I answered that I will not be using their real names in the study. This was followed by “You can use my real name, I don’t care” from Peter. [I let them choose their own pseudonym, and have used them throughout my study. Those students who

wanted to be referred to as “God” and “Sultan of Doom” were kindly asked to choose a more appropriate name.] These comments were followed by the comments like “Are you writing a book about us?” from Thomas, which I responded “sort of.” Then I was asked if it would be put into a movie. I got a little chuckle out of that . . . and then day-dreamed about how neat that would be. So, my impression is that the students are on board and ready to be studied.

In the first two weeks of school, I had a difficult time bridging the technology gap with the students. First and foremost were the discipline problems of having the demographics of a class like that. With a class of mostly all teenage boys, it was difficult to keep them focused on history. What I also discovered was that without the assistance of a special education co-teacher, it was difficult to meet all the needs of all the students without even thinking about using technology. Lastly I received the shock that even I was unprepared for: the students in that class had no interest in using the technology provided for them. They would rather have had me lecture to them for ninety minutes straight than let them work on collaborative inquiry projects involving the use of technology. During one activity involving the laptops and a Webquest, Matthew finished before the others in class and said to me, “I finished all my work Mrs. Wismer, I am not a ‘gamer’ and I really don’t like computers.” He did not want to use the Website that I had designated as the “down time” Website to keep those that finish early busy while the others in the class catch up. I needed to make a

decision – fast! Should I stick with this class and worry about not collecting enough data due to lack of technology incorporation or do I make the switch to another class before I get too far into my study. I decided to switch my study group while I had the chance.

So there I was, three weeks into my study, and I was making a major change. It was like a mid-life crisis (which I was way too young to have!). I decided to switch my research participants. I felt it was too difficult to do an action research study on the other class with so many distractions that would take away from solid data collection. The good thing about the switch in my study was that I had received permission from all the students' parents in all my classes. I also had been incorporating technology into all my classes all along. The change was a good decision.

The new class that I decided to study was a ninth-grade college preparatory class that was full of both boys and girls. They were vibrant and hard-working students. There were twenty-eight noisy but not-too-noisy and funny but not out-of-line students who were interested in using the technology as much as possible. When I told them that I was going to focus my study solely on their class from now on, excitement ran through the air. Achmed wanted to be the ringleader of the class and ask all the necessary questions until other students chimed in. The series of questions he led off went like this:

ACHMED: Does this mean we have to do more work?

TEACHER: No, you will be doing everything the same as you normally would have this semester, except now I will be taking notes while you work, interviewing you and having you fill out surveys.

ACHMED: Will we get extra credit?

TEACHER: Well, you are not doing anything extra, I am the one doing all the extra work . . . come to think of it, I should get extra credit.

ACHMED: Can we use the laptops every day?

TEACHER: I cannot promise that, but we will use them whenever I feel it will enhance your learning of the content.

JULIO: When can we make a movie? My friends who had you last year said they got to make a movie . . .

TEACHER: We will get there, but we have other things to do first.

The questions went on and on. I was thrilled to see the excitement. Chantal was also outspoken and told Achmed to quiet down and let others share their opinions, and they did. Tariona suggested that we use the laptops to take all our notes.

Beth wanted to create a Website. They were full of big ideas. They already had a taste of some of the technology we would be using since we were three weeks into the semester.

Before becoming the focus of my study, the students in that class had already completed many interactive activities using the technology equipment. They completed online surveys to find out which presidential nominee was a best

fit for them (many were shocked!) and published documents using the *Microsoft Office* programs. My plan was to go full speed ahead in using the technology as often as possible when it is relevant to the learning process and enhances the students' learning abilities.

### **Pre-Study Student Survey**

Before we ventured down our journey to design a classroom that was fully integrated with technology, I gave the students a survey that would allow me to assess their current use of technology (See: Appendix D). I decided that since we were working on incorporating using technology in the classroom, why not have the students complete a survey using an online tool? I decided to use the Website *Survey Monkey* ([www.surveymonkey.com](http://www.surveymonkey.com)) because it allowed me to sign up for free. With the free registration I received the basic account that allowed me to make surveys with up to ten questions. Perfect. The students would lose interest in accurately and truthfully filling out the survey if it went any longer than that. The only downfall was that I could not download the results of the survey or print a clear copy. I could only print the screen as it appeared. The students were given nine questions that they had to select A: Always, B: Sometimes, C: Never. The results of the survey gave me an indication of how experienced the students were with using basic technology.

Table 1:  
*Pre-study Student Survey*

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1. Using a laptop computer is helpful for learning.	A:12	S:13	N:0
2. Using a laptop computer is fun.	A:16	S:9	N:0
3. Using a laptop computer is boring.	A:0	S:14	N:11
4. I look forward to using my laptop computer.	A:11	S:14	N:0
5. Using a laptop computer is hard.	A:1	S:5	N:19
6. I like to look up information online.	A:13	S:11	N:1
7. I read stories from the Internet.	A:3	S:17	N:5
8. It is hard to look up information online.	A:0	S:19	N:6
9. I use spell check when I write	A:13	S:11	N:1

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As I had suspected, most of the students enjoyed working with laptop computers and even found that they were helpful in the search for information. However, using the Internet can be confusing because, according to Gerry, there is so much information out there. Gerry also said that he has difficulty deciding whether information is factual or not. The answer that I found most perplexing was the fact that only thirteen out of twenty-five students that took the survey said they use spell check when they write. It is not surprising, judging by the quality of work that I sometimes receive. I asked the class why they responded that way and Beth said, “Sometimes I am in such a rush to get an assignment done that I do

not remember to spell check.” I guess the little green and red squiggly lines underneath words within a document are not bold enough to catch their attention. Maybe we can contact Bill Gates at *Microsoft Corporation* to work on that one.

### **Virtual Field Trip**

Once I reviewed all the survey answers and held some follow-up discussions on my findings, I felt that students were ready to begin a more involved project using technology. I gave the class a few more exploratory activities involving the use of the laptops and Internet access; I decided to let the students complete a Web-based activity that would take them on a virtual field trip of the Native American Wars exhibit of the Smithsonian Museum. The Website offers a wide display of Native American and United States Army artifacts from the Early Indian Wars. The students read through all the descriptions and analyzed the pictures while summarizing the information on handouts. At first they complained about the length of the Web address that they had to type [seriously, they griped about this], but they seemed intrigued when I went through the basics of the Website on the whiteboard for them. As they began their activity, many students commented on the primitive weapons the Natives used compared to the more advanced weaponry of the U.S. Army. Julio commented, “Mrs. Wismer, do you see the war club with the knives, this is brutal!” The students were working well and were engaged in the activity; most students wanted to know more about the weapons and artifacts.

Some students did struggle with the handout. Tariona was not sure the information that I was requesting was actually on the Website. I assisted her and clarified the requirements as being a one sentence summary of the artifact and how it was used. I gave her an example of how to complete one of the artifacts, that seemed to put her mind at ease. Achmed also inquired about what was needed on the handout and I clarified the directions for him as well. As I walked around the room, the students were reading through the Website and taking notes on the information. Every few minutes someone would chime in with a neat thing they just discovered about the artifacts.

The students told me that they liked the Website because of the “cool” graphics and “super cool” artifacts, but were not incredibly happy having to fill out a worksheet while they were exploring. I felt the students needed to complete a worksheet in order to keep them on task and in tune with their learning. The activity itself made for some interesting conversation due to the brutality of the Indian Wars. Seeing the weapons and war clothing brought the conflicts to life over one hundred years afterwards.

### **Back in the Classroom**

Unfortunately for me (not sure if the students felt the same), during the intense data collection month of October, I was out of the building for eight days. Four of those days were spent training for my duties on the Student Assistance Program Team, two of the days were for advanced whiteboard training (which

ended up being a repeat of a prior training session that I attended. I had one personal day and one in-service day thrown in as well. I was panicking over how I would gather data to analyze. My fellow classmates were coming to class with field logs in excess of fifty pages and I only had twenty-three. I was nervous that I was falling behind. When I returned to the classroom, I decided to hit (not literally) the students with another technology survey. This one offered open-ended questions allowing students to elaborate on their answers.

### **Student Use of Technology Survey**

The survey (See: Appendix E) consisted of six questions; three were open-ended. The first two questions provided me with information on which students have a computer at home and access to the Internet. Of the twenty-six students who took the survey, twenty-four of them had both a computer and Internet access. In responding to the questions: “How do you feel about using laptops in social studies this year?” all twenty-six students wrote a positive answer. Most of the students said the laptops were “good” while many of them also said that laptops are more “fun.”

When I asked the students what they liked or disliked about using a laptop in class, there was a range of responses. I summarized some of them in the following table.

Table 2:  
*Student Use of Technology Survey Question #4*

<b>LIKED</b>	<b>DISLIKED</b>
I like to type rather than write	Sometimes they are too slow and it annoys me
I like the freedom to explore	Sometimes they break down
It helps me learn	It's annoying to put away and take out
I like that we don't have to read through books for everything	It takes a while to start
It doesn't hurt my hands as much as writing	Too long to boot up
It doesn't waste paper and trees	They freeze a lot

For the most part, the students have a positive opinion on the use of laptops in class. The positives far outweigh the negatives. Being students from a generation that prefers instant gratification, the two minutes it normally takes to boot up the computer is too long in their minds. I was surprised that there was no mention of restrictions placed on the students by the information technology department.

The final two questions on the survey asked the students to analyze whether (and why) the laptops helped or hurt their academic performance (grades). Only one brave student wrote "No [they do not help], it's still the same, just on a computer screen." I was impressed by this response because in actuality, that statement is true. All the basic functions you can do on the computer you can

write down by hand. The relative, authentic information that is out on the Internet can also be found in books. For some students it is the novelty of doing something different, straying away from the norm. Not having to open a textbook to search for information is all the motivation these students need to begin an assignment with the enthusiasm that I desired.

### **Windows Movie Maker**

The next phase of using technology in the classroom was to let the students create a project using another piece of equipment in addition to the laptops. For our first major project, the students would be using the video cameras to create newscasts using the technique of yellow journalism (see: Appendix F) that we had been discussing in our Spanish-American War unit. The practice of yellow journalism [sensationalized reporting] was one of the reasons that the United States became involved in the ongoing conflict between Cuba and Spain. The students would create skits to show off their skills in using yellow journalism, then edit their film clip using the program *Windows Movie Maker*. During the introduction of the project, Billy asked, “Is it like lying? If so, Achmed will be good at that!” Achmed did not take the smart comment well, but I averted a blowup in class by explaining that the practice of using yellow journalism is not lying, but stretching the truth to attract more readers.

The first thing that needed to happen to get the project underway was for me to get more video cameras. I contacted my Classrooms for the Future coach

and she arranged for other teachers to lend me their equipment. This was a big help because now every group had their own camera, tape and charging station. The only thing that was lacking was the fire wire (the cable that connects the video camera to the computer for uploading and editing) from some of the borrowed video cameras.

The project was created for the students to work in collaborative groups to “practice” yellow journalism. They were going to research their topic (uniforms in Bangor) and create either a school newspaper editorial or a five-minute newscast. They had multiple elements to include such as interviews, candid shots and including bias (yes, I wanted bias because it tied into yellow journalism). Their groups consisted of four to five students who had to make the choice between using the newspaper or the newscast. Once the groups were formed and the media choice was made, the students began their initial research on public schools that have incorporated uniform dress codes or dress uniforms. Two groups opted to use *Microsoft Publisher* and create a newspaper; the rest chose to use the video cameras for a newscast.

The students were excited to be able to use the video camera and the laptop programs that we have not ventured into yet. I gave the class a quick tutorial and the programs that would be used as well as guidelines and rules for handling the equipment. They got right to work looking up information on school uniforms and coming up with dialogue. I heard of lot of great conversation

coming from various groups. There was also friendly banter over whether a uniform dress policy was a good idea or not. I did have a group, Billy's group, that wanted to "wing it" and I told them that no journalist just "wings" a story. It is researched and prepared, even if it contains the bias that I am looking for in this project.

It was great to see the students in action filming "on location" to make their stories seem real. Over a few days, the students had transformed themselves into investigative reporters who were setting up interviews (authentic and staged) and editing bits and pieces of film clips. I could see the excitement in many of their eyes when they were in control of the flow of the project. The students set up the scenes, the students filmed one another and the students edited the film with visual effects.

The video cameras themselves are great. They are simple to use without any confusing buttons and features. The Windows Movie Maker program was a little more confusing. The students had to upload their films into clips and then decide which portions would be included in the final product and which ones would hit the editing floor. To do that, the students had to review all the film segments taken. Here is where a problem arose. I was also doing a similar project with another one of my classes. Since I was limited in the number of cameras I could have, each camera had two groups (one from each class) recording on it. Each group had to then fast-forward beyond the previous group's

recording without deleting anything. A simple solution to the problem would have been for each group to upload their film clips at the end of class, saving them on the computer and then deleting them from the camera. This led to another problem – saving. Since our school district has banned the use (and the mere muttering of the words) USB-flash drives, the students could only save to their computers. Next problem – each student is designated a space on the network to save all their work. It is accessible outside of school and requires the students to login to the network every time they are on a computer. It did not sound so bad . . . that is until we realized that the technology department allocated all students enough network space to save smaller-sized documents, such as Word and PowerPoint. Our first attempt at saving led to a disaster. There was clearly not nearly enough space on any one student’s network ID to store a video for later editing. The students were also not allowed to save to the “my computer” function on the laptops as it is disabled. The likely solution was to bring in a re-writable CD, but that did not work either. We later found out that using CDs was also not an option because the program was not compatible with a re-writable CD to pick up where they left off the day before. All editing that was done to that point was lost. I also did not allow the students to delete anything from the cassette in the video camera in case we experienced data loss.

The students began to get frustrated with the lack of support in saving. After working for days creating the perfect scenes to film, not being able to edit

their work and save was a tough pill to swallow. I sensed Jack's frustration when he said, "Why do we need to use these computer programs anyway? Why can't we just do our work on paper?" I understand his frustration and I had to hide my irritation (not with him, but with ITEC) and say "Because learning to use the technology will not only give you a new skill and help you become a well-rounded person, it will also give you an advantage when you enter the workforce later on." Jenny overheard our conversation and added her own solution with, "Mrs. Wismer, you're smart and you're tough, why don't you just tell those guys that they are wrong and we should be able to use flash drives?!" I chuckled and imaged myself confronting the technology department [once again] and giving them a piece of my mind about their overly restrictive policies. What the students did not realize was that we teachers are also treated like children and we face the same restrictions they do.

The solution that we came up with is that the groups of students would have to have all the filming completed and be able to upload and edit all in one class period. At the end of that class, the students would all save to a CD-ROM for presentations.

After seven days (about an hour of class time per day) [four days were planned for the project, but saving issues pushed us to nearly double the allocated time] of hard work writing scripts, filming, interviewing, uploading, editing and saving, the project was presented. For our first major project using technology I

was pleased with the results. The students were creative, innovative and funny. They used props and conducted thought-provoking interviews of students (often randomly chosen in the hallways) to enhance their stance on implementing uniforms at Bangor High School. I was impressed that some groups took the side in favor of uniforms. The exaggeration in each group's bias (the object of yellow journalism) was well-received by the class, but sometimes strayed a little from the lesson. Tariona and her group spent so much time trying to be funny that they lost sight of the purpose of the project. Achmed and John realized that they wasted a lot of time trying to be funny and crammed to get the requirements met by the deadline. We had our first technology-infused project under our belts and were now ready to try out some of the other equipment. In order to understand how the students truly felt about the project, I had them take another online survey (see Appendix G) that was devoted to working on the yellow journalism video project.

The survey they completed consisted of nine questions. I wanted to get a sense of what the students liked and disliked about the project and what I could do to make the project better in the future. Below is a highlight of select student responses for some of the survey questions.

Table 3:  
*Yellow Journalism Survey Questions #5 & #6*

*What did you like/dislike about working with the video cameras/Windows Movie Maker/Microsoft Publisher?*

<b>LIKED</b>	<b>DISLIKED</b>
It is interactive and you get to move around	I dislike that someone could <i>think</i> they are recording but they are not
It allows us to practice in front of the camera	Filming over our stuff on accident
It is fun to work with technology and learn new programs that I haven't used before	That is would not save and that you only had one day to edit it because of the saving problem
It's fun, I mean, who wouldn't want to work with a camera	Windows Movie Maker did not save our video to the CD-RW
It's fun and gets us out of our chairs	Saving
It was easier than writing a paper about uniforms	It took us a while to learn how to work things

The overall responses on the positive part of the project were that the students liked being able to work together and they had fun moving around the school to film. They also liked that the project was interactive and they had a lot of freedom to be as creative as they wanted to make the project work. The dislikes mostly surrounded the saving issue that we experienced. Jenny remarked on her survey that she had difficulty because she is not the creative type and had a hard time thinking of ideas.

In the next series of questions, I asked the students to elaborate on what they thought were their favorite part of the project as a whole and what was the most frustrating part of the project. The responses came on a broad spectrum, some had more impact on my analysis than others.

Table 4:  
*Yellow Journalism Survey Questions #7 & #8*

*What was your favorite/most frustrating part of the Yellow Journalism Project?*

<b>FAVORITE</b>	<b>FRUSTRATING</b>
Using the video camera	Getting group members to pay attention
We got to put stories that we wanted, not because we were told to	When people don't listen
The fact that it was a video project	We ALL Screwed around too much
I liked making the movie and acting like a real newscaster	Not all group members contributed as much as they should have
Watching the presentations and listening to people's views on our topics	Saving it on the computer
Getting to work with friends and make fun videos and share our opinions	Having to edit and resave three times – by myself

In addition to the responses in the table, Norman wrote that his favorite part was “throwing Tommy in the trash can.” He was writing about the scene where their group filmed a high school student (Tommy) who favored school uniforms. He was being bullied by students (Norman and John) who disliked the idea of school

uniforms. It took multiple takes and they had a lot of fun pushing Tommy in the trash can over and over again.

### **Photo Story 3**

Our next project that involved multiple mediums of Classrooms for the Future technology was the Photo Story project that interpreted the outbreak of World War I in Europe (see: Appendix H). Once in groups, the students had to create a skit and develop ideas of still shots to take with the digital cameras [again, I was only issued one, so I had to beg, borrow and steal to get enough for each group]. The still shots were then edited to create a video montage with special effects and narration. One thing that I changed from the Yellow Journalism project was that instead of setting aside a few whole class periods (ninety minutes) for the students to work on their projects, I began each period with a review of the previous section of notes and activities and moved on to the new material in the unit. The rest of the period was theirs for working on the project. This was helpful because we were not falling behind with the curriculum and the students got instruction time *and* project time *every* class.

I began the introduction to the project by showing the class examples of how the project was completed in previous years. This helped the students to understand the artistic, metaphorical part of the project. I also worked to pace the students more efficiently during this project. For the first day, I did not allow them to work with the technology. I wanted them to plan out their ideas and have

a working script before they jumped into taking pictures. I wanted the groups to have a plan of what pictures they wanted to take so they would not waste time taking useless pictures. As part of the project, I made the groups fill out an analysis chart that explained why each image was used in their Photo Story and what aspect of World War I the image represented. I also enlisted the help of my Classrooms for the Future Coach to help me manage the students [they are moving all around the school] when her schedule permitted.

As the students worked through the project, I overheard plenty of great ideas and good conversations including Achmed's group. They were discussing what metaphor they wanted to use in their Photo Story. They came up with the idea of comparing the outbreak of World War I with a battle of animated breakfast foods vying to be chosen as Sunday morning's breakfast of choice. [A little out there, but they were determined to make it work.] When I asked Achmed and John, "Why breakfast foods?" they said quite frankly, "Why not, no one else thought of it." I asked them how they planned to stick to the topic of interpreting the outbreak of the Great War, and Achmed said, "I am not sure if it is going to make sense to you, but it makes sense to us." John responded, "No Achmed, it makes sense to *you*, but not the rest of us." I then sat down with the group for a little while to help them refine their idea and have it make sense to everyone.

Another group that I was keeping an eye on was Harriet and Tariona's group. During the Yellow Journalism project, they spent way too much time trying to be "different" and funny. I met with them to make sure they listening carefully on what I needed them to do. I know they wanted to have fun, but I told them that they needed to focus on the task at hand. Harriet reassured me with, "Mrs. Wismer, don't worry, we learned our lesson the last time. I am in charge now, not Tariona." Tariona smirked, but looked like she knew that the leadership switch was necessary to receive a good score.

During one of the project days, I took the time to ask the students (as a class) how they were progressing with the project and if they were learning. One of the questions that I asked them was specifically, what are they learning from the project? The responses from our open discussion were:

- (Jenny) What project?
- (Harriet) I learned how to use a camera.
- (Ami) I learned how to work with technology better, like using Paint to upload to PhotoStory to solve some saving issues.
- (Jenny) We learned to work together better.
- (Julio) We learned about time management.
- (Tariona) I learned to use different computer software.
- (Norman) I learned to use *Microsoft Paint* to doodle-up pictures.
- (Achmed) I learned how to put narration to pictures to tell a story.

- (Tariona) I am learning about the war because you have to think about the war to get your project done right.
- (Ami) You have to contribute to your group or no one will want you in their group.
- (Harriet) Technology helps us with social skills by teaching us about group work.
- (Julio) I learned more about the topic we are studying by acting it out.

All these statements gave me good insight into what I needed to do. First off, ten of the twelve statements in response to “What are you learning from this project?” were about learning the technology. This is a concern for me because I began to feel that the students were learning more about the technology than the content. I also starting to realize that maybe the technology was not helping the students learn the content . . . How did I fix that? I had an eerie feeling that I would get those responses. I decided to give a follow up question. I asked them if they truly believed that they were learning more about the concepts from using the technology than if they did not use it. Those responses included:

- (Tariona) It is more fun, so that way I actually pay attention
- (Emma) In this project, we are able to show how the allies work
- (Achmed) We learn more because we have to think about it more. I know I am learning how to interpret the concept
- (Kyla) I am learning about the alliances of the war
- (Ami) I like the note packet and the worksheets better because I can actually take them home with me to study

- (Pedro) I don't think the project is helping because it covers only the basics and not the specifics

The feedback that the students gave me was comforting. I was happy to know that they are learning from the project. Alternative methods of learning are something that I have been exploring. I am happy to report that students can learn without the textbook. Hands-on learning, authentic learning has the ability to impact the students far greater than traditional drill and skill. My students made me realize that doing these technology-related projects are important and do impact their learning.

Back to reality. As with the Windows Movie Maker (yellow journalism) project, the World War I Photo Story project was full of problems and potential disasters. The students and I took the time, on one particular day, to come up with a list of things that were frustrating us. They list included:

- Some computers did not load up properly and needed to be restarted multiple times
- Some computers could not establish a connection to the wireless router
- Saving (a category onto itself)
  - Not enough directory space
  - "my documents" is disabled, so we could not save images to "my pictures"
  - Could not re-open Photo Story for editing purposed from day-to-day
    - All editing must be done and saved to a CD all in one day

- Two camera cards lost images (they became corrupt)
- Some computers were unable to read the pictures off the camera
- The fire wires (cable to upload images) with the cameras did not support a proper upload to the computer and images were not transferred correctly
- Microsoft Picture Manager kept giving an error report
- The cameras were meant to upload to the C drive, however that drive is disabled. The students (and staff) only have access to the H directory, but the camera is not programmed to upload to H. Again, images lost.

There were a lot of problems to overcome. I told the students that part of the learning process for using technology was to learn how to overcome the problems that arise. Finding a solution to a problem is one of the extra rewards of completing a technology project.

On another day, I had another intimate discussion with a group of students to find out if (and why) they liked the integration of technology into our class as compared with other classes where this opportunity did not exist. Achmed jumped in right away and said, “Mrs. Wismer, it’s fun to come to your class.” I thanked him for the vote of confidence, but I wanted to know why it was fun. Andy said “I like that we don’t rely on books in here. I hate when teachers make us read the book and answer the questions.” I responded by saying that was precisely one of my missions. I wanted to let the students see that learning can go beyond the classroom walls. Students have a chance to learn from so many things around them. Why would I want to only feed them the information from the

book? Tariona added, “When we use technology, we are learning while hanging with our friends.” I told her that I was pleased that she enjoyed interacting with her classmates on the projects, but wondered if working “with friends” can distract from the project. She said, “Nope, it’s easier because we already know each other and what we are good at.” Good point. Harriet, Tariona’s best friend also said, “You lecture less, so we get to do more hands-on projects.” Achmed also added, “Yeah, my one teacher lectures for the entire ninety-minute block every day!” To which other members of the class overheard our conversation and starting providing their own horror stories.

Perhaps the most enlightening response came from the most unlikely of sources. Jenny is an average student. She had a hard time staying focused and would rather play with her hair than take notes. She has great intentions, but struggles to keep up with the class. She gets confused often, but never discouraged. Her take on the way I have designed my routine was this, “Your notes and lecture help us learn, but the technology and projects help us remember.” That’s it, my study is complete. I do not need to go any further! I have found my answer!

Ahh, if only it were that easy. I was only in November and had a lot of data collecting to do. Slowly but surely we were overcoming some of the problems that we had previously faced. The technology department had answered our pleas and expanded the drive space of the students in my class so they could

not only save their pictures but also save their projects with edits. Once that problem was solved, it was time to move on to another one. The project completion deadline was rapidly approaching. I had to start pacing groups to make sure they would complete their projects on time. One group had shot thirty pictures that would end up only becoming a five-second section of their story. I had explained to Tariona and Harriet that they needed to stay focused on the task at hand and not worry so much about adding the “wow” factor. This was the same group that had problems completing their Windows Movie Maker project on time due to lack of focus. When I met with the group to discuss what was holding them back from completing their project, they offered me a list of excuses.

- TARIONA: Someone deleted our photos!
- TEACHER: Your group is the only one using that camera.
- TARIONA: I saved it but its not there!
- TEACHER: Do you think that you may have accidentally erased some images?
- TARIONA: I don't know, I could have.
- GERRY: No one is telling me what to do!
- TEACHER: Okay, why does Gerry feel like he is not part of the group? Everyone needs to be assigned a role.
- EMMA: Can I just take it home to work because I can't get anything done here?
- TEACHER: Why can't you get anything done hear? You are supposed to be a team helping each other out.

- TARIONA: We didn't upload any photos yet because . . .
- TEACHER: Okay, we are almost out of time to work on this project. Photos should have been uploaded already. We need to sit down and get these picture uploaded onto your computer. No more taking pictures until the other pictures are uploaded. You also need a script for the narration. Where is that?
- HARRIET: Emma is taking the script home to work on it
- TEACHER: Why is Emma taking it home, you should all be working on it together.
- TARIONA: Emma lost her binder and the script was in it
- TEACHER: So you are punishing her for losing the script by making her re-write it herself? Do you think that is fair? As a team, you should all pitch in to get the script written so your project can be completed on time.

What I learned from this conversation was that this group placed the blame on everyone else. Not one person in the group owned up to wasting time and not following the schedule. When I finished talking to the group, I told them that they needed to work together to finish the project, stop wasting time and stop blaming other people.

On the last full day of time to work on the projects, I helped all the groups tie up any loose ends to be prepared for presentations. We were faced with a numbers of technological problems once again. Edits were not saved from the previous day, lost images and frozen computers were just some of the issues we had to overcome. When the projects were completed and presented, there was a variety of interpretations of World War I. Overall, I think the students did a good

job showing their understanding of the war. Some groups had a difficult time being creative and just told the facts. Other groups spent so much time trying to create a metaphor for World War I that they got lost in their own creativity. After reflecting on the project, I realized that we overcame a lot of obstacles, including technological glitches and poor time management. The students pulled through and produced Photo Stories about World War I with their own added flare. I particularly liked the projects that used metaphors to describe the alliances in World War I. Chantal and her group chose a baseball game theme with all the aspects of a Yankees-Red Sox rivalry. Missy's group chose to create a theme of jocks (Allies) versus geeks (Central Powers). I believe the project was successful. It was not meant to teach the students the facts of World War I, but to reinforce them.

After the project, I asked the students to fill out a survey (see: Appendix I) that allowed them to share their thoughts on the impact of the project. I broke down some of the highlights and lowlights from the students' responses and analysis. The first question I wanted to know was if the students thought this project helped to better prepare them for the test on the content of World War I. Fifty-six percent of the students said yes. This is a decent split in the answers from the students. I had a general idea that the students felt this way. When I looked at where the responses came from, the majority of the students who answered that they did not feel better prepared were the ones that did not put full

effort into their project. Those students were the ones that I had to constantly watch and make sure they were on task and doing the work that I asked. The others who answered 'no' are the students who do struggle with the content and the information on a regular basis.

When I asked the students to elaborate further on the previous questions, this is what the students said:

- It had us constantly go over what happened in the war and reenact it
- It didn't really show or teach me what I really needed to know about World War I
- Our group aimed more at having fun than staying on topic
- I don't think it helped because we were having too much fun with it
- Too much fooling around
- Because when we take notes it's boring but when you are actually involved in an activity, you are more interested
- I think that doing the project helped make people understand the content by comparing pictures with the information
- It had nothing to do with the information, it just threw me off
- Because you worked more hands on

These responses summed up the general consensus of the class. Those students who did not feel the project helped them learn the material believed it was because they were not focused on the project itself or they learn better from notes and lecture. Those students who felt the project did help them learn the material

felt that the project kept them interested in the information and could make connections to the facts through their pictures. I find these responses very interesting because the class is split down the middle on whether or not the project helped them. I suspect that some of the students who wrote that the project helped them simply said so because the project was fun. As I looked at some of the positive responses, I noticed a few students who claimed to learn better through using the technology did not fair well on the test.

Table 5:  
*World War I Survey Questions #5 & #6*

*What did you like/dislike about working with Photo Story?*

LIKED	DISLIKED
I liked that it was hands on, and that we got to be creative and use our imagination	It really didn't teach me all that well about the war
That we could get thinking about the war in a fun way	Problems with the equipment
Fun to work in a group and use technology	It didn't help me understand the information
Use of camera, teamwork	It was hard

I was happy to hear that the students enjoyed working with each other and using new technology. I believe it was the technology that was incorporated into the projects that made them more “fun” and, therefore, the students were able to

retain the information better. I was concerned with some of the responses about not learning anything. Although I did not expect them to learn from the project/technology used, I had hoped it would reinforce what they learned. I sincerely hope that the project did not hinder their learning of the content on World War I.

I decided to throw a curveball at the class and ask a content-related question in the survey. I asked the students what were the long-term causes of World War I? Out of the twenty-five responses, only four got this wrong. I added this question just to check their knowledge. I felt the causes of war are always more important to understand than the war itself. The four students who answered this question wrong were also four of the students that did not stay focused in class and struggle when assessed on their knowledge of the content. I was pleased with the results of this question.

I think that generally the students were honest in their answers, although some answered with responses that they knew I wanted to hear. I also believe that most of the students enjoyed doing the project; however the students did not learn the content from the project. The goal of using technology for projects was to help reinforce the material, not teach it.

### **Google Documents**

The next technology project that we worked on was using *Google Documents*. I chose to use this feature of *Google* because it allows for editing of

a single project by multiple students at the same time. The students can choose to do a presentation (similar to Microsoft PowerPoint) or a document (similar to Microsoft Word). When one member saved the additions to the project, all the group members' work is also automatically saved. The extra added bonus was that since the programs were Web-based, there were no saving issues. Also, the students could easily work on the project (at the same time) even while at home without worrying about logging on to the school's Website. The downfall was that it was a new program and it took some getting used to for the students. Also, images were harder to incorporate than with Microsoft PowerPoint.

At the beginning of the year, students were all asked to sign up for a *Gmail/Google* Documents account. It was free, but the students needed to sign up at home because all email providers are blocked in our district. The students are able to access *Google* Documents in school, but not *Gmail*. By the time we started this project, all students were able to gain access to the program. What we learned immediately at the start of the project was that the students were not experienced enough to research information on the Internet and determine if it is reliable or not. In order to fix this concern, I gave the students a Website evaluation chart with their project packet (see: Appendix J). This chart was designed for the students to rate the accuracy and reliability of the content on the Websites that they were using. I also showed the students how to use a search engine to find information. Achmed helped me with this when he came to me and

told me that he could not find any information on his topic. I asked him how he was going about researching the impact of World War II on the Great Depression. He said, “I *Googled* it.” I asked him what he was using as his keyword(s). He rattled off a sentence that was at least ten words long. I explained that he cannot simply type a sentence into a search engine and expect to get numerous relevant search results. I showed him (and then the class) how to use keywords to find information. I also stressed the importance of reliability of information on the Internet. I showed the students our own library’s online database that was full of reliable information. After a quick tutorial, the students were off in “data collection land” researching the causes of the Great Depression.

What I liked most about this project was that everyone was working the entire time! There were no group members sitting around watching other members work. The benefit of using *Google* Documents is that everyone can edit the same presentation at the same time. I had a lot of questions about evaluating Websites because the students wanted to make sure they were using reliable Websites (yay!!). That made me happy that they were trying to make sure they had good information in their presentations.

This project also had its share of problems. I noticed an interesting thing with this project. The students were not sitting in their assigned groups (I picked the groups for this project). Many of the students were sitting by their friends (who are in other groups) and not working next to their respective group

members. I had to address this situation and explain that being part of a group is also about giving each other support. How can you give another group member support if you are sitting all the way across the room? Also, some students were finishing up with “their” portion of the project and wondered what they could do in their “free” time. I told them that even though they are finished individually, the group itself is not finished with the project so they need to help the other group members finish their work too. It amazed me that when students are not working with their friends, they lose perspective of what group work means.

Even though I chose the groups at random, some students were able to be with their friends. Tariona and Emma were in a group together again. They have worked together before and by luck of the draw, they were put together again. They are the girls who procrastinate, make excuses and often lose sight of their task they are to be doing. As the class wrapped up finishing touches on their presentations, Tariona and Emma came to me and told me that they were unable to get their “Website evaluation form” completed because they did not have a computer to check their Websites to evaluate them the night before the project was due. I explained that the evaluations were to be done before the information was even included in the project. I got the “huh?!” look from Tariona. I further explained that the purpose of the assignment was to make sure the information that they were including in their projects was factual and reliable. They both figured they would use the information they found in their project and evaluate

the Websites when they were done putting their presentation together. They did not seem to grasp the idea that they were to make sure the information was factual and reliable *before* they used it in their presentation.

They were no other problems getting this project done on time. Since we did not face the saving issues like we would have using other pieces of technology, the process went more smoothly. We had a few hiccups (like when the server was slow), but this project was much more time-friendly than the past two. My biggest concern is that the students divided up the work (delegation is great!) amongst their group members, but only mastered the section each were assigned. My goal of the project was to teach students how to delegate and collaborate, but I also wanted *all* the students to be responsible for knowing *all* the content.

When the students presented, each group had their own design and structure. The presentations were colorful and informative but most of them did not rise to my expectations. Andy's group presentation was eye-catching, clear and to-the-point, but they neglected to use spell check on their slides. Mike's group had an easy-to-read format but very few visual images to emphasize their information. Tariona's group pleasantly surprised me (considering all their issues with the project). Their presentation was informative, easy-to-follow and fully cited with sources. Gerry's group had a lot of great images throughout their presentation, but the formatting of the text over top of the images made it difficult

to read. When Ami and her group presented, one slide was empty (Alberta “forgot” to finish at home last night). The information was out of order; further confusing things, after each person’s delegated section was over, they had a separate works cited page (right in the middle of the presentation). There was no continuity at all and it was very hard to follow. They obviously did not consult with one another or proofread their slides to make sure they made sense. Pedro’s group, a good mix of students, some low achievers, some high achievers . . . some procrastinators and some hard workers, pulled together well for the project. They had a very detailed presentation; however it was overshadowed by the formatting errors that caused pictures to cover content. They did cover all the content that was stated in the rubric and had relevant images, but some text was hard to read because of color choices. Achmed’s group’s slides were very detailed, easy to read and informative. They even had a great conclusion of all the material at the end of the presentation. The problem I saw is that they addressed the key topics I gave them, but left out the five broad causes of the Great Depression. I may have confused them when they asked how to include all the topics. I told them that all the topics relate to the five broad causes. I think they felt they addressed the causes (without specifically writing about them) through their other slides.

For this project, I had hoped to expose the students to *Google* Documents and have them working with students that they normally do not associate with. In preparing the project, I made sure I put a lot of time into being detailed-oriented

so that the directions/tips/suggestions were easy to follow. There were kinks along the way and the end result was not as spectacular as I hoped it to be, but I learned from doing this project for the first time. When I gave the students the end of the project survey (see: Appendix K), they answered the questions with brutal honesty that will help me amend the project for future classes.

The survey was conducted two days after the completion and presentation of the project using *Google Documents*. There were eight questions that the students answered ranging from opinions on the groups to the actual project layout itself. I asked the students what they thought the project helped to better prepare you for the questions on the final exam dealing with this content? All but one student said it did. This project required the students to research their own information (with a few guidelines) and then determine, through the Website evaluation rubric, whether or not the information was accurate and reliable. They were not getting their information solely from me and my lecture. They had to put a little effort into finding the information for themselves. I asked them to elaborate, on why the project helped (or did not help) them prepare for the content on the final. The responses included:

- You had to research your topic
- It made me read information
- We actually got to look and find information ourselves

- This project helped me concentrate more on the actual information, then in the past projects
- I think it helped because I got to see everybody's notes from all the slides and such, also when the final exam comes I can go home and study from the slides

The response that stated the student did not learn enough to be prepared for the final was a result of him not liking the use of PowerPoint and people not working to their fullest in the group. All the other responses centered on the idea that the students were in charge of finding their own information with little guidance along the way. It seems as if the students like to search for their own information rather than have someone tell the answer to them. That is fantastic; inquiring students are learning students!

As with other projects, I asked the students to compare what they liked and disliked about this particular project. The responses are in the chart (see Table 6 on next page). There was a wide variety of responses that were positive outlooks on the project. The students liked to work with new people and enjoyed researching the information on their own. Since they were doing their own research, they seem to have an easier time remembering the content and even relating to the content. I was pleased to see that the students were taking advantage of a program that allowed them to work on the project at the same time with other members of their group and were also able to work on the project at home.

Table 6:  
*Great Depression Survey Questions #5 & #6*

*What did you like/dislike about working with the Google Documents?*

<b>LIKED</b>	<b>DISLIKED</b>
Everyone got to do something	I did not like how we each divided up the slides to where we each did a different topic because it made it harder to learn all the other information that your group members were working on
That you could have everyone check what you are doing and you can check everyone else's too	Some information was hard to find
It was easier to remember the information	It was boring like a research paper
I liked working with people I never worked with before	Presenting
We were able to research and find out new stuff	The only thing that I did not like about the project is that Ami chose the color background
The <i>Google Docs</i> because we could all edit by ourselves and work on it at home	We didn't get to chose our own groups

For the responses on the negative aspect of the project, the results were very similar. The general response was that some students did not like being put into random groups and that some students had a difficult time finding the information for their slides. It is amazing to see the stark change in responses.

The things that some students did like in the first question were the same things that other students did not like in the second question.

Overall, I do not think each student learned all the content that was included in the project. I think they learned the topic that was “assigned” to research, but did not take the time to look at the materials from the other members of the group. I believe this is especially true since some of the groups did not ever “work together” as they positioned themselves next to their friends, but halfway across the room from their group.

### **MySpace™©**

The final project of the semester (and my study!) was designed to play into most students’ technological interests. They were going to make “fake” MySpace™© pages . . . for the leaders of World War II (see: Appendix L). This project was designed to be more laid back than previous projects. The students were paired up and chose one of the following leaders from World War II to create a MySpace™© profile for: Adolf Hitler, Joseph Stalin, Franklin D. Roosevelt, Harry Truman, Winston Churchill, Benito Mussolini, Emperor Hirohito or Hideki Tojo. Once they chose their leader, they were to create a *mock* MySpace™© profile that included all the major parts of standard MySpace™© profile. Since there is not legal access to MySpace™© in school, the students used the *Paint* program to create their layout.

There was an “About Me” section where the students had to write a one to two-page biography of the leaders that included major highlights and achievements from his life. Other factual information that was needed included the “Vitals” section. In this section, the students had to list the date and place of birth and death as well as the leader’s hometown, ethnicity, marital status, occupation and any other factual information. There must also be a picture on the profile that is appropriate for the MySpace™© page.

In addition to the factual information, the students were to include fictional information as well. On a typical MySpace™© page, there is a “wall” section. In this section, people who are friends of the person with the MySpace™© page can leave public messages. For this part of the project, the students had to make up three wall posts (comments) for their leaders that were from other leaders/people they would have associated with. For example, if the group chose Adolf Hitler as their chosen leader, he might have wall posts from Eva Braun, Joseph Stalin and Benito Mussolini.

In another section, the students created an “Interests” section where they had to be imaginative and delve inside the head of the leader they chose. They had to come up with two books, movies, music groups and television shows (from today or years past) that their leader may have enjoyed. They had to justify why they chose the particular examples they used by explaining why their leader may have liked a show such as “The Sopranos.” The final two parts of the project

required the students to develop a quote that would fit their leader and the leader's status message. On MySpace™©, the status message gives your friends an indication of how you are feeling and what you are doing. If I were to have a status message right now, I would put "BUSY: Typing away on my thesis." For Adolph Hitler, a status message could be "DEVIOUS: Planning to take over the world!"

This project was a lighthearted way of doing a biography on a leader during World War II. It was factual information mixed with witty anecdotes. The class had a great time winding down the semester with a project that was both informative and fun. The technology that was involved included using the laptops with Windows Paint and Internet research. The students had to recall the Website evaluation formula to make sure they had reliable information to put on their profile. When I collected the MySpace™© projects, I was overwhelmingly surprised at how well the students portrayed the leaders of World War II. They had a great time creating interesting layouts full of information to fulfill the requirements. Below are some of the finished MySpace™© Profiles.

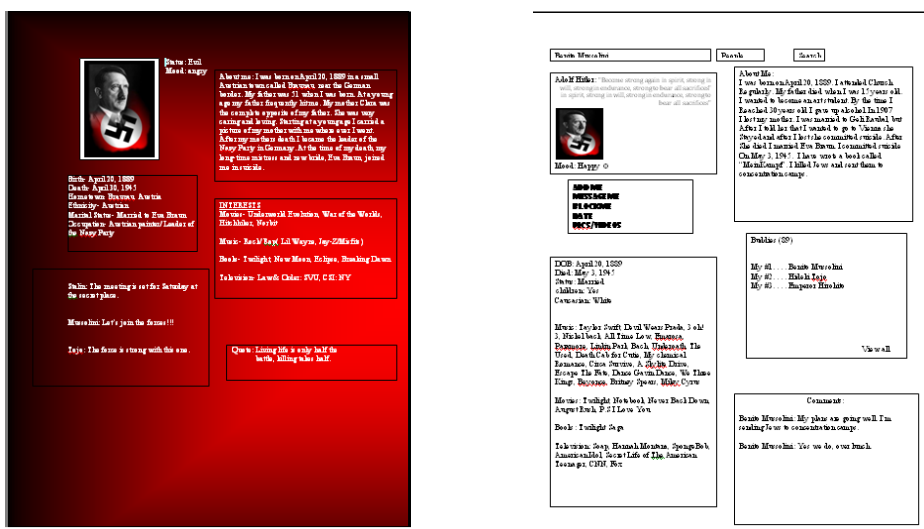


Figure 1. World War II leaders MySpace™ Profiles.

From this project, the students were able to use their prior computer knowledge and Web-page design expertise to connect to the content that we were studying. It was interesting to watch the students make sure their “layout” was accurate to a true MySpace™ page. They also found relevant information but had to condense the information to fit in one section of the project. Their summarization skills helped them to locate the appropriate information for the profile.

### End of Study Student Survey

To wrap up this semester of data collection, I gave the students a survey (see: Appendix M) to get their thoughts and feelings on all the technology projects we did during the semester. I asked the students ten questions ranging from what project they enjoyed doing the most to suggestions to offer me for the next semester using technology in the classroom.

One of the questions I asked the students was how did technology help them learn in my classroom? Here are some of those responses.

- It helps me concentrate
- I can find things faster on the computer, and I can see better with the electronic board
- Hands on projects
- You get to interact with the work
- Working with people and learning how to use the technology
- Many more opportunities to learn
- It helps to get a better understanding of the information
- It makes it more interactive
- It makes learning fun
- It helps me by being hands on with the topic
- It is more fun and makes me want to learn
- It makes me want to come to History and be able to learn without being bored
- It keeps me on focus by getting me involved in learning, rather than listening to lectures

I included many responses because I thought each one that I included summed up the responses of the entire class. I was so happy to see that students enjoyed the interactive nature of the technology projects as well as having more opportunities to learn. In history class, it is important to not only be able to tell a story, but also

to allow the students to interact and be part of history. Doing the technology projects allows the students to “live” events that may have happened over one hundred years ago.

I was also interested in finding out what impact the technology had on the students learning the content. Those responses included:

- It’s more exciting and makes me WANT to learn
- You can do find anything on the Internet and its much faster
- It helps give a better understanding of the topic
- Using the technology explains things easier and it sometimes describes things in a better way
- It helps us to pay attention and want to come to class the next day
- It helps me by getting me more interested

The students wrote that they enjoyed using the technology because it was more interesting than the standard “drill and skill” format that some teachers still use.

The students get to interact with their learning and experience historical events as if they were happening today. When the students are excited to learn, it makes it much easier to understand the content. Today’s teachers have to learn to communicate in the language and style of their students. This doesn’t mean changing the meaning of what is important, or of good thinking skills. But it does mean going faster, less step-by step, more in parallel, with more random access, among other things. (Presnky, 2001).

I was also interested in which projects that students liked the best and why. The chart below summarizes the responses, and the explanations follow.

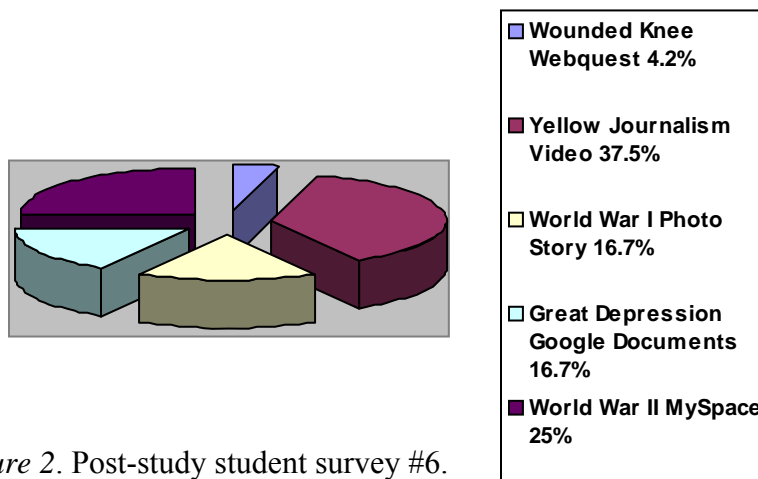


Figure 2. Post-study student survey #6.

I had a general idea that the students liked doing the Yellow Journalism (Windows Movie Maker) project. The students put a lot of time into that project and had a great time acting out their bias on school uniforms. I thought more students would enjoy the World War I (Photo Story), but I know many students struggled due to the saving issues. I also figured that the students enjoyed working on the World War II leaders (MySpace™©) project because it was relevant to what they are interested in outside of school. The Wounded Knee Museum (Webquest) project only received one vote because it was not as interactive as the other projects.

The last bit of advice my students had for me was answered in the final question. In this question, the students were asked to suggest anything that I

should change for the next semester that they think will help my class be more interesting and informative. The responses were all over the spectrum. Some students wanted to be funny and gave silly responses while others gave great advice. Some of the students even gave specific suggestions that they would have liked to see in my class. A few students did not want to change anything. Below are a few of the highlights of the responses.

- A little more worksheets in place of a few projects. Doing project after project is tiring and stressful. Projects make classes more fun but i think we had to do too many this semester
- No Webquests
- Maybe a constructive project where you build something instead of technology? or like something similar to that and take pictures of it to make a Photo Story?
- Make all things fun but make sure you can learn without being bored
- Continue to do the projects they really help kids that cant stay on focus grasp the content

I enjoyed reading the comments. The one that had the greatest impact on me was the comment about laying off the projects and doing more worksheets. I never thought that any student would be tired of doing projects. This was great advice. I will try to space out major projects in the future instead of doing them back-to-back. I might even consider dropping (or modifying) a project from the curriculum. Although I do not think adding more worksheets is the answer, there are other activities that I can do that are interactive and relevant to the students'

lives. I am glad that most students opted to write that they would not change a thing. It gives my confidence to know that my students enjoyed the way I teach my class.

### **Problems and Shortcomings**

Conducting this study opened my eyes to a variety of issues that can come with using technology in the classroom. When I first signed on to be a Classrooms for the Future teacher, I was one of eight. The position was offered to the entire staff, but many teachers did not want to get involved because they knew there would be problems to overcome. I am not one to shy away from a potential problem, so I jumped on board right away. This past year four additional teachers entered the program. Our numbers are growing and so is our influence. We hope that in the near future we can convince the technology department in our district to loosen up on some of their restrictions. Still, in being an accurate action researcher, I am obligated to tell the darker side of using technology in the classroom.

### **Printer Ink**

You would never think that printer ink would become such an issue in school. In the Classrooms for the Future rooms, we were given color printers that also copy and scan. The problem is, we are only given one set of ink cartridges and the set is expected to last the entire year. Knowing this, I severely limited my students' ability to print. Even so, we ran out of ink in December – no more

printing in the classroom for the remainder of the year. A logical solution would be for me, being the classroom teacher, to replace the ink with my own money. That is against the rules. In my district, we are not allowed to put anything that is personally owned (bought) into any piece of equipment that the school owns.

Other examples of this include:

- A teacher cannot purchase their own LCD projector and attach it to a school computer to use for notes/video
- A teacher with a school-issued laptop and LCD projector cannot plug in a presentation device to aid in notes using a PowerPoint
- A teacher cannot bring in their own printer/ink

These are just some of the restrictions we face. The technology department does not look like they will be reducing their restrictions any time soon.

### **Flash Drives**

Flash drives (USB saving devices) are the biggest gripe among teachers in my district. We are not allowed to insert a flash drive into a school computer; it can result in immediate dismissal. The technology department places such a restriction (the staff has all the same restrictions as students) on us out of fear that someone will bring in a virus or operating system that could compromise our school district's system. It is frustrating to be treated like we are children. There is constant uproar in the district to treat the teachers like adults and respect the decisions we make – like not abusing the right to use a flash drive. Many of the

saving issues that I brought up previously could be avoided with the permission to use a flash drive.

In addition, planning lessons at home can be extremely time-consuming due to this restriction. Instead of being able to transfer all work between school and home on a flash drive, we have to take many more steps to get the job done. In order to work on something at home that I started at school, I have to sign into the network (at home) and download what I need to work on. Then, in order to re-save to the network, I have to save my document to my desktop and then upload it back to the network. I find it easier to just email myself all the work that I need transferred. It is a pain, but it gets the job done.

### **Storage Space/Saving**

Saving and storage space could be eliminated by using a flash drive. As I said before, that is not likely to change anytime soon. The students are only allocated a certain percentage of storage space on the school district's network. Because of this, larger projects like the Windows Movie Maker and Photo Story are too large to save on the network. We try to overcome this issue by saving on CD-ROMs, but the student laptops are often flawed and do not let the students re-save to the re-writable disk. When a project is approaching that requires a lot of saving space, I let the technology department know and they try to allocate more network space for the students in my classes.

**One piece of each equipment**

Only having one piece of each equipment that the Classrooms for the Future grant provides for us is not an issue that I can place blame on anyone in particular. It is part of the grant. However, when I am doing a project that requires the students to each have a certain piece of equipment (such as a video camera) in each group, I turn to my fellow Classrooms for the Future teachers. They have graciously lent my various pieces of technology so that my students can complete their projects. The only complaint that I would have is that about half of the teachers that have the equipment actually use it. The other half just lets the equipment sit in a closet. I have found that those teachers only signed up to be part of the Classrooms for the Future program to have a laptop cart permanently in their room. They do not use anything else. This is frustrating to me because I use all the equipment as often as possible.

**Broken laptop**

At the end of last year, I had a student who broke his assigned laptop. He did this by putting excessive pressure on the laptop when it was in the closed position. As a result, the student cracked the screen of the laptop, rendering it useless. To further complicate the matter, the student switched his laptop number (a sticker) with another one. He was quickly discovered by the technology department. When he was confronted, he admitted to what he had done and agreed to pay the replacement cost of the laptop. I was told that I would not

receive a replacement laptop until he paid for the broken one. I just recently received the replacement. Apparently the technology department did not realize that they never replaced the missing laptop.

### **Loss of connection**

Internet connection and network connection issues plagued us the entire semester. There were some days when half of the class would lose their connection and any unsaved work would be lost. The way my classroom is set up is there are two routers within the wireless laptop cart. If one of the routers goes out, half of the laptops lose connection. Also, there is a switch on the front of the students' laptops that if accidentally bumped it shuts off the connection. Other issues that we have dealt with include the laptops not loading properly. Being that our entire school runs on a network, all computers are configured to begin in a Novell start-up menu. In the menu, there is a box with all the programs that we have access to (students and staff). Sometimes the computers will load up without the startup menu. When this happens, the laptops are of no use to the students. None of the programs will work if the laptop does not load properly.

### **Blocked sites**

The biggest headache for the students (and a big headache for teachers too) is the overly restrictive nature of the technology department to ban Websites. Oftentimes educational Websites wind up on the blocked list when they discuss hot topics such as guns, war, assassination, birth control and many other topics I

cover in my curriculum. I am well aware that it is the school district's responsibility to create a safe learning environment for students. Part of that responsibility is to make sure students do not stumble upon an inappropriate Website. By why is *Google Images* blocked? Why are all blogs (even educational ones) blocked? Why can I not download a video from *United Streaming* or a flipchart from *Promethean Planet*? We were told that if we wanted any of those things downloaded, we were to provide a list to the technology department. I did that and was told that I could download them myself at home and then save them to a CD-ROM and bring them in to use.

### **Interactive Whiteboard**

When I received my interactive whiteboard (Promethean Board), I was thrilled. I was so excited to be able to have the students up at the board and interact with the slides I had created. Unfortunately that excitement wore off quickly. There are so many wires that are needed to make the board and the programs function properly together. The wires are not long enough to reach between the laptop, the projector and the board. This creates a safety issue because the wires hang about eighteen inches off the ground.

Another problem is that in order for the whiteboard to function properly, it has to be calibrated. However, if the board (which was on wheels during my study) or the LCD project (which is currently still on wheels) are bumped ever so slightly, it has to be re-calibrated. Recently my whiteboard was mounted, but I

am still waiting for my LCD projector to be ceiling mounted (which might never happen) so that I do not have to worry about recalibrating ten times a day. These problems would never turn me away from using my equipment, but they have forced me to come up with creative ways to get around the problems.

## **DATA ANALYSIS**

*“You see things and say 'Why'? But I see things and say 'Why not?’”*  
- G.B Shaw (1856-1950)

Data analysis is crucial for completing an action research study. Without the data, there could be no study. The purpose of data analysis is to give validity to a study. Being able to show where the story and findings developed give a sense of trustworthiness for the reader. I collected a lot of data during my study. I wrote a field log that was nearly one hundred pages long. I conducted multiple surveys using *Survey Monkey* and interviewed small groups of students throughout the student. I wrote reflective and analytic memos to help me organize my thoughts and feelings. I also analyzed student work. The sheer amount of data that I collected was so immense that it hurt my back to carry it around in my bag, but my data made it easier for my to tell my story.

### **Participant Observation**

Participant observations were maintained in my field log and analyzed in my memos. I wrote with detail and determination to make the task of putting the thesis together much easier.

### **Field Log**

In my field log, I kept an ongoing record of the daily happenings in my classroom during my study. The analysis of my field log began after I wrote my first entry. During the course of my study, I looked for patterns in my writing that

would help me draw conclusion on completion of my study. “Finding patterns in experience facilitates learning. Noticing patterns in experience, from the simplest to the most complex, enables us to draw our data together in new ways” (Holly, Arhar, & Kasten, 2001). In order to locate the patterns in my field log, I re-read what I wrote on a weekly basis and used codes to organize similar thoughts. Those codes were then organized into a coding index for quick reference during analysis. I then created bins in a graphic organizer to develop themes from within my study. (see Appendix N). Ely et al. (1997) state that bins are the “the first broad categories . . . into which the coded data can be given an initial rough sort” (p. 162). Those themes helped me determine important findings in my study.

### **Analytic, Reflective and Methodological Memos**

While conducting my study I used many different methods of analysis for my data. During the early stages of data collection I completed a figurative language analysis in which I looked at my field log to examine and analyze the implied and intended meaning behind thoughts I had written in my field log. I also analyzed the data I had collected based on four education theorists including Dewey (1997), Freire (1970), Vygotsky (1978), and Delpit (2002).

At the mid-point of my data collections, I completed a mid-study methodological memo. In this memo, I analyzed what I data I had collected to that point. This memo allowed me to get a glimpse to where my study was heading. I also wrote analytic and reflective memos for all the major projects I used in my

study as well as the surveys I gave my students. Writing the analytic and reflective memos gave me a chance to sit down with my data, make connections between student comments and their work and be able to draw conclusions for my study.

### **Student Surveys**

During the course of my study, my students completed six surveys (see: Appendices D,E,G,I,K,M). The surveys were given at the beginning and end of the study as well as after each major technology project. I used these surveys to determine if the use of technology in the classroom was helpful to the students learning – from their own perspective. The students were encouraged to give honest answers and be critical when needed. Each survey was analyzed in a memo and the results were charted to compare student thoughts throughout the study. The information that was obtained from the surveys was used to help create better learning experiences with technology in the classroom.

### **Student Interviews**

I also conducted several informal, small group interviews in my study. When my students were working on collaborative technology projects, I would sit down with a group for a few minutes and ask them general questions about their project. They gave me valuable feedback and suggestions for altering the project to make it less complicated and easier to understand. I also was able to talk to the group of students about how the technology helps them learn (or not). The

students were open and loved being able to give me suggestions. As I interviewed students, I asked follow-up questions to solicit deeper understanding about their thoughts on the technology projects. After each round of interviews, I recorded my notes and wrote an analytic memo regarding what the students shared with me.

### **Student Work**

The last piece of data collection was student work. It was important to my study to be able to look at student work and analyze it to see if the students are gaining the knowledge and skills that I had hoped from the projects. I collected copies of student project sheets, role sheets, analysis charts and rubrics. I analyzed the work to determine if, in fact, the technology projects were effective or not. I reflected on the student work that I collected in memos within my field log.

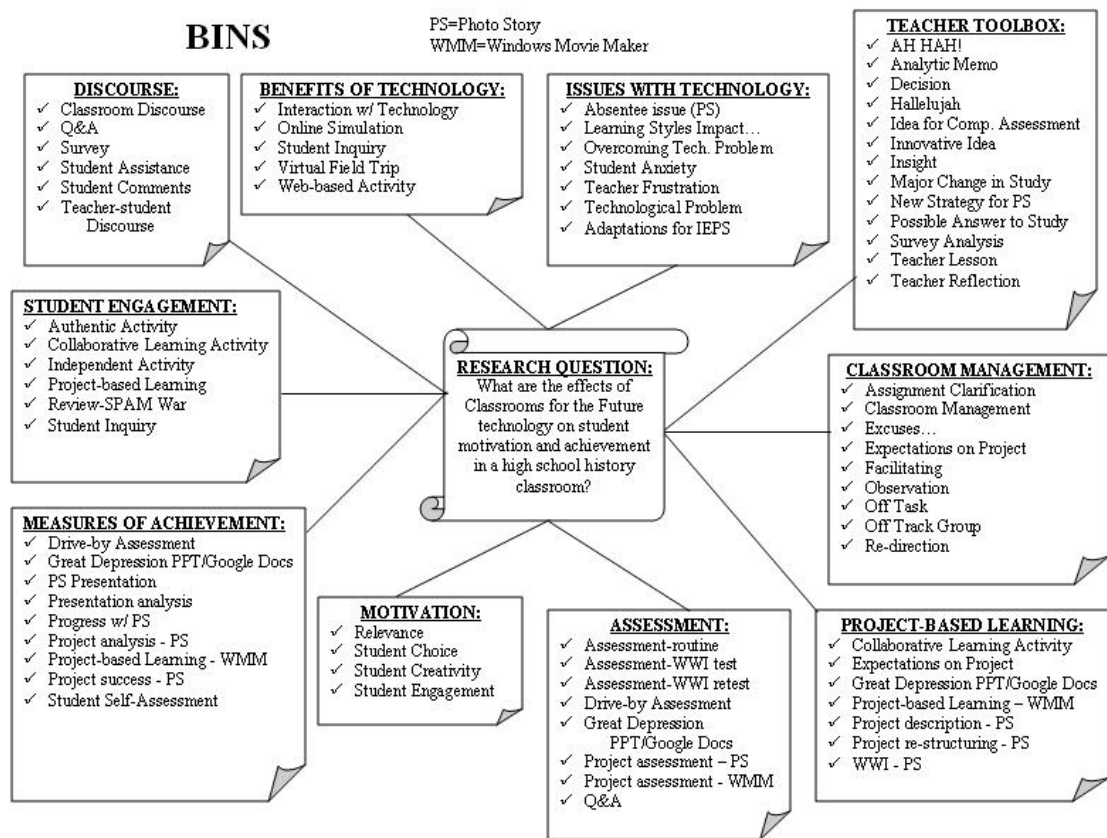


Figure 3. Bins.

### THEME STATEMENTS

- ✓ **BENEFITS OF TECHNOLOGY:** Using technological tools in the classroom is beneficial to student motivation and may lead to an increase in student achievement by reinforcing key concepts through engaging activities.
- ✓ **ISSUES WITH TECHNOLOGY:** Using technological tools in the classroom can lead to student anxiety and teacher frustration when programs and/or equipment do not function properly.
- ✓ **PROJECT-BASED LEARNING:** Lessons that include relevant inquiry-based projects have a greater impact on student motivation achievement than traditional lessons.
- ✓ **RELEVANCE:** Engaging students in learning experiences that are relevant to their lives and their interest in technology will lead to mastery of material and a greater understanding of the content.
- ✓ **MEASURES OF ACHIEVEMENT:** Measuring student success can be addressed by more ways than standardized tests; using technology-based projects can also provide analysis information to assess student levels of achievement.
- ✓ **DIFFERENTIATED INSTRUCTION:** Students learn best when exposed to a combination of direct instruction and technology-based projects.

*Figure 4.* Theme Statements.

## FINDINGS

*“It is the responsibility of every adult...to make sure that children hear what we have learned from the lessons of life and to hear over and over that we love them and that they are not alone.”*

– Marian Wright Edelman, children’s advocate (b. 1939)

Trial and error. This is how you find out what works and what does not work. You also have to keep trying new things and experimenting until you find the right fit for your classroom. This past semester, my study was completed to determine the effects of Classrooms for the Future technology on student motivation and achievement. As I analyzed my data, I started to draw conclusions about the effectiveness of technology integration. I found links between my research and my study that proved that using technology in the classroom is beneficial to students.

**Using technological tools in the classroom is beneficial to student motivation and may lead to an increase in student achievement by reinforcing key concepts through engaging activities.**

Nussbaum-Beach (2003) reported that there are children today who spend much of their day learning in the same way their grandparents did and as a result school seems rigid, uninteresting and unyielding to many students. My goal was to avoid this perception. I wanted my students to experience a different type of classroom, one that Schoomer (2000) described as much smaller, highly interactive, powerful and flexible. Although I could not control the size of my

classes, I could control how interactive and flexible each one was. When I set out to incorporate technology into my curriculum, I looked for major themes that the students should master before leaving my class. Once I had those themes identified, I worked to make engaging activities for the students to complete that involved many different aspects of technology. For each major unit, I came up with a different use for the technological equipment and programs. By doing this, I was able to keep things fresh and constantly changing. I did not want to use the video cameras for every project. Each unit had a project that was completely different from the other units. Each project was designed to engage all the students within each group by giving them roles to fulfill while working on the project.

By incorporating technology into the classroom, my students were more excited to learn. Whether we were using the laptop computers, video cameras or the interactive whiteboard, the students paid more attention and were more interested in the topics than if we would have used the traditional teaching methods using books and worksheets. Nearly every day the students would walk into my room and ask “Mrs. Wismer, are we going to use any technology today?” Using the technology made my class different than other classes. The flow of class was different, the activities were more involved and the atmosphere was one which promoted creativity along with learning.

Whenever I announced that we would be starting a new project using one or more of the pieces of technology, the students were excited and curious to see what I would have them doing. They worked hard to personalize their videos and photo stories. They were not satisfied until their end product came out just the way they liked it. My students worked harder and were more disciplined when they were working with technology than if I had them completing a worksheet.

There was a sense of pride of ownership when the students could turn their creativity into a project that showed the causes of World War I or how yellow journalism can lead to a war. The students were happy to work with technology and never seemed to get bored. When a technology project was over, there were groans and questions such as “When can we use (insert technology used here) again?” Once the students became motivated in my class, their successes were greater. By being motivated to learn, the students gained a positive outlook on learning American history and were, therefore, more attentive and able to retain more information. As a result, students were achieving higher scores on assessments. Prior to the study, the average class score on a traditional assessment (such as an end of unit test or quiz) was an 82%. During the study, the average class score on the technology projects that were completed was an 89%. The students were also not as stressed doing the projects as they were on test day; this was an achievement in itself.

**Using technological tools in the classroom can lead to student anxiety and teacher frustration when programs and/or equipment do not function properly.**

Technology can be frustrating, as can anything new. In my case, I was one of the original Classrooms for the Future teachers so I knew that I needed to be patient and expect a few kinks along the way. However, I was most frustrated by the same problems occurring over and over again. The same frustrations were shared with my students as well. Just as we thought we made progress overcoming a technological problem, it seemed that either another problem arose or the original problem crept back up.

The largest source of our frustration was saving files. In our school district, all the teachers and students are given a certain amount of space on the district's network (called NetStorage). Students are given 25MB of space once they enter the district. The problem was that large projects such as the Windows Movie Maker and Photo Story projects needed over 100MB of storage for each project. It was very difficult for the students to accept the fact that after days of hard work, their projects would not save. We had days when students would spend an hour after school to try to save their project. The technology department would offer solutions that often times did not solve our problems. The first suggestion was to use CD-ROMs to save, however the way the computers are configured, the recordable CDs could not be resaved to more than once. I will not

even mention the ban on the use of flash drives in the district. After much pleading and subsequent collaboration with the technology department, we were able to open enough space on the directory for each of my students to be able to save their projects.

Another source of frustration was the fact that students are restricted from using many of the options that they are used to using on their home computers. The “right click” function is disabled (it is also disabled for teachers, too). This made the copying and pasting of pictures and information more difficult. When a project would drag on due to the issues we were having with technology, the students would become less excited to finish their projects with the same gusto that they began with. Instead of producing the high-quality work that they originally strived for, many students settled for adequate just to get something completed.

Technology can be a double-edged sword. It is great for creating alternative assessments and inquiry-based projects, but the shortcomings that come along with trying something new are challenging. The technology department did their best to try to solve all of our problems, but there were some things that even they did not know how fix. Connections issues, battery life and temperamental software programs also added to our problems.

**Lessons that include relevant inquiry-based projects have a greater impact on student achievement than traditional lessons.**

Inquiry-based projects that tie into a student's interests are more likely to produce high-quality results than ones that do not. According to Pennsylvania's coordinator for Classrooms for the Future, Holly Jobe (2008), today's students are growing up with technology and in a cyber-world. The role of the educator is to engage students to want to learn; students who are not engaged in what they are doing are not learning to their full potential. When projects are designed around the students' background and interests (like the MySpace™© activity), students will be more inclined to produce high-quality work. When the students worked on the World War II MySpace™© profiles, they had fun designing a Web page for a deceased military mastermind. They tried to find as much information on their leader as they could and then present the information in a creative and "hip" way. I had initially planned for the students to finish the project in two class periods, but since they worked so hard, I allowed them the extra time. I did not want to rush them through their excitement of creating the files. Ami even asked if she could create a real MySpace™© profile for Joseph Stalin (I suggested that she did not do so).

When teachers implement innovative and creative projects that take the place of traditional assessments, students are more likely to produce high-quality work. Students need to "buy in" to what they are learning, then they will put forth

their best effort. Instead of giving students worksheets, having them read the book and answer questions or complete independent assignments, teachers can create collaborative learning projects that allow the students to investigate *why* something happened, not just that it happened. It is imperative that students want to learn; therefore, lesson plans should be tailored to “fit” the students. No longer do students want to sit still in their assigned seats for a ninety-minute class. They want to work with technology and collaborate with their peers to create projects that are a reflection of their personalities.

Technology allows students to add their own personal touch to projects. During the Yellow Journalism *Windows Movie Maker* Project and the World War I *Photo Story*, the students were able to add their own flair to the final product. Working in groups allowed the students who excelled in the creative aspects of learning to help those who did not. Those projects were examples of the students showing me that they learned the concept without having to take a quiz, finish a worksheet or write an essay. The students loved working on the projects (except for the saving issues) and were happy to be doing alternative projects rather than the traditional activities they do in many of their other classes.

**Engaging students in learning experiences that are relevant to their lives and their interest in technology will lead to mastery of material and a greater understanding of the content.**

Marc Prensky (2005) stated that students truly hate their time being wasted, especially on meaningless tasks. Although using technology increased student motivation, the technology by itself did not increase achievement scores. The students did enjoy working on projects while using technology, but the technology was not meant to replace regular class instruction. I saw a slight increase in test scores and overall achievement in my class from prior to the study to after the study. The overall student average grade before the study was an 82% while throughout the study, the average grade rose to an 89% on assessment pieces. The students who were high achievers still earned higher scores while those who struggled continued to do so. For example, Ami averaged 91% on her standard tests in my class. When we began using technology-based projects as forms of assessment, she scored an average of 95%. However, those who struggled before the study were able to make deeper connections with the material while working on the various technology projects. Jenny scored an average of 62% on standard classroom tests, but on technology projects, she scored an average of 77%.

I believe the rise in average scores to multiple causes. For one thing, on standard tests, the students have to complete the assessment individually. On the

technology-projects, the students work in groups. In those groups, each student typically brings a different skill and interest to the project and can help the other group members in areas that they are lacking. Everyone in the group tends to work off each other's strengths and weaknesses. Another reason for the increased success may have to do with the fact that technology projects are spread out of multiple class periods. The students have more time to work together to solve the task at hand.

A benefit of using technology-based projects is that the students have a wider range of information at their fingertips. By giving our students the access to technology in the classroom, they have more opportunities to learn for themselves (Long, 2008). Achmed came into class day after day asking if we were using any technology that day. On the days that I said we were, he was excited while the days that I told him we were not using the technology, he would actually pout. It was interesting to see the students get excited when I introduced another technology project to them each unit. The students particularly liked when they had the opportunity to expand on the information that I had given them through teacher-led instruction. Having a foundation of information allowed them to fill in the details and research the topic further using the laptops and the Internet. Overall, the attitude of students was much more pleasant when we were using technology; this led to them wanting to learn, therefore, raising their achievement levels.

One thing that I had to consider was the major difference in assessments when we began using the technology. It was comparing apples to oranges, while the content stayed the same, the medium for learning was different. Yes, the scores on technology projects were higher (by an average of seven percentage points), but they followed a different set of standards than the previous traditional assessments. A single traditional paper-and pencil test is made up of multiple sections where there is only one correct answer. A performance project using technology has a well-defined rubric that sets clear expectations. There is also room for students to show off their creative side. Students are also graded on variety of skill sets, including research, content, detail, creativity, time on task, etc. When I asked the students (through interviews and surveys) if they felt they learned more from doing technology projects than with worksheets and book work, most said yes. There were students who said that the technology projects simply made them want to come to class. By using technology as a launching pad for in-depth learning, the students were much more willing to explore further research on the variety of topics in the class. When the students want to learn, they are capable of learning much more than if they are not motivated in the first place.

**Measuring student success can be addressed by more ways than standardized tests; using technology-based projects can also provide analysis information to assess student levels of achievement.**

There is more than one way to assess the skill level and knowledge acquisition of our students. A test, given on one day, does not accurately measure a student's academic performance or improvement over time. When doing technology-related projects that take place over multiple days, the students have much more time to analyze the content more in-depth. There is also a greater opportunity for assessment as technology-related projects are multi-faceted. There is more to grade than just if an answer is right or wrong.

When I assess a student's technology project, I am looking for more than just did they get the content. Yes, the content is the most important part of a project, but being able to assess if the students comprehend the content is easier on a technology project. What I mean by that is the projects that I incorporate into my lesson allow the students to interpret the content in their own way. Their interpretation of the material allows me to see if they truly "get" the content.

I can also evaluate a student's level of success by their creativity, their attention to detail and their group participation. For each project, I created a detailed rubric to guide the students in the creation of their project. All facets roll together into my assessment process and give the students their final grade. Those students who struggle in one have the opportunity to make it up in another

area. The students who can master the content inside and out but lack creative skills can balance out their grade. On the other hand, a student who understands the basic concepts but can interpret them in an artistic way also has the same opportunity for success. It is important to give the students options and choices for their work. When I used to give the students the same format for all my tests, there was no room for a student to play on their other strengths besides absolute mastery of the content.

**Students learn best when exposed to a combination of direct instruction and technology-based projects.**

Jenny said it best when she said, “Your notes and lecture help us learn, but the technology and projects help us remember.” Using technology in the classroom is not to substitute for teaching. Using technology enhances the already existing learning opportunities in the classroom. The technological equipment cannot replace the knowledge that a teacher bestows on the students. The technology should be used to enhance learning; it is not a replacement for learning. I had found that on days that I created activities that provided for the students to search the Internet to find their own information, the students were not confident in their work. However, if I gave the students a brief overview of the material and then sent them on their way in search of more detailed information, they had much greater success and confidence in their work.

Using technology in the classroom cannot replace the information that a teacher is giving a student through direct instruction, discussion or question and answer techniques. Technology is to be used as a learning tool that enhances teacher-driven instruction. Technology projects supplement the instruction with student-centered learning. According to Jobes (2008), today's students are growing up with technology and in a cyber-world. The role of the educator is to engage students to want to learn; students who are not engaged in what they are doing are not learning to their full potential.

A typical day in my classroom begins with the welcoming of students and a review of the previous day's content. This is then followed up by teacher-led instruction and whole-class discussion. Once I am confident that the students are comfortable with the material, they are then turned loose to work on their collaborative technology projects. They had the basic concepts at their fingertips which led them in the right direction to gather more information to complete their project. The combination of direct instruction with technology in the classroom was the real formula for achievement in my class.

## NOW WHAT?

*“Children are like wet cement. Whatever falls on them makes an impression.”*  
- Haim Ginott, Israeli teacher and clinical psychologist (1922-1973)

After a few months of collecting data on my students and their interactions with technology in the classroom, I know there are still some things that I need to work on. Currently, I am using many of the same projects with my new semester of students as I did with the students during my study. However, I am tweaking each project to make it best fit for the students that I have and their abilities in my classroom. We are still struggling with some of the same issues that plagued us during the study period. Saving files is still a major problem. I plan to work more closely with the technology department to find better ways for the students to save. We have recently created a separate folder on the district network that can hold student videos. However, each student's individual drive space has to also be expanded in order to hold a video project. Students have also resorted to completing a lot of their projects at home with their own technology and saving their work on a CD-ROM. This allows them to have more editing freedom than is allowed in school.

I was able to have the head of technology sit in on student presentations of video projects that were made. This was beneficial because he was able to see that there was a need to student microphones for the video cameras. This would greatly diminish the background noise that is often unavoidable in a school

setting. He currently is preparing to write a grant that would give each camera a corresponding wireless, clip-on microphone.

I plan to continue to incorporate technology into all aspects of my classrooms even though there are still going to be obstacles to overcome. I feel it is necessary to keep trying to make the technology projects better to create more enriched learning opportunities. I hope to start giving students more input into the technology projects that we do. The surveys that the students completed for my study gave me valuable information about what the students enjoyed doing, how they learned best and what changes they would like to see made.

There is still a lot of work to be done to fully incorporate technology into my classroom. I hope the technology department loosens many of their restrictions, including the ability to save on a portable storage device (flash drive) as well as allowing us to use the programs necessary to use the Webcam in class. I have also been working on creating a class Website. Initially we have been working using [www.wikispaces.com](http://www.wikispaces.com), but may in the future use *Moodle* as our Web host. With the help of my Classrooms for the Future Coach, Hollie Schooley, my students and I are learning how to make our own Websites. This new tool will be used in lieu of writing a formal research paper. The students will instead create a Web page containing graphics, pictures and links on their research topic.

The future of our grant looks good. We are currently expanding the opportunities in the classroom. By installing a Bluetooth device, I am able to wirelessly connect to the interactive whiteboard. This reduces the amount of potential dangerous (due to students tripping over them) wires in the classroom. I hope to one day also have my projector mounted on the ceiling. This would free up a lot of classroom space and allow me to organize the student desks in a way that is more conducive to collaborative learning.

As this current semester goes on, I am more than willing to be the guinea pig for the technology department. I want to try new things and experiment with new equipment. I also hope to learn from one of the other teachers about how to successfully implement podcasts and video blogs into my classroom. I would be thrilled to be able to turn my history courses into classes that utilize technology on a daily basis to enhance instruction.

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## APPENDIX A



## MORAVIAN COLLEGE

Barbara Wismer  
[REDACTED]

Nazareth, PA 18064

Dear Barbara Wismer

The Moravian College Human Subjects Internal Review Board has accepted your proposal: “Motivating High School Students through a World of Technology.” Given the materials submitted, your proposal received an expedited review. A copy of your proposal will remain with the HSIRB Chair.

Please note that if you intend on venturing into other topics than the ones indicated in your proposal, you must inform the HSIRB about what those topics will be.

Should any other aspect of your research change or extend past one year of the date of this letter, you must file those changes or extensions with the HSIRB before implementation.

This letter has been sent to you through U.S. Mail and e-mail. Please do not hesitate to contact me by telephone (610-861-1415) or through e-mail ([medwh02@moravian.edu](mailto:medwh02@moravian.edu)) should you have any questions about the committee’s requests.

Debra Wetcher-Hendricks  
Chair, Human Subjects Internal Review  
Board  
Moravian College  
610-861-1415

## APPENDIX B



## MORAVIAN COLLEGE

*Consent to Involve Bangor High School Students in an Academic Research Study*

I, Barbara Wismer, am seeking to receive approval to use students within my American History class to serve as participants in a research study. As a social studies teacher at Bangor High School, I have decided to further my studies as an educator through Moravian College in Bethlehem, Pennsylvania. As part of a requirement for MEDU702 – Reflective Practice Seminar under Professor Joseph Shosh, Ph.D., I will be conducting a study from September 8, 2008, until December 12, 2008, in my ninth-grade American History I.

The purpose of my study is to examine the effectiveness of the Classrooms for the Future technology in order to give my students more variety and choice in their learning. I plan to reduce the amount of direct instruction lecturing in my class to supplemental information that guides the project-based, technology-supported activities. During this period, my students will be asked to work in cooperative learning groups, reflect on their learning on a weekly basis and submit multiple projects for assessment for my action research. I will be observing the interactions of the students as well as their progress, motivation and attentiveness on a daily basis. This observational information will be analyzed for my action research study. The study will include the use of reflective journals, student interviews, observational field data and student work.

I can assure you the students anonymity will be guaranteed through the use of pseudonyms and non-identifying notations. Although the district has a Parent Permission Form already in place for students to take place in educational research studies, I will be drafting another consent form for the students and their parents to review that is specific to my research. The students do not have to consent to active participation in the study; it is strictly voluntary, and they may withdraw from participation in the study at any time without penalty. They must, however, complete all the assigned class work and participate in the everyday functions of the class whether they are research study participants or not.

Student participation in this study is confidential and information will be destroyed (if applicable). Only the researcher, collaborators and the supervising professor will have access to the students' information. None of the research will be made public; it is being used for this particular graduate level class. At the conclusion of the study, all materials will be discarded or returned to the students.

Please check the appropriate box below and sign the form:

- I give my permission for students in my school to participate in this project. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.
- I do not give my permission for my school to participate in this project.

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 Signature of Assistant Superintendent

---

 Date

## APPENDIX C

*Authorization for a Minor to Serve as a Research Participant*

Dear Parent/Guardian:

I am completing a Master of Education degree at Moravian College and my courses have enabled me to learn about the most effective teaching methods. One of the requirements of the program is that I conduct an action research study of my own teaching practices. This semester, I am focusing my research on the effectiveness of the Classrooms for the Future grant. My students will benefit from participating in this study because of the positive exposure to technological advances in the learning environment.

I am writing to ask permission to use the data I collect from your child during this process. Participation in the study involves only regular classroom activities. I will be observing and interviewing your child for feedback on our classroom activities and their learning styles as well as analyzing student motivation and achievement. The various forms of data will be collected and coded, and held in the strictest confidence. No one except my collaborators and myself will have access to the data. My research results will be presented using pseudonyms. No one's identity will be used. At the conclusion of the research, the data will be destroyed.

A student may choose at any time not to participate in the study; however, students must still participate in all regular class activities. In no way will participation, non-participation, or withdrawal during this study have any influence on any aspect of the class, including grading.

We welcome questions about this research at any time. Again, your child's participation in this study is voluntary; refusal to participate will involve no penalty or consequence. Any question you have about the research can be directed to me, Barbara Wismer, or my advisor, Dr. Joseph Shosh, Education Department, Moravian College. Any question about your rights as a research participant may be directed to Dr. Joseph Shosh, Education Department Moravian College, Bethlehem, PA, 18018, 610-861-1482. I can be reached via email at [wismerb@bangorsd.org](mailto:wismerb@bangorsd.org) or phone at 610-599-7011x1174. Thank you for your support.

Please check the appropriate box below and sign the form:

- I give my permission for my child's data to be used in this study. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.
- I do not give my permission for my child's data to be included in this project.

---

Student's name

---

Signature of Parent or Guardian

## APPENDIX D

## Pre-Study Student Survey

**1. What are your initials?****2. Using a laptop computer is helpful for learning.**

A: Always       B: Sometimes       C: Never

**3. Using a laptop computer is fun.**

A: Always       B: Sometimes       C: Never

**4. Using a laptop computer is boring.**

A: Always       B: Sometimes       C: Never

**5. I look forward to using my laptop computer**

A: Always       B: Sometimes       C: Never

**6. Using a laptop computer is hard.**

A: Always       B: Sometimes       C: Never

**7. I like to look up information online.**

A: Always       B: Sometimes       C: Never

**8. I read stories from the Internet.**

A: Always       B: Sometimes       C: Never

**9. It is hard to look up information online.**

A: Always       B: Sometimes       C: Never

**10. I use spell check when I write.**

A: Always       B: Sometimes       C: Never

## APPENDIX E

**Student Use of Technology**

**1. What are your initials?**

**2. Do you have a computer at home?**

**3. Do you have Internet access?**

**4. How do you feel about using your laptop in Social Studies class this year?**

**5. What do you like/dislike about using a laptop in class?**

**6. Do you think a laptop makes learning easier? If yes HOW?**

**7. Do you think that using a laptop has helped or hurt your grades? Why?**

## APPENDIX F

# Yellow Journalism

STEP #1 –

Define Bias -

Define Yellow Journalism –

Explain how Yellow Journalism was used prior to the Spanish-American War –

STEP #2 –

Watch at least THREE different TV News programs (CNN, Fox News, MSNBC, WFMZ or something similar)

Fill in the charts on the next pages with observations from the news.

STEP #3 –

In your group, analyze your homework TV charts by answering the following questions.

1. What similarities did your group find in the newscasters?
2. What similarities did your group find in the stories?
3. What evidence is there of media trying to sway public opinion?
4. Does Yellow Journalism exist today?

STEP #4 –

Practice Yellow Journalism: As a group, create the front section (four pages) of a newspaper or a five-minute news clip that will swing public opinion (in favor or against) on the Election of 2008.

\*Include interviews, candidate shots and background on candidates

**\*YOU WILL NEED TO RESEARCH THE CANDIDATES FIRST**

\*You may include relevant topics/advertisements and daily stories (i.e. weather)

## YELLOW JOURNALISM PROJECT RUBRIC

	3	2	1	0
Research	Newspaper/newscast information was well researched and all information was accurately presented	Newspaper/newscast information was well researched and most information was accurately presented	Newspaper/newscast information was well researched and some information was accurately presented	Newspaper/newscast information was well researched and no information was accurately presented
Creativity / Innovation	Newspaper/newscast contained all original ideas and was innovative in ideas	Newspaper/newscast contained many original ideas and was innovative in ideas	Newspaper/newscast contained some original ideas and was innovative in ideas	Newspaper/newscast contained no original ideas and was innovative in ideas
Charisma / Appearance	Presentation was very clear, eye-catching and intriguing	Presentation was clear, eye-catching and mostly intriguing	Presentation was clear, eye-catching and slightly intriguing	Presentation was not clear, eye-catching or intriguing
Information	In-depth analysis of information pertaining to topic was presented	Good analysis of information pertaining to topic was presented	Basic analysis of information pertaining to topic was presented	No analysis of information pertaining to topic was presented
Time on Task	All members of group were focused on project all the time with minimal disruptions	Most members of group were focused on project all the time with few disruptions	Some members of group were focused on project all the time with few disruptions	No members of group were focused on project all the time with many disruptions

TOTAL SCORE: \_\_\_\_\_

## APPENDIX G

**Yellow Journalism Survey**

1. What are your initials?

2. Would you rather

Would you rather Choose your own group

Have a group assigned to you

3. What do you like about working in a group?

4. What do you dislike about working in a group?

5. What did you like about working with the video cameras/Windows Movie Maker/Microsoft Publisher?

6. What did you dislike about working with the video cameras/Windows Movie Maker/Microsoft Publisher?

7. What was your favorite part of the Yellow Journalism project?

8. What was the most frustrating part of the Yellow Journalism project?

9. If you could change one thing about the project, what would it be?

## APPENDIX H

# World War I Photo Story

You now know that there were four long-term causes of World War I. These problems led to building pressures throughout Europe. They included:

- Militarism
- Alliances
- Imperialism
- Nationalism

In addition to these issues, the short-term cause/trigger of World War I was the assassination of the heir to the Austro-Hungarian throne, Archduke Francis Ferdinand.

Using what you have learned about mounting pressures leading to a volatile situation waiting to explode, create an artistic interpretation of the causes/outbreak of WWI.

Also, begin to tell the story of WWI including:

- How the alliance system stacks up
- How Germany controlled the war at the beginning
- Why Russia dropped out of the war
- Why the United States entered the war
- What the significance of the United States entering the war was
- The outcome of the war
- The lasting effects of the war

You will be using the following CFF technology:

- Laptops
- Digital camera
- Photo story

Your task is to create a metaphorical physical and visual interpretation of the events leading to WWI. Ideas include, but are not limited to:

- Skit containing still shots
- Photo story
- Musical

**Be creative and be sure not to lose to focus of the activity – identifying with the events of WWI!!!**

Project Sheet:

Make sure your concept can accurately portray the causes of WWI.

What is your theme/interpretation going to be?

*Examples include:* Rival high school sports teams; clashes of cliques in school; superheroes v. villains; a few plants overtaking a garden; wild animals marking their territory

*\*The important thing to remember is showing alliances (teams) and conflict between them\**

What are the roles your group members play?

Role #1 \_\_\_\_\_

Role #2 \_\_\_\_\_

Role #3 \_\_\_\_\_

Role #4 \_\_\_\_\_

Role #5 \_\_\_\_\_

How will you be interpreting the war through your still shots?

How will you be keeping the facts of WWI correctly incorporated throughout your project?

How does your script reflect the significant events for the outbreak of WWI to its finale?

Do you think your audience knows that you are doing a Photo Story skit on WWI without you telling them? Why/why not?

**Rubric:**

This is what I am looking for:

<i>Group Participation (10%)</i>						
Is everyone involved?	5	4	3	2	1	0
<i>On Task (5%)</i>						
Was the group focused on the project all the time?	5	4	3	2	1	0
<i>Theme (5%)</i>						
Is the theme appropriate and does it adequately interpret the war?	5	4	3	2	1	0
<i>Photos (10%)</i>						
Did you meet the minimum criteria? (H=25; CP=20, TP=15)	5	4	3	2	1	0
<i>Photos (15%)</i>						
Do the photos adequately portray the events of WWI?	5	4	3	2	1	0
<i>Story line (15%)</i>						
Does the audience know you are interpreting WWI in you skit?	5	4	3	2	1	0
<i>Content (30%)</i>						
Does the group comprehend the facts of WWI in the project?	5	4	3	2	1	0
<i>Creativity (10%)</i>						
Did the group use innovative ideas and creative interpretations?	5	4	3	2	1	0



## APPENDIX I

**Photo Story Project Survey**

1. What are your initials?

2. Do you think this project helped to better prepare you for the test on the content?

YES

NO

3. Why do you think it helped or did not help? (be honest)

4. Do you think you learned more about the content from the project or from the notes and other activities?

YES

NO

5. Why do you think that? (be honest)

6. What did you like about this project?

7. What did you dislike about the project?

8. Where the expectations clear?

9. Without looking it up, list the long-term (MAIN) causes of WWI.

10. What did you learn most from this project? (be honest)

## APPENDIX J

*Economics Unit*  
*Great Depression PowerPoint Project*

As you are learning about basic economics and the factors that led to the Stock Market Crash and Great Depression, you will be working in groups to create a PowerPoint that summarizes the CAUSES OF THE GREAT DEPRESSION.

This project will be completed in place of a formal test ☺

There were FIVE broad causes of the Great Depression:

- Stock Market Crash of 1929
- Bank Failures
- Global Economy and Deflation
- American Economic Policy in Europe
- Drought Conditions

Your task is to create an informative PowerPoint that details the causes of the Great Depression

IMPORTANT RULES FOR YOU:

- Be sure to include as many facts about the causes of the Great Depression that you can, this helps me grade you for your own understanding of the concepts
- Include images (both clipart and Web images) that reinforce the information you are presenting (RULE OF THUMB – one image per slide)
- The last slide needs to contain a works cited section that include all sources of your information (including Websites)

USING GOOGLE DOCS

- Login into Google Docs by
  - Going to [www.google.com](http://www.google.com)
  - Select the “more” link at the top of the page
  - In the drop-down menu, choose “documents”
  - Log in
- Once in Google Docs
  - Choose the “new” link on the upper left-hand side of screen
  - Choose “presentation”
- Inviting your partners
  - Nominate one person in the group to be the leader that completes the next steps
  - Choose the “share” tab in the upper right-hand corner of screen
  - Choose “share with others”
  - Make sure the “as collaborators” button is green above the text box
  - Type in your partners email addresses (that they used to sign up for Google Docs)
  - Don’t forget to separate email addresses with a comma (,)
  - ADD ME AS A COLLABORATOR: [wismerb@gmail.com](mailto:wismerb@gmail.com)

- You must do this in order to get a grade
  - When you are finished click “invite collaborators”
  - Within a minute of two, everyone’s screen in your group should include all the group member’s names
- TO INSERT AN IMAGE
  - Option #1
    - Find the Website that contains the image you want
      - Click on the image
      - When the new site comes up, copy the Web address
    - In your presentation
      - Click on the “insert” tab
      - Click on “image”
      - Paste the Web address into the bottom box
      - Click “ok”
      - BE PATIENT, IT TAKES TIME TO LOAD
  - Option #2
    - Find the Website that contains the image you want
      - Click on the image
      - Scroll over the image while holding the your button in
      - Hit CTRL+C to copy the image
    - Open Microsoft Paint
      - Hit CTRL+V to paste the image
      - Save the document
    - In your presentation
      - Click on the “insert” tab
      - Click on “image”
      - Click the “browse” button next to the first box
      - Find your image in your directory
      - Click “ok”
      - BE PATIENT, IT TAKES TIME TO LOAD
- TIPS
  - Save often!!! Everyone!!!
  - Work on different slides at the same time. When multiple people work on the same slide at the same time, the saving issue gets confusing
  - BE CREATIVE! BUT DO NOT GET HUNG UP ON THE LITTLE THINGS!!!

#### TOPICS THAT SHOULD ALSO BE INCLUDED

- Herbert Hoover and “Hooverilles”
- Dust Bowl
- Buying on Margin
- Over speculation
- Unemployment
- Bonus Army
- Debt
- Social Impact (what did it do to the people)
- How WWII will impact the Depression

**Rubric:**

This is what I am looking for:

*Group Participation (5%)*

Is everyone involved?	5	4	3	2	1	0
-----------------------	---	---	---	---	---	---

Was the group focused on the project all the time?	5	4	3	2	1	0
--	---	---	---	---	---	---

*Slides (5%)*

Did you meet the minimum criteria? (H=15; CP=12, TP=10)	5	4	3	2	1	0
---	---	---	---	---	---	---

*Images (10%)*

Do the images accurately support the information?	5	4	3	2	1	0
---	---	---	---	---	---	---

*Content (50%)*

Was the content accurate?	5	4	3	2	1	0
---------------------------	---	---	---	---	---	---

Was the content detailed?	5	4	3	2	1	0
---------------------------	---	---	---	---	---	---

*Comprehension (20%)*

Does the group comprehend the facts of causes of the Great Depression in the project?	5	4	3	2	1	0
---	---	---	---	---	---	---

*Creativity (10%)*

Did the group use innovative ideas?	5	4	3	2	1	0
-------------------------------------	---	---	---	---	---	---

TEACHER COMMENTS

GROUP GRADE: \_\_\_\_\_

## Evaluating an Internet Site

**Full Internet Address:** \_\_\_\_\_

For each of the following areas, give a score. Then total the scores.

- 1. Domain Ending.**      3pts. = Best possible domain ending for the information  
    2pts. = OK domain ending  
 Score: \_\_\_\_\_      0pts. = Inappropriate domain ending
- 2. Authorship.**      4 pts. = Author or Company name given AND evidence of expertise  
    2 pts. = Name only  
 Score: \_\_\_\_\_      0 pts. = No author, or obviously not an expert
- 3. Documentation.**      3pts. = Includes well-documented references/bibliography  
    2pts. = Some references  
 Score: \_\_\_\_\_      0pts. = No references or bibliography.
- 4. Presentation.**      3pts. = Easy to navigate. Neat. Professional looking. Good quality graphics  
    2pts = Good, but one or two things could be better  
 Score: \_\_\_\_\_      0pts. = Difficult, sloppy, unprofessional, rude, or "gushy"
- 5. Credibility of Homepage.**      *Examine the index page of a database or the home page of a Website.*  
    3pts. = Credible, appropriate, professional. Real organizations and people who give contact information.  
 Score: \_\_\_\_\_      1pt. = Seems credible  
    0pts. = Inappropriate. Reject hype and flashiness.
- 6. Content.**      4pts. = Facts presented clearly with excellent use of language. Doesn't use technical jargon to impress  
    2pts. = Good content, but some things could be better  
 Score: \_\_\_\_\_      0pts. = Personal experiences only, or poor spelling/grammar, too much slang or crude/rude/lewd language.
- 7. Date.**      2pts. = Timely date  
    0pts. = Too old or don't know the date  
 Score: \_\_\_\_\_
- 8. Advertising.**      3pts. = Information only, with high quality sponsors or no advertising  
    1pt. = Sells a product by informing. Has quality sponsorship  
 Score: \_\_\_\_\_      0pts. = Flashy, hyped-up sponsorship or any slander/put down

**Total:** \_\_\_\_\_      21-25 pts = Excellent      11-15 pts = Proceed with Caution  
    16-20 pts = Very Good      0-10 pts = Do Not Use

## APPENDIX K

## Great Depression Google Documents Survey

1. What are your initials?

2. Do you think this project helped to better prepare you for the questions on the final exam dealing with this content?

YES

NO

3. Why do you think it helped or did not help? (be honest)

4. Briefly tell me your thoughts on the randomly chosen groups.

5. What did you like about this project?

6. What did you dislike about the project?

7. Where the expectations clear?

8. What did you learn most from this project? (be honest)

## APPENDIX L

## WWII LEADERS MYSPACE™@ PROFILE

Your task (as a group) is to create a BASIC MySpace™© profile for one of the following leaders of WWII.

- Adolf Hitler
- Joseph Stalin
- Franklin Roosevelt
- Harry Truman
- Hideki Tojo
- Emperor Hirohito
- Benito Mussolini
- Winston Churchill

Follow the basic format questions for MySpace™© to create a *layout* using a Microsoft Office program (Word or Publisher).

You must include the following factual information:

- “*About Me*” section – one-two paragraph biography
- “*Vitals*” section – (date of birth/death, hometown, ethnicity, marital status, occupation, etc.)
- “*Profile Picture*”

You must also include the following fictional information (must be logical – think of what this leader is interested in or who he might associate himself with).

- Three “*Wall Posts/Comments*”
- “*Interests*” section (two examples of each – can be current or classic)
  - Movies
  - Music
  - Books
  - Television
- Quote
- Status Message

RUBRIC:

Creativity of fictional information = 5pts

Accuracy of factual information = 25pts

All components met = 20pts

## APPENDIX M

**Post Study Student Survey**

**1. What are your initials?**

**2. What excites you to learn in my classroom?**

**3. How does the use of technology in our classroom help you learn?**

**4. Do you think you are better prepared for a test by doing projects or by doing worksheets?**

A: Projects

B: Worksheets

**5. What impact does using the technology in our projects help you in understanding the content?**

**6. Which project (using technology) was your favorite this semester?**

A: Wounded Knee Museum (Webquest)

B: Yellow Journalism (Video/Newspaper)

C: Causes of WWI (Photo Story)

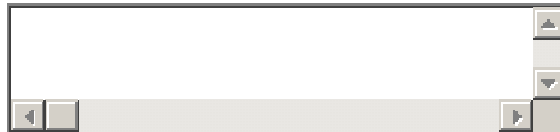
D: Great Depression (Google Docs)

E: WWII MySpace™© (Microsoft Office and Internet)

**7. Why?**

**8. Which project was your least favorite?**

- A: Wounded Knee Museum (Webquest)
- B: Yellow Journalism (Video/Newspaper)
- C: Causes of WWI (Photo Story)
- D: Great Depression (Google Docs)
- E: WWII MySpace™ © (Microsoft Office and Internet)

**9. Why?**An empty text input field with a light gray border and a vertical scrollbar on the right side.**10. What suggestions could you give me to improve for next semester? (be honest!!)**An empty text input field with a light gray border and a vertical scrollbar on the right side.