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**“AN APPLE ALL DAY”**

**The Shared Experiences of Teacher and Students  
When Laptop Computers are Introduced Into  
An Eighth Grade Social Studies  
Classroom**

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## **ABSTRACT**

This qualitative research study documents the observed and reported experiences of a social studies teacher and his eighth grade students when using laptop computers in a public school in an urban area. The author documents his summer training experiences preparing technology lesson plans and serving as an eighth grade technology mentor. The author examines the issues surrounding laptop storage, security and movement. The study suggests that laptop technology be employed as a teaching tool to enhance curriculum, not replace it. The 49 student participants were from four separate eighth grade classes of all abilities including English as Second Language Learners, gifted, and learning support students. All student participants in the study used a laptop computer to research information from the internet, create graphic organizers, produce presentation projects, and write various types of essays. The study suggests that most students of all ability levels enjoy using laptops, find them interesting, and are capable of using a variety of complex programs. The study examines the student's ongoing level of proficiency using laptop technology. The author plans on pursuing the development of student projects involving video and audio laptop technology. He questions how best to expand the use of technology to enhance student learning.

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## **RESEARCHER STORY**

### **Researcher Stance**

My quest to develop a line of research in my classroom has been as strange an adventure as has been my journey into the world of technology and teaching. I originally set out to research “peer tutoring” as a strategy to enhance student learning among my learning disabled students. I had completed all of my pre-study research. In the meantime, a new laptop initiative moved forward in my school district and I learned that I would be getting students in eighth grade that had used laptops for the previous two years. It was that knowledge that convinced me to change my research topic. I decided that it would be a great opportunity to research the effects of the use of laptop computers in a Social Studies classroom not only on the students, but on the teacher as well.

My journey into teaching and technology has taken a variety of twists and turns. My earliest experiences with technology date back to the prehistoric days of computer technology when punch-cards were fed into a scanning machine to record data. As I finished high school, the first men landed on the moon which ushered in the computer age. I was encouraged by my family to enroll in a technical school to study computing. I can still recall my dad saying, “Son, computers are the wave of the future.” How right he was, although it would be many years till his prophesy would come true for me.

Computing in those days consisted of writing lines of computer codes. I had not been a very good math student in high school. I had difficulty grasping the concepts and became very frustrated. As a student I felt the frustration that many students and adults encounter when confronted with new technology. I lasted one semester and withdrew from computing school.

Fate would then take me to Pennsylvania and a job in a beer brewing company. My best friend's dad secured a job for the both of us and I spent the next 20 plus years working in the brewing industry. As the years progressed technology made its way into industry. I found myself once again a frustrated student of computerized technology. My job required me not only learn how to program computerized machinery, but to teach others the necessary skills to do the same. This time around I was ready to tackle the task. I listened intently to my instructor and was taught by a hands-on approach on the job. I used the same techniques to teach my fellow workers and continue to use a hands-on approach to teach technology today. Throughout my tenure at the brewery there were always rumors of the impending sale of the business and the possibility of the plant closing. Once again fate seemed to play a hand in shaping my future. At a friend's party I found myself in deep conversation with a man who was working in international development in Third World countries. I had always had an interest in politics and history in school and we became friends.

I considered going back to college but thought I was not intelligent enough and too old. My friend convinced me that I could be successful and encouraged me to pursue education and certification in Social Studies. I attended Lehigh Carbon Community College, where I majored in Secondary Education in Social Studies. I graduated Magna Cum Laude and gave the commencement speech for my graduating class. I guess he was right, I could do it. I then went on to complete my Bachelor's degree at Kutztown University. It took me a combined total of nine years, while working full time, to complete my degree. Ironically, the brewery closed thirteen months after I changed careers.

I entered the teaching profession at just about the same time that computer technology was permeating schools. Once again I found myself a student learning technology. This time around I also had to develop strategies not only to use technology but also to be able to use it to teach children.

In the beginning, I once again felt the frustrations of my earlier experiences as a student with computers. Fortunately, my district offered programs that helped me to develop and hone my computer skills as well as my ability to integrate computer use into my classroom. One of my colleagues opened my eyes to a unique use of computer technology. He had started a program in which students reenacted the life of a Civil War soldier. Students would learn marching and drilling techniques from real re-enactors. The culmination was a weekend encampment in Gettysburg and the reenactment of Pickett's Charge. He

used still pictures, digital video and period music as background to create an iMovie of the student's experiences. This opened my eyes to the possibilities of linking computer technology with other digital advances to enhance student learning. He has since moved on to teach in high school and I have taken over and created a similar program based on the Revolutionary War. The students set up a Revolutionary War encampment at Valley Forge and reenact a battle based on a battle of the Revolutionary War. They take pictures and video to create an iMovie of their experiences. I have also incorporated digital technology into my classroom to allow students to record projects and create simulations of historical events such as the reenactment of the Salem Witch Trials.

I was informed at the end of the school year that all of the 8<sup>th</sup> grade students would have laptop computers. I decided that this was the perfect opportunity to document and research the effects of laptop usage in my social studies classroom. I immediately signed on to be an eighth grade technology mentor and attended a variety of district sponsored workshops to improve my computing skills. At times I felt the old frustrations of my earlier experiences as a student. I was slower at grasping some of the concepts than some of the younger teachers. I felt the frustration of being an older teacher/learner. I also wondered how I would feel when confronted by my students who may be more technologically advanced than I.

I attended technology workshops throughout the summer with district and Apple computer mentors. My fellow eighth grade teachers helped in the learning process. A music teacher guided my use of *Garageband*, a program that allows students to add original music to presentations. A science teacher helped me with specific keyboard functions. I became more confident and energized as the training sessions focused on specific strategies and skills. I was on the road to becoming a technology expert.

I felt as if I had come full circle. I was previously a student who struggled with technology and dropped out of a computing class. Now with training, I am a highly qualified teacher who is mentoring other teachers in technology and enabling students to take full advantage of the latest laptop technology by creating lessons that promote student engagement and student achievement.

## **RESEARCH DESIGN AND METHODOLOGY**

My decision to research laptop technology began in June, months before I actually had students, when I learned of the district's decision to initiate laptop computers into my eighth grade social studies classroom. I started a researcher log of field notes as suggested by Arhar, Holly, and Kasten (2001) to record my experiences as a student of technology in district sponsored training. Sitting in a classroom as a student studying to become a technology mentor, I quickly discovered "It's not the log that's important. The log is just a basket you carry around with you to collect your thoughts. It's the thoughts that count" (MacLean and Mohr, 1999). I realized the importance of reflection and followed the advice of Ely, Vinz, and Anzul (1997) who suggested placing brackets around thoughts and reflections as a way to differentiate the researcher's observations from their opinions and beliefs.

I teach eighth grade social studies in a public middle school in an urban area. The school receives Title One funding and consists of a diverse student population of White, African American, Asian, and Hispanic students. A majority of the school population receive free or reduced lunch. The students are tracked according to ability in reading and mathematics. I teach four levels of classes. These include two mid-level classes, one of which has learning support students. A lower tracked class which includes English as Second Language Learners (ESOL), and an upper track which includes gifted students. I team teach the lower

tracked ESOL class with a reading specialist and have an inclusion teacher in the mid-level learning support class. I included students from all of my classes in the study to encompass the diverse student population and variety of learning abilities.

In September I obtained the approval of my building principal (see Appendix: A) and the college's Human Subjects Internal Review Board, a committee set up to review research studies and ensure the confidentiality and safety of the research participants

### **Participant Observation**

According to Connelly and Clandinin (1988) "Participant observation ... is a development of teacher research itself, jokingly referred to as the "out of body" experience." (p. 106). I was actively engaged as a participant observer while taking technology classes to prepare to teach technology to my students as well as to my peer teachers as an eighth grade technology mentor. I also was a participant as well as an observer in my classroom. I used participant observations daily in my classroom on a clipboard placed on my desk or in my hand as I walked around my classroom. I usually added teacher reflective notes to the observations later the same day, however, there were times when time constraints pushed reflection off for a few days. I focused on the effects of laptop usage in note taking, journals, research projects, and the presentation of keynote

presentations in my classroom. I also observed for student interest, on task behavior, and group interaction.

### **Teacher Interviews**

I began my study by interviewing colleagues (see appendix), as recommended by Connelly and Clandinin (1988), to gather information on how other teachers implemented the use of laptop technology into their classrooms. I was interested in their experiences using laptops to enhance their curriculum and the effect that they had on student interest and engagement. I also inquired into any logistical, technical, or security issues related to student laptop usage.

### **Written Student Surveys**

I administered written student surveys (see Appendix), as suggested by (MacLean and Mohr, 1999), to gather background information on their use of laptop computer technology in previous classes. I also gathered information on home computer use, internet access, and eligibility for free or reduced lunch to determine any correlation between technology savvy and socio-economic status. I used information from the student surveys as a means to triangulate the data from the teacher interviews (Arhar, Holly, and Kasten, 2001).

### **Student Work**

I gathered written samples of student work printed from a variety of laptop assignments. The samples were compiled from students in each of my classes to encompass a variety of learning styles. I compared them to previously completed

hand written student work for comparison of the effect of laptop usage on an individual student's writing, editing, and presentation of research information.

### **Student Interviews**

I interviewed a few students from each of my classes in order to determine the effects of laptop usage across all learning abilities. The interviews assessed their level of interest, computer usage, and the effect of laptop computers on their learning. I also had the students complete a post study survey to reflect on their experiences using laptop computers in my social studies classroom. The surveys served as another source of triangulation of data (Arhar, Holly, and Kasten, 2001).

### **Trustworthiness**

I understand that the analysis of action research is ongoing (Arhar, Holly, and Kasten, 2001). I have analyzed the data using analytic memos, metaphors, and narrative devices such as anecdotes, layered stories, and pastiche (Ely, Vinz, Downing, and Anzul, 1999).

I obtained the permission from the parents of the students who participated in my study. My permission letter provided a brief explanation of my study and assured parents of their child's anonymity and the confidentiality of any information that I gathered. I also assured the parents that their child had the right to withdraw from the study without penalty. I provide my contact information in the event parents wished to discuss the study with me.

I ensured my students that their decision to participate was theirs and their parents and that I would not treat any student differently if they chose not to participate. I read my entire consent form to all of my students in all of my classes (see Appendix: B).

I read the literature studies and articles written on the ways that other districts had implemented laptops technology into their classrooms.

I wanted to report a credible and trustworthy analysis of my research data. I triangulated the various forms of data to ensure the credibility of my study. I was extremely meticulous in the recording of my participant observations and their write-ups. I used written dialogue to capture my student's voices during laptop usage. Through surveys and class interviews, I determined student reactions to their laptop usage.

I gathered data for five months on my experiences before and after the student laptop rollout. I wrote reflective memos to determine patterns, relationships, and themes in the categories that have enabled me to draw logical conclusions based on the data (Ely et. al.1999).

McLean and Mohr (1999) state:

The group challenges each other's assumptions, proposes alternate interpretations, offers suggestions about research methodology, responds to drafts, and often lends personal as well as professional support" (p.21).

I was able to obtain other valuable insights into my study by sharing my data with other members of my researcher support group. They helped me to organize the data and made suggestions for clarification of key issues.

I collected data in a variety of narrative forms to tell my research story. These narrative forms included poems, plays, and pastiche. Ely, et. al. (1997) state, “Pastiche is the use of various pieces of data that provide a multitude of perspectives “above and beyond the particular parts” (p.97).

## LITERATURE REVIEW

As I embarked on my journey into the realm of laptop computing, I quickly realized that other educators were traveling on the same path. Many educational institutions throughout the world at all levels are exploring ways to incorporate computer technology into the classroom. One non-profit company is in the process of negotiating the production of internet ready laptops for under a hundred dollars to third world communities in Asia and Africa (Chabrow, 2005). Here in the United States, laptops are also emerging as a major method of technology delivery to the classroom. Hundreds of K-12 school districts are experimenting with laptop initiatives where, the basic idea is to get a laptop into the hand of every child in a classroom, a grade level, or a whole school (Belanger, 2002). Some districts are allowing *ubiquitous* computer use, the students take the laptop home which allows 24/7 computer access (Rockman et al, 2003).

Advocates in the business world and community leaders claim that computer technology has a major role to play in education, as well as helping to close the digital divide. The advent of technology into the classroom is seen as one of the most compelling school interventions in decades. The students have access to the same powerful tools for writing, organizing information, internet research, problem solving, and making presentations as office workers (Rockman et al, 2003).

Some districts have taken advantage of the possibilities of computer technology and connectivity to drastically alter the way they deliver curriculum. Of particular interest is Empire High School in Tucson, Arizona that has eliminated textbooks in favor of laptops. The school chose to put the money for textbooks into technology. The entire school is wireless and every student has been given a laptop. The district plans to update curriculum digitally and hopes to promote the use of online learning resources that combine real world news and events with standards-based lessons (Rotstein, 2005).

The advent of laptop computing has been aided by companies like Toshiba, Apple, and Microsoft piloting programs that put a laptop in the hands of every child. One of the first programs was the *Anytime, Anywhere Learning Program* implemented by Microsoft and Toshiba in Australia. The program supplied schools with laptop computers, educational software and tutorials to enhance student learning. The program has since been adopted by hundreds of K-12 schools in the United States (Rockman et al, 2003).

A study commissioned by Microsoft on computer usage in K-12 schools revealed five models of laptop usage: 1. Concentrated – in which each student has their own laptop for use at home or in school. 2. Class set – in which teachers share a portable class set of laptop computers. 3. Dispersed – in any given classroom there are students with and without laptops. 4. Desktop – each

classroom is assigned a few laptops for students to share. 5. Mixed – some combination of the above models (Belanger, 2003).

There are advantages to each model of laptop usage. The concentrated model allows teachers to integrate technology into all aspects of instruction as well as projects and homework due to the students 24 hour computer access. The class set and dispersed models allow teachers to integrate laptops freely into their daily lesson plans. However, some students lack a computer at home which limits access for integration of projects and homework. In the desktop model, despite school ownership and maintenance of the laptops, a student may be allowed to take the laptop home to finish working on a computer-based project. Additionally, teachers can reconfigure their classroom arrangement to accommodate their technology integration requirements (Belanger, 2003).

School districts have elected to implement laptop initiatives in a variety of ways. Large-scale initiatives such as in Maine or Henrico County, Virginia put laptops in the hands of thousands of students. The smaller initiatives may begin by distributing laptops to all students in one classroom or all the classes in a single grade getting laptops. Often the district may start with the lowest grade, for example, the sixth grade at a middle school or the ninth at a high school and then add laptops a grade at a time. The method of adding a grade each year allows time for the development of technical support and teacher training (Rockman, et al 2003).

A major component of laptop initiatives is the amount of teacher training before, during, and after implementation. One school district in southern New Jersey undertook a ten-month research project involving the strategy of teacher to teacher technology peer mentoring. The project linked the most proficient with the least proficient technology-integrating teachers. One of the participants was the Belhaven Middle School which had the support of the building principal and allowed participants the advantage of choosing a mentor with whom they were familiar (Rudnesky, 2004).

The participants were given time at district inservice meetings to work with each other on improving their technological prowess. To appeal to different learning styles the mentors designed hands-on professional development that allowed teachers to search for information related to their curriculum and state standards. Emphasis was placed on the role of technology as a tool to aid in the delivery of their regular curriculum. The teachers worked collaboratively to create usable lesson plans that they could take back and use with their students. The pairs reported that follow up phone calls, emails, or in-person meetings help solve problems and offered feedback. Additionally, some reported increased collegial relationships that helped to develop a more positive attitude towards technology (Rudnesky, 2004).

Rockman et al, working for an independent research organization, conducted a three year study of Microsoft's *Anytime, Anywhere Learning*

*Program* (Rockman, et al 2003). The pilot year program involved 26 sites, including both public and private school districts, for a total of 53 K-12 schools across the nation. The laptop initiative, sponsored jointly by Microsoft Corporation and Toshiba America, sought to facilitate “*anytime, anywhere*” learning by helping schools acquire laptops computers and Microsoft Office software for each student. Students ranged from schools with no prior computer experience to some of the most technologically advanced schools in the United States (Rockman et al 1998).

A variety of factors such as teacher training time, the availability of monetary and technical resources, and concerns about providing equal access to all students impacted the ways in which schools implemented technology programs. For many of the private schools the laptops added to their extensive computer labs and desktop computers in the classroom. Additionally, many of their students already had 24/7 access through family computers at home. However, for many of the public schools, the initiative greatest impact was not on the kind of computer access, but the simple fact that they had any access at all. Some schools saw the laptop program as the first real opportunity to provide large-scale computer access to their students (Rockman et al 1998).

Beaufort County School District in South Carolina piloted a laptop project in its middle schools in 1996. The district started with the sixth grade and added a grade each successive year. Separate teacher and student questionnaires were

distributed after the third year to provide information on a variety of questions associated with the laptop initiative. Almost 700 students and 105 teachers returned the surveys (Stevenson, 1999).

At the onset of the program one of the biggest problems, cited by 62% of teachers, was the dispersion of laptops across the classes. In the first year of the study not every student received a laptop. Other problems of note were student keyboarding skills, the logistics of storage and carrying, the mechanical operation of the laptops, and technical assistance. Initially, only 11% of teachers surveyed listed staff development as a problem (Stevenson, 1999).

The students also saw the lack of a laptop for every student as a major problem of the initiative. Other student concerns were the weight of the laptops, cost to parents, mechanical reliability, and readiness (keyboard skills). Of minor concern to only eight percent of the students was peer pressure to not use the laptop (Stevenson, 1999).

There was a significant drop in weekly computer usage in social studies classes in the third year. The first year 6<sup>th</sup> grade teachers reported using laptops 64% of the time compared to only 36% for the eighth grade teachers. The researchers noted that the 8th grade teachers had not participated in the project previously. Teacher surveys noted that many felt unprepared to adequately use the laptops due to a lack of training. Also, some worried about their lack of experience on the laptops as compared to their students who had two prior years

of experience. Another factor cited by the students for the drop in usage was problems with software and inadequate maintenance of their laptops (Stevenson, 1999).

The Beaufort County study examined standardized NCE battery scores and Metropolitan Achievement Test (MAT7) test scores. Scores across the three middle school grades indicated that there was little overall statistical difference between laptop and non-laptop users. However, when the aggregate scores were broken down using the percentages of students receiving free or reduced lunch, an indication of socioeconomic status, laptop users showed significant improvement in test scores. Laptop users on free or reduced lunch scored 52% compared to 46% for non-users on the NCE Battery of tests. Additionally, African American male laptop users out-performed their peer non-users by 8% on the same tests. Economically disadvantaged students as determined by the free and reduced lunch program, produced the biggest gains on the standardized tests (Stevenson, 1999).

A component of *No Child Left Behind* calls for states to submit an application to the Education Department addressing 15 topics related to technology. As many of these programs move forward, school boards and community groups are assessing their impact on student test scores on standardized high stakes tests (Fletcher, 2003). Studies on the effects of laptop initiatives in places like Beaufort, S.C. and Maine showed little overall progress in standardized test scores for most student populations (Stevenson, 1999).

A study by Russell & Plati (2001) on the effects of administering open-ended composition test items on paper, computer, or a portable writing device to 4<sup>th</sup> and 8<sup>th</sup> graders that attended Wellesley Public Schools, a suburban district outside of Boston, dispute the effects of computers on writing. The study used writing items from the Massachusetts Comprehensive Assessment System. The students in both grade levels responded to an open-ended extended composition item from the 1999 MCAS using e-mates and Alpha Smart computers.

Background information included prior English grades, prior computer usage, and keyboarding speed. The study used the same administration procedures as occurred during the 1999 MCAS testing. Based on the use of technology devices over hand written responses results were: 19 % of fourth graders and 4% of eighth graders would move from *Needs Improvement* to *Proficient* and 5% and 13% respectively would move from *Proficient* to *Advanced*. However, states are not offering school districts the option of having their students use computers on open ended composition questions on standardized tests (Russell & Plati, 2001).

This leaves educators struggling to discover assessment strategies that align to state standards. However, standardized tests that use multiple-choice questions may not align with their classroom practices or accurately assess students' abilities. One alternative is e-portfolios. An e-portfolio gathers student work in one place for individual teachers to grade and critique. The advances in digital storage and the accessibility of the internet make e-portfolios a viable

alternative assessment of student performance. Additionally, e-portfolios allow for student reflection as well as teacher assessment. Once again, states do not recognize e-portfolios as efficient assessment tools in the evaluation of student progress (Ahn, 2004).

In both the Beaufort County and Maine studies the researchers noted that laptops were primarily used by English/Language Arts, History/Social Studies, and Science teachers. Mathematics teachers rarely used the laptops. Students in Social Studies classes reported using laptops for homework, taking class notes, writing, internet research, cooperative learning, and student presentations. (Colburn, 2002)

An extensive study by Whitworth (2003) examined the literature written on the use of computer technology in social studies from 1996-2001. The study examined over 300 articles from the National Council for Social Studies, books, and government reports. The report traced the progression of technology usage in the classroom as initially beginning with the finding of websites related to topics of study to the emergence of web based lesson plans, web-quests, virtual tours, video footage, and interactive educational games.

The internet has become a valuable source for social studies teachers to access a variety of web-based lesson plans, many of which have links to relevant resources for teachers and students. Lesson plans often include objectives, standards, procedures, and means of evaluation. These plans can prove helpful to

teachers who are just starting to use the internet as a teaching tool for their students (Whitworth, 2003).

Another available internet tool for teachers is a Web-Quest, often collaboratively created by students and teachers, which require students to search for historical content on a specific topic. Many Web-Quests are set up as educational games with the outcomes involving the solving of a mystery or finding specific facts on a historical subjects (Whitworth, 2003).

Video from a variety of internet sources is also making its way into the social studies classroom. Teachers are acquiring video clips from a variety of sites. Holt Online offers clips related to their textbooks. District Intermediate Units are providing [Discovery Education's] *unitedstreaming*, a site which offers streaming video on a variety of historical topics and for all grade levels. Additionally, teachers can sign up for netTrekker which also provides lesson plans and video clips on a variety of subjects. Other internet sites allow students and teachers to take virtual tours of museums, cities, and historical sites (Branigan, 2005).

As the cost of video equipment declines and the ease of use and laptop computing capabilities increase, teachers are using video to enhance their students learning experiences. Teachers are having students create video productions of historical plays, simulations, and projects to encourage student interest and also to assess their understanding and knowledge. The video productions usually require

the writing of a script or outline of the project which encourage student writing (Branigan, 2005).

The use of technology in social studies classrooms has expanded with the advent of all of these resources; however the report noted that despite the billions of dollars spent on putting computers in classrooms, some social studies teachers are still not using technology (Whitworth, 2003).

The NCSS has encouraged the use of technology to promote civic participation and provide opportunities for critical thinking activities in social studies classrooms. To the same end, national and state initiatives have focused on teacher training as a way to overcome the lack of technology usage by social studies teachers. Efforts have been made to develop and revise national technology standards for the use of technology in social studies classrooms. This has resulted in approved *National Standards for Technology in Teacher Preparation and National Accreditation* for programs in educational computing and technology teacher preparation (NCATE, 2001). The goal of these programs is to provide adequate training for new teachers to incorporate technology successfully into their classrooms. However, new teachers are not the only ones who are in need of technology training. Older experienced social studies teachers may have little or no formal technology training. In order for them to take full advantage of the latest technology there is a need for initial or on-going training

through district in service programs, mentor training, and technology conferences (Whitworth, 2003).

Many issues arise for teachers and students using laptop computers with internet access. Many schools rely on servers to access the internet and consequently connectivity problems arise. There are also concerns over the computers themselves and their operations. Teachers and students alike may encounter technical problems with the operation of their computers or their programs leading to frustration. This frustration is often enhanced by a lack of technical support provided by the school district (Rockman, 1998). Internet usage has also led to concerns over student access to inappropriate sites and images such as pornography, hate sites, and sites that contain inaccurate information. Teachers are encouraged to not only rely on filtering systems but to teach their students critical thinking skills in order for them to make informed decisions and choices about information from the internet (Whitworth, 2003).

Technology savvy students have used their school issued laptops to bypass security firewalls to download music, access forbidden content, and to spy on district teachers and administrator's personal files. An incident involving exactly those circumstances brought thirteen Kutztown High School students into the criminal justice system of Pennsylvania as they were charged with felonies under state law. The charge was computer trespassing which the state defines as "altering computer data, programs, or software without permission" (Felony

Charges, August, 2005). The students allegedly downloaded forbidden content and accessed district administrator files. The case brought national attention to an issue that has become a major concern to not only teachers and students, but the public in general. Issues of free speech and access to internet content are being debated in classrooms as well as in public forums and even courtrooms. The charges were eventually reduced and the students were required to complete community service time as a punishment. However, this is not an isolated circumstance; the commonwealth of Pennsylvania notes that more than a dozen school districts have reported similar student misuse of computers to police. Some of those cases have resulted in students being expelled from school (Felony Charges, Aug, 2005).

Despite the limited success on standardized assessment tests, there is evidence that laptop technology lends itself to the creation of a constructivist classroom. The use of laptops encourages cooperation and collaboration between students as well as between teacher and student as students are often more tech savvy than their teachers. There are ample opportunities for students to use multiple intelligences as students can visualize, listen, and manipulate information from the internet. Learning is usually more social and work related as students take pride in their work. Classroom management has a tendency to become less of a problem as students become more collaborative and less competitive. There are

also many more opportunities for reading and writing across the curriculum through the access to internet content (Stager, 1998).

“Laptop schools are clearly on the right side of history ... I encourage school leaders to dream big dreams and conceive of ways that universal computing can help realize new opportunities for intellectual development and creative expression” (Stager, p.28).

## **TECHNOLOGY TRAINING**

### **My First Day of School**

I was awakened from a restless sleep by a blaring radio voice, “The time is 6:50 in the morning. It is going to be another sunny day. The present temperature is 72 degrees.” I hadn’t slept well knowing that today was my first day of school. I showered and got dressed, choosing a collared shirt and khakis, remembering earlier opening days of school. What will my class be like? Will I know any of the students? As I drove to school, my thoughts were racing in circles like a NASCAR driver around the track. What was in store for me around the next curve?

The noise of chatting students was almost deafening. Some were seated at desks, while others stood around chatting as if at a cocktail party. I looked for a familiar face as I entered the classroom. I recognized John, a former eighth grade social studies teacher at my school, and sat down beside him. Our conversation was interrupted by a voice proclaiming: “Welcome to the Teacher Web Page seminar. Today you will be setting up your own teacher webpage.” This was my first day of school as a technology mentor. I was excited to get started on creating my own teacher webpage.

It was June and instead of my school year ending and summer vacation beginning, I was destined to travel down a different path, the road to technology expert. I realized that this journey would have delays, scheduling problems, and

frustration. However, this time around, I felt confident this journey would provide me with the necessary tools to empower my students as well as my fellow eighth grade teachers to make the best use of laptop computers.

As I sat in the classroom as a technology student, memories flooded back into my mind of my previous attempts at learning new computer concepts. The difficult time I had writing lines of code in the pre-desktop computer era, learning how to program computerized machinery in a factory, and eventually setting up my home computer. Computers and I didn't always get along. The class proceeded noisily.

John: How was the Revolutionary War trip this year?

Mr. Danatzko: It was great! We had 58 students participate.

Apple Mentor: You can move a picture onto your webpage by dragging it to the menu under add pictures.

Mr. Danatzko: John, are you doing anything with the Civil War like when we did the Gettysburg experience?

Apple Mentor: Mr. Danatzko, did you try to move one of your photos into your webpage?

Mr. Danatzko: Ugh! Not yet, I'll try now.

[I felt like a deer caught in the headlights as I was called on by the teacher. I was not paying attention].

John: I've done it before. You can move a picture onto your webpage by dragging it to the menu under add pictures and it will be moved to the selected page.

Mr. D.: Thanks.

I realized how it felt to be a student again. Not in a college class, but like a regular middle school student. I asked my partner for help instead of the teacher. I noticed other teachers were often off-task, but were helping each other and sharing ideas. Was it just that all of us teachers were inattentive students or was there a lesson to be learned? Students can learn and teach each other. Perhaps, the classroom chatter isn't always off-task behavior, maybe they are helping each other to understand. I realized that peers may be the best teachers, whether they are students or teachers. [I planned on checking when my students were using laptops whether peer tutoring would be a by-product of cooperative learning].

### **My Teacher Webpage**

My first training session was on setting up a teacher webpage. I thought having my own website was a great way to start my training. The class was for teachers from all over our district and was scheduled for seven hours.

The school district had subscribed to a web service called *Teacherweb*. *Teacherweb* is an interactive website specifically designed for creating teacher webpages. The district pays a user fee for each teacher that subscribes to the service. District policy mandates that a teacher must update their website at least

once every thirty days or it would be removed from the site. The policy made sense. The district should not pay for me to have a teacher website if I did not use it.

The templates on *teacherweb* were easy to navigate. I logged on and there were preset categories such as teacher, homework, assignments, and a calendar. Each category had templates to easily post information. Each category had symbols on the top for student access. There were corresponding symbols on the bottom that allow the teacher to update the information by using a password.

The district technology specialist explained the ways in which setting up a teacher webpage could benefit teaching. The site could be used for posting homework and student assignments. This could benefit absent students by allowing them to check missed assignments upon their return to school. Absent students could also go to the website and check missed class and homework if they have internet access at home. Student projects with directions, linking resources, and assessment rubrics could be posted on the site.

The technology specialist also demonstrated how it was possible to create a test and post it on the website. The teacher places each question on the test that the students can access. The answers are posted on the password protected update page. The website allows the students to take the test from the website and have the program automatically grade it and the results sent to your email. This option is best for multiple choice and true false tests. The test could be downloaded as a

*PDF* (portable document format) file to their desktop. The students cannot alter a *PDF* file, it is read only. This format allows students to type out short answer or essay responses as opposed to writing them by hand. The students without a laptop would take a traditional paper and pencil test. [I planned on placing a test online to study whether students would answer essay questions more extensively if they could type their responses rather write them by hand].

### **Curriculum Integration**

I attended four district training sessions over the rest of the summer. Two of the sessions were required in order to be trained as an eighth grade mentor trainer. They focused on the new operating system for Apple computers called *Tiger*. This system would be installed on the students laptops and have many new features. The sessions were taught by an Apple Computer trainer. I volunteered to attend two other summer sessions taught by district technology specialists on linking technology to curriculum. The focus of these classes was on ways to use technology to enhance my curriculum, not replace it.

Three other eighth grade teachers representing two other teams and related arts also attended the eighth grade mentor sessions. My colleagues and I received a wealth of practical information during the sessions. We learned how to use a variety of key commands to quickly perform basic computer functions. Two of the functions were brightness control and the ability to zoom in and out. [We chuckled at these feature as many of us are aging and our eyesight is

deteriorating. I found this helpful as I hate to wear reading glasses in front of my students].

We learned of additional functions that are helpful in monitoring student laptop usage. The F11 key hides or shows all open programs. We were informed that many students will press this key to hide their screen. [It was good to learn about something that many of my students already knew. I planned on showing my students that I knew about this function as soon as they got their laptops. I wondered if it might deter some students from illegal activity knowing I could easily check their activity.]

Another feature is screen capture. This enables you to take a picture of the laptop screen by pressing the *Apple Option 3* keys at the same time. This can be helpful to document illegal usage as you have an actual picture of the illegal site or inappropriate student writing. [I felt relieved to have some ways to check on illegal student laptop usage. However, I wondered how much of a problem it would be to monitor a class with every student using a laptop].

The many hours of summer training as a technology student helped in planning for my first year of teaching students using laptops. The *Apple* computer mentor stressed starting with the basics. I realized from my training sessions with adult learners that classroom management was an important issue. My fellow teachers and I occasionally talked during instruction as would middle school students. We also helped each other when we didn't understand how to perform a

function or a task. This led to my decision to start with my classroom layout and laptop management plan before the first student would ever enter my classroom.

My classroom is very large and offers plenty of room to set up the 32 student desks in pairs. I chose pairs because it allows peer collaboration, yet does not overcrowd the students. I have a central aisle splitting six rows of the paired desks. The aisle allows me to walk easily among my students and leaves room to focus the overhead projector on the front screen without displacing student desks. I decided to have the students face the sides of the room when using laptops in order for me to be able to see their computer screens.

The summer training sessions proved beneficial as I began to plan technology lessons. The district technology specialist listed a series of questions to be answered when preparing to create a technology project for your students. She asked:

- A. What is the reason for the project?
- B. Is it part of your curriculum?
- C. What standard or anchor does it address?
- D. What do you want your students to learn?
- E. Will technology help?
- F. If so, what technology is needed?
- G. Do you have a backup in case the technology isn't working?
- H. How will you assess their work?

The list of questions made me realize that technology is a tool to be used like any other teaching method when planning a lesson. The curriculum should drive the lesson, not the technology.

The Apple trainer asked the class to come up with a lesson plan that we taught before that might benefit from the use of technology. I decided to adapt a persuasive essay on whether or not we should celebrate Columbus Day. The lesson required students to read from the textbook and handouts of various articles pro and con on Columbus. They were then required to write an essay that defended their position.

I decided to use my teacher webpage to post the directions and links for the persuasive essay. I went to *Google* and began by typing in Christopher Columbus. There were 167,000 sites. I added the term “lesson plans” with a + sign and narrowed my search to 248. I began to skim the sites and found five reliable sites that were kid friendly and had different perspectives on his expeditions. One of the sites was a news article written from the Native American point of view. Another site had translations of journals from his crew and maps of all his voyages. I also found a general social studies rubric in one of the lesson plans from the web. I made a few adjustments to the rubric and posted it on my webpage.

The procedure for adding information to a webpage is simple. Each section has a place to post directions and to add an internet link. You can add as many

links as you like under each assignment. I listed my directions with links to five internet sites with various perspectives on Christopher Columbus to my website. I copied the links by doing a copy and paste of the *URL* (universal resource locator) to each link box. I also added a rubric as a link in order for the students to understand the method of assessment.

Technology would benefit the project by allowing the students to access all of the information from their laptop. The students could easily move back and forth from the internet information to their essay by using key F9. This key allows them to display all open programs on their screen at the same time. The students could also use spell check to correct spelling, punctuation, and capitalization before handing in their assignment. I also heeded the trainer's advice and had hard copies of information from the websites in case the technology failed or wasn't available.

I was able to adapt the Columbus persuasive essay to an internet activity in two hours. This included the time to research internet sites, write the directions, and adapt the social studies rubric. The actual posting of the information to my teacher web page took about forty five minutes. I had difficulty at first with posting the internet links. There were two links boxes for each section. I asked a fellow colleague sitting next to me for help. She pointed out the difference between the two boxes and directed me through the steps to add one of my links. I checked my additions to my web page by entering my password at the end of each

new posting. [I wondered how long it would take to create a technology lesson plan from scratch. Will technology add or subtract from my planning time?]

### **Teacher Interviews**

I conducted my first interview with a sixth grade science and math teacher. Mrs. D. had experience with students using laptops for the previous two years. I asked her a series of questions on classroom management strategies, laptop usage, student interest, storage, and movement.

She informed me that the first year with laptops the students were really excited and felt ownership. However, there was a slight drop off in interest the second year. They used their laptops to create *Keynote* presentations, *Inspiration* webs, view virtual tours on the internet, internet research and writing reports. *Keynote* is an Apple program similar to Microsoft's *Powerpoint* that makes it easy to make text slides with pictures, videos, and music. *Inspiration* is a program that automatically creates a graphic organizer web using text boxes.

Generally, discipline was not a problem across all the tracks. She constantly walked around the class to monitor their on-task behavior. [This reinforced my choice of desk arrangement. I left plenty of room to easily walk through the rows in my classroom. The practice of having the students facing the walls during laptop usage would help me to observe all of their laptop screens]. We also tried to be consistent with laptop procedures in all of our classes. The students did not take their laptop out of the case unless they were told by a teacher. We established

verbal cues to signal procedures for laptop usage. *Lids Down* signaled the immediate transition away from laptop usage.

Mrs. G informed me of the problems related to returning of the laptops at the end of the day. Students want to go home and you need to account for all of their laptops. There is also the issue of storage and charging. I stored my laptops in metal file organizers that are like taco shells. I can fit four laptops in each. I bought them myself. I heard the district is going to use milk crates with padlocks this year.[I was eventually given two crates with padlocks].

Virtual share is a great way to post and collect student assignments. Virtual Share is accessible to students and teachers through our school server. It allowed me to post assignments in my *Out Box* which students could download to their desktop. They then could complete the assignment and place it in my *In Box*. I set up folders for each class section and had them place assignments in by last name. I could retrieve them for grading by section. [I did not have access to virtual share this year until February. I have followed her advice and have also set up class folders to post and collect assignments. Once again, I realized that implementing technology is an ongoing process].

She informed me that most of the students in all tracks were capable of using laptops to look up information on the internet. *Keynote* Projects take a long time to complete. The students want to add all kinds of transitions and music before they have any information. [This triangulated the information from my summer

training. Students are more interested in the bells and whistles than in finding the information].

I also interviewed Mr. G., a seventh grade social studies teacher, who had used laptops with his classes the prior year. Many of his responses echoed the findings of the sixth grade teacher. They both cited student enjoyment when using laptops, the ability of most students to search the internet, and general on-task behavior during laptop usage. Some of the problems cited by both were student movement, storage and charging of the laptops. They also voiced their concerns with the continued problems with student laptop misuse. Many of the students had downloaded music from the internet. There were incidents of students going to inappropriate websites including one written up for going to a gay pornographic website.

I wanted to find out how Mr. G. had used laptops in his social studies class.

Mr. G: I used laptops for writing, internet research, *Inspiration* webs, and *Keynote* presentations. I had the students create a travel brochure on *Keynote*. The students also researched a country to present at the Diversity Fair with pictures and animation.

Mr. D: Is there a difference between tracks in ability to use the laptops?

Mr. G: There is not much difference between the tracks. The middle level track of students seems to have the most behavior problems. [My team of teachers and I have had the most discipline problems with our middle level students. We

theorized that this stems from the fact that the lower sections of students, ESOL students, and learning support students receive services and attention. Each of those classes has another teacher in the class lending assistance. Many of the upper tracked students are either intrinsically motivated or have parent pressure to succeed in school. The average student seems to slip through the cracks].

Mr. D: Does using a laptop help their writing?

Mr. G: The students wrote more but did not edit very often. They had to be constantly reminded to use spell check. Many of the students did not have good keyboarding skills which slowed down the writing process.

Mr. D: What problems did you encounter?

Mr. G: The students would forget their laptop in their prior class and have to go back and get them. [Both teachers cited the students leaving laptops in previous classes as a concern.].

Mr. G: The end of the day was always a problem trying to get the laptops stored before the bell would ring.

Mr. D: Did you have problems with illegal usage of the laptops?

Mr. G: Oh Yeah! A major problem was the student's attempts to bypass any filtering or security that the district put on the laptops. Some illegally downloaded music from the internet. The teachers did not have enough training. The kids knew more than we did. [I was glad that I had the summer training. I hope it will help to alleviate some of the issues surrounding laptop misuse.

## **Teacher Mentoring**

I served as an eighth grade laptop mentor during the school year. I teach with three other academic teachers on a team. Many of our team meetings early in the school year were devoted to the implementation of technology.

One meeting in particular was very stressful. This took place four weeks into the laptop rollout. All four of us teachers were having difficulties with printing problems. We had installed our printers as suggested by the technician at our school. At various times over the past few days we all had trouble printing to our printers. Some days the students could print, other days no one could print.

We had recently been told three different ways to install our printers over the course of the past four weeks. Each time we would share the information with our students, have them reinstall our printer, and try to print. Sometimes it worked and most students could print. Other times there would be some kind of glitch. We all had reached the breaking point and were very frustrated with the printing situation. Most of that team meeting was spent complaining about the printing issues. [Technology problems had become a stressful problem for our team of teachers. We wanted to use laptops for certain projects and writing, but had limited ways to extract the information from the student's laptops. We were unable to consistently print for the first six weeks that the students had laptops. We also had no access to the virtual share network to retrieve student work].

The printing problem was finally solved after six weeks. The district specialist came into my classroom during each of my classes. She had the students and I reinstall each of our team's printers by room number. The printers have generally been working well since then.

I was part of a five person eighth grade mentor team at a building wide training session. We were asked to discuss problems and share ideas on laptop technology.

We made a list of helpful hints that included management strategies, keyboard shortcuts, and tips on our grading program. I shared a web-quest that I had found on the mystery of Roanoke Island. A science teacher provided links to interactive star maps. Our assistant principal compiled the information we discussed plus links to all of our projects and sent them out in a school-wide email. I heard from many teachers that it was good to have technology tips that were tried and tested by other teachers. [I felt good knowing that our hints from mentor training were being disseminated to other teachers, not just my team].

## **THIS YEAR'S STORY**

### **First Day of School (II)**

“Mario, wake up. School starts today.” “Si, mommy, I’ll be out in a minute.” It was late August as Mario slowly climbed out of his single bed in the three room apartment in the projects. He was clammy with sweat as his room had no air-conditioning. Mario had barely slept thinking about the upcoming first day of school and starting 8<sup>th</sup> grade. Mario pondered whether to wear his baggy jeans and long tee shirt or basketball shorts and 76er’s jersey as his mom called out, “Hurry up, the letter from school said that free breakfast starts in 20 minutes.”[Mario is eligible for free breakfast as well as free lunch]. He rushed into the small bathroom and quickly showered and dressed in the baggy jeans and tee shirt. He decided on the tough kid image as he kissed his mom and headed out the door.

Mario shuffled along passing row after row of the barracks style, white block houses on his way to school. The neighborhood streets littered with empty beer bottles and Mcdonald’s wrappers. He crossed the street and eyed his school. He then remembered he had another block to walk to his new middle school.

As Mario arrived at the front entrance of his new school, he was told by a teacher to walk around the block to the cafeteria side for the free breakfast. He entered and sat near Karen, dressed in basketball shorts and a tee shirt, her stringy hair still wet from showering. They exchanged a forearm handshake as they ate their bagel and cream cheese and washed it down with a container of milk. Mario

asked Karen, “Do you think we’ll have our own laptop again?” Karen answered, “I hope so.”

The bell rang and Mario headed up to the third floor to find his 8<sup>th</sup> grade classroom. He entered my classroom and looked for his name and schedule which was placed on each desk. The noise of the chatting students was deafening. My first words to my new students were: “Ok, settle down, so I can take attendance.” I introduced myself and had the students do the same. Mario raised his hand and asked, “When will we get our laptops, they make learning fun.” I answered, “They were re-imaged over the summer and should be distributed in about three weeks.” [I was glad that they would not have the laptops right away as there were many issues that needed to be addressed. However, the look of terrible disappointment on Mario’s face expressed his feelings about the delay. The delay would be longer than both of us imagined].

### **Student Demographics**

... the belief in and the ideology of white supremacy have led to the development of an ideology that says ...whites are genetically superior and people of color inferior. This thinking has resulted in a greater segregation of students in schools and a disproportionate placement of people of color in certain categories of special education (Delpit and Dowdy, p. 89-90).

My school district tracks students by reading and math ability. The “A” track is the upper track. The “B” track is the middle or supposedly average track.

There is also a “B” inclusion track that includes learning support students. The “C” track is the lower track. I will use the district alphabet letters throughout this study to denote the class level of the students. This year my “C” track consisted of 22 Hispanic and four white students. My “A” track is predominantly white with one African American, two Asian and two Hispanic students. I have taught for six years at my present school and have seen little deviation in class demographics from this pattern.

As I implemented laptop computers into my social studies classroom I wondered whether my results would mirror those of earlier researchers. A three year study by Rockman et. al (2003) found that students of color, in particular African American students, had benefited from using laptops in school. Many of my students are of Puerto Rican heritage and are English as Second Language learners (ESOL). I did not find a study that specifically examined the effect of laptop usage on Hispanic students. I was curious to see if using laptops with Hispanic ESOL students would have positive effects on their classroom behavior, writing, achievement on standardized tests, and overall perceptions of school.

I wanted to study the effects of laptop usage in all of my classes. I explained to all of my students that I was completing a Masters in Education degree by researching laptop usage in my classroom. I read the entire parent

permission form in all of my classes (see appendix). I passed out parent permission slips to all 115 of my students. A total of 48 students eventually returned the signed slips. Most of the A track students and half of the B inclusion class chose to participate in the study. However, there were only five students in both the B and C tracks that returned their permission slips.

The purpose of the student survey was to obtain pre-study data on my student's feelings concerning laptop usage in previous years. The survey also included demographic questions to determine socio-economic status and out of school computer usage (see appendix). I wanted to determine if socio-economic factors and computer access at home had any effect on technology skills in the classroom. The survey data would also serve as triangulation of the data obtained from interviewing their previous teachers.

I decided to hand out the survey after the students had finished taking a test. I felt that this would be the least intrusive way to administer the survey. My normal procedure is to have the students bring their completed test up to my desk. They are then required to pick up a reading that introduces the next topic of study. It was business as usual as I handed a survey to the students that had filled out parent permission forms from all four of my classes. The other students received a story on life in the Middle Ages. I handed the same reading to each student as they returned their completed survey. [The only class that asked about taking the survey was my B track. A few students asked why they did not get to fill out a

survey. I explained that I could not use their information unless they had returned a permission form. A few promised to bring in their permission slips the next day. Bob was the only one to actually follow through and return his slip].

**Poem: LAPTOPS**

Laptops give our hands a break from writing

A fun way to learn for students, a fun way to educate for teachers

Projects are fun when we make slides on *Keynote*

Things are always going wrong with my computer

Organizing is easy. I don't have to carry a heavy binder

Please let us use them a lot in social studies

Some student responses to my laptop survey

**First Lesson**

Problem-posing education is revolutionary futurity. Hence it is prophetic (and, as such, hopeful) Hence, it corresponds to the historical nature of humankind. Hence, it affirms women and men as beings who transcend themselves, who move forward and look ahead, for whom immobility represents a fatal threat, for whom looking at the past must only be means of understanding more clearly what and who they are so that they can more wisely build the future (Freire, p.84).

The day that I had prepared for four months finally arrived in mid October. I was geared up and ready to get started. I had planned a lesson

based on the technology standard that states: Identify changes in society as a result of technological development.

I used my teacher webpage to post directions to an internet site called *CYBERSMART*. The site contained information on internet searching, copyright rules, and a debate format for speculation on the future of computer use in schools. I was psyched. My first class of the day was my A Track. My bubble burst as they walked in without laptops. They would not be issued their laptops until later in the day.

Like a good boy scout, I was prepared. Recalling the warnings of the *Apple* mentor, “Always be prepared in the event of the failure of the technology.” I had anticipated that some of the students might not have computers in all of my classes. I had made copies of the worksheets from the *CYBERSMART* website.

I decided to focus on the worksheet on the future of computer technology with my A track class. I reviewed our rules for debating. Each group will choose one student to give your two minute opening statement. The opposing group will have the same opportunity. Then each of the other three students will alternate one minute rebuttals. I had used this format previously to debate historical issues.

I informed the class that they would be split into groups of four and given a question to discuss. I passed out the sheets to each group of

four and informed them whether they were to be pro or con on the issue. Some of the students were not happy because they didn't like the side they had to defend. [I like to make them think about varying viewpoints. Forcing them to defend a position they may not agree with can help them to see the various viewpoints]. The four questions were:

- A. Should libraries block internet sites?
- B. Will the internet make schools disappear?
- C. Will the internet save lives?
- D. Will the internet ruin kids?

I gave them ten minutes to discuss the questions in their groups. I walked around listening to their arguments on the topics. I logged some of the debate on the questions.

Tim: Students should not be able to see pornography and other inappropriate stuff. Kids are not able to handle it. You type in one wrong word and you get something bad. We're not capable at our ages.

David: Kids are responsible. The filters will pick up any bad stuff. Kids should be able to handle and know what's right or wrong and act appropriately or pay the consequences.

Sheila: I disagree. I know my older brother who is in high school has told me he has pop-ups come up with pornography of girls. My dad said he has parent controls on our computer and he got that kind of stuff.

George: So. All he had to do was click off of the site. He didn't have to go to it.

Samantha: Yeah right! Boys are not going to be tempted to check the girls out.

(Hoots from the boys!)

Tim: Guys our age are ya know.

David: (calls out from the back) Horny.

Mr. D.: Ok, let's keep it civil. This is school! Let's switch topics.

Mr. D.: Do you think the internet will replace schools?

Jeremy: I don't think so. Teachers kind of help you to know what to look up and stuff.[Yeah! They still need me].

Tammy: I don't think I'd want to just, like look stuff up without being in a school.

It would be boring after awhile.

Austin: Would there still be school sports like basketball and soccer?

Mr. D.: Hmmm. Interesting way to look at it. Wow, bells going to ring in a minute. For homework, write up your two minute response to your question.

We'll continue the discussion on Monday. Hopefully you will have your laptops by then. [This was an interesting first class dealing with technology. Despite having not actually used a laptop, I still felt the students had dealt with delicate internet issues and speculated on the future impact of computer technology on schools].

My first class to actually receive laptops was also my homeroom which consisted of 26 "C" track students which included 16 ESOL

students and only four white students. The ESOL students are intermediate, meaning they have a basic understanding of English. They come to my school from another middle school that teaches them the basics of the English language. They must pass a language test before being sent to my school.

The room was buzzing like a bee hive with questions and comments as we discussed the district computer policies.

Peter: Can we change our screen saver?

Mr. D.: Yes, but only to the screen savers provided on your laptop?

Janice: That sucks! We changed our screens last year.

Mr. D.: Janice, watch your language.

Terry: (calling out from the back of the room), Can we listen to music?

Mr. D.: Yes, but only music that you create on *Garageband* or from a site called [freeplaymusic.com](http://freeplaymusic.com) that has songs that artists allow to be used for free.

Terry: Bet all the tunes will bite. I'm sure there will be no rap. Can we at least download any games to play in class?

Mr. D.: No. Downloaded games can have viruses and the district has forbidden any downloads. You can play games from recommended sites such as *Yahooligans* and *Coolmath*. *Yahooligans* is an internet site affiliated with yahoo that has kid friendly educational information and games. *Coolmath* is an internet site with educational math games.

The door opened and the district technology specialist arrived with the cart of 22 laptops. There were four students who did not have laptops because they were new or their laptops had not arrived from their previous middle school. She began to explain the rules above the din of student comments and questions. She finally just stopped speaking and waited for quiet. The loud talking and calling out continued until I finally had to yell, "O.k. that's enough, she will not continue until you can quiet down." They settled down and she proceeded with her explanation of the new Apple operating system called *Tiger*. I walked around helping students to log on by supplying their student identification numbers as she demonstrated the new programs using a digital projector.

The students liked *Dashboard*, a program that displays information on their desktop, which pops up with the click of an *F* key. The program displays a calculator, dictionary, the weather, the word of the day, and a daily update of *this day in history*. She told them they could browse *Dashboard*.

She showed them how to connect to the school server by clicking on the icon on the top of their screen that looks like a baseball diamond. She gave them the server address. Many of the students had trouble connecting. We believed that this was caused by my lack of a wireless airport in my room. The closest airport was in the next room with a stairway in between. The issue was not solved as I noticed the bell was about to ring. I told them to shut down their computers. This was met by groans from the students. They wanted to continue using their laptops.

## **The Dreaded B Track**

The students of my middle level B Track are a very challenging class to teach due to a number of students with major behavioral issues. There is Katrina who likes to call out and is constantly laughing and trying to get the attention of her female friend across the room. Mario, a very hyper-active boy that thrives on attention, will just stand up and walk around the classroom at any time despite reprimands. Barry is an angry boy with family issues who feels he has the right to call out inappropriate comments at any time. Harvey is another very talkative student who causes a scene whenever he is reprimanded. There are days when I feel like a fireman. I put out one fire on one side of the room and suddenly another one flares up in another part of the room. There are also student embers just waiting to flare up and join in on the blaze.

I wondered how my first day with laptops would go with my B track students. They started arriving at my third floor door around five minutes after the bell. They were coming back from related arts classes primarily located on the first floor. I stood at the door like a bouncer in front of the velvet rope allowing in only a few students at a time. Once they sat down quietly, I let in a few more students.

The students are required to complete a written warm-up upon entering the classroom. The warm-up can be a question to be answered, a review of the

previous days learning, a prompt to start a discussion, or any other appropriate set for a lesson.

Bob: Are we using our laptops today?"

Mr. D.: Yes, you can use your laptop for you warm-ups. Read the warm-up to the rest of the class.

Bob: Using your laptop or your usual warm-up sheet;

How did you use your laptops last year in Social Studies class?

Harvey: I used a laptop for that diversity thing last year.

Mr. D.: Thank you for sharing that, Harvey, but you know the rules. Raise your hand. I want everyone to have a chance to write something down.

Harvey: Am I bad?

[This seems to be the latest saying for kids. It's their way of apologizing].

Mr.D.: Ok, who wants to share their answer?

Mario: Mr. G. used to let us listen to music when we were working. Can we do that in this class?

Mr.D.: That will depend upon the behavior of the class and the listening to appropriate music with headphones.

[It didn't take long for the class to test the boundaries of what I would allow them to do with laptops].

Barry: We used our laptops for writing notes, researching stuff on the internet and projects.

Katrina: (calling out) Yeah! You guys remember when we did that thing in the gym on a country with Mr. G.?

Mr. D.: Raise your hand, Katrina. Who can tell me what you had to do for that project? Mario.

Mario: We had to look up information on a country and then make slides or a poster on the stuff we learned. We also could have stuff that represented our country to show or give out. We gave away fake money called *Reals* from Brazil. [The student responses triangulated the data obtained from my interview with Mr. G. and the pre-study student surveys].

I was ready to start my first laptop lesson. I had my overhead screen covering the directions to my teacher webpage. I lifted the screen and revealed the directions. I went through the steps for them to log on to the internet. Our new school was supposed to be totally wireless. I did not have an airport, a device that allows wireless access to the school server, in my room. The students had to pick up the signal from another room on the same floor. Mario, the wanderer, got out of his seat and volunteered to help other students to connect to the airport. [It was amazing to watch Mario involved in helping others. He often disturbs the class rather than helps].

Many students encountered problems as they attempted to connect to my teacher webpage. There were two schools listed with the same name as ours. I had to direct them to put in the district name and our school name to get my page. I

told them to click on the Assignment icon and they would find their first assignment. The directions were to follow the link to the *Yahooligans* website. The site had an article on the new Ipod that allowed users to download television programs. There were four students without laptops. I passed out copies of an article on the new Apple Ipods from the latest Junior Scholastic magazine. The students were directed to read the article and discuss it quietly with the person sitting next to them when finished reading. The students were skimming the article on the computers or from the magazine. I rarely had to reprimand any student for off-task behavior. [This was a welcome change of pace with this class].

The class discussed the impact of technology on their lives. They noted how their generation had grown up with technology. I used the progression of recorded music as an example. Early music was recorded on vinyl and progressed to eight track tapes [an alien entity to my students] to cassettes and eventually compact discs and now Ipods. The students also could not remember a time without cell phones. I was unable to use any direct quotes as only five students in the class had signed permission slips.

### **Student Organization**

The bell rings signaling the end of class. Doug, one of the twelve learning support students in my B track inclusion class, crams the paper with his class notes on the Spanish conquistadors into his disheveled backpack. The paper

crumbles and makes its way in among the other remnants of bygone classes. The Spanish conquistadors are suddenly fighting for space with prepositional phrases, math equations, and an old art project. Doug is a prime example of the many eighth grade students that struggle with the problem of organization.

My goal was to use the laptops to help organize my students writing and storage of information. I started by requiring my students to write their warm-ups on their laptop. Students without laptops continued to write on the weekly warm-up sheet. One of my first classes using this new system was the B inclusion class with twelve learning support students. They entered the classroom as usual. I informed the class that they could use their laptops for their warm-up.

**Poem: Teacher Smiling**

The room is unusually quiet

Fingers moving

Keys tapping

Pencils writing

Steady rhythm

On-task behavior

Teacher smiling

[The new procedure had an unexpected result. Students were settling in and getting out their laptops and beginning their warm-up with far less talking than usual. The students without a laptop were also doing the same without incident].

As for organization, the students were to put their name and the date on top and type them each day to be checked weekly. Students would not have to keep track of a paper copy that might wind up in the black hole of their backpack. They only had to save them on their laptop. Students would have the information at their fingertips to review and reference as needed. I also placed the school server numbers on the board and reminded students to save their information to the server regularly.

The problem of organization is not unique to any class. There are overstuffed backpacks that spill their messy contents like stuffing out of a cooked turkey at all ability levels. David, a gifted A track student, can never find his warm-ups or notes to study for tests. His locker and backpack look like the remnants of Hurricane Katrina. Mario, a B track student, was constantly asking for a new warm-up sheet every day because he loses it.

Peter, a Hispanic C track ESOL student, asked for a new warm-up sheet almost daily because he'd misplaced it. Similar to other ESOL students, he has trouble with vocabulary words and English spelling. He decided to use his laptop for writing his warm-ups and notes. There were definite improvements in the content and readability of his writing after switching to using his laptop. The following examples demonstrate the changes from hand written warm-ups to laptop-generated warm-ups.

Name <del>_____</del> Section _____		Warm-ups	
Date _____		1. Warm-ups are done during the first few minutes of class time.	
<p>B-Peru H- Pac: Esc C A- ... F- ... C- ... G- ...</p> <p>I- ... J- ... E- ... C- ...</p>		2. Questions asked during warm-ups come from your notes or from previous class work.	
Date _____		3. Scoring of warm-ups is done once a week. A day is selected at random. Score is 10 points for correct work, 5 or zero points for incomplete or incorrect work.	
Date _____		4. If absent, another day is scored.	
Date _____		<b>USE ONE SIDE PER WEEK</b>	
Date _____		Date _____	
<p>I dont organize my things that much. Sometimes if its important I organize it. <small>Electronic Folder Binder Different</small></p>		Date _____	
Date _____		Date _____	

This is an example of Peter's hand written warm-ups. Peter started to write his warm-ups on his laptop. There were improvements in length and readability. He did not use spell check at first, but began to use it occasionally as time went on.

*Dec 13*

*The Tainos wer Puerto Rican and they wer conquered by Columbus and his men. They wer slaves and they wer taken to portuagol and they were made Christians.*

*Dec 14*

*Indians wer more healthy then the Portuagese. They spoke a caribbean language. They wer taller. The Columbus people wer short and they wer less healthier. They had guns and Armor and spoke Portagese.*

*Dec 15*

*The four QAR'S is question, answer and relationship. An example of a QAR is Were was Columbus born at?*

*Dec16*

*They were protected by the mountains because it probably took time for Cortez to conquer them. It was also hard to go through lake texcoco.*

*Dec17*

*On of the two similarities are that they both conquered tribes and took hostages as slaves. Cortez and Pizarro were also great navigators who sailed to places and conquered Indians.*

This is an example of Peter's typed warm-ups. They are more organized and I could actually read them. The laptop helped him to become a more organized student.

Name _____ Section _____		Warm-ups	
Date 1-22-05 I learned how long ago...		<ol style="list-style-type: none"> <li>1. Warm-ups are done during the first few minutes of class time.</li> <li>2. Questions asked during warm-ups come from your notes or from previous class work.</li> <li>3. Scoring of warm-ups is done once a week. A day is selected at random. Score is 10 points for correct work, 5 or zero points for incomplete or incorrect work.</li> <li>4. If absent, another day is scored.</li> </ol> <p><b>USE ONE SIDE PER WEEK</b></p>	
Date 9-26-05 1. A archeologist found an spear point in a Bison <del>2. A type of artifact</del> <del>in the</del> Pre-colombian people migrated		Date 2-11-05 Deer... P... m... P... 5,000...	
Date 9-28-05 3. Anthropologist can study human culture an development both ancient an modern,		Date 9-28-05 Its cold, they live in igloos, they eat fish, they wear clothing.	

This is an example of Nancy's handwritten warm-ups. The process of writing warm-ups on their laptops benefited all types of students. Nancy, a learning support student, wrote illegible warm-ups most of the time.

~~XXXXXXXXXX~~  
~~XXXXXXXXXX~~  
**Warm-Ups**

10-26-05

Describe the life of a serf.

The life of a serf was a life as a slave. They were like slaves, but they couldn't be bought or sold. They were bound to the manor.

Serfs were forced to work the fields of the manor and could not leave without the permission of the landlord. The serfs lived in small cottages in the manor's village.

10-27-05

List 3 examples of how religion played a part in the lives of the people of the Middle Ages?

The Middle Ages were called the age of faith because the religion was so important to them. All education took place in the church. The great power and wealth of the church placed it at the center of medieval life. The church is rich. They had a lot of land. They had big cathedrals. One of the styles of churches that they had were gothic. All tasks have to have the approval of the church.

10-28-05

List 3 facts about the vikings?

They came from the north. They sailed skillfully in open boats powered by sails and oars. They also sailed into the Atlantic Ocean and settled in Iceland. They explored the coast of north america, which they called Vinland. They stayed there for many years, but for unknown reason, they left there settlements and returned back home.

This is an example of Nancy's typed warm-ups on her laptop. She wrote out the question and answer. I could read it and she was writing more relevant information that would benefit her as a reference for future tests or quizzes.

I originally planned on having the students send their warm-ups to me electronically to be checked and also to save paper. I hoped that *Virtual Share* would be available this year. *Virtual Share* is a site on the school server that allows students to place their work in a teacher's "in" box. The two teachers that I previously interviewed noted its ease of use. It allowed the students to easily send written work electronically. The teacher could edit the work and return it through their "out" box on the server. The students could easily retrieve and edit their writing. A teacher could also post assignments in their virtual share "out" box. [I was informed at a team meeting that due to the delay in rolling out computers, printing issues, and student technical problems the district had not set a timetable to set up virtual share this year. It would not become available for another three months. Technology problems and delays were becoming a major stumbling block to using some aspects of laptop technology]

### **Testing**

I created an online quiz for all of my students on the Middle Ages using my teacher webpage. The quiz had ten multiple choice questions and two short answer questions. My teacher webpage has a section called *Response* which allows the user to write true/false, multiple-choice, short, and long questions. You click on the correct answer dot for the multiple-choice questions and the program will record the correct answers. The program will send you each student's corrected test and include responses for any long or short questions.

The students place their name on the quiz and answer the questions. Each student's results are corrected and their short answers are listed below their quiz. The results are sent to you as an email. You can retrieve the results individually or as a class.

I compared the quiz to a previous pencil and paper quiz of approximately the same length of ten multiple choice and two short answer questions. There was no noticeable difference in the scores of the A and B inclusion students. There were significant changes in the scores of the B and C track students. There were two students in my survey that had failed the paper and pencil quiz in the B track. None of them failed the online test. The short answer responses were longer when typed online compared to the hand written responses. There were similar results for the C track, which went from three failures with the pencil and paper quiz to one with the online quiz.

I am required to give a district test for each unit of study. The test is the same for all four middle schools in the district. I am realistic when it comes to understanding the work ethic of many of my students. The majority of my B and C track students do not study for tests. Their results often hinge upon their ability to focus during review sessions. I have tried a variety of review strategies. I have played a form of Jeopardy with categories related to the main topics of the test. I have made up goofy names for categories that have questions related to key terms from the tests.

I also used an online interactive game on explorers with my students. They were directed to a website that had questions linked to the names of European explorers. The students could test themselves at their own pace on the site. I gave them one class period to review in this manner. This method was different from my usual review game format.

The results from the district test on the Explorers unit were surprising. The students in the A track did not do as well as usual. I had seven students drop a letter grade. The B track had three of the five students still fail. The biggest surprise was the B inclusion class. There were only two failures and six students improved a letter grade. Both of my African American students that had filled out permission slips improved their scores in both the quiz and district test. Among my C track Hispanic students, two improved and one dropped slightly in the district test. All of these results were from students that had signed permission slips. [I realized that different methods of review worked better with different tracks of students. The A track was more competitive and benefited from review games. The B inclusion track seemed to benefit from moving at their own pace as there are regular as well as inclusion students in the class. The B and C track students generally do not study for tests and are often unruly for games and hard to motivate to review on their own on the internet. I'm not sure if technology will help with students that do not make any effort at all to study for any type of test].

## **Problems**

I was warned by the district technology specialist of the delay in the student laptop rollout before the beginning of the school year. Our school has over 800 students that had to have the installation of the new Apple operating system called *TIGER*. The original plan called for the laptops to be ready for distribution by the third week of September. The actual rollout did not occur until mid October.

The issue of storage, charging, and security had to be resolved before the students could receive their laptops. There were computers stolen at another middle school and two that were missing from our school last year. I discovered by interviewing the previous year teachers that they had been provided with milk crates that had hinges that attached to a latch that could be padlocked. This enabled the laptops to be kept secure and also easily accessed for charging through the holes in the milk crates. I was supplied with three crates with padlocks. Each crate was capable of holding 12 laptops. The problem was finding a place to store the crates for my 22 laptops. I chose to use the counter at the back of my classroom that had two outlets on the wall. We received two outlet strips that supplied enough sockets to charge all of my 22 laptops.

Our principal informed the entire staff at our September faculty meeting of the districts goal to eventually have laptops used in all classes including related arts. She emphasized the many opportunities to use laptops in related arts. I heartily agreed with the decision based on my summer training. Our training class

reviewed internet sites with museum tours and numerous pictures of works of art and also worked with an awesome music program called *Garageband* that allows students to create their own music.

The districts goal of laptop movement to all classrooms would not be met easily. Our new school building created a logistical barrier to the movement of laptops. The gym and cafeteria are located on the first floor and related arts classes are scattered across all three floors. The eighth grade classrooms are on the third floor, which created a problem for movement to lunch and gym classes. The students would have to either take their laptops to lunch or return back upstairs to the third floor and pick them up before going to related arts classes. The problem was compounded by the fact that many of the eighth grade teachers had cafeteria duty on the first floor and their classrooms would be locked.

The task of solving the dilemma of laptop movement fell on the shoulders of the assistant principal in charge of curriculum. She approached the subject with the eighth grade teachers at our team meetings. There seemed to be no easy solution. There was no place to store computers safely in the cafeteria over lunch. Someone suggested storing them in the gym with a rotating teacher assigned to guard them. No one wanted to go that route. The assistant principal suggested switching sixth grade and eighth grade lunch. The eighth graders would be able to put their laptops in their next academic class after lunch and return to class with their teachers who had lunch duty. The schedule change would allow the sixth

graders to eat later and have the same setup of dropping off their laptop in their next academic class before lunch.

The assistant principal scheduled a voluntary meeting after school hours to discuss the matter of laptop movement. I attended and listened to the arguments from the sixth grade teachers who thought the change might cause confusion with their students. I also had similar reservations about changing lunches in the middle of November. Despite reservations, we could not come up with another viable alternative.

The sixth and eighth grade lunches were switched in early November. The new schedule required the students to leave their fourth period class five minutes early in order to go to their locker. They had to get their books for the rest of the day and drop off their computer in their next academic class. [A simple thing like moving laptops between classes turned into a logistical nightmare. It took many hours of discussion and debate by teachers and administrators to solve the problem].

The issue of assessing student laptop assignments was an early problem. I had to come up with a way to check laptop work. I could walk around and check each students work on their laptop while they were engaged in laptop activities. That would be very time consuming. I could print out their assignments which would allow more time to adequately check their work. I decided on printing out assignments when possible. That was the beginning of my printing nightmares.

I was issued a printer for my room. It was set up as a network wireless printer like all the others in the building. I tried to have all of my students add my printer to their laptops. The set up directions were as follows:

- A. Click on your Printer icon on your dock.
- B. Click on: Add Printer.
- C. You will get a list of printers, click on Bonjour Printers.
- D. Click on Room A312.
- E. Click the *Continue* box and you should be able to print.

I informed the class that they could only print when instructed by me to do so.

Jeremy was the first to print his warm-up and it worked successfully. Harriet tried and my printer started printing page after page of error commands. The same result happened when Sheila tried to print. I had to shut it down to save paper.

David, whom I learned had already built two computers from scratch, offered a viable solution. "I have a storage device that you stick into the USB port on a laptop that allows you to download information to it. You can then stick it in any computers USB port and download the information into that computer." [Once again a student had solved one of my problems. I had heard about storage devices in my summer class and had purchased one that held one gigabyte of memory. I did not think of using it to download student work. It would be time consuming, but was a viable solution until all of my students could print to my printer].

As for the printing problem, I learned later that day that it was an airport problem. If the wireless signal was not strong enough the printer did not properly receive the information. The district technology specialist eventually had to install a wireless airport in my room. This enabled most students to be able to print in my room.

There were other problems besides printing.

Harriet: I got this spinny thing when I started up my computer and now I just get a ? symbol. [I sent her down to the computer technician who informed her that her laptop lost all its information and needed repairs. The technician did not have a spare at the time.]

Tammy: I can't find my warm-up from yesterday. [I learned from talking with the technology specialist that some laptops were losing files].

Tim: UH OH! I got the dreaded blue screen of death.[This meant that their laptop lost all of the information stored on it.]

Mr. D.: Tim, Have you been saving your work to the server.

Tim: Some of it, but I didn't save my keynote project.

Mr. D.: Does your partner have any of the information?

Tim: Sheila, do you still have your notes on our explorer?

Sheila: Yeah, I guess we can use them to redo our project.

[Once again, technology reared its ugly head. Students had to redo completed work which is time consuming and frustrating for them.]

I remembered back to the three year Rockman (2003) study. Their findings noted that as the laptops reached their third year of use many technical problems began to arise with the student computers. I was experiencing the same problem. On average, there would be four to six students without laptops in each of my classes. The technology specialist was becoming overwhelmed with laptop problems. She set up hours when students could bring their laptops in to be checked or repaired. She would be available from homeroom in the morning until ten thirty and from two in the afternoon until three thirty. The rest of her time was spent repairing student laptops or re-imaging teacher laptops with the new operating system. Each day she would email a list of repaired computers to the teachers.

### **Misuse of Laptops**

The number of students who had changed their laptop screensavers frustrated me. The B track and C track in particular were the worst offenders. The district rule is that they are only supposed to use the screensavers installed on their laptop. They have rap artists, actors and actresses, cars, and Looney tunes characters just to name a few. I discussed the issue with my fellow team members. We all noticed the same trend. Our team decided that the students must follow district policy and change their screensavers appropriately. We agreed on a team policy of one warning and then they would be put through our team classroom management plan. This provides for teacher detention after the first offense, a call

home after the second. Further discipline steps could be implemented if a student continued to ignore the rules. I agreed to be the bad guy and informed the students to change their screensavers the next day. They complained, but complied.

I allowed my students to use their computers for their warm-ups. I began to notice that it would take them longer to get out their laptop, start it up, and write the warm-up than when they were writing them by hand. I also discovered that many male students were going to games sites instead of or after completing their warm-up. I have caught them playing racecar games, chess, and card games. Some of the girls were going to music or beauty sites.

I decided to suspend the use of laptop computers for warm-ups in the B and C track temporarily. I reverted back to a paper warm-up sheet. I collected the sheet every five days for grading. This also eliminated the student claims that they lost their warm-ups when their computer broke down or was replaced by a spare.

I realized that laptops were not always the most efficient method for all assignments. I realized that laptops were best reserved for specific assignments. This has improved on-task behavior by ensuring that the use of laptop technology is the best method for teaching that concept.

I implemented and reverted back to a number of procedures. The students may not open their laptops until they have received the directions for laptop usage. This ensures that I know exactly what and where they are supposed to be on their laptops. The students must also face the corners of the room when using

laptops. This allows me to walk down the center aisle of my classroom and observe every laptop computer screen. The implementation of these procedures has improved on-task behavior during laptop usage and virtually eliminated laptop misuse.

### **Inspiration Web**

My next laptop experiment was the use of *Inspiration* to create organizational webs of information. *Inspiration* is a program that creates a web of text boxes emanating from a central circle.

Mr. D.: How many of you have used *Inspiration* previously?

Raymond: We used it to create a web of stuff for a story last year.

Nancy: Yeah! I also remember using it to organize our country stuff in social studies.

Mr. D.: Good. Who can tell the class how it works?

Fiona: You click on *Inspiration* from your dock and it opens up a page with a circle in the middle.

Mr. D.: Great! What do you think should go in that box?

Matt: The main thing that your going to study.

Mr. D.: Bingo! Your main idea is the Middle Ages. What do we know about the Middle Ages?

Doug: {calling out} Is that when there were castles and stuff like that.

Mr. D.: You got it! Has anyone seen any movies set in the Middle Ages?

Jared: I saw that funny movie about a black knight. There were castles and jousting. Jousting is when two guys come at each other with big sticks and try to knock each other off the horse.

Mr. D.: Good example. Now lets write as many things as you know on your web.

Nate: How do I make another circle?

Mr. D.: Can anyone help Nate?

Fiona: [raising her hand] I'll help him.

As I walked around, I noticed that Fiona had discovered how to turn her web into an outline. I knew from my training that you just had to click on the *outline* icon.

Mr. D.: Everyone, Lids down. [It took a minute to settle the class down and for them to close their laptop lids and pay attention] Fiona wants to tell you how to organize the information from your web. Fiona, you're the teacher. [She proudly walks to the front of the room]

Fiona: Listen up guys! If you click on the *outline* button on the left of the upper menu, your information comes up in a list. It's so cool. The stuff is organized in groups.

Mr. D.: Fiona, will you walk around and help those students who are struggling to figure it out.

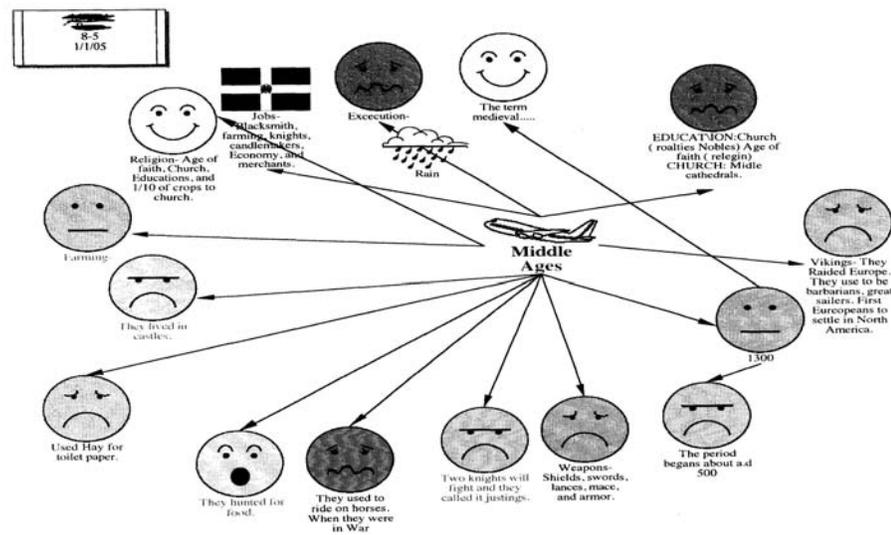
Fiona: Sure.

Fiona demonstrated the process to Ralph, Nate, and Nora. Nate then showed Tom and John.

[I had found another positive byproduct of the use of laptops. The students were teaching and helping each other. Here was a classic example of reciprocal teaching in action].

Some of the students used pictures to represent their facts.

Figure 1, Mario's Inspiration Web



Mario's web with pictures of faces attached to each fact.

## Mario's Inspiration Outline

### MIDDLE AGES

- I. *They used to ride on horses. When they were in war*
- II. *They hunted for food.*
- III. *Used hay for toilet paper.*
- IV. *They lived in castles.*
- V. *Two knights will fight and they called it justings.*
- VI. *Farming*
- VII. *Religion- Age of Faith, Church, Education 1/10 of crops to church.*
- VIII. *Jobs- Blacksmiths , farming, knights, candlemakers, and merchants.*
- IX. *Execution*
- X. *Weapons – Shields, swords, lances, mace, and armor.*
- XI. *1300*
  - a. *The term medieval...*
  - b. *The Period began in a.d. 500*
- XII. *Vikings – They raided Europe. They use to be barbarians, great Sailers. First Europeans to settle in North America.*
- XIII. *EDUCATION: Church (roalties Nobles) Age of Faith (relegin)*

Mario's Inspiration web becomes an outline with the click of a button.

The use of the laptop program *Inspiration* to create webs and other graphic organizers is an awesome tool for students. The ease of conversion from web to outline makes information easy to record and organize. [The use of the laptop program *Inspiration* had become a valuable organizational tool for the students].

### **Narrowing a Search**

I wanted my students to learn how to narrow a search on the internet. I directed them to use one of the search engines on the internet to find information on the supplies that Spanish explorers would need for a voyage across the Atlantic Ocean. I directed them to write down the word or words they used to search and the amount of sites it produced.

[I walked around and observed as the students searched Google, Yahoo, and Dogpile. The room was quiet and the students were on-task. I noted how many sites students came up with and their search terms in order to show the ways to narrow an internet search].

Mr. D.: George, What word did you type in and how many sites did you get?

George: I typed in *navigation*. I got over one billion sites.

Mr. Danatzko: Someone else come up with a smaller number than George?

Harriet: I typed in *voyages* and got 22,100,000.

Mr. Danatzko: Did anyone try narrowing down their topic?

Barbara: I typed in *voyages of the 1500's*. It went down to 229,000.

Mr. Danatzko: Can we narrow it further?

Jeremy: I typed in *1500's ship supplies* and got it down to 144,433.

Mr. Danatzko: Did anyone get it down under 100?

David: I typed in *Manifests of 1500's voyage*. I narrowed it down to 80 sites.

Mr. Danatzko: Great, David. Can you explain manifests to your classmates?

David: It is the contents of everything on the ship. The supplies and things like that.

Mr. Danatzko: As you can tell from your search efforts, it helps to narrow down the topic as much as possible. We went from over one billion sites using a general term like navigation down to only 80 by focusing on a specific topic like manifests of ships of the 1500's. [Alright, it worked. The district trainer was right. She told us in training that normally one or two of the students will be able to narrow their search on their own. The students had discovered the methods to narrow an internet search without me having to do it for them].

### **Webquests**

I had learned about using web-quests in my summer training. A webquest is a website that is usually created by a teacher in collaboration with their students. Most webquests have interactive links to internet sites that have information to solve a mystery or play an educational game.

I had found a webquest on the mystery surrounding the disappearance of the settlers of the Roanoke colony. The students worked in pairs. One student was the researcher who used their laptop to look up the information. The other student

was the recorder and used their laptop to record their clues. Each pair then defended their findings and solution to another group and vice versa.

The following is an excerpt from a group discussion of A track students on the solution to the mystery surrounding the disappearance of the Roanoke settlers:

George: *The letters CRO carved on a tree showed they went with the Croatoan Indians to their island.*

Martha: *Yeah! There were broken cups and tools on the ground too, The Croatians could have kidnapped them.*

Barbara: *Remember there were Spanish in Florida not that far from Roanoke Island, and there were no canoes left behind, maybe they left by boat to get away from the Spanish.*

George: That doesn't explain the broken stuff on the ground.

Martha: *I remember reading that there were Indians with blond hair on Croatoan Island, that supports the theory that the settlers might have gone there and mixed with the Croatoans.*

George: *Let's vote on it.*

The students had read various accounts of the Roanoke mystery clues on the internet using their laptops. The students used higher order thinking skills to solve a historical mystery. Once again the laptop was a valuable teaching tool used to enhance the normal social studies curriculum.

### **Laptop Writing Assignments**

The Columbus persuasive essay was one of the earliest laptop assignments that I tried with all of my classes. We had already discussed other early European explorers and were ready to tackle the impact of Christopher Columbus' voyages. I directed my students to my teacher webpage that had the posted directions.

We read the directions for the assignment together in all my classes. I gave students without a laptop the option to look on with another student or use the handouts and book. Unfortunately, they would have to write their essay by hand. This offered an opportunity to compare the essays of students who wrote by hand to laptop users.

There were only three participating students that wrote their Columbus persuasive essay by hand instead of on their laptop. There was little difference in content between the laptop and handwritten essays. One of the hand written essays was difficult to read as the student wrote in cursive that was hard to decipher. However, there were twelve students that were part of the study that revised their essay for a better grade. Two of the revised essays were by B track African American students. Each one raised their essay one letter grade. None of the handwritten students chose to revise their essay. I had very few students revise their persuasive Columbus essay in past years. They had hand written the report or typed it on a computer at home. The persuasive essay this year was done as a class assignment. The assignment took more class time, however the persuasive responses were better and there were revisions.

Most of the A track students used spell check before handing in their persuasive essay. Many of the students in the other tracks did not use spell check. This was contrary to their survey information. The majority of students claimed to use spell check on their survey but did not use it on the Columbus persuasive essay.

Delpit & Dowdy (2002) state:

Those of us who teach must first make our students recognize their potential brilliance. When we know the real history of Africa- the Egyptian wonders of technology and mathematics, ... then we can teach our children that if they don't feel brilliant, then it is only because they don't know whence they came. Their not achieving is not the way things should be, but a serious break in the history of the world (p.46).

The textbooks and curriculum of many history courses are a retelling of history from the viewpoint of rich "white men." Additionally many textbooks offer little or no mention of minority contributions to American history. In order for our African American and Latino students to meet their full potential they need to be informed of the incredible accomplishments and brilliant thinkers of their cultures. These students must be informed of their cultural heritage in order for them to find their place in history and be able to achieve their full potential.

As a teacher of social studies I have found that there are many opportunities to include African American, Latino, women's, and other so called

“minorities” history and stories into all of my classes. I do not limit my teaching of “minority” cultural history to Black or Women’s History Month. I include their history wherever the possibility arises within my curriculum.

One of my goals was to use technology to broaden student perspectives on the issue of slavery. The slave trade was a major economic system in colonial times. I showed my students a video on the history of slavery throughout the entire world. I wanted to be sure they did not only associate slavery with blacks. We discussed how the Greeks, Romans, Egyptians, and Chinese used slaves. We then went to a website that examined the splendor of the African culture at the time of early European exploration. The students had to list three accomplishments from that time period from the website.

Harvey was amazed at the fact that Africa had colleges and was a center of learning before European contact. Larry, an African American student, found pictures depicting the city of Timbuktu on the internet. I had him attach his laptop to my television set by using my fire wire. He showed the rest of the class the pictures of the city’s university and library. He also proudly told of how Timbuktu was a center of learning and culture. This set the stage for my next activity on the slave trade.

The desks are moved to the sides of the room. I direct the students to place their backpacks and laptops on the floor behind the desks. The din of student voices fills the room. I direct the students to the center of the

room. I read from the book called, *Lest We Forget* (Thomas, 1997) I walk among the students displaying a picture of a slave ship. The top of the ship opens to reveal a tightly packed layer of black slaves packed in the hull like sardines. The students suddenly erupt with gasps.

I direct the students to imitate the picture in the book. Many of the students oblige and sit on the floor. A few of the girls are complaining. I sit on the floor amongst my students. Suddenly they give in and sit down.

Mr .D.: As you sit on the floor crunched together back to back, I want you to imagine what it was like to be a slave on a ship from Africa to the America's. Close your eyes and imagine you are on that ship. [I begin reading an account of the *Middle Passage*, the so called black holocaust, in which millions of African people were shipped under unbearable conditions to the America's as slaves.]

Mario: (gasps in horror) There were rats in the ship.

Mr. D.: Yes. And the slaves had no bathroom facilities. (a collective YUCK! Is uttered by the class)

Mr. D.: If you got sick they threw you overboard so that you wouldn't get other slaves sick.

Harry: That's cold, Mr.

Mr. D.: Actually, the migration patterns of sharks changed as they followed behind the slave ships. They would eat the bodies.

Also if a woman gave birth, they would have the baby right amongst the other slaves in the bottom of the boat.

Katrina: Whoa! That's nasty.

Mr.D.: What do you think it would be like if you were captured as a slave?

As the students returned the desks to their proper places, I directed them to get out their laptops. The desks back in place, I directed them to my teacher website on the internet. I had my teacher web address posted on the board, however, most students had my site bookmarked. A few needed to be retold how to navigate to my site. I told them to click on the *history bell* icon, which had the directions and a rubric for the assignment. I also had printed copies of the rubric for the four students without laptops.

I called upon a few different students to read the directions. They had to decide on their age, family relationship, method of capture, and the details of their passage by boat to the colonies in the 18<sup>th</sup> century. They could write in the first or third person. I left it at that as I didn't want to limit their methods of writing their slave story.

As I walked around the classroom, the students asked specific questions as they began to write their stories. Harvey asked if he could write his story as a series of journal entries. I told him that was alright. Bob asked me how long the story had to be. I replied loud enough for the class to hear, "As long as it takes to tell your complete story. You must tell your background and the events of your

capture and passage to the colonies. That will most likely take at least four to five paragraphs.”

I duplicated this assignment with all of my classes. The details of the plight of the African slaves seemed to resonate with all of my classes. The student stories were amazing in their length, attention to detail, and emotional content. Anne wrote seven typed pages that could easily be the basis of a movie screenplay. Katrina, an African American girl, hand wrote an emotional four page story. Many students expressed their feelings in their stories. Here are some of their words from their fictional slave stories.

### **Pastiche: Slavery**

*I don't know where we're going. I miss my family.*

*They placed chains around our ankles and neck.*

*We walked in the hot sun for what seemed like years.*

*I think I am going crazy cramped into this hot room on the ship.*

*I wanted to cry, but knew there was no point to it.*

*We're stuck in this room lying in our own waste.*

*Many white people stared at us.*

*My name is Breanna, my friend Martha killed herself last night.*

*I am writing this for her in hopes somebody will find it someday and know how much pain my people went through during the slave trade.*

This lesson demonstrated that different styles of teaching could be combined to accomplish the ultimate goal of the lesson, student understanding. The students researched information from the internet on their laptop. I read them an account of the *Middle Passage* from a book. The students wrote incredible narrative accounts on their laptops. I felt that this was a successful lesson plan that used a variety of teaching tools including laptops. Technology was combined with traditional teaching to provide a comprehensive lesson plan.

The population of my school is over 40 percent Hispanic. As part of Hispanic Heritage Month I had my students research stories of famous Latino people from a kid-friendly internet site called *Yahooligans*. The site had a special section celebrating Hispanic Heritage Month. I linked the site to my teacher webpage. I had all of my classes go to the site to research famous Hispanic personalities. Each student had to write a brief biography of one of the Hispanic personalities.

I directed all of my classes to my teacher webpage with the link to the *Yahooligans* website. I handed out lined paper for them to write out their Hispanic biography. My C Track class with 16 Hispanic students was surprised at the number of famous Latino personalities. I had the students stand up and relate information on the Hispanic personality that they researched.

Charles, who plays baseball for our school, found information on Roberto Clemente. He had never heard of him and was surprised at his records as a major leaguer. Katrina could not believe that Dr. Ellen Ochoa, a Latina woman, had been an astronaut logging over 700 hours in space. [It was awesome to observe the Hispanic students telling the stories of the famous Latinos].

Once again, laptop technology provided a valuable teaching tool that provided opportunities to inject cultural accomplishments into my curriculum. My goal is for my students to take pride in their heritage with the hope that it will encourage them to realize that there are role models and great historical figures from all cultures.

### **Keynote Presentations**

I planned my first *Keynote* project with my students on Renaissance inventions. I found an internet site with six major inventions including the printing press, microscope, telescope, and the flush toilet. My goal was for my students to understand the roots of modern technology. The directions required the students to list the invention, the inventor, its impact on medieval society, and in what form it exists today. The final requirement was for them to speculate on a new invention. I found a general social studies rubric and modified it to the inventions project. The rubric listed the requirements and general grammar guidelines

such as complete sentences and proper punctuation. I also required them to copy the URL. [I had been reprimanded by my principal the previous year for not having the student's show where they had obtained pictures from the internet].

I spent about an hour and a half on looking up the sites for the project. It took about thirty minutes to post the information to my website with the rubric. I had become more familiar with editing my teacher webpage.

Vygotsky ( 1978) states, "there is ...the zone of proximal development" (p.86). This means a student can function at a maturity level that goes beyond their chronological age with the support of adults or more capable peers. Many of my students are capable of using complex technology programs regardless of their tracked ability level. The students have learned to use complex computer programs such as *Keynote*, *Garageband*, and *Pages* from their teachers or their more capable peers.

I assigned the inventions project to all of my classes. The students worked in pairs. Each student was required to look up the information on three of the six inventions. They were then to combine their information into a *Keynote* presentation.

I was not alone as I walked around monitoring my students' progress in the various classes. David was showing Margie how to capture a picture of an

early telescope and put it into a Keynote slide. Austin had found a site on Google that provided extensive information on the first printing press. He then dictated the information to Neil to include on one of their *Keynote* slides. John was showing Samantha how to use *Garageband* to edit music into their presentation. He combined piano and string instruments to create an original classical music background for the presentation. The students were not only helping their partners but were offering advice to other individuals who needed assistance.

The students also had to give examples of how the inventions had improved from the time of the Renaissance till the present. Barbara and Carson in the A track noted that the printer and fax machine were improvements on the printing press. Anne and Tim had a picture of a modern toilet with gold handles to demonstrate the improvements from the original water closet. Gunpowder was also one of the inventions. Charles in the C track talked about how it was improved for guns to kill people better.

The culmination of the project required the students to try to think of a new invention that might appear in their lifetime. Nancy and Naomi came up with the idea of a closet that automatically coordinated your clothes. The woman's shoes would change colors to match their outfits. [That would save women a lot of money in shoe costs]. Raymond and Nate came up with the idea of a floating hover car. Nate, who is always doodling, drew a free hand picture of the car.

David and Jeremy came up with the idea of a reclining lounge chair with wrap around speakers. They presented it as a radio commercial. They recorded the sound on their laptop computer.

David: [sounding like Ron Popeil, the famous inventor on the infomercials] Are you lazy? Do you like to lounge around and listen to music in a comfy chair, but hate to have to put on earphones to your *iPod*? If so, I have the perfect chair for you, The Laz –O- Lounger. The Laz –O- Lounger has built in speakers that wrap around your ears. No more messy wires, no more searching for your *iPod*. It's built into the side of your chair. And that's not all! You can also download tunes right from your own chair. The Laz –O- Lounger has wireless internet access. How much would you be willing to pay to lounge in the comfort of your living room and download tunes?

Jeremy: David, I would be willing to pay like a thousand dollars.

David: Ladies and gentlemen, I will sell you the Laz –O- Lounger for not \$1000. Not even \$900, but for four easy payments of \$179. That's right just four easy payments of \$179 and as a bonus if you call (999-777-0000) right now I'll include five free iTunes songs. That's right you will get the Laz –O- Lounger with the built in *iPod* and internet access and the five free songs all for four easy payments of \$179.

[David's voice trailing off as in the car commercials] Shipping and handling are not included and may run as high as \$200. The Lazy corporation is not

responsible for providing wireless service, or guaranteeing the speed of your connection...

David and Jeremy used the microphone feature of their laptop to present a new invention. Their idea actually is very viable. The technology to create the Laz-O-Lounger already exists. They presented a funny and intelligent presentation of a new invention using audio laptop technology that demonstrated creativity and imagination.

Mario in the B track had a unique idea. He had time to complete the information and added an instrumental rap rhythm background track that he made on *Garageband*. [I was tapping my feet as he presented his project]. Johann Gutenberg invented the printing press, (boom cha-boom cha) Katrina called out, "This is cool. We can listen to rap and learn. [She usually just laughs and disrupts the class. The rap background got her attention].

I asked three questions of the class after the presentation. Almost every hand went up and I had no trouble soliciting the right answers. [Mario had found a great way to present information and the students paid attention].

There were students that presented incredible presentations that not only had accurate and knowledgeable information but a variety of technological programs and music which made the presentations more interesting. Some of the students had taken my guidance and collaborated with more knowledgeable peers to create presentations that exceeded their developmental capabilities. This

demonstrated that children can solve problems that are beyond their developmental level with the help and guidance of teachers and more capable peers.

There were time issues and other concerns with the overall project. Many of the students across all of the classes focused on the transitions for their slides. They were more worried about how it looked than on the content on the slides. There were also issues on the size of the print and background colors of the slides. The students presented their presentations by attaching their laptop to my television set. At first I just had them present to their classmates. I realized that the students watching had no accountability. I eventually had them take notes and asked questions upon the completion of each presentation. The project took three days in the A and B tracks and five days in the B inclusion and C track. All of the classes took two full days for all of the projects to be presented. [I was reminded of my summer training. The district specialist warned me of the time factor. The projects can take a lot of time to complete].

I tried to have the students focus more on the information for their second *Keynote* project. I posted a list of European explorers with directions and links to internet sites on my teacher website. I explained to all of my classes that information was the most important part of their presentation.

I listed the specific facts that were required for the project. I had them complete a story board of their presentation before they could make any slides.

They had to list the country of origin of the explorer, a map of their route, area explored and three important details about their exploration. They also had to list the URL web address for any information or pictures.

The students in the A track had little problem with the assignment. A few of the B track inclusion students and the C track students had trouble sticking to just the information. Danny, one of my learning support students, had to have the inclusion teacher work with him to create an outline storyboard. Each day he seemed more frustrated and just wanted to make slides. He eventually finished the project.

I used warm-ups that required the students to list their previous days work to help keep them on-task. We brainstormed their progress as a class and then had them continue on their individual project.

Most of the projects in all classes were more focused on the key information. Peter in the C track had six slides on John Cabot with relevant information and a hand drawn map. [He often doodles in class. He demonstrated his artistic talent as well as providing relevant information]. All of my students now mimic me when I assign a new Keynote or other research project. “Focus on the information. Information is the key.” [I think they got the message that the bells and whistles are extras].

Figure 2, Renaissance Inventions from Keynote projects.

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### Invention #1: Clock



<http://www.bvngroves.dia.ic96.k12.fl.us/Renaissance/University/Inventions/Clocks.html>

- First portable clock developed in Florence, Italy in 1410.
- The inventor is Filippo Brunelleschi a famous architect.
- Before this clocks were larger and you couldn't carry them around.

### Invention#1: Clock

- The Clock was one of the inventions invented in the Middle Ages/ Renaissance. It changed society now in days because we can tell time. And because of the clocks we were able to make digital clocks, watches, computer clocks etc. We now have a more technological way of telling time due to the research and inventions of an earlier clock in the Middle Ages/ Renaissance.

### Invention#2:Printing Press

- Invented in 1436 by a 39 year old German man named Johann Gutenberg.
- Before this people (monks) had to copy everything by hand.

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Figure 3, Renaissance Inventions from Keynote Projects

**Invention#2: Printing Press**

- This invention changed our society. Now we don't have to copy everything by hand. Now in days we have printer, scanners, etc. we have gotten more advanced with the way we copy things.

**Invention #5: Microscope**

- Invented by Zacharias Jannses and his father in Holland.
- Was a compound microscope with 2 lenses.
- used for viewing things too tiny for the naked eye.
- It greatly enlarged objects.



<http://www.taniproses.digic05.k12.il.us/renaissance/Inventions/Microscope.html>

**Invention #5: Microscope**

- It changed society because scientist can look at things that were too small to see, like human blood cells. They were able to look at different things that were never seen.

Slides from a C track ESOL student of Renaissance Inventions.

Figure 4, European Explorers Keynote slides

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### -Time Line-

1491- Jacques Cartier was born at St. Malo, France		1520- Cartier married Catherine Des Granches	
1535- He started on his second voyage		1541- Jacques went on his third voyage	
		1557- Dies near St. Malo, France	

### -His First Voyage-



- On his first one in 1534, he explored the Gulf of St. Lawrence. He was the first European to map, travel and make an attempt to live in the St. Lawrence river area. Cartier claimed the Gaspé Peninsula. He also took two Indians back with him to France so he could teach them French. Jacques also traded with the First Nations people.

### His Second Voyage-

- This voyage lasted from 1535 to 1536. He used the two Indians to help him navigate up the Lawrence river to a place called Stadacona (present-day Quebec). He kept going without the Indians until he reached Hochelaga (present-day Montreal). He then arrived back at St. Malo, France in July, 1536.

Keynote slides from a B track student on Jacques Cartier.

Figure 5 , European Explorers Keynote slides

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## -Believe This!-

- It is said that Jacques Cartier sailed the St. Lawrence river three times to keep records of the river for each voyage. These records were among the first detailed documentation of European exploration for North America.
- Not only that, but on his voyages he misunderstood a foreign word for the town or village and thought it meant 'whole land'.

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## Some of his Journal Entries

•December 21, 1585

•We have stopped going down the St. Lawrence River now. This is very disappointing. It seems like just a few days ago everyone was very excited as we started going down the river. Our captain, Jacques Cartier learned about this river from the Hurons that he captured on his first voyage, but he has seen wild rapids a little further down the river and this is why we must stop. We thought that we had found the Northwest Passage to Asia, which no explorer before us had been able to find, but now it looks like we have not.

## -Bibliography-

- <http://www.collectionscanada.ca/explorers/kids/h3-1324-e.html>
- <http://www.plpsd.mb.ca/amhs/history/cartier.html>
- <http://www.wu-wien.ac.at/manuals/hahsler/icons/ARROWS/BWARRW2L.GIF>

Keynote slides from a B track student on Jacques Cartier.

The examples from the student projects showed that all tracks had found unique ways to present information on their explorer. The lower track student used pictures and basic information to explain their inventions. One of the students in the B track used arrows to show a time line of events for Jacques give details from his Cartier. She also used primary documents of Cartier's journals to provide further information on his voyages. [I had encouraged students to search the internet for primary sources. I was also happy that she cited all her references so that I could direct other students to appropriate websites for information].

### **Time Issues**

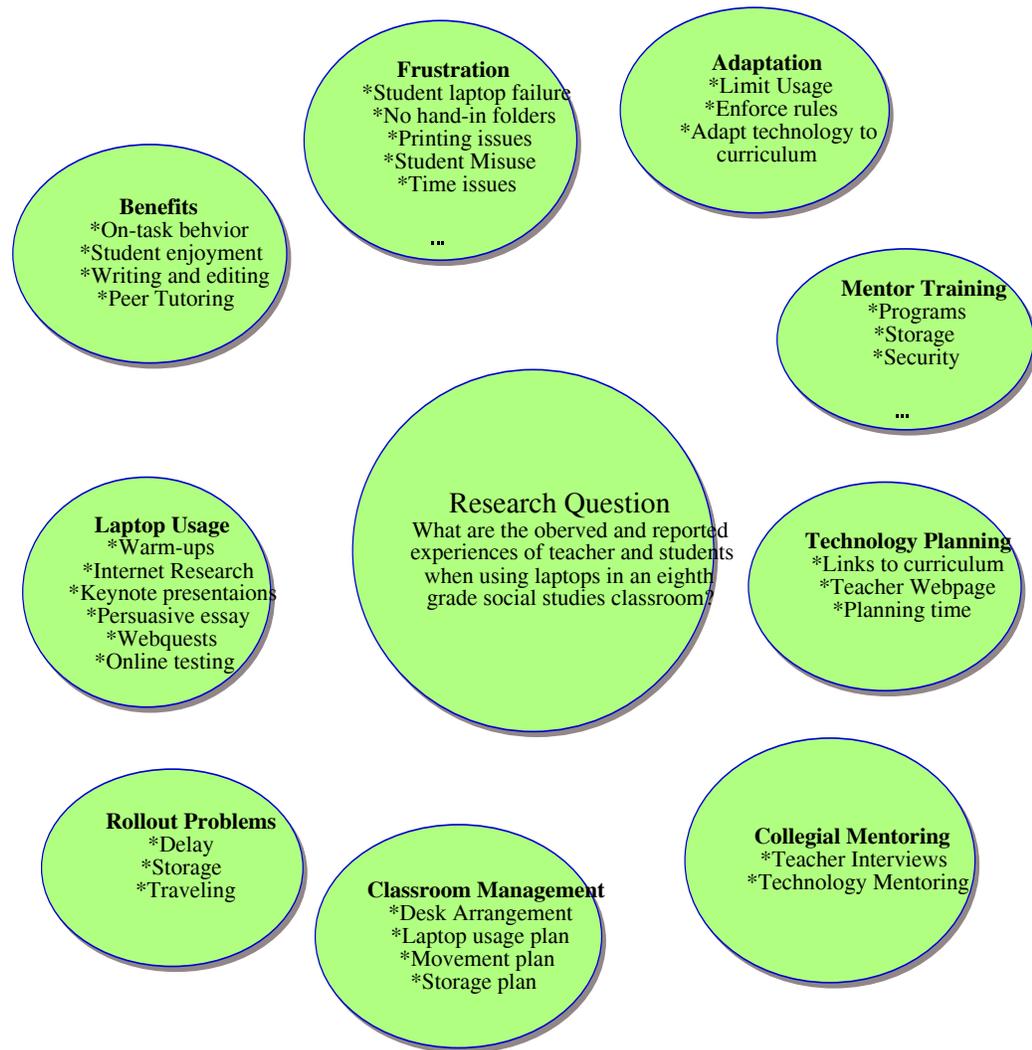
I found myself getting further and further behind in my curriculum. I broached the subject at a team meeting with my fellow academic teachers. They expressed the same concerns. As we delved into the possible reasons, we realized how much time is taken away from specific curriculum each year. There is the loss of teaching time to the eighth grade Pennsylvania State Assessment tests (PSSA). The tests require three periods a day for six days in March. Language Arts and Mathematics teachers also had Four-Sight tests added this year which took up two periods for each test.

As for laptops, we were amazed at the realization of how much time was lost each day to student laptop travel and storage. The students leave their class five minutes before lunch to take their computers to their next academic class. There is a bell five minutes before the end of the school day that summons the

students back to homeroom to store and charge their laptop. A total of ten minutes each day is devoted to laptop movement. Ten minutes times five days a week equals the loss of one 50 minute class period per week. I realized that computer movement was part of the reason for lagging behind the pace of previous years.

I realized that the loss of time to computer movement may alter the amount and breadth of curriculum that I would be able to cover over the course of the year. My last unit of the year is on the drafting of the United States Constitution. The unit offers many opportunities to relate the Constitution to present day events. I decided that due to the loss of time it would be necessary to scale back other projects in order to insure that I have time to spend on the Constitution unit.

The realization that I was losing valuable teaching time was affecting curriculum planning for the entire school year. [I reflected back to my summer training concerning the planning of laptop lessons. I had to be sure that using laptop technology was the best and most time efficient way to present a specific lesson].



### THEME STATEMENTS

1. Mentor Training supplied helpful hints on storage, security, and laptop programs.
2. Technology planning emphasized the importance of using laptops as a tool to promote student learning. The creation of a teacher webpage provided an outlet to post student assignments. The amount of time allotted for planning technology lessons.
3. Collegial Mentoring of my fellow eighth grade teachers helped them to implement laptop technology. Teacher interviews provided information on prior student laptop usage.
4. Classroom Management strategies included desk placement, usage plans, and the movement and storage of laptops.
5. Rollout Problems included delay in implementation, storage problems, and student travel with laptops.
6. Laptop usage included writing of warm-ups, internet research, Keynote presentations, webquests, and online testing.
7. Benefits included student on-task behavior, student engagement and enjoyment, peer tutoring, and editing of student writing.
8. Frustration due to laptop technical problems. Frustration over printing problems and the lack of a retrieval system for student work on the server. Time concerns effecting the amount and breadth of curriculum.
9. Adaptation of technology to enhance curriculum,. Adapting and enforcing laptop rules.

## **FINDINGS**

The overwhelming theme of my study is that a laptop computer is a valuable tool in the hands of every eighth grade student in a social studies class. The key word is tool. A laptop like many other teaching tools is only useful when used properly. Therefore, teacher training and planning on laptop usage is essential in turning the laptop tool into a valuable learning device.

There were many complex issues surrounding the implementation of laptop computer technology into my eighth grade social studies classroom. I had many factors to consider before I ever had a student enter my classroom with a laptop computer. The issues included the amount and quality of my teacher training, planning time, student movement and storage, and the myriad of potential problems.

My summer mentor training provided important basic techniques for setting up a technology driven classroom. The district technology specialist emphasized the basics of classroom management. I followed her advice and set up my room with an aisle in the middle and the desks in rows of two. I informed my students right from the first day that when using laptops they would face the front corners of the room. This allowed me to walk down the center aisle and see all of their computer screens. This was a successful strategy when students were using laptops. However, it did not allow me to see all of their screens when giving directions in the front of the class. I adjusted as the year progressed and would

give all the directions for the assignment before they opened their laptops. This was not always possible. I am still in the process of coming up with a way to see their computer screens while giving directions that are on a website. That seems to be the time that the students will try to go on game or other inappropriate sites.

There were many complex logistical issues that I addressed before the laptop rollout. The first issue was where and how to store the laptops for my 22 students. I decided on a counter in the back of my room that had one outlet in the wall on each end of the counter. This enabled me to have enough outlets to plug in the three outlet strips with eight outlets on each strip. My class size later increased to 26. I had to get extra power chords in order to charge the extra laptops.

Security was the next concern. There had been laptops stolen in the district in previous years. The district supplied me with two milk crates with hinges that attached to a latch that could be locked. They supplied two padlocks to lock the crates. The milk crates also solved the charging issue. The crates were open on one end, which allowed easy access for the charging chords to attach to the locked up laptops.

I followed the advice of the district specialist when planning laptop lessons. She emphasized the fact that your curriculum should drive your lesson planning. Technology should enhance your curriculum not replace it. To this end I followed the advice of Dewey (1938), “Overemphasis upon activity as an end,

instead of upon *intelligent* activity, leads to identification of freedom with immediate execution of impulses and desires” (p.62).

I did not create any laptop activities that were simply used as time fillers or had no educational purpose. I realized through observations of my eighth grade students that when given a certain amount of freedom, most will act upon impulses and desires which have no educational purpose behind them. Without accountability, many students went to game sites and were often off-task, a discipline problem, or simply socializing.

I designed *intelligent* laptop activities with a purpose in mind that took into account the consequences of its execution. I followed the advice of the district technology specialist and considered the circumstances under which the laptop lesson took place.

The creation of my teacher webpage was a major step in the implementation of laptop technology into my social studies classroom. I was able to create a place on the internet that I could easily update and my students could easily access. The calendar function allowed me to post upcoming important due dates and information. The website had places to post assignments with directions, a box to place links to internet sites, and the ability to link pictures from the internet or their own iPhoto library.

I initially had some difficulty setting up my teacher webpage. I had trouble following some of the directions of the trainer and solicited the help of other

teachers in the class. I discovered that like my own students, my peers were sometimes my best teacher. I realized that peer tutoring could be a by-product of laptop technology. I later discovered that the same was true of my eighth grade students. They were willing to help each other and also their teacher.

I acquired a wealth of information on student and teacher laptop usage through teacher interviews. I interviewed two teachers that had my students in sixth and seventh grade. One of the teachers was a seventh grade social studies teacher. Both of the teachers emphasized that the students enjoyed using laptops. The students found them fun and never boring. The ways that they used the laptops were for writing assignments, internet research, and a variety of projects including *Keynote* presentations.

I had my students in the study fill out a pre-study survey on their previous laptop usage and overall feelings about laptop usage. The student data from the surveys triangulated the data from the teacher interviews. The responses were similar for the 23 A track and 16 B inclusions students. There were only five students from the B and C track respectively. Their responses were very similar. All of the students in the study had an opportunity to reflect on their laptop experiences in my classroom either through an interview or a post-study survey. I completed a table of their responses.

**TABLE 1, Student Pre-Study Surveys – B Inclusion**

Student Surveys	ALWAYS	SOMETIMES	NEVER
before laptops			
B Inclusion class (16 students)			
Helpful for learning	82%	18%	0%
Using Laptop is fun	75%	25%	0%
Using Laptop is boring	0%	43%	57%
Look forward to using Laptop	93%	7%	0%
Laptop is waste of time	0%	4%	96%
Using Laptop is hard	0%	29%	71%
Look up information online	68%	29%	4%
Read stories on laptop	11%	71%	18%
Use laptop to write	61%	39%	0%
Use spell check	100%	0%	0%
Helps me to write	68%	32%	0%

Table of 16 B track inclusion student responses to the pre-study survey.

*Table 2, Student Pre-Study Surveys - C Track*

Student Surveys	ALWAYS	SOMETIMES	NEVER
before laptops			
C Track class (5 students)			
Helpful for learning	60%	40%	0%
Using Laptop is fun	60%	40%	0%
Using Laptop is boring	0%	20%	80%
Look forward to using Laptop	80%	20%	0%
Laptop is waste of time	0%	0%	100%
Using Laptop is hard	0%	80%	20%
Look up information online	60%	40%	0%
Read stories on laptop	0%	100%	0%
Use laptop to write	40%	60%	0%
Use spell check	60%	40%	0%
Helps me to write	60%	40%	0%

Table of 5 C track student responses to the pre-study survey.

The data suggests that the majority of students find using laptops to be fun, useful for learning, and look forward to using laptops. I based my findings on the fact that there were no *Never* responses on any of the student surveys. [The data I collected from participant observations and teacher interviews triangulates

the survey data. Students enjoy and look forward to using laptops]. There were mixed responses to the questions on laptop writing. There was no clear consensus on whether laptops helped with writing. All of the A and B inclusion and 60% of B and C students claimed to use spell check. [My data did not collaborate the use of spell check. The majority of A track students used spell check, however its use was sporadic in other classes. I did not keep specific records on spell check usage for every participant in the study].

I used my teacher webpage to post my Columbus persuasive essay during my summer training sessions. The Columbus assignment took about three hours to complete in one of the training sessions. I had used traditional textbook and printed materials in previous years. I adapted the persuasive essay to a web-based assignment. The students researched the information on their laptops.

I had the students complete their Columbus persuasive essay out of class last year. This year the Columbus persuasive essay was an in-class writing assignment. This contributed to more students turning in the assignment on time than in the previous year. There were also more students that revised their essay than in previous years. Two of the three African American students in the study revised their essay and raised their score one full letter grade.

There was little difference in content or length between the laptop typed reports and the hand written essays. The main difference was readability. It is much easier for me to read a typed report rather than a hand written one. As for

format, many of the B and C track students used larger text and didn't double space. Many also did not use spell check. This was contrary to their responses on the pre-study surveys. There were over 80 percent of students in all classes that claimed to use spell check. [This was another method of triangulation that suggested students were not completely honest in their pre-study survey on the question of spell check usage].

I used laptop computers in a variety of ways to help my students organize information. I had them type their warm-ups and class notes on their laptops. This enabled the students to organize information on a laptop as opposed to storing it in a cluttered backpack or an over-stuffed binder. They could refer to their laptop warm-ups and notes as a reference when reviewing for tests and quizzes.

I wanted to have my students print their warm-ups and notes when needed to study or review. There were a multitude of printing problems in the first six weeks of the laptop rollout. I had to change my printing address three separate times. Each time the students also had to re-install my and every other teacher's printer.

The down side of using laptops for their warm-ups and notes was that they could not take them home to use the information. My A track students were affected the most by not having access to their notes for review. Seven of the students that were using their laptops for notes in the A track study dropped one

letter grade lower than their previous district test. Two of them now write their warm-ups on paper. The others have asked to print out their notes and warm-ups.

I had the students create a web using the Apple computer program called *Inspiration*. This was a very effective way of having students organize information. The information is easily turned into an outline with the click of the outline icon. I had my students use *Inspiration* to brainstorm their knowledge of the Middle Ages. The students listed as many facts as they knew and then researched the time period on the internet to acquire more information.

There were a variety of ways that the students presented information on their webs. Some of the student's linked pictures of the information such as horses, knights, castles, and weapons from the time period with their definitions. This was an effective way for visual learners to remember facts. The students turned their web into an outline with the click of an icon.

I had the students complete two major *Keynote* projects during the study. The first project was on Renaissance inventions and their effects on modern society. I had previously created the same assignment from downloaded sheets from the internet. I attached the same link to my teacher webpage with the directions and rubric. The students could now directly access the information from the original website and adapt it into their *Keynote* slides.

I had not specifically required any pre-planning before they started to create their slides. I quickly realized that was a mistake. Many of the students in

all tracks initially focused on creating their slides with transitions before acquiring the important information. I tried to correct the situation by having the student's focus on the important information. My next daily warm-up asked the students to list the facts that they had accumulated on the Renaissance inventions. This helped refocus many of the students.

The project took three days for the A and B track and five days to complete in the C track. Their oral presentations took another two days. I had them present using a fire-wire attached their laptop. The fire-wire enabled their laptop screen to be shown on the television. There were problems with the colors of the background showing up on the screen and the size of the print. Many of the students had used white lettering, which did not show up well on the screen. Many students also had not used a large enough font size. I adjusted for the next *Keynote* presentation by requiring white background with black lettering and at least 20 point font in order to be able to view their presentations.

The students in all tracks initially were not recording any information from their classmate's projects. I realized and began to ask questions after each presentation and required the students to list three major facts from each presentation.

The European explorers *Keynote* presentation was my second major project with all of my classes. I used my teacher webpage to post the directions,

links, and rubric for the project. I built upon the data I had logged from the earlier Renaissance inventions project. I specifically had them focus on gathering important information before they created any presentation slides or added any transitions or music. The students had to show me a web or outline before they could start their slides. I used daily warm-ups to check their progress. I solicited any problems and discussed their progress with each of my classes every day. I then had them work on their presentations. The presentations in all classes were more focused on pertinent information.

The issue of laptop movement was a major stumbling block to the implementation of laptop computers into every classroom including related arts classes. The eighth grade schedule was the problem. The students had their lunch sandwiched between an academic class and a related arts class. The students had to travel from their third floor classroom to the first floor cafeteria.

The students were not allowed to take their laptop computers to related arts because of this issue. The administration requested suggestions from teachers at a faculty meeting. My team of teachers was asked to come up with a solution at one of our team meetings. I suggested a place to lock them up near the cafeteria. This was rejected due to a lack of space and supervision of a site. A voluntary special meeting was called for after school hours between teachers and administration to solve the movement problem. I attended and listened to the related arts teachers concerns about being left out of laptop usage. They wanted to

be able to use music and art programs with the student laptops. I agreed that they should have the same opportunity to use laptops as academic teachers.

The assistant principal eventually proposed a solution which involved switching the lunch time of the sixth and eighth grade students. This allowed for the continuous movement of laptops to all classes. There were numerous work hours spent by teachers and administrators on trying to solve the problem of laptop movement.

Dewey (1938) states:

The educator is responsible for a knowledge of individuals and for a knowledge of subject-matter that will enable activities to be selected which lend themselves to social organization, an organization in which all individuals have an opportunity to contribute something, and in which the activities in which all participate are the chief carrier of control. (p.56)

The District technology specialist emphasized the importance of focusing on your curriculum when using technology in the classroom. The curriculum should drive the lesson, not the technology.

I discovered through trial and error that not every lesson benefits from the use of laptop technology. Technology worked best when combined with other methods of instruction as in the use of mixed media. The Lesson on the slave trade reinforced that concept. I had combined internet research, video, print

media, and a story telling setting to convey the information. The students composed their narrative account on their laptops.

My experiences with students using laptops triangulated the information from the teacher interviews and student pre-study surveys. The students enjoyed using their laptops and were usually on-task during laptop usage. There were many instances of student to student, teacher to student, and student to teacher tutoring. The students were also willing to try to help each other with technical problems as well as with acquiring information. I have noticed a dramatic increase in on-task behavior as well as a drop in classroom management problems. I have found that students without laptops are completing the same work as laptop students. Student completion rates for warm-ups and class-work have positively increased. Laptops seem to have helped many students organizationally as they no longer have to search their backpacks for notes and warm-up sheets. I have compared student warm-ups and found that some students are writing the question as well as the answer. Answers for some students are longer and better organized.

The students have used *Inspiration* to create webs that also have helped them organize information. Some of the students have added appropriate pictures to their webs which supply visuals to the information. This has been beneficial to visual learners. The adaptation of the web to an outline is a tremendous organizational tool. [I remember the dinosaur days before laptops when I was a

student trying to outline information. I never did get when to use numbers and letters. Now the laptop organizes the information in categories for them].

**Table 3, Student Demographics**

Student access to technology at home			
Demographics	Yes	No	% Yes
Section 8-7 A 23 students			
Do you have a computer at home?	20	3	87%
Do you have a printer at home?	19	4	83%
Do you have internet access?	19	4	83%
Free or Reduced Lunch	10	13	43%
Student Surveys before laptops			
Demographics	Yes	No	
Section 8-8 C & ESOL 5 students			
Do you have a computer at home?	3	2	67%
Do you have a printer at home?	3	2	67%
Do you have internet access?	3	2	67%
Free or Reduced Lunch	5	0	100%
Student Surveys before laptops			
Demographics	Yes	No	
Section 8-6 B (Inclusion) students15			
Do you have a computer at home?	14	1	94%
Do you have a printer at home?	12	3	80%
Do you have internet access?	13	2	87%
Free or Reduced Lunch	11	4	73%

The A and B inclusion classes had over 80% of students with computer and internet access at home compared to only 67% for C track students. All of the students in the C track received free or reduced lunch as opposed to only 43% in the A track and 73% in the B inclusion class.

There was very little difference in student ability to use laptop programs across all sections. Janice, an ESOL student in the C track, struggled with certain programs. I sat her next to another ESOL student who would help her as needed with technology lessons.

I followed a similar pattern with Ralph and Doug in the B inclusion class. They were seated next to students who were willing and able to be of assistance with technology lessons. Peer tutoring was proving to be an effective by-product of laptop usage.

The implementation of laptop computers into my eighth grade social studies classroom provided me with a myriad of opportunities to enhance my curriculum. I created a variety of laptop activities that could complement my regular curriculum. My students had access to a wealth of information at their fingertips. The students researched primary documents, completed webquests, and for a variety of writing projects. The students used their laptops for everything from simple word processing to *Keynote* presentations using complex programs such as *iPhoto* and *Garageband*.

Vygotsky (1978) states:

Formerly, it was believed that by using tests, we determine the mental development level which education should reckon and whose limits it should not exceed. This procedure oriented learning toward yesterday's developments, toward developmental stages already completed. The error of this view was discovered earlier in practice than in theory. (p.89)

The American education system has used a variety of tests to determine the stage of mental development of its students. Based on these tests they placed students in classes and programs that they believe are appropriate for their developmental level. However, they did not take into account the fact that learning oriented towards already reached developmental levels is ineffective from the standpoint of the student's overall development.

My middle school tracks students according to test scores. Students are placed in learning support classes, special education classes and levels of ESOL classes primarily based on their test scores. Student placement usually does not take into account other developmental factors and the possibilities of collaborative learning. Test scores are the primary indicator of placement.

As a teacher I try to push all my students to become abstract thinkers despite their level of mental development. I encourage all of my students to problem solve by asking them to come up with alternative solutions to historical problems. I have discovered that with the aid of their fellow classmates many learning support and ESOL students can solve problems usually associated with later stages of mental development.

Ironically, in today's technologically driven society many students are more technologically adept than adults. Unfortunately, students are not tested using technology. Standardized tests require students to answer using pencil and paper when in my classes they are using laptops to write and edit their writing.

I wondered whether laptop usage would affect high stakes standardized tests. I monitor the eighth grade Pennsylvania State Standards Assessment (PSSA) tests each year in my classroom. The PSSA test is a major assessment of students reading and mathematics skills.

My reading specialist teacher and I also prepared a lesson on methods to answer multiple choice questions. We team taught the lesson. She explained how to eliminate obvious wrong answers which helps to limit the possible answers. I provided a practice test which we worked on as a class.

The district requests that all teachers prepare their students to take the PSSA tests. I had the students create organizational webs using the *Inspiration* program on their laptops throughout the school year. Many of the webs organized information from reading sources such as primary documents, textbooks, and the internet. The webs were turned into outlines, which easily provide main ideas for their writing.

The state directs that all students receive scratch paper to work out problems or organize their thoughts during PSSA testing. I was amazed at the number of students that were drawing webs to organize their writing assessment. I observed more students using some kind of graphic organizer for writing than any previous year. I believe that the use of webs throughout the school year may help to improve writing test scores across all levels. I cannot, however, verify how this year's test scores will compare with other year's as the district does not receive the results of the PSSA tests until early summer.

I interviewed the ten B and C students in the study to record their reaction to their laptop usage. All of the students responded that they enjoyed using their laptop and used it more often in social studies than any other classroom. Seven of the students mentioned the use of the laptop for notes and warm-ups helped to keep them organized because they didn't have as much stuff in their binders. Four of the ten students had problems with their laptop that required it to be out for repairs during the study. Two of the ESOL students mentioned that the dictionary

on the program *Dashboard* helps them define vocabulary words. All of the students responded positively to liking to do projects on their laptop.

I had the A and B inclusion students fill out post study surveys. I chose to use a survey because it would be difficult to interview 39 students who had filled out permission slips in the two classes. The surveys triangulated and summarized our mutual experiences using laptop computers. Below are the results from the surveys.

**TABLE 4, Post Survey - Combined A& B Inclusion Tracks**

	<b>Yes</b>	<b>No</b>
1. I use my laptop for Warm-ups.	33	6
2. I used my laptop for notes.	30	9
3. I researched on the Internet in class.	39	0
4. I typed assignments on my laptop.	39	0
5. I used Keynote in class.	39	0
6. I completed an <i>Inspiration</i> Web.	39	0
7. I added music to Keynote.	20	19
8. I had a problem with my laptop.	15	24
9. I used Spell Check to edit.	24	15
10. I went to my teacher's webpage.	39	<b>0</b>

*The following are responses from the student post-study surveys:*

*☺ They are extremely beneficial. We really get a lot of use out of them everyday.*

*☺ It is a really fun experience working on them and helps the learning process.*

*☺ The laptops give us a broader range of information to use during projects and it makes it easier to store all of our work on our laptop rather than heavy binders.*

*☺ I don't like to use it for notes. It's sometimes too hard to keep up. It's also a hassle to print sometimes.*

*☺ My handwriting is sloppy and typing helps me.*

*☺ The only bad thing is when we are working on something on our laptops in class and we have to do it for homework, we have to start over.*

*☺ The problems with laptops are happening more this year than ever before though.*

*☺ I think this the class we mostly use our laptops in. I enjoy using my laptop in this class.*

The student post-survey responses echoed my findings on the use of laptops in my eighth grade social studies classroom. The students enjoyed using laptops, found them helpful for organizing, used a variety of programs, and also were frustrated by the problems with printing and laptop failure.

## **WHERE DO WE GO FROM HERE?**

I have just begun to scratch the surface as far as using laptop computers in my classroom. There is a learning curve to using any new teaching tool. Laptops are no exception. I realized as the year progressed that in order to properly utilize computer technology I must plan on the specific times and methods of using laptops.

I started out having the students use their laptops for warm-ups and classroom notes. In the future, I must ensure that there is a retrieval system in place before they rely on their laptop for information storage. The printing problems and delay in access to the server prevented them from having the information to review for tests and quizzes.

The days of a teacher being the “sage on the stage” are as passé as eight track tapes. My students are growing up in a highly technological society. Most of my students have good computing skills. I want to try to take better advantage of that fact by designing laptop lessons that will enable them to use their skills.

I plan on designing and posting a *webquest* on the internet with my students. The students would research the information, attach the links, and with my help create an assessment rubric. This will require the students to employ a variety of technological skills in addition to the historical information that they will have to research.

*Pages* is a new program on Apple computers that has a variety of easy to navigate templates to format brochures, magazine articles, newsletters, and newspapers. I want to use the program to have the students create historical newspapers and travel brochures.

I know that technology projects can be time consuming. I plan on ensuring that any major *Keynote* projects are well designed and enhance my curriculum. My goal is to spend the rest of this school year and some time over the summer to plan ways to incorporate more technology into my lesson plans.

...a revolution is achieved with neither verbalism nor activism, but rather with praxis, that is, with *reflection* and *action* directed at the structures to be transformed. The revolutionary effort to transform these structures radically cannot designate its leaders as its *thinkers* and the oppressed as mere *doers*. (Freire, p. 125-26)

As I have completed my initial research of the implementation of laptop computers into my classroom, I am reminded of the importance of honest reflection. As laptops have permeated the educational landscape I must honestly assess their impact on all phases of the educational process. I have documented the entire process including the training sessions, preparation, and implementation into my classroom. I plan on not only publishing my results through my college, but also on hopefully presenting the information to my district in some form. I

believe the data that I have accumulated and analyzed can be useful to help other teachers and administrators in their implementation of laptop initiatives.

## REFERENCES

- Ahn, June (April, 2004). Electric portfolios: Blending technology, accountability and assessment. *The Journal*, 31(9), 12-18.
- Arhar, J. M., Holly, M. L., & Kasten, W. C. (2001). *Action research for teachers: Follow the yellow brick road*. Upper Saddle, NJ: Prentice Hall.
- Branigan, C. (2005). Video goes to school, Part 1, Retrieved August 3, 2005, posted to eschoolnews, archived at <http://eschoolnews.com/news/PFshowstory.cfm?ArticleID=5597>.
- Chabrow, E. (2005). Nonprofit introducing \$100 laptop for children. Retrieved October 1, 2005, from Yahoo News database. Website: [http://news.yahoo.com/new?tmpl=story&u=/cmp/20050929/tc\\_cmp/171201349](http://news.yahoo.com/new?tmpl=story&u=/cmp/20050929/tc_cmp/171201349).
- Colburn, L. (2002, Feb.) Integrating laptops into multiple subject Area: Thoughts from teachers and students. *Reading Online*, Retrieved November 19, 2003 from [http://web25.epnet.com/citation/Asp?tb=1&\\_ug=db+0%2C10%2C12=In+en%Dus+sid+](http://web25.epnet.com/citation/Asp?tb=1&_ug=db+0%2C10%2C12=In+en%Dus+sid+).
- Connely, F. M., & Clandinin, D. J., (1998). *Teachers as curriculum planners: Narratives of experiences*. New York: Teachers College Press.

- Delpit, L. (2002). No kinda sense. In L. Delpit, & J. K. Dowdy (Eds.), *The skin that we speak: Thoughts on language and culture in the classroom* (p. 46). New York: The New Press.
- Dewey, J. (1938). *Experience and Education*. P.46), New York: Touchstone.
- Ely, M., Vinz, R., Downing, M., & Anzul, M. (1997). *On writing qualitative research: Living by words*. Bristol, PA: Falmer Press.
- Felony charges for computer-abusing kids. (August 11, 2005) Retrieved From eschool News Staff and wire-service reports. Website: <http://www.eschoolnews.com/news/PFshowstory.cfm?ArticleID=5820>
- Freire, P. (2000) *Pedagogy of the Oppressed* (30<sup>th</sup> Anniversary ed.)(M. B. Ramos, Trans.). New York: Continuum. (Original work published 1970)
- Fletcher, Geoffrey (2003). Making sense of NCLB's technology Component, *The Journal* 30(7), 56.
- Maclean, M. S., & Mohr, M.M. (1999). *Teacher-researcher at work*. Berkeley, CA: National Writing Project.
- Rockman Research Organization, (1998). Powerful tools for schooling: Second year study of the laptop program. Retrieved Nov, 2003, from Rockman.com website: <http://rockman.com/projects/laptop/laptop2Exec.htm>

- Rockman Research Organization, (2000). A more complex picture: laptop use and impact in the context of changing home and school access Retrieved Dec. 1, 2003, from Rockman.com website: <http://rockman.com/projects/laptop/laptop3exec.htm>.
- Rotstein, Arthur, H. (2005) Arizona schools trade textbooks for laptops. *Yahoo News*. Retrieved August 18, 2005 from [http://news.yahoo.com/s/ap/20050818/ap\\_on\\_re\\_us/no\\_textbook&printer=1;ylt=Ar0qgB](http://news.yahoo.com/s/ap/20050818/ap_on_re_us/no_textbook&printer=1;ylt=Ar0qgB).
- Rudnesky, Frank. (2004, Nov.). Bridging the technology proficiency gap Through peer mentoring. *Tech Learning*, Retrieved Sept. 12, 2005 From <http://www.techlearning.com/story/showArticle.jhtml?articleID=51200665>.
- Russell, M. & Plati, T. (2002, May 29) Does it matter with what I write? Comparing performance on paper, computer and portable writing devices. *Current Issues in Education* (on-line), 5(4). Available <http://cie.ed.asu.edu/volume5/number4>.
- Stager, G. (1998, Oct.). Laptops and learning: Can loptop computers put The “C” (for Constructivism) in learning? *Curriculum Administrator*, 34(3), 26-27.

Stevenson, K. R. (1999). Evaluation report year 3 middle school laptop Program beaufort county school district. Retrieved Nov. 21, 2003, from Executive Summary Website: <http://beaufort.k12.sc.us/district/evalreport3.htm>.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological Processes*. (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.) Cambridge, MA: Harvard University Press.

Whitworth, S. & Berson, M. J. (2003). Computer technology in the social studies: An examination of the effectiveness literature (1996-2001). *Contemporary Issues in Technology and Teacher Education*, 2(4), 472-509.

## **APPENDIXES**

## **APPENDIX A: PRINCIPAL CONSENT LETTER**

To whom it may concern,

I give my consent for John Danatzko to conduct a research study in his classroom. It is my understanding that the research is supported by educational literature and is a requirement for the completion of his Master's of Education degree from Moravian College. Further, I understand that consent for the study will be obtained from all participants and that participants have the right to withdraw at any time. Pseudonyms will be used in discussion of the data collected to protect the student's identity. The data from this research study will be held in the strictest confidence and kept in a password protected laptop or locked cabinet. The data will be deleted or destroyed by shredding at the conclusion of the study.

Students in Mr. Danatzko's class will participate in a study of the impact of the use of laptop computers in an 8<sup>th</sup> grade Social Studies classroom. Students are required to participate in all aspects of the class regardless of participation in the study. However, only data from students who have signed a parent permission form will be included in the research study. I am aware that in no way will participation, non-participation, or withdrawal during the study have any influence on any aspect of the class or a student's grade.

I understand that any questions regarding this research should be directed to Mr. Danatzko at (610) 868-8581, [jdanatzko@bethsd.org](mailto:jdanatzko@bethsd.org) or his advisor, Dr. Joseph Shosh, Education Department, Moravian College, (610) 861-1482, [jshosh@moravian.edu](mailto:jshosh@moravian.edu)

Sincerely,

Principal, Northeast Middle School

## Appendix B: Parent Consent Letter

September 22, 2005

Dear Parent/Guardian,

I am completing a Master of Education degree from Moravian College. One of the requirements of the program is to conduct a research study of my teaching practices. This semester I am focusing on the implementation of laptops into my Social Studies curriculum. I have obtained permission from your student's principal, to conduct a research study on the implementation of laptop computers into my classroom.

No one except me will have access to the data. My research results will be presented using pseudonyms. I will store the data in my password protected laptop computer. The data will be deleted or destroyed by shredding at the conclusion of the study.

I welcome questions about this research at any time. Your child's participation in this study is voluntary; refusal to participate will involve no penalty or consequence. Any questions you have about the research can be directed to me, Mr. John Danatzko, (610) 868-8581, [jdanzko@bethsd.org](mailto:jdanzko@bethsd.org) or my advisor, Dr. Joseph Shosh, Education Department, Moravian College, (610) 861-1482, [jshosh@moravian.edu](mailto:jshosh@moravian.edu).

Sincerely,

John Danatzko 8<sup>th</sup> Grade Social Studies – Northeast Middle School

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Student Name \_\_\_\_\_ (Please Print)

Parent/Guardian Signature \_\_\_\_\_

## APPENDIX C: TEACHER CONSENT LETTER

September 30, 2005

To whom it may concern,

I have taught students using laptop computers previously. I consent to be interviewed as a source of information on student laptop usage for Mr.

Danatzko's research study on the implementation of laptop computers into an 8<sup>th</sup> grade Social Studies classroom. I understand that at any time I may choose to withdraw from his study. The data from this research study will be held in the strictest confidence and kept in a password protected laptop or locked cabinet.

The data will be deleted or destroyed by shredding at the conclusion of the study.

If any of my former student's names are referenced, I understand that Mr. Danatzko will use pseudonyms to protect their identities. I understand that if I have any concerns I may direct them to Dr. Joseph Shosh, Education Department, Moravian College, (610) 861-1482, [jshosh@moravian.edu](mailto:jshosh@moravian.edu)

Sincerely,



## **APPENDIX E: STUDENT INTERVIEW QUESTIONS**

1. Do you have a computer at home?
2. Do you have internet access?
3. Do you receive free or reduced lunch?
4. How do you feel about using your laptop in Social Studies class this year?
5. How does this compare to how you used your laptop in Social Studies class other years?
6. What do you like/dislike about using a laptop in class?
7. Do you think a laptop makes learning easier? If Yes HOW?
8. Do you think that using a laptop has helped or hurt your grades? Why?
9. Which year would you say that you used the laptop most often?
10. Has your enthusiasm for using a laptop in class increased or decreased Over the past three years?

## APPENDIX F: POST STUDY SURVEY

Name: \_\_\_\_\_ Section: \_\_\_\_\_

### Laptop Survey

#### **Social Studies Laptop Usage**

If you answer **yes** to the question, tell how often you used the laptop.

Some examples: once a week, on a project, every day, etc.

	<b>Yes</b>	<b>No</b>	<b>How Often</b>
2. I use my laptop for Warm-ups.			
2. I used my laptop for notes.			
3. I researched on the Internet in class.			
4. I typed assignments on my laptop.			
5. I used Keynote in class.			
6. I completed an <i>Inspiration</i> Web.			
7. I added music to Keynote.			
8. I had a problem with my laptop.			
9. I used Spell Check to edit.			
10. I went to my teacher's webpage.			