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A MULTIMEDIA WEBSITE FOR THE BATTLE OF GETTYSBURG

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A Project  
Presented to the  
Faculty of  
California State University,  
San Bernardino

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts  
in  
Education:  
Instructional Technology

---

by  
Mark Norman Rasmussen  
September 2004

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September 2004

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Dr. Sylvester Robertson, Education

17/AUG/04  
Date

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## ABSTRACT

This thesis explains the development of a website for eighth graders about the Battle of Gettysburg. There is a summary of the battle which happened in July of 1863. A review of literature supporting the design of the website follows. There is an explanation of how the website was designed. The back of the book contains a CD-ROM that holds the website.

## ACKNOWLEDGMENTS

My first reader Dr. Brian Newberry was a great support through this entire process. My thesis and project are better because of his help. Thank you to Dr. Sylvester Robertson for being my second reader.

## DEDICATION

Many thanks to Dr. Piller who helped me through my teaching credential and then helped me get the job I dreamed about getting since sixth grade. Many thanks to all the professors in the Instructional Technology program. All of you have made my Masters Degree very enjoyable.

I also dedicate this work to my son. I hope someday we can build an instructional website together. Finally, I dedicate this work to my wife. She became interested in the history of Gettysburg as I worked on the project. She supported me through the time it took to get my Masters Degree.

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## CHAPTER ONE

### BACKGROUND

#### Introduction

One event, among many in American history called upon its citizens to sacrifice thousands of its fathers and sons near a town that was known for building carriages and making shoes. The town has forever changed into a national park and national cemetery known as Gettysburg. This town became famous because of the Battle of Gettysburg that was fought in the summer of 1863. This historical event deserves our remembrance.

Middle school history teachers want their students to remember the people that served their country during the Civil War. They want their students to do much more than know the facts surrounding the events. Teachers want their students to feel a connection to those who have passed on into history books.

The goal of this project is to connect eighth grade students to the soldiers, citizens, and events of the Battle of Gettysburg. Under the umbrella of this major goal two results will happen. First, students will utilize one website to learn about the Battle of Gettysburg. Second, teachers will effectively infuse

technology with a website into their teaching about the Civil War.

These goals will be accomplished by students completing History-Social Science Standards given by the State of California Department of Education (2000). In conjunction with these standards eighth grade social studies teachers described the needs of their students in learning about the Battle of Gettysburg. This needs assessment helped in the development of the website. The website is contained on a compact disc that houses an interactive environment. Students will guide themselves through this environment as they learn about people and places of the Battle of Gettysburg. They will view primary documents, pictures, maps, audio, and video artifacts to assist their learning. They will explore the website as they fulfill their learning requirements.

#### Statement of the Problem

Perhaps the Battle of Gettysburg has been studied more than any other battle in the Civil War. A quick search on [www.amazon.com](http://www.amazon.com) reveals more than fifty videos and hundreds of books about the Battle of Gettysburg. A search on [www.google.com](http://www.google.com) reveals more than one million web pages of information about Gettysburg. Computer games

have been developed and sold based on the actual events of the Battle of Gettysburg. There are three dimensional animations of the battle that can be viewed on the computer. There is an immense amount of information available about this battle. Gettysburg has benefited from what some people have called the Age of Information.

The Age of Information has revealed everything anyone would ever want to know about Gettysburg. The information is accessible and available. Organizing information into something useful and interesting for eighth graders is the obstacle this project attempts to overcome. The project places information in control of the student. The students take responsibility for their own learning. Students will learn about the Battle of Gettysburg through this website.

Much of the information about Gettysburg is found in long passages of written information. Presenting information in this manner is a problem for students. Learning becomes labored and difficult for most eighth grade students as their attention spans are stretched and snap.

Traditional teaching methods, by themselves are inadequate. They do not reach all students. A teacher who lectures to the class reduces or eliminates

interaction among students. A teacher who has students read out of textbooks limits learning to printed material. A teacher who relies on videos to teach limits the ability of the students to review what has been watched. All these methods are controlled by the teacher. This is one of the problems with teaching today's students. Students desire a certain amount of control over their own learning.

Students are more successful when they become responsible for their own learning. Tapscott (1988) describes the transformation as "teacher-centered to learner-centered education" (p. 144). The content is presented in such a way that the students can navigate their own way through the material. Various strategies are incorporated into the instructional design to meet the needs of various learners. This helps overcome the problem of learning about the Battle of Gettysburg.

#### Purpose of the Project

Jeffrey Wert, a high school teacher and author of five Civil War books became interested in history during his eighth grade of middle school. He grew up in Pennsylvania. His school took a field trip to the actual ground of the battle. He visualized what happened in 1863

and this led to an appreciation of what happened (Wert, 2001, p. 11). Wert experienced what so many history teachers want their students to feel. Field trips help with this.

Living in California does not present an opportunity for field trips to Civil War battlegrounds. However, the visualization of what happened can be part of students' lives. This problem can be overcome with stories, pictures, video, and audio. In effect, a virtual field trip can be created. One purpose of the project is to provide several primary source documents, pictures, video from a reenactment of the Battle of Gettysburg, clips from movies about the Civil War, and other material that support the students in their learning.

The second purpose is to fulfill standard 8.10 of the History-Social Science Content Standards for eighth grade. This standard states: "Students analyze the multiple causes, key events, and complex consequences of the Civil War" (California Department of Education, 2000, p. 47). All eighth graders are required to learn about American history. This project will help students fulfill this requirement.

The third purpose is to help eighth grade teachers with a Civil War social studies unit. Part of the



teacher's unit will be this website about the Battle of Gettysburg. The website will help teachers infuse technology into their classroom.

### Significance of the Project

Some students exit eighth grade without a sense of gratitude for the people who kept this country together during the Civil War. This project helps students learn about one battle that took three days during the summer of 1863. Through effective learning students will begin to gain a sense of what people have gone through to keep the country together. Through all of this affective learning will take place.

Affective learning is when student have an emotional connection to what they are learning. Affective learning about the Battle of Gettysburg will lead to a connection to those who have lived in the past. Connecting with Americans who lived in the past will help students connect to their country in the present. The California State of Education (2000) hopes students will "recognize that America's ongoing struggle to realize the ideals of the Declaration of Independence and the U.S. Constitution is the struggle to maintain our beautifully complex national heritage of *e pluribus unum*" (p. 5).

Teaching with technology is a significant part of this project. The website is designed for eighth grade social studies teachers to use. A report by Clark (2000) demonstrates that most teachers feel good about using technology. He worries that this good feeling could suffer if teachers are not given opportunities to use technology in the classroom (Clark, 2000, p. 190).

The website will give teachers an easy way to successfully integrate technology in the classroom. Teachers should be successful in using the website which will lead to more integration of technology in Social Studies.

#### Limitations

During the development of the project, a number of limitations were noted. These limitations are the following

1. Access to advanced software for website design was limited by financial constraints.
2. Video quality was lessened because of the large file size high quality video quality takes.

#### Definition of Terms

The following terms are defined as they apply to the project.

- Battle of Gettysburg - A battle that took place July 1, 2, and 3 of 1863. Gettysburg is located in 90 miles north of Washington D.C.
- Confederate Army - Southern Soldiers that fought for separation from the United States of America.
- Digital History - The use of historical resources that can be utilized on the computer.
- Multimedia - The use of text, audio, video, animation, and interactivity in a website.
- Standards - Knowledge and skills that the State of California wants students to obtain.
- Union Army - Northern Soldiers that fought for reuniting the southern and northern states.
- Website - A collection of web pages.

CHAPTER TWO  
REVIEW OF THE LITERATURE

Introduction

The Battle of Gettysburg has been written about more than any other battle of the Civil War. 141 years later technology can be used to teach about the battle. The review of relevant literature has been broken into three significant parts. Part one is a review of the Battle of Gettysburg. Part two is a review of website and multimedia design. Part three is a review of integrating websites into the social studies classroom.

The Battle of Gettysburg

"Fourscore and seven years ago" are the words Abraham Lincoln spoke at the dedication of the Gettysburg Cemetery. The Gettysburg Address became the best known speech of the Civil War or possibly the most recognizable speech of any president. Lincoln was able to capture the events of the battle in his short 272 word speech. There was a need to attach meaning to the 50,000 casualties of the battle. What events of 1863 have held the attention of the United States and people outside of this country since 1863?

This part of the literature review will cover the main events of the battle as well as some key people involved in the battle.

A brief background is needed that will lead into the Battle of Gettysburg. The Civil War began in 1861 and ended in 1865. Initially, many people in the North and South expected the war to be quick and perhaps even amusing or entertaining. Many mothers from Washington D.C. packed picnics for their family to watch the first battle of Bull Run in 1861 (Clinton, 1999, p. 32). Instead of being an afternoon's diversion for families, the battle demonstrated the loss of life that would take place during the war. Over 5,000 casualties were counted from both armies. Fighting continued through 1861 and 1862. Some of the fighting involved the North trying to reach Richmond, Virginia where the Confederate Capital was.

On May 15, 1863 Robert E. Lee, General of the Confederate Army in the east met with President Jefferson Davis, of the Confederate States of America. General Lee proposed taking his soldiers into the northern states through Maryland into Pennsylvania. Foote (1963) described some of the reasons Lee had for invading the North (p.431). First, Lee had been victorious in the last

twelve months of war against the North. He felt that he could carry victories into Pennsylvania. Lee was confident in his soldiers' ability to win battles. Second, the South was about to lose a very important city on the Mississippi named Vicksburg. General Ulysses S. Grant had surrounded Vicksburg with his soldiers. If Lee attacked in the North he would draw attention and soldiers away from the east. Buell (1997) sustained Lee's decision by pointing to political victories that could be gained by battling in Pennsylvania (p. 223). The Democrats in the North supporting peace between the North and South were called Copperheads. Victory for the South would strengthen the arguments made by the Copperheads. Essentially, Lee was looking for a political victory that would lead to peace for the South.

The Union Army was led by General George Meade. General Meade assumed command of the army just three days before the beginning of the Battle of Gettysburg. General Joseph Hooker resigned the position on June 26, 1863 over conflicts with General-in-Chief Henry Halleck. Meade took a defensive position as to Lee's progress into the North.

On July 1, 1863 Lee gave orders that nobody was to engage the enemy. One leader of a division of soldiers named General Henry Heth broke that order. His soldiers'

shoes were worn out. He heard that there were shoes to be found in Gettysburg. He got permission from his commander to take troops into Gettysburg and investigate (Catton, 1963, p. 33). As General Heth and his soldier approached Gettysburg they were met by Union General John Buford.

Fighting broke out that morning. Throughout the day the Confederate army pushed the Union army through the town Gettysburg. Eventually, the Union soldiers were pushed out of Gettysburg onto Cemetery Hill that was just outside of Gettysburg. Cemetery Hill held reinforcements for the Union army and the South's progress was stopped.

Among many soldiers that fell that day was Francis C. Barlow. His story at Gettysburg will be covered in the project. Barlow graduated from Harvard University in 1855. Three years later he began practicing law in New York. In New York he found a woman 10 years older than he was. Her name was Arabella Griffith. Buell (1997) quotes George Strong, a friend who described Arabella as "the most brilliant, cultivated, easy, graceful, effective talker of womankind, and has read, thought, and observed much and well" (p. 5). Francis and Arabella were married April 20, 1861. On the same day of their marriage, at the church doors, Francis went off to fight in the war. Buell quotes Francis in a letter he wrote about the duty he

performed in the war. "For thousands of years the people of other nations have defended their liberties and the integrity of their fatherland, without supposing that any reward was due to them for so doing, except the repairing of such damages as they and their families had suffered" (p. 41). Francis served in the army because of his sense of duty to the United States.

Francis led a division of soldiers to defend Gettysburg. He was shot while upon his horse. After falling one bullet hit his back leaving a bruise, another bullet nicked his finger, and a final bullet hit his hat. He narrowly survived. Confederate soldiers took him as a prisoner to a hospital. Buell says, "The kindness of Confederate officers saved Barlow's life" (p. 229).

Arabella was in Gettysburg away from the fighting. When she could not find her husband among the soldiers she went in search of him. Francis asked his captors if someone would go and find Arabella to see if she was okay. A Confederate soldier did go look but could not find Arabella. On day 2 of the fighting Arabella continued her search. She was able to cross into Confederate territory held in Gettysburg. Two Confederate soldiers escorted her as she continued her search. Her search was not successful.



Eicher (2003) wrote, "Barlow was recaptured by Union troops when the Confederate army retreated from the field" (p. 63). After Francis and Arabella found each other they returned to New York where Francis recuperated. After seven months of recuperation Francis would return to the battlefield for the rest of the Civil War.

The story of Arabella and Francis is shared to show how the battle affected people. The California Department of Education (2000) desires that students "make connections among their own lives, the lives of the people who came before them, and the lives of those to come" (p. 6). The Southern soldiers are seen as having compassion for a fallen enemy and his family. Eighth grade students need to see this in history. Even though the North and South were involved in the bloodiest war of the United States there was still room for acts of humanity. There is so little time to cover the details of a battle or a war that the humanity is left out sometimes. Most battles are covered with a graph of how many casualties were suffered by the North and South. Then the victor of the battle is listed. There is more to a battle than mere casualties. The experience of Francis and Arabella bring this point to the students' attention.

Day two found the Union army on the high ground surrounding Gettysburg. They were in good defensive positions. This would help them be successful in days two and three. They were located on Culp's Hill, Cemetery Hill, and Little Round Top. The South would try major attacks on all three hills on July second.

General Ewell of the South had his forces attack Culp's Hill. This was a rocky area that was well defended by soldiers from the North. Ewell's forces would attempt to take the hill all the way into day three of the battle. However, the South was never successful in their venture and the fighting cost the South thousands of lives.

Little Round Top provided a better chance of success for the Confederacy. Little Round Top was also higher than Cemetery Hill. If the South could take Little Round Top they could fire down upon Union forces entrenched at Cemetery Hill. General James Longstreet had two generals present on day two of the fighting. He sent General John Hood to take Little Round Top along with a large number of soldiers. Little Round Top was protected by a long line of Union soldiers waiting for the attack to be made by Hood. The Union soldiers held a better position and proved to be too much for General Hood's soldiers.

Longstreet's other General Lafayette McLaws attacked towards Cemetery Hill. McLaws forces fought to the top of Cemetery Hill through a difficult fight. The Southern soldiers could not keep the hill because of the loss in life in taking the hill. There were no reinforcements to keep the hill.

Day three brought the bloodiest fighting to the Battle of Gettysburg. Lee committed approximately 12,000 soldiers to bear on the center of Cemetery Hill. The South was stationed on Seminary Hill. The two hills ran parallel to each other. Lee planned on his forces attacking the North in the center of their line.

Through the night Meade had guessed correctly that Lee would attack at Cemetery Hill. Therefore, Meade concentrated his forces at Cemetery Hill in the center of all the Union forces. The Union was built barricades preparing for Lee's attack.

General Longstreet was placed in charge of the force that would attack. Longstreet disagreed with Lee's plan. He tried in vain to bring different plans to Lee. A Civil War historian, Wert (2001), quotes an unnamed historian as saying "it never occurred to Lee that the position could not be taken" (p. 101). Wert calculated the time needed for the South to cross the field to Cemetery Hill. "If

the infantrymen advanced at "common time," or seventy yards per minute, they would need about twenty minutes to cover the fourteen hundred yards" (p. 101). While the infantry crossed the field, Union cannons would be firing all sorts of ordinance to make sure the attack failed. With all odds working against Lee the question begs to be asked, why did he attack? Catton (1963) answers this by saying, "Lee had immense faith in the fighting capacity of his infantry" (p. 98). Lee had good reason to have immense confidence in his men. Southern generals had managed battles better than the North. Battle after battle had the Union losing more soldiers than the Confederacy.

The attack began at 3 p.m. Confederate cannon on Seminary Hill opened fire on Union forces on Cemetery Hill. Nearly 300 cannon fired on each other. The sound and force of the cannon would be deafening for miles around Gettysburg. Many soldiers recorded their reaction to the bombardment. A confederate soldier wrote the following. "Nothing you've ever heard or read of can give you an idea of the terrific fire Lee opened on their heights" (Wert, 2001, p. 168). An Alabama soldier wrote, "The very earth shook and the tremendous roar was deafening" (Wert, 2001, p. 168). Alexander Webb, from

Maine, who was with his father at the battle said, "I have been through many battles, in all sorts of places, under all fires but never have I heard such cannonading as they opened on our lines" (Wert, 2001, p. 168).

After almost two hours of artillery, Longstreet's forces began their march across the fields. Longstreet stayed on Seminary Hill to watch the battle. General Picket led 5,000 soldiers across the field. Approximately 3,000 soldiers stayed on the field as casualties and did not return. Picket was a General under Longstreet's command. 12,000 men began the march to the Union line. They were decimated with cannon and Union rifles. They had to retreat back to Cemetery Hill. Of the 12,000 southerners that began the march 7,000 soldiers remained on the field of battle as casualties.

At the end of day three the Union lost 23,000 soldiers to injury or death. The Confederacy lost 28,000 soldiers to injury or death. Historian Catton (1963) said "The battle has been characterized as the supreme moment of sacrifice for soldiers on both sides" (p. 66).

Both armies left Pennsylvania to fight in other parts of the country. The people of Gettysburg were left with the task of taking care of the dead. Catton (1963) writes about the smells of Gettysburg caused by the death that

surrounded the town. In the hot months of summer people kept their windows closed to keep part of the horrible smell out of their houses (p. 133). There were dead bodies being buried which hid the stench of their death. "There were at least 3,000 dead horses and mules to dispose of, and this was done by burning, a slow and malodorous process" (Sears, 2003, p. 511).

People reflected on the impact the Battle of Gettysburg in 1863. Thousands of people died in three days. People tried to make sense of what happened. There was a movement to create a national cemetery at Gettysburg. This was supported by the Federal Government and plans were made. The cemetery would be dedicated on November 19, 1863 by Abraham Lincoln. The dedication began with Edward Everett speaking for over two hours. "Today's average American would probably pay good money to avoid having to sit through a speech of that kind, but in the 1860's it was top-flight entertainment" (Catton, 1963, p. 136). Lincoln spoke his 272 words afterwards. His speech became known as the Gettysburg Address.

#### Teacher Created Websites

Massive amounts of information exist about Gettysburg on the Internet. All the pictures a teacher would need to

teach about Gettysburg are available on various websites. There are a small number of virtual tours available. The challenge that becomes the dilemma of the instructional designer is to arrange the information into usable portions for students. Hall reminds instructional designers (2002), "the most fundamental aspect of utilizing educational media is that course design underpins success" (p. 157). Since the usable portions will be placed into a website, this part of the literature review will be about website design. The following part will be about multimedia in a website.

### Website Design

Teaching with a website brings a new dimension into the classroom. Teachers are no longer restricted by the high cost of fieldtrips. Students do not have to stand in line for their turn at handling museum artifacts because everyone can look at the same time. Students are naturally interested in websites and computers. It is important for teachers to create quality websites that will support learning. Teachers need to design effective websites that use the new dimension of learning. Teachers need to take thirteen points into consideration when building their websites. They are meant as a guide for teachers to use.

The first decision is where to keep a website. Where will the content be kept? Presently, there are drawbacks from keeping websites online. The larger the file size of a website the more time students have to wait for downloading information. Websites can be kept smaller at the cost of lower quality video and pictures. Pederser (2003) believes that "CD-ROMS offer a better delivery option than the web simply because of issues associated with bandwidth and download time for rich media" (p. 74). CD-ROMs can be inexpensively made and distributed to students and other teachers. Teachers need to realize that websites can be kept online or on CD-ROMs.

The second decision is how to keep the website from being the same as a textbook that delivers facts. Instructional websites should be dynamic and interactive. Churchill (2003) warned users about the downside of websites. Websites are good at delivering facts. Churchill warned educators that we cannot settle for delivering facts alone (p. 217). Instructional websites need to be designed in a fashion that helps students learn on their own. Riedel, Fitzgerald, Leven, and Toenshoff (2003) described one way in which to gain a deeper understanding from facts which must be delivered. "By dealing with multiple scenarios from multiple



perspectives, learners move closer to thinking like experts: they learn to extract pertinent information, generate problem solutions in flexible ways and transfer and reconstruct knowledge and skills in new contexts (Riedel et al., 2003, p. 395).

There are eleven points to consider when creating an instructional website. The first point is to remember your audience. Sugar, (2001) in speaking to instructional designers wants them to remember one important point. "Enhanced perspective taking" needs to be the focus of the instructional designer (p. 247). Sugar wants designers to take the perspective of the student. Hartley (2001) strengthens the argument by writing about the appropriate cognitive ability of students (p. 302). Websites should be designed for the cognitive ability of their audience.

The second point is about page layout. Concerning layout of a website Yu and Tsao (2003) want web pages to be simple and consistent (p. 200). Certain types of information should be kept in the same area of web pages. This allows students to know where to look for information or links. More time can be spent learning about the content of the website and less time learning how to use the website.

The last nine points are a list for teachers to remember. Wang (2000) lists criteria for creating quality computer-assisted instruction. When a website is designed for instruction these points should be taken into account.

1. Gain attention: The attention of students is gained by introducing rapid stimulus changes. Studies indicated that effective CAI programs use the capabilities of the computer to amplify information, by varying the use of features such as colors, print size, text display rate, and others.

2. Inform the learner of lesson objectives: When learners comprehend the objectives of instruction, they will acquire an expectancy that normally persists throughout the time learning is taking place and that will be confirmed by the feedback given when learning is completed.

3. Stimulate recall of prior learning: According to the Gagne's theory of instruction, before engaging in the instruction, the learner is asked to recall some things previously learned.

4. Present the stimulus material with distinctive features: Any stimulus must have its distinctive features clearly delineated.

5. Provide learning guidance: This involves making the stimulus as meaningful as possible. In general, use concrete examples of abstract terms and concepts, and elaborate each idea by relating it to others already in memory.

6. Elicit the performance: The learner is required to demonstrate the newly learned behavior to show whether or not the learned capability has been stored in long-term memory.

7. Provide informative feedback: The learner is informed of the degree of correctness of his/her performance.

8. Assess performance: To ensure that the learner has learned the new capability, it is necessary to require additional instances of the performance.

9. Enhance retention and transfer:  
Providing additional practice with a wide variety of instances is likely to increase retention of all learned capabilities.

Wang, S. (2000). Multimedia and some of its technical issues. International journal of instructional media 27(3), 303-313.

Teachers can create websites bringing a new dimension of learning into the classroom. These websites can be shared with teachers from around the world. Content accumulates and a wealth of knowledge is available for students to access for free. Teachers need to consider the preceding 13 points. This will assure students can learn from instructional websites.

#### Multimedia Design

One unique addition to this website is the infusion of multimedia. Jonassen, Peck, and Wilson (1999) define multimedia as websites that contain text, sound, graphics, animation, video, or imaging (p. 88). There are several reasons for including multimedia in a website. Above all the reasons it is important to remember the words of Wang (2002). "One could clearly recommend that web-based instructional designers make their first priority the quality of learning content rather than the cosmetic details of the pages involved" (p. 87). Multimedia looks good and is attractive. When using multimedia it is

important to make sure that multimedia enhances learning rather than becomes something flashy to look at.

Eskicioglu and Kopec (2003) summarized several articles on the benefits of multimedia (p. 205). One of the key benefits is the ability of multimedia to let students read, hear, and see what they are learning. A good website or book lets students read and see what they are learning. Multimedia allows students to see more because of the low cost of adding pictures to a website.

The Gettysburg website adds another dimension of video that allows students to hear and see what they are learning. Eskicioglu and Kopec (2003) wrote the following. "Multimedia may be the greatest educational revolution since the invention of the printing press" (p. 217). The Gettysburg Website provides an example of this. Students are used to looking at maps when learning about history. The website allows students to click on different parts of the map to learn more about what was happening. The map becomes interactive and the instructional designer can highlight different parts of the map.

Audio is an important part of multimedia. Lai (2000) found that audio will enhance the retention of new material (p. 203). Lai's research shows that audio can

especially help in learning abstract concepts. Multimedia relies on audio as one of its delivery methods. When text can be read or heard on a website a larger audience can be effectively reached.

Martin (2001) describes two loads that are put upon students using websites with multimedia. The first load is called "reflexive load" (p. 401). This load is similar to when you see a television that is turned on. Your attention is drawn to the television but there is not a lot of thought about what you see. The other load is called "intentional load" (p. 401). This load is similar to reading a book and then rereading the book to gain a better understanding. When students watch a video on a website there is a desire to make intentional load increase. This is made possible by giving the students the option to control playback of the video. Students are able to pause and replay video.

Multimedia requires interaction between the student and the computer. Ohl (2001) makes the case that the simple act of clicking the mouse is not enough for quality interaction. Clicking the mouse would be very similar to the act of turning a page. Students do not become engaged by simply turning pages. Ohl (2001) writes about a deeper sense of interactivity called "acquisition interaction"

(p. 320). Ohl wants the student to feel as though they are searching out the information they need. Students need the ability to "request information as the learner wants it" (Ohl, 2001, p. 320). Designing a website in this way helps students learn.

In order for students to feel they are in control of their learning a major change has to take place. The website cannot be similar to a book that goes from beginning to end. This traditional method forces students to follow a prescribed course laid out by an author. This runs counter to the idea of using hypermedia. Tapscott (1998) describes this change as going from linear to hypermedia learning (p. 142). Tapscott (1998) also views this change as going from "teacher-centered to learner-centered education" (144). The learner chooses their own beginning and their own end. There have to be choices they make as to their own learning. Students will feel more motivated to learn as they are given more control over their learning environment (Wishart, 2000, p. 346).

Learning from websites and hypermedia will benefit students. Traditionally, most learning was done in school where the textbooks are. When students went home the expensive textbooks were left at home. When students use websites to learn from they can go to the Internet and

continue their learning. They are in control of saying when they have learned enough.

### Social Studies and Technology

Smith (1998) asks the following question in the title of his article, "Can you do serious history on the Web" (p. 1). Smith's concerns for serious work is the fact that some websites look flashy with pictures and sounds but are not worthy of being called "serious history." However, Smith believes that websites can be used for "serious history."

The project Smith was involved with was a website about The Great Chicago Fire. There were definite benefits to building a website about this particular event over writing a book or other delivery method. Website designers were able to infuse huge amounts of content without having to worry about cost (Smith, 1998, p.2). Normal textbooks have to worry about the number of pictures that can be included in a text. Websites contain immense numbers of pictures without that worry. Smith was able to include videos that could not be included in a text. Websites allow for a higher degree of creativity compared to textbooks or videos.

If history can be taught on a website the next question follows. Should it be taught with a website? Scheidet's (2003) research shows that it should. The research performed was with a control group that took a normal history class and an experimental group that had the Internet infused into the class. Scheidet's research demonstrates that students with an Internet infused history class scored 8% better than those in a traditional history class. A person could reasonably ask if the effort and cost are worth an 8% gain. The problem with this question is that it only looks at the grade reports of the research without looking at the participants' opinions. Scheidet's research also shows that parents and students believe the infusion of the Internet raised the level of interest in history. When the teachers of the experimental group were interviewed they noticed their students were "engaged with self-exploration and critical thinking" (Scheidet, 2003, p. 85). One possible conclusion from the research is that students can score a certain percentage on any given test regardless of computers and the Internet. The difficult part of teaching is what technology achieves here. Technology achieves the great goal of getting students to explore history and then



think critically about it. Websites make this possible in the class.

Smith argues that websites can be used to teach history. Scheidet argues that websites should be used to teach history. The last question is what teachers need to do in order to teach with websites. One important point to remember is that websites do not replace the teacher. Technology is only a tool in the hands of teachers. Wang and Beasley (2002) call this "learner control with advisement" (p. 87). The website puts the student in control but the teacher still acts as a guide for the students. Bitter and Pierson (1999) said, "Instructional resources on the web should never be mistaken as substitutes for the skill and intuition of human teachers, or even thought of as replacements for traditional methods of instruction" (p. 123).

Using websites and the computer to learn about history is what Lee (2002) calls "digital history." Lee points out a problem with using the Internet for history. With all the information possible on the Internet a sense of overload can occur for the student. Teachers should organize websites and information for their students (Lee, 2002, p. 511). "Good history is out there on the web. It is just not always a simple process to find it" (Rubin,

2002, p. 86). Teachers should be the ones to search and find the quality websites for their students. The process of finding the websites should be left up to the teacher. The process of searching the website should be left up to the student.

One of the major benefits of "digital history" is access to primary source documents. Primary source documents are historical documents that come from people involved with the historical event. Secondary source documents are what historians have said about the event. "Students now have opportunities to use digital historical resources in much greater numbers" (Lee, 2002, p. 504). Teachers should utilize primary source documents in social studies classes. Teachers should seek out primary source documents on the Internet that can bring history to life.

#### Summary

The literature important to the project was presented in Chapter Two. The literature review supports the design and usage of websites in eighth grade classrooms. Websites have a place in social studies classrooms. Teachers should have a part in the design and usage of the websites they decide to use. Hopefully, this will be one of many websites that social studies teachers will be

using in their teaching. Students will then benefit when they become more interested in history.

## CHAPTER THREE

### PROJECT DESIGN PROCESSES

#### Introduction

As mentioned before there are enormous amounts of information about Gettysburg found on the Internet. These websites present information like a smorgasbord. Users visit the websites and pull out what they want. This website was designed to lead students through a journey where they check out every part of the smorgasbord. How the website came to be will be explained here.

#### Analysis

The website was designed for eighth grade students in Riverside, California. These students have specific standards that the State of California has deemed important. The California Department of Education began putting standards together for Language Arts, Social Studies, Science, and Math in 1998. Teachers from all levels of education, parents, politicians, and others with a vested interest in education got together to form these standards. The standards are specific knowledge and skills that students should obtain through a specific school year. Standards serve as a guide for educators. Educators follow the standards as prescribed by

California. Analyzing what the website should contain began with the standards.

California wants their students to obtain three sets of skills. The first is thinking along a timeline. The second is research. The third is historical interpretation.

Chronological thinking has to do with understanding a timeline. The website covers the end of June 28 to July 3. A compact timeline of only a few days is covered. Students are used to seeing timelines taking place over hundreds of years. Timelines can also take place over a few days. Under this category California also wants students to use maps. The maps are compact areas ranging from 100 miles to under one mile.

Research is continuous and ongoing throughout the students experience with the website. California believes understanding different points of view are an important skill to obtain. Reading about points of view from the North and South happens throughout the website.

Historical Interpretation of the past is the last category of skills California desires for their students. This has to do with students looking at historical information and interpreting the meaning. One of the specific skills is for the students to "recognize the role

of chance, oversight, and error in history" (California Department of Education, 2000, p. 22). Chance, oversight, and error are what make the Battle of Gettysburg interesting.

The knowledge that California wants students to learn is under the category of the following. "Students analyze the multiple causes, key events, and complex consequences of the Civil War" (California Department of Education, 2000, p. 37). The multiple causes of fighting in Gettysburg needed to be addressed. The delivery of the Gettysburg Address was examined. The effect of the Battle of Gettysburg was looked at in the website.

The next analysis that took place is the type of student that will be taught. The students are a wide variety of eighth grade students. Low ability, regular ability, and above average ability will utilize the website as directed by the teacher. Some students will be very capable with technology where as some will be new to the mouse and keyboard. There is no specific group of students that will use the website. This is good because no student is excluded from learning

Four eighth grade social studies teachers were asked what would be needed in the website. All teachers have more than ten years experience in teaching middle school

history. The teachers are qualified to make expert judgments on what is needed. The mode of questioning was made through school district e-mail. This mode of questioning was done because it was the least intrusive on the teacher. Teachers responded when they had time. Upon learning about the website the teachers were interested in using it next year's studies. Their analysis of what is needed will be discussed here.

One history teacher wanted the students to know about the mistakes that were made. He thought it was important to understand General Lee's mistakes. Other than that general information should be learned about the battle.

Two other history teachers made the comment that they wanted students to know about the basic events of the battle. One of the teachers went into more detail about the general events they would like covered. Weapons were developed during the Civil War that helped the Union Army win the battle. One specific type of carbine rifle helped General Buford out during the first day of the battle. Buford's Calvary fired more bullets with their rifles compared to the Confederate infantry.

The teacher wanted students to learn about the South's desire to retain states rights. The teacher

mentioned that students have a difficult time understanding the role of states rights in the Civil War.

All the history teachers mentioned the short time available to dedicate to the Civil War, let alone one battle of the war. During the eighth grade teachers cover everything from 1750 to 1900 in United States history. Time is limited for the Battle of Gettysburg. Three class periods is all the time that could be given to one battle out of the entire Civil War. The following table shows how a student might progress through a three day cycle.



Table 1. Three Day Progression

	Content	Activity
Day 1	Information about the North and South	Memory Game and Computer Quiz
Day 2	Information about Gettysburg and the Battle	Memory Game and Computer Quiz
Day 3	Finish the content of the website	Finish check off sheet and take test

## Design

There are a limited number of objectives that students complete during their exploration of the website.

1. Students will be able to understand the Battle of Gettysburg as a chronological series of events.
2. Students will be able to recognize people from the battle by their picture.
3. Students will be able to recall information about the causes and consequences of the battle.
4. Students will be able to recognize events over a space of time and how they are related.
5. Students will be able to use maps to understand the events of a battle.
6. Students will be able to read different points of view and understand what was happening in the battle.
7. Students will recognize the effect of chance, oversight, and error in the battle.

## Assessment

Objectives are assessed by the student and teacher. The students have a paper check-off sheet with a list of the items they need to complete. They complete these

items on their own. The teacher oversees their learning activities.

The first items they complete are sets of ten multiple choice quizzes on the computer. The computer tells the student their score but does not record it for the teacher. The student records the score on their check-off sheet. Students are encouraged to retake the quiz until they achieve a 100%. When students complete their check-off sheet they are ready for a written test. The teacher gives the same questions from the computer to the students on a written quiz. This helps the teacher assess how well their students learned from the website.

The question may arise as to why multiple choice questions are being used. There are many forms of assessment available. Pederser (2003) found in her research that teachers want multiple choice questions (p. 73). Pederser disagrees with the practice of multiple choice assessments and would like to see more meaningful practices. Pederser does concede the point. Teachers were more satisfied with computerized instruction when multiple choice questions were used. With the website multiple choice questions are being used to make grading easy for the teacher.

The second form of assessment will be a memory game. Although a memory game is something a first grader may play, eighth graders can enjoy easy games also. They enable the student to interact with the pictures through the recollection of memory. The pictures used in the game are those of northern and southern soldiers. When the students play all the memory games they are given a written test of the pictures. They identify the people of the Battle of Gettysburg by their pictures.

The last form of assessment is ongoing assessment by the teacher. The teacher assesses learning every step of the process as students use the website. They do this by monitoring student behavior. When behavior is not conducive for learning from the website the teacher needs to modify the student's behavior. When students are having a difficult time using the website they help them through their difficulties.

These assessments are designed to keep things manageable for the teacher and student. If the teacher can manage this website in the classroom hopefully they will move on to building their own website. If the student can manage the website hopefully they will move on to enjoying history.

## Development

The website design was influenced by remembering that students are the audience. The only target audience is eighth graders.

There are four areas of study in the website. People of the North, is concerned with the soldiers that represent the Army of the United States of America.

People of the South, likewise is concerned with the soldiers that represent the Confederate States of America.

Within these sections is information about why they were fighting in the war and battle.

Gettysburg is concerned with the town itself and what happened to the citizens. It is important to realize what war does to a community. Gettysburg citizens' lifestyle radically changed after the battle. This section will contain information about the Gettysburg address that occurred five months after the battle.

The battle is concerned with three days of the battle. It is impossible to contain all the skirmishes and fighting that took place during the battle. Parts of the battle that were chosen were picked for importance in the outcome of the battle and for human interest value.

People are introduced in depth. Important people in the battle are identified with their own webpage. Some

people have pictures and a description of who they are. These are only introductions of soldiers. When students learn about the battle these people are placed into the context of the battle.

Figure 1 is a screen capture of James Longstreet.

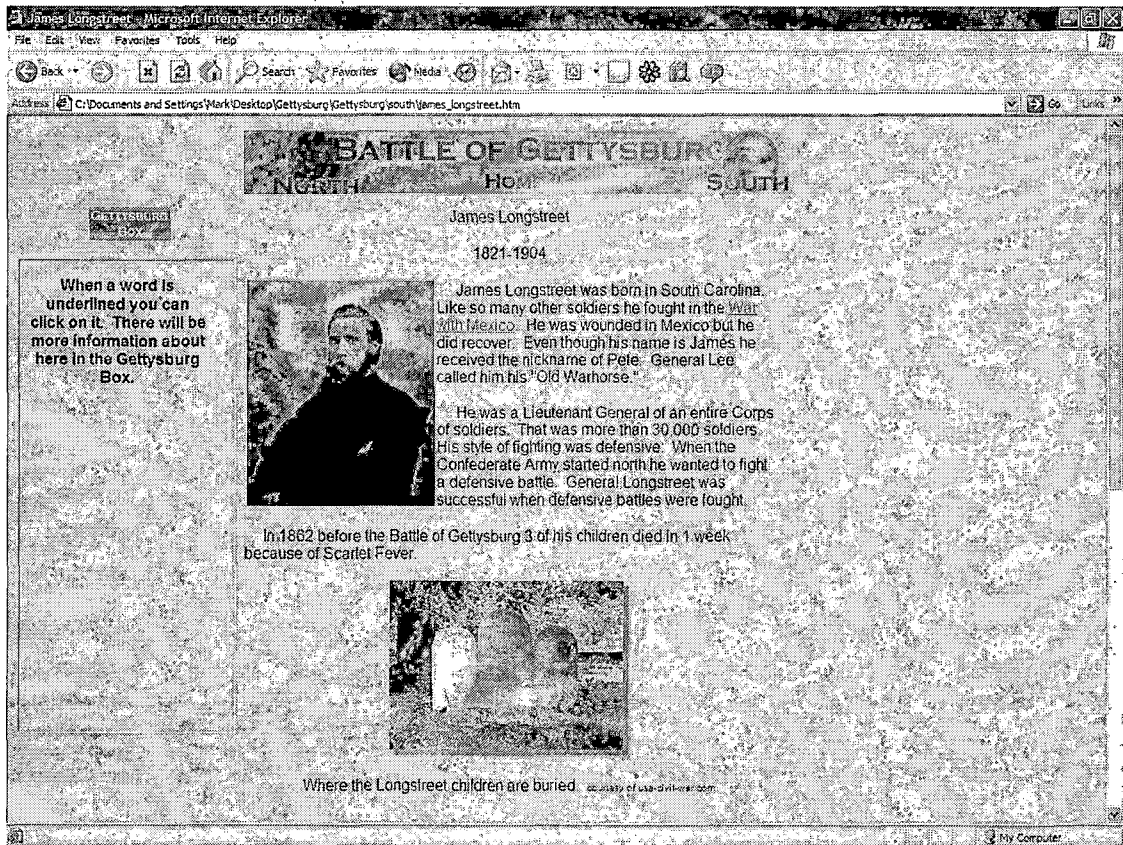


Figure 1. Screen Capture of James Longstreet

Certain soldiers have video books. One example is Joshua Chamberlain. There are a series of videos that help the students learn about history. Each video is approximately one to two minutes long. A short paragraph is on the side to emphasize what the student is learning. Figure 2 is a screen capture of page 2 of Joshua Chamberlain.



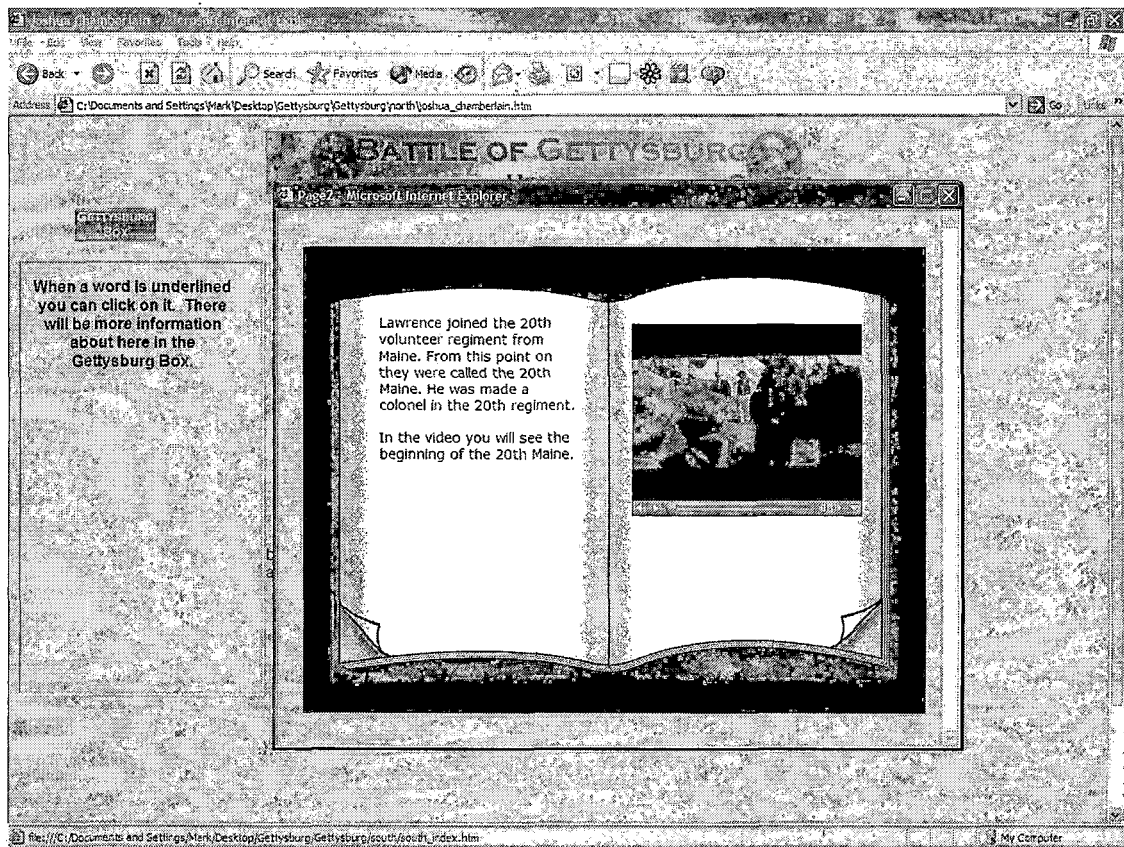


Figure 2. Screen Capture of Joshua Chamberlain

Later on in the exploration of the website the same people are mentioned within the context of the battle. During the time of introducing the person and placing the person in a specific setting the user may forget who the person was. The battle section of the website describes the events that took place over three days. More than twenty different people are mentioned in the battle. The battle section has a frame on the left side of the screen. This frame is hyperlinked to short biographies and pictures of people reminding the student who they are reading about and what they looked like.

A glossary is placed on each webpage for easy access. It is similar to the frame mentioned above. A frame is located on the left of each page. Inside the frame are definitions of words that students may not be familiar with. The definitions include sound and pictures when possible.

Teachers use the glossary to emphasize words that students should learn. Students use the glossary when they need to. Students who have a large vocabulary rarely use the glossary. Students who need help have the glossary just a mouse click away.

Figure 3 on the following page shows you Jeb Stuart. He was a Brigadier General of Cavalry. You see his picture

in the center with information about him. The word cavalry is hyperlinked to the frame on the left. On the left the word cavalry is shown. There is a brief definition of the word along with a picture. Additionally, there are sounds of horses' hooves that play when students look at the word.



Figure 3. Screen capture of James Stuart

The delivery method of the website is on a CD-ROM. The delivery method was chosen because of its ease of use. Placing the website on a CD-ROM eliminates the problem of downloading time. It also increases the quality of pictures and video the instructional designer is able to place on the website.

Materials the teacher needs to print are saved on the CD-ROM in the form of Adobe Acrobat files. Acrobat files are universal to all computer systems. Documents saved in other formats cannot be opened in all computer systems. Adobe solved this problem by providing Adobe Acrobat Reader for free. Adobe Acrobat Reader is on the CD for the teacher to install on his or her computer.

Video files are presented with Quicktime®. Quicktime® allows for good quality video at the same time shrinking the size of video files. Quicktime® is on the CD.

Placing Adobe Acrobat Reader and Quicktime® on the CD makes installation of the programs easy. No Internet connection is actually needed to use the website. Adobe Acrobat Reader comes installed on most new computers so no installation will be needed for those computers. Quicktime® is installed on some computers at the time of

purchase. If they are not installed the teacher needs to install them.

### Implementation

The website will be implemented beginning with the school year of 2004 - 2005. Social Studies teachers will have the website available to them for the school year. The unit falls into the chronological order of study during the spring time. All teachers will be trained in January in preparation for the spring unit on the Civil War.

Daigle and Furner (2004) created a survey to examine educational software and websites. Their survey was used to review the effectiveness of the websites. People with a vested interest in the education of middle school students were invited to review the website and fill out a survey. The survey that was used is presented here.

#### Furner and Daigle Effectiveness Survey

Review the software and rate its effectiveness. The rating should reflect the websites ability to enhance learning. Write (1) for excellent, (2) for very good, (3) for good, and (4) for poor.

#### Effectiveness Survey

1. Age Appropriate:

- a. The website's ability to reflect the appropriate age.
- b. Its ability to offer different levels (ranging from simpler tasks to more complex) to teach a specific skill or various skills.
- c. Its ability to address State and National Standards required of this age.

Comments on age appropriate:

2. Motivational Level of the Student:

- a. The website's ability to give clear instructions:
  - i. The website's ability to describe the desired quality of the work to increase the student's sense of accountability and to decrease his or her anxiety.
  - ii. The website's ability to create a safe, supportive, and non-reprimanding atmosphere.
  - iii. The website places directions where they can be seen and referred to by the student.
  - iv. The website's ability to provide directions before beginning an activity.
  - v. The website's ability to break down the task into smaller segments, if the task is

complex and the student is having difficulty following directions.

Comments on clear instructions:

b. The website's ability to effectively begin a lesson:

- i. The website's ability to teach a cue for getting the student's attention.
- ii. Its ability to clearly describe the goals, activities, and evaluation procedures associated with the lesson being presented.
- iii. Its ability to stimulate interest by relating the lesson to the student's life or to a previous lesson.
- iv. Its ability to utilize a highly motivating activity in order to make the student's initial contact with the subject matter as positive as possible.

Comments on beginning a lesson:

c. The website's ability to effectively maintain attention:

- i. The ability to increase the length of time related to response.
- ii. Its ability to increase the student's appropriate response to the question.



- iii. Its ability to increase the student's confidence related to the skill.
- iv. Its ability to decrease the teacher-centered teaching in the classroom.
- v. Its ability to utilize games that encourage attentive listening.
- vi. Its ability to provide positive reinforcement for correct answers.
- vii. It's ability to provide varying instructional methods.
- viii. Its ability to create anticipation and excitement about learning.
- ix. Its ability to provide work of appropriate difficulty. Work must allow a high success rate. However, the work cannot be too easy as to bore nor so difficult so as to discourage and frustrate the student.
- x. Its ability to provide difficulty material, stimulate interest, acknowledge difficulty, and let the student know that help is available.

Comments on maintaining attention:

- d. The website's ability to effectively provide pacing for the student:

- i. Its ability to break down complex and lengthy activities into smaller more manageable steps.
- ii. Its ability to provide varied style and content of instruction.
- iii. Its ability to provide breaks; to prevent disruptive behaviors that are often the student's methods of obtaining a short respite from the rigors of along school day.

Comments on Pacing:

- e. The website's ability to allow the teacher to assess the student's progress:

Comments on assessment:

- f. The website's ability to allow the student to summarize what he or she learned:
  - i. Its ability to show the student the relationship between and among the concepts he or she is learning.
  - ii. Its ability to give meaning to the student's school experience.
  - iii. Its ability to provide the student with a sense of accomplishment.

Comments on student learning:

g. The website's ability to provide useful feedback and evaluation:

- i. The website's ability to provide the teacher with information related to the student's performance.
- ii. The website's ability to show the student immediate feedback related to his or her progress.

Comments on feedback:

- h. The website's ability to allow smooth transitions:
  - i. Its ability to prepare the students to be productively involved in the upcoming instruction.

Comments on transitions:

3. Modality of learning: The website's ability to enhance learning in all students:
- a. To what degree did the website provide opportunity for the student to utilize his or her visual skills?
  - b. To what degree did the website provide opportunity for the students to utilize the keyboard and mouse?

c. To what degree does this website offer appropriate content for students learning English?

Comments for learning of all students:

A nice feature of this survey is an overall rating the website can receive. Furner and Daigle have the instructional designer add up the scores of each question and then divide by the number of questions. One represents the best and four represents the need for improvement. Using these criteria the Gettysburg Website received an average of 1.3.

People that completed the survey were teachers of middle school students and adults with a vested interest in the instruction of middle school students.

#### Evaluation

All evaluations were formative in nature. This means people evaluated the website from the beginning of building the website to the end. Teachers were asked to view the website as it was built. After viewing part or the entire website they were asked for their opinion. The website was approved of by the teachers viewing the website. Small changes were desired by the teachers as they viewed the website.

One teacher wanted all text to be bolded. The teacher wanted the text to be easier for the students to read. The teacher recommended additions to help students know how to use the website. Emphasis was placed on certain links in the website to accommodate students using the website.

After viewing the website one history teacher spoke about ghosts of Gettysburg. He shared stories about the ghosts that are said to be roaming the battle field. He uses stories about ghosts as a way to catch the interest of students. After the stories were reviewed they were included to aid in getting the attention of the eighth graders. Other teachers found this to be strength to the website.

#### Summary

There are two parts that are important to remember when designing a website about something as important as the Battle of Gettysburg. The first was to remember the audience that will be viewing the website. Content needs to be designed that is appropriate for their cognitive ability.

Second is the attempt to build a website that will convey much more than information about the battle. The

attempt was to help students feel something for the people who fought during the Battle of Gettysburg. Walking the grounds of the actual site in Gettysburg makes a person wonder about the people who fought in the battle. Why would they be willing to sacrifice so much? Both sides of the battle loved the country they came from and were fighting for what they thought was right. The battle was vital to preserving the United States of America. Hopefully, the proper design of the website will lead to students feeling something for those who gave so much during three days in a July that passed years ago.

## CHAPTER FOUR

### CONCLUSIONS AND RECOMMENDATIONS

#### Introduction

Building websites for students can be a rewarding experience. The website is now shared with countless teachers at the low cost of one CD-ROM. Teachers are looking forward to next year when they can implement the use of the website in their classroom. Teachers recognize the fact that their students enjoy using computers to learn with.

#### Conclusions

The conclusions extracted from the project follows.

1. When building a website about historical events it is best to visit the historical site. This adds deeper knowledge to the instructional designer.
2. Teachers should be used in order to analyze the needs of the learners.
3. There was an attempt at affective learning with the students. This can only be done by the students. No amount of design can guarantee affective learning.

## Recommendations

The recommendations resulting from the project follows.

1. More websites should be created that fit in the school year for eighth grade social studies.
2. Students should be used to build the content.
3. The use of advanced web page programs would allow for a more multimedia and interactive website.
4. The website should not stand as finished at this point. The website should be added to and subtracted from as teachers see a need to do so.

What improvements could be made to the website? With limitless resources and a team of website designers there are no limits. This scenario is improbable because of a myriad of reasons. Teachers at a middle school being the team of website designers are not only probable but doable.

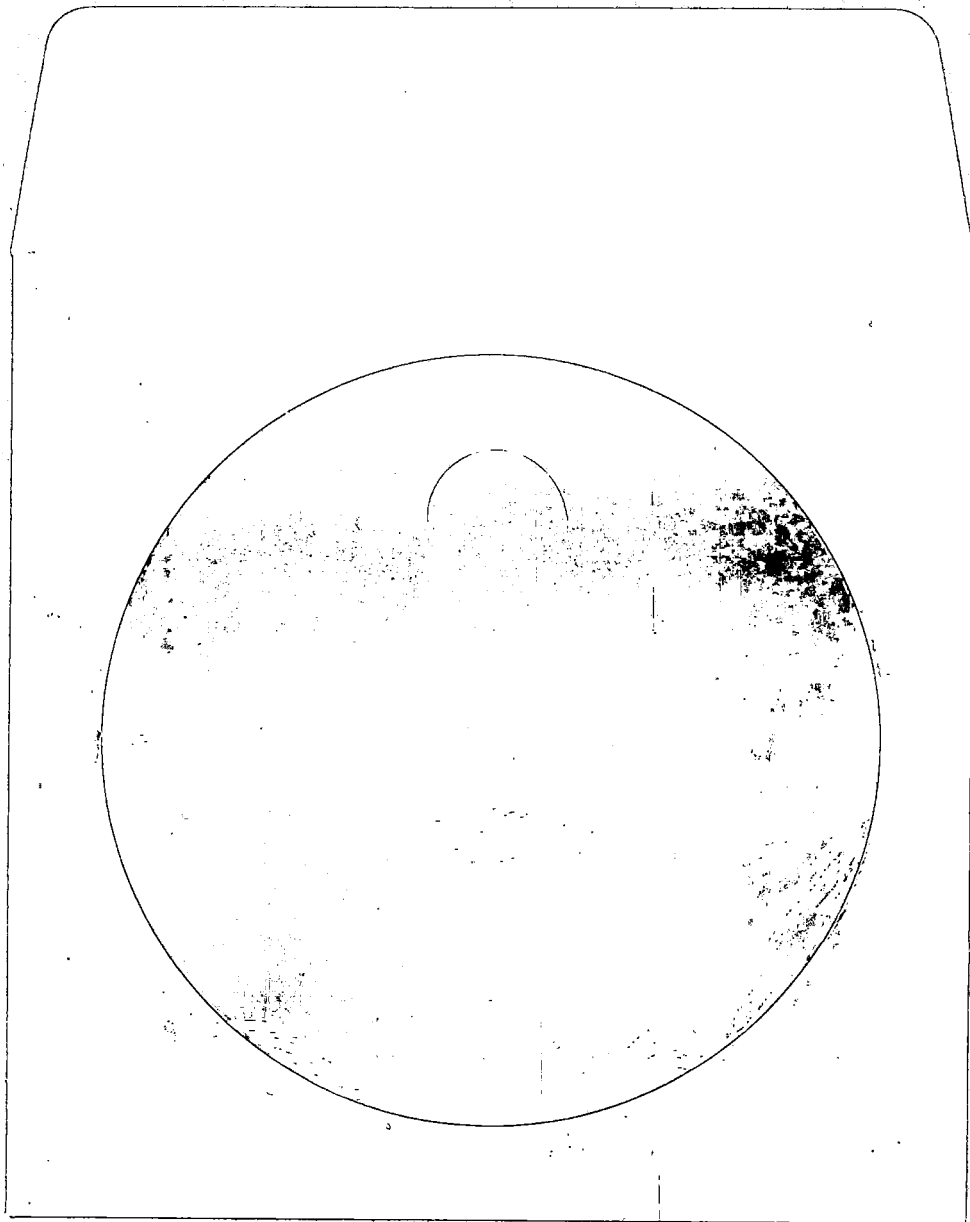
## Summary

Teachers from around the world can create websites that specialize in their field of study. If more teachers were to build high quality websites about the area of the nation or world they live in students would benefit.



Students learning would go deeper than their present efforts are taking them. This would all be done without the high costs of printing and distributing textbooks. Hopefully as the years go by and the Internet spreads more throughout the world we will see better websites.

APPENDIX  
CD OF PROJECT



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