INTEGRATED LEARNING: Fourth Grade Students Address Local History Using Stop Motion Animation

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INTEGRATED LEARNING:
Fourth Grade Students Address Local History Using Stop Motion Animation

by

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ABSTRACT

Arts integration allows students to connect disparate areas of content to create meaning and foster an understanding with academic material. This interdisciplinary classroom based study explores twenty-three fourth grade students’ work with stop motion animation through the iPad2 to retell important local historical events that took place in Northwestern Pennsylvania. The elementary students worked in animation teams of four to create short movies that capture the Battle of Lake Erie. The data was compiled through student surveys, assessments, reflections, and artwork. The integrating of art and history content proved to be beneficial in promoting student understanding as well as an increase in positive sense of place. The final results of the study allowed the researcher to offer recommendations for others using similar strategies of integrated learning. A lesson plan and examples of data collecting tools are offered in this paper.

Keywords: integrated learning, stop motion animation, interdisciplinary art education
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CHAPTER I

INTRODUCTION

Background to the Study

The elementary art classroom is a place where strong interdisciplinary connections are made between core subjects. This integration of core concepts into the visual arts bridges the gaps between content areas, thus promoting knowledge transfer. When the arts are combined with other disciplines, it encourages students to “develop new insights and synthesize new relationships between ideas” (Eger, 2008, p. 33). An interdisciplinary education in the arts develops critical thinking and problem solving abilities relevant to 21st century skills. Edmund Burke Feldman (1996), artist and professor of art education at The University of Georgia, supported this belief and stressed that “critical thinking skills cannot be taught in a vacuum... Students must perform critical acts...” (p.78). When students are involved in artful learning experiences where they are thinking critically to generate ideas, solve problems, and communicate processes that bring visualizations to life, their understanding of material is increased.

There are many time constraints faced in the elementary general education classroom. For example, within the high stakes testing environment, important subjects such as history often get pushed aside while reading and math become the focus. “Because social studies is not included in the testing agenda in district and state standardized tests, elementary teachers are choosing to spend time teaching other skills that will boost test scores” (Burstein, Hutton, & Curtis, 2006, p. 15). The minimum history content that is taught during the elementary years is most likely from a text book that lacks a personal connection with students, but helps them
achieve their test scores. The content that is covered is on a national scale and does not take into account the geographic region of the school. Elementary students not only miss out on opportunities to connect with U.S. history, but with local historic events as well. For example, the marginalization of historical concepts and local historic events occurs yearly at Union City Elementary School in Erie County, Pennsylvania. Students are not informed of the rich history that the Great Lakes maritime region of Erie County has.

The background and personal experience of the researcher involved a connection with the Erie Maritime Museum and with the U.S. Brig Niagara as a crew member. After learning the history of the Great Lakes Region, the researcher’s sense of place was increased and she felt connected to her hometown. The U.S. Brig Niagara, flagship of the Battle of Lake Erie, has its homeport in Erie County. Today, the Niagara is a fully operational ship with the Erie Maritime Museum as its backdrop. The museum’s mission is to make both national and regional history come alive when stepping aboard the ship.

**Research Questions**

The research in this study explored the question; how does integrated learning with stop motion animation and history affect a fourth grade student’s understanding of the Battle of Lake Erie? Specifically, does learning about local historical events increase a fourth grader’s sense of place?
Research Goals

The purpose of the action research study was to see how integrated learning with stop motion animation could increase a fourth grader’s understanding of local maritime events. The historical events from the Battle of Lake Erie were presented to students in the elementary art class. Students were asked to respond and retell using stop motion animation technology. The study focused on advocacy for the use of visual arts as an interdisciplinary teaching tool, as well as the engagement of students with the story of the Battle of Lake Erie.

The research examined interdisciplinary studies with art and technology, as well as visual art and history. The use of student artwork as a teaching tool was investigated. Additionally, a fourth grade student’s sense of place was examined to see if it increased after learning about local history.

Conceptual Framework

Research methods consisted of student observations, reflection questions on knowledge of the Battle of Lake Erie before and after work with stop motion animation, and pre and post sense of place questionnaires. Data was collected from a fourth grade class consisting of 24 students in which lesson plans were developed to effectively teach the facts from the Battle of Lake Erie. Students worked in collaborative movie teams of four to retell and depict with clay and paper what happened on Lake Erie in 1813. Six iPad2s with iStopMotion animation applications were used by students within their movie teams. The content of the animated movies was assessed for accuracy with a rubric. A comparison of scholarly research regarding
interdisciplinary art education with digital technologies strengthened the study. The researcher’s personal experience of working on the U.S. Brig Niagara also added to the study and illustrated a connection to local historic events.

**Theoretical Framework**

Integrated art education is congruent with the way the mind works. Marshall (2005) views arts integration as a way to promote connection making that emphasizes the mental processes of “weaving,” to generate abstract ideas, and “spinning,” to take the ideas further (p. 231). Because learning and creativity are essentially connection-making, art teachers are the connection makers between disciplines. “Arts-integration is like a weaving wherein the design may repeat a pattern or be variable...the arts are an integral part of the curriculum and are valuable in all aspects of teaching and learning” (Brown, 2007, p. 172). The way that something is organized and taught affects what students learn. The research in this study was influenced by Brown’s (2007) co-equal cognitive integration style of teaching, requiring the integrity of both integrated disciplines to be maintained. Studies (Colley, 2012; Dzuris, 2003; and Taylor, 2008) identify the benefits of teaching history through art. Technology use in the art classroom is supported through research by (Gooch and Saine, 2011; Hernandez-Ramos, 2007; and Bryant, 2010).

**Integrated Learning in the Art Classroom**

Interdisciplinary art lessons are designed to motivate students by helping them “connect art to themselves and the world around them through connecting ideas” (Simpson, 1998, p. 289). When students are presented academic content in an interdisciplinary way they are given more
opportunities to deepen their understanding. The art teacher is not only responsible for teaching skills and distributing knowledge, she is responsible for challenging students to take ideas further. Binta M. Colley (2012) described the Polk-Barr study that illustrates student ownership of history material, which:

used drama to teach students about the Chicago 8 trial. Using a case study, the author cast students as different characters, and had them reenact the trial. The results showed that in reenacting the trial, the students gained a better understanding of the trial procedure, the concept of free speech, the 1960s era, and how those events and issues are connected to today's issues. (p. 5)

Colley described the Polk-Barr study as a method to prepare social studies teachers “on ways to teach their content through the performing arts” (p.6). In general, participants found the arts infused in social studies methods not only promoted student engagement, but also gave voice to students who were rarely heard (p.4). These findings support the theory that retelling historical events through the arts increases student understanding.

**Student Engagement Through Technology**

Students blossom and increase their understanding of academic content when they are taught with interdisciplinary methods including technology. Aprill (2010) stated that student achievement as noted in test scores is not the result of test prep, “but rather authentic intellectual work -- requiring students to engage a wide range of representations and to express themselves in a wide range of forms -- that makes the difference” (p. 26). Students feel they have ownership of what they have learned, “and as a result, their perception of academic accomplishment is high” (Miller & Hopper, 2010, p. 3). Technology usage in the art room stimulates student
engagement. Pedro Hernandez-Ramos (2007) writes how digital video supports “a sense of creativity in students to promote deeper engagement with subject matter through hands-on activities, and how to involve a variety of learning modalities as opposed to predominantly passive reading and listening” (p. 33). Hernandez-Ramos discussed collaborative benefits of movie making, as well as stop motion animation in his study.

**Significance of the Study**

Research was needed for art educators and classroom teachers to use when integrating art with core academic content. It was important to find ways to connect core content with the arts and technology in a meaningful way for students. When students were involved in the construction of a response to an interdisciplinary prompt through art they made deeper connections. “When students become interested in a topic that is taught in more than one subject, they are more likely to be motivated to pay attention in class and have a desire to learn” (Lee, 2007, p. 159). Interdisciplinary animation in the art room served as a bridge to connect students with their local history. Combining Erie’s rich maritime history with art allows students to make deeper learning connections and feel pride in their community.

The study was important to the researcher since the majority of Union City Elementary students did not have a current understanding of their local maritime history, unless they visited the Erie Maritime Museum with their family. It was important to find ways to teach history in meaningful ways which encouraged students to understand and retain the content.
Limitations of the Study

Limitations of the study included time constraints and the acquisition of materials. The iPad 2s that were used were shared by all elementary teachers within the building. Signing out the iPad2s weekly for a forty minute time block alleviated this problem. Since the iPad2s were school property the student video footage was not saved permanently to the iPad2 and needed to be extracted after each class. Time constraints were of concern due to the researcher’s access to participants only once a week for forty minutes.

Summary

This chapter set the stage regarding the need for interdisciplinary art education and the teaching of local history events through stop motion animation. The research goals and questions were addressed that explored retelling the Battle of Lake Erie to increase the understanding of history and the fostering of an increased sense of place. Research methods were explained that consisted of working with 24 students using stop motion animation techniques to create movies that were used as teaching tools. Literature was examined that pertained to integrated learning in the classroom as well as student engagement through technology. Limitations to the study included time constraints and various technology usage issues. Chapter Two discusses existing interdisciplinary art education methods and theories revolving around the integration of history and technology in the art classroom.
Definition of Terms

Stop Motion Animation- An animation technique that makes a physically manipulated object appear to move on its own. The object is moved on its own in small increments to create the illusion of movement when a series of frames are played in a continuous sequence.

Interdisciplinary Art Education- Teaching core academic content through visual arts while maintaining the integrity of both disciplines.

Integrated Learning- Connecting skills and knowledge from multiple sources, making connections between academic subjects and visual arts.
CHAPTER II

LITERATURE REVIEW

Introduction

Elementary teachers are faced with daily time constraints in a high stakes testing environment that pushes subjects like history to the side, while math and reading skills become the focus. Through interdisciplinary art education, the art teacher can teach core content with the visual arts. The focus of this action research study was to see how integrated learning with stop motion animation and history affected a fourth grade student’s understanding of the Battle of Lake Erie. Specifically, does learning about local historical events increase a fourth grader’s sense of place? The researcher has developed interdisciplinary art lessons that focused on teaching local history concepts from the Battle of Lake Erie to fourth graders and has witnessed the engagement students exhibit when they learn in an integrated way.
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**Conceptual Framework**

“How does integrated learning with stop motion animation and history affect a fourth grade student’s understanding of the Battle of Lake Erie?”

“Does learning about local historical events increase a fourth grader’s sense of place?”
Review of the Literature

The literature that composed this action research study was compiled in two areas of significance: integrated learning in the art room and technology use in the art room. The first section covers the meaning of integrated learning, the impact of integrated learning on student achievement, and the combining of history with art. The second section addresses stop motion animation used in the art room and student motivation through technology use.

Integrated Learning in the Art Room

The type of integrated learning described in this study is recognized by Brown (2007) as a “co-equal cognitive integration style to teaching and learning” (p. 172). This approach requires the art teacher to have a deep knowledge of both history content and the visual arts, maintaining the integrity of both subjects. Krug and Cohen-Evron (2000) support this style of arts integration that focuses on the arts as a way of learning in other disciplines that involves creative, imaginative, and purposeful collaboration between academic and art content. The visual arts provide a comfortable medium for students to explore interdisciplinary themes. For example, when a fourth grade class was asked to retell events from the Battle of Lake Erie with paper and clay models, ideas were “made concrete for students through an artist’s representation” (p. 265). A complex academic topic that is presented in a meaningful way through the visual arts allows students to show deeper understanding of the material.

Brown (2007) challenges art educators to become “connectors of ideas and concepts through arts integration .... [where the] process of teaching and learning focuses on parallel concepts and promotes the transfer of knowledge...” (p. 174). The connection of ideas and
concepts through integrated learning lessens the chance of the compartmentalization of knowledge. Instructional strategies should not be reduced to activities divided into individual blocks of time that sequester subject matter. For example, when visual arts are combined with core academic content, knowledge is less likely to be fragmented due to the joining of two disciplines into one cohesive whole. Brown (2007) views this as a “multi-dimensional model of transfer, in which learning in all disciplines is interrelated through various cognitive capacities” (p. 173). Aprill (2001) supports Brown’s model, stating “it is the interaction of and the translation between the arts ... [and] the different domains of knowledge which generates the learning as authentic intellectual work” (p. 26). Fourth graders who engaged in a wide variety of authentic interdisciplinary tasks that examined history with the arts demonstrated achievement beyond a test score.

Student achievement

Students interpret their world in a visual manner. The arts combined with academics “vividly engage[s] students of widely varying abilities and thus increase[s] their success...” (Nathan, 2008, p. 178). Students learn, when they are active in their own learning, that there can be more than one answer to solve a problem. For example, when fourth grade students retold historical maritime events using stop motion animation they were making judgments with their art on ways to best communicate a story. Unlike much of curriculum today which is driven by correct answers and one right way to achieve something, the arts embrace creative problem solving that helps students to see unexplored possibilities in academic content. Krug and Cohen-Evron (2000) recognize “interpretations through the arts can increase student
opportunities to view realities other than as the organization of objective facts...[which] embrace processes of learning as the reconstruction of knowledge...” (p. 268). Integrated teaching strategies encourage learning. “Students connect to material with a resonance that feels completely their own and unique” (Nathan, 2008, p. 179). The classroom environment transforms into a place where students feel comfortable with their skills and abilities and ultimately become passionate about their studies.

**History and art education**

Elementary teachers are faced with challenges when teaching history in the classroom because the discipline is so broad in content. The way history curriculum is taught, through textbooks that create boundaries, presents a problem when teaching a complex area of study to elementary students. In the primary grades, Colley (2012) has found the integration of history and art a compatible pairing that enhances learning in the classroom (p. 5). History provides a context for the creative arts, such as drama, music, and visual art, that makes learning rich. Dzuris (2003) also found that interdisciplinary work increases students’ understanding of history and creates “a sense of perspective ... when previous boundaries are left behind” (p. 332). Learning about history events through the performance art of reenacting and the visual arts allows students to work through a tangible process and product that has meaning.

Colley (2012) demonstrated that the arts can be used as a vehicle for teaching history authentically to elementary students with a study using preservice teachers and the performing arts. It was found that students remembered content when they were active in their learning through the dramatization of historical events. When history was brought to life students became
more interested. Several other studies (Dzuris, 2003; Taylor, 2008) note the importance of using arts integration with history content. Dzuris discussed how the oral tradition of American folk ballads can teach American history. Students analyzed song lyrics for historical content and became ballad creators, passing their stories on to others. Taylor used performance art to contribute to student and teacher understandings of social studies. She found that teachers learn better when they learn through arts integration with performance art and history. “The collaborative project between the University Musical Society and the School of Education and the University of Michigan-Dearborn suggests that integrating social studies and the performing arts increases the understanding of both fields by educators” (Taylor, 2008, p. 238). These findings support the focus in this study. For example, when fourth graders began to think from a historical standpoint, took an event from the Battle of Lake Erie and made it real through stop motion animation, their attention was captured in bringing a story to life.

**Technology Use in the Art Room**

Gooch and Saine (2011) view the integration of the visual arts and contemporary computer technologies to be very important for critical thinking and analyzing information. In an assessment based curriculum driven by reading and math, it is important to empower students to “express their authentic voices ... using relatable technologies” (p. 92). Incorporating technologies into the classroom, such as iPads, advances academic content with an approachable, user-friendly method. Learning increases when students build on their existing knowledge, filling in the gaps, and building on ideas. Students are able to work through ideas independently and collaboratively while using contemporary technologies.
Vygotsky’s (1978) constructivist theory supports collaborative discussion-based problem solving in the classroom. “Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level...” (p. 57). Working in collaborative movie teams of four with stop motion animation helped students to actively construct their knowledge of academic content. Hernandez-Ramos (2007) links video projects in the classroom to constructivist theory where learning is student centered, constructive, cooperative, authentic, and creative. Video technologies, such as stop motion animation are natural bridges for interdisciplinary collaborations (p. 37).

Technology as a motivator for learning

Today’s society is stimulated by technology in everyday life. “It is important to draw on students’ abilities and interests to enhance critical thinking and problem solving” (Gooch and Saine, 2011, p. 98). Bryant (2010) cautions that “with any media, especially computer technology, it is tempting to assume that students will be motivated to learn a technique as a result of its novelty .... Eventually the newness factor abates...” (p. 44). The art problem must motivate students to stay focused on finding solutions. Bryant also states that stop motion animation creates a powerful combination of personal meaning and collaborative teamwork strategies that “lead to engagement and ultimately fostered a sense of empowerment never before witnessed in my [her] classroom” (p. 47). It is the job of the art teacher to provide opportunities of purposeful and artistic uses of technology to students of all ages. When students create interactive pieces of art that can be used as teaching tools for others a sense of pride is fostered.
Summary

This chapter showed how integrated learning with history and art in the elementary classroom is beneficial to students on many levels. Students are able to transfer knowledge between disciplines and show greater achievement when core content is learned through the arts. Research studies (Colley, 2012; Dzuris, 2003; and Taylor, 2008) provided evidence that, when history was combined with the arts, students increased their learning, understanding, and engagement with the material. Technology use in the art room was also addressed, focusing on the iPad as a user-friendly learning tool. Students are able to respond to art problems in a hands on way with the use of the istopmotion animation application for the iPad2. In Chapter Three, the researcher will begin to explore the methodologies for conduction the action research study combining integrated learning in art and history with stop motion animation. Further discussion of the data collection and analysis of the study will also be discussed.
CHAPTER III

METHODOLOGY

Design of the Study

This qualitative action research study was designed to explore and assess student understanding of local historical events through the art of stop motion animation. The researcher’s primary goal was to assess whether or not student understanding of maritime history concepts increased after using the art of stop motion animation to retell the event. A qualitative classroom based study allowed the design of a unit that dealt with the Battle of Lake Erie that took into account student’s engagement, sense of place, and understanding of history. Research conducted in the classroom allowed students to feel comfortable in a familiar environment with their peers. Photographs, visual observations, surveys, assessments, and reflection questions helped the researcher conduct the study.

The stop motion animation lesson was designed to give students the opportunity to make history come to life in the classroom. The researcher began by having students take a sense of place survey to use as a starting point for the local maritime history that would be taught. Students were then presented with a visual history lecture of the Battle of Lake Erie with artist images such as Julian Davidson’s, *The Battle of Lake Erie*. An assessment was given after the initial history lecture that provided the researcher with data to compare against post assessments after working with stop motion animation.
Site Selection

Union City Elementary is a two-school district located in Erie County, Pennsylvania. The elementary school consisted mainly of very low socio-economic status families. State test scores were always at the low end of the spectrum, forcing teachers to focus on test prep daily. Pressure for increased scores pushed subjects like history to the back burner of the curriculum, since they were not tested. The researcher found that the majority of students lacked an understanding of local maritime history that was important to the town’s history. Students in fourth grade were not fulfilling the state requirement of covering regional state history in school. These observations lead the researcher to create an interdisciplinary unit that could help students understand difficult history concepts through art.

Participants of the Study

The twenty-three fourth graders used in this study attended art class once a week for forty minutes. Of the twenty-three students, twelve were male and eleven were female. These students were between the ages of nine and ten years old. This class of caucasian students had one autistic male, one male on a behavior plan, as well as one male and two females who struggled academically.

Data Collection

Data were collected using surveys, assessment questions, and observation within the classroom for six weeks, during a stop motion animation unit where students illustrated the Battle of Lake Erie which was recorded with an ipad2. The researcher had access to the students
once a week for a 40 minute art period. Week one consisted of a sense of place survey, history lecture and assessment, and an introduction to the prop list in movie teams. See Appendix A for complete information. Week two tasked the students with building the props for the movie and an introduction to the history fact sheet that would be used during animating. This checklist is also available in Appendix A. Week three allowed students to finish the props and begin illustrating storyboards with the sequence of history events. See Appendix A for an example of the story board. Week four introduced the students to the ipad2 and use of stop motion animation. Students practiced arranging their props with the help of their story boards. Week five allowed students to complete their movie project and the final week was used to wrap up the unit with post assessments and reflections, as well as post sense of place surveys and the viewing of the movies as a class.

Stop Motion Animation Unit

The lesson that was presented to students focused specifically on the maritime battle plan of the United States and the British during the Battle of Lake Erie in 1813. Six groups of four were established to create one movie each, which resulted in total of six movies produced by the class. The movies illustrated the same event in maritime history but were executed in unique ways, different for each of the six groups. Students learned the facts from the battle, designed props to effectively illustrate the opposing sides, created story boards to frame the sequence of events, and animated a stop motion movie to retell the battle plan. Students worked collaboratively in movie teams of four to complete the tasks. The teams divided themselves into groups of two within the movie team to designate responsibilities and act as the two opposing
sides, the United States and the British. The use of an animator’s prop list aided the students in the creation of battle ships and other necessary details. A history fact sheet also assisted students in the sequence of events for moving the 3-D props.

**Instructional Methodology**

Students began the initial stages of building their movies with a prop list that showed the necessary details to include their work. Building the battle ship props as 3-D sculptures offered a tactile approach where the actual forming of individual ships highlighted the necessary details of the battle for students. The researcher questioned students about showing the time of day, water moving, cannons firing and hitting ships, and the differences in the opposing fleets with art materials. Students were able to sketch their animation ideas in a series of story boards that acted as an animation plan. Information handouts, such as the Battle of Lake Erie fact sheet, assisted students in the design of their movie. Students also viewed teacher demonstrations of how to use an ipad effectively with stop motion animation techniques. Students completed post assessment questions about their understanding of the Battle of Lake Erie and a post sense of place survey upon the completion of the unit.

**Sense of Place Surveys**

The pre and post sense of place surveys were used by the researcher to understand student feelings about the Battle of Lake Erie. These surveys were completed both before beginning the stop motion animation unit, and after. The researcher designed questions to be answered with written responses because she wanted to identify how students initially felt about
where they live so the results could be compared after completing the animation unit. The survey was designed for students to reflect on their prior knowledge and new understandings. After completion of the unit, students were given the same place survey with space for written responses. The repeated place survey allowed the researcher to understand how learning about local history influenced a student’s sense of place.

**Battle of Lake Erie Assessment Questions**

Students were presented with an initial visual history lecture at the beginning of the unit. Assessments were immediately given that asked students to respond to questions pertaining to the Battle of Lake Erie. This information was saved for a comparison to the same assessment that was given at the end of the stop motion animation unit. The researcher wanted to see if reenacting the battle using 3-D sculptures and stop motion would help students to retain and understand the content. At the end of the six week study, students were given four reflection questions regarding the use of stop motion animation in the classroom to teach history. This provided students with opportunity to describe their feelings about interdisciplinary education, which was used to reinforce the researcher’s theory of technology use in the classroom and increased engagement with material.

**Classroom Observations**

Students were observed during the forty minute art class for the entire six week research study. The researcher used photographs to capture moments of genuine student engagement with content and materials as well as video of the stop motion animation process. Students were
observed during problem solving tasks, working within the movie team, and building of the props. Documentation of the creative efforts and engagement that students exhibited were important to the study.

**Data Analysis**

Data were continually analyzed throughout the six week stop motion animation unit. Comparisons were made between assessments and surveys given before and after the stop motion technology use and the constant comparative method of data analysis was used. Student movies, props, and story boards were analyzed using the an assessment rubric which can be found in Appendix A. Final student reflections allowed for the possibility of evidence of student engagement with the material. Analyzing the data in several different ways strengthened the findings of this interdisciplinary study.

**Summary**

Fourth grade students were tasked with retelling the Battle of Lake Erie through stop motion animation. The reenacting of historical events using an iPad2 provided an opportunity for students to have a greater connection and understanding of the material. Students worked in movie teams of four to create accurate props, story boards, and movies that depicted the battle plan between the United States and the British. Sense of place surveys were used before and after work with animation, as well as pre and post assessment questions on the details of the battle. Classroom observations provided the basis for recording student engagement with the
material and technology. Data were analyzed using the constant comparative method. Chapter Four provides an analysis of the data and results of the study.
CHAPTER IV

RESULTS OF THE STUDY

Introduction

This chapter presents data that was gathered in written and visual form to examine the effects of integrated learning with stop motion animation and history concepts in the art room. The research was conducted at Union City Elementary School with twenty-three fourth grade students. The study took place over a six week period during which students learned about the Battle of Lake Erie and used stop motion animation with the iPad2 to retell the history of the battle. Data was gathered from the fourth graders in the form of artwork, movies, written assessments, written reflections, and surveys. The results from the study are further discussed and analyzed in this chapter.

Significance of the Study

The evidence surrounding the use of stop motion animation to increase student understanding of local history concepts was consistent and in support of the findings. Analyses of written assessment content, written reflections, sense of place surveys and student artwork all confirmed a solid coherence in the data. Triangulation between the sources of data yielded evidence that student understandings of the Battle of Lake Erie increased along with their senses of place, due to their understanding of this local historical event. Student post assessment scores showed a positive increase in understanding of history concepts when compared to pre assessment scores. Reflections regarding the use of stop motion animation as a teaching tool
offered the researcher direct evidence of the student confidence with this method of integrated learning.

The findings from this classroom-based study allowed the researcher to recognize an increase in student confidence with the history material based on the use of iPad2’s and stop motion animation. Students were more confident answering assessment questions after participating in the retelling of history events using stop motion. Data shows only three students asked the researcher questions during the post assessment compared to the eighteen questions that were asked during the pre assessment. When students were engaged in the animation process they naturally began discussing with teammates possible solutions to the movie challenge. The performance task of retelling the battle plan proved to be an intrinsic motivator that bridged the gaps for student success.

The findings of this study were consistent with other literature discussed in Chapter Two. When students were engaged in integrated learning through history, technology, and the arts they were motivated to connect ideas that created meaning. It was important to maintain the integrity of integrated disciplines so knowledge could be properly transferred and applied to new content. The researcher’s belief that stop motion animation would serve as a motivator was confirmed by (Bryant, 2010; and Hernandez-Ramos, 2007) work with video and animation technologies in the art classroom. Students who were given a task to retell important events in history have a meaningful job and the ability to connect and teach others through art.

Integrated learning through art and history was beneficial to students on many levels. Students learned and retained content in a multi-dimensional way. In the 21st century classroom, efforts were made to integrate content areas while maintaining the integrity between disciplines.
When infused throughout the curriculum in meaningful ways, “the arts have limitless potential to impact learning, teaching and the school community in a holistic fashion” (Appel, 2006, p. 17). The technology of stop motion animation added to integrated learning and aided in a constructivist approach to art education. When elementary students worked in teams to retell a historical event, their personal artistic ideas, combined with the facts, created a work of art. The conversations and troubleshooting within the collaborative movie team lead to greater insights for the students.

**Bias and Validity**

The researcher paid close attention to the data that was collected throughout the study. The data presented is an accurate representation of student achievement in the unit of study. Triangulation was used to confirm the findings of the researcher and maintain the integrity of student responses.

**Constraints**

The results of the integrated art and history unit of study showed that stop motion animation used in the art room increased student understanding of difficult history concepts. A possible constraint to these findings is that students were given more exposure to the history content before taking the post assessment. The increased understanding of the content could be correlated with the remaining classes that were held to learn and discuss the material, after the pre assessments were given.
Validity

A fear of arts specialists is when the arts are used to support “superficial learning activities that address neither the goals of arts learning nor those of another subject area” (Brown, 2007, p. 172). It was very important to the researcher that the validity of this study was preserved along with the integrity of integrated subjects. If the art teacher does not have a proper understanding of another subject area, the integrity of the discipline is not maintained. The researcher’s deep knowledge of local history content was used for the arts integration to increase student understanding. High quality arts education must be authentic and maintain integrity in all subjects.

Analysis of the Data

Stop motion animation allowed students to work through history content in a hands-on way as opposed to predominantly passive reading or listening to lectures. The researcher theorized that learning local history content in an integrated way with stop motion animation would both increase student understanding and sense of place. The study was designed to illustrate the possible ways that students could benefit from integrated learning in the art room.

Surveys and Assessments

Prior to the stop motion animation unit, students were presented with the history of the Battle of Lake Erie in a lecture format. Students were engaged with the story but had many questions pertaining to the content. Pre and post assessments were given that only asked questions specific to the Battle of Lake Erie history that was taught. The researcher analyzed the pre and post data of the same assessment by looking for depth of understanding in the written
answers. The amount of writing for each answer, along with the clarity of the sentences, allowed for the researcher to see if students were actually understanding the content. Assessments were graded for accuracy and logged.

The surveys used in this study measured a student’s sense of place. The same questions were asked of students in both the pre and post survey. The researcher looked for positive answers to questions about the students home town and feelings about the history that happened there. The positive responses were counted and recorded during both pre and post administrations. The number of times that the Battle of Lake Erie was mentioned, or anything pertaining to this history were recorded separately in both surveys. The written responses from the surveys offered important information to the study.

**Student Reflections**

Following the conclusion of the unit of study, the researcher asked students questions about their experiences while working with stop motion animation. The student responses were then analyzed by the researcher to gather further information about the strengths of the study. The reflections were read and recorded as to whether students found this type of learning in the art room to be positive. The percentage of positive remarks were compared with the percentage of negative remarks to show the student view of the integrated learning method.

**Results**

**Pre Assessment Data**

Students were presented with the history of the Battle of Lake Erie in a lecture format during week one of the unit. An image board was used to aid in the instruction and provide
pictures to fit with the history that was discussed. Students were very engaged throughout the twenty minute lecture and asked many questions about the content. When given the pre assessment, students immediately looked to the picture board, which was not displayed, for help in answering the questions. Students lacked confidence in their answers, asking a total of eighteen questions to the researcher. When told that they could not be aided during the assessment, the students looked to their peers for help, having table discussions about the questions and possible answers. Students seemed to have a general idea of the battle but could not formulate a detailed answer on paper. The pre assessments contained many question marks in place of answers and fragmented sentences, leading the researcher to conclude that there was a lacking of understanding of the content amongst the entire class. The data shows that 43% of the class missed between zero and two questions and 34% missed three or four questions. See Figure 4.1 for more information.

A second pre assessment task that was given to students after answering questions about the Battle of Lake Erie was a sense of place survey. This short questionnaire caused more anxiety for students than the previous assessment did. Students were cautious of their answers and were vigilant of other students looking at their papers. The researcher noted several students erase answers because a peer had persuaded them in a different direction. It was evident to the researcher that most students did not have an understanding of their place or the history that occurred there. Many students had answers that pertained to the elementary school which is considered to be at the heart of the community and a consistently important part of the students’ lives. To answer the question, “What is special about your town?” many answers pertained to local businesses such as McDonald’s, Subway, and Fox’s Pizza getting a gas station. Three
students wrote “nothing” as a response to this question. Only eleven students out of the twenty-three noted the Battle of Lake Erie as a historic event that happened in Northwestern Pennsylvania. This was shocking to the researcher since the Battle of Lake Erie was just discussed before the administering of the survey. The number of positive answers were counted in the pre sense of place survey, equalling eighty-eight out of one-hundred-fifteen questions.

Pre Assessment Data

![Pie chart showing pre assessment data](chart.png)

*Figure 4.1.* This chart illustrates the pre assessment data collected after students were initially introduced to the Battle of Lake Erie. The legend notes the number of questions that were missed by students.

**Integrated Instruction**

The remaining weeks of the unit presented students with the history content again. Students were eager to begin making their props, sculpting their ships, and planning their movies. It was evident through conversation that students called upon their prior knowledge of
tall ships from movies such as The Pirates of the Caribbean when they created their ships. They were motivated by the unique differences between the United States and British ships and asked the researcher many questions about the history of the battle. Students naturally formed their animation teams and understood why it was important to have two separate groups of colors to represent the two sides of the battle. Students began discussing with their movie team ways to show cannonballs moving (by attaching them to wire and slowly moving them towards another ship) and water (using ice on paper). The groups of four really seemed to work together even though they were essentially working on separate sides. Figure 4.2 shows the progression of student work with props and storyboards.

Figure 4.2. Part 1 of 2, examples of props.
The animation took place once student groups had storyboards and props completed. Figure 4.3 shows the animation station with the iPad and props. Students were shown a demonstration of stop motion animation by the researcher first. Jobs were assigned to each movie team such as a camera man, two U.S. animators and one British animator who were in charge of moving their designated props. An emphasis on teamwork and problem solving was evident.
The movie teams animated their Battle of Lake Erie movies during three art classes. Figure 4.4 shows the teams hard at work. One of the obstacles that arose was the stability of the iPad2. Since the camera used was contained inside the iPad2, students needed to be extra cautious of holding the iPad2 steady, so as not to alter the frames. Reviewing and restructuring of the footage took place regularly within the art room. Another obstacle was making sure the students retold the story slowly enough to be understood in a playback. Students were excessively eager and seemed to hurry through steps, not understanding that the slower the ships moved the better the capture would be. The researcher had groups view each others’ movies to see how important it was to exaggerate the events for better viewing and understanding of content.
Post Assessment Data

Students were given a post assessment during week six of the unit. This final assessment was administered one week after working with the iPad2 and the history material. Students
completed the assessment with excitement and energy that was not previously seen during the pre assessment. The researcher was only asked three questions from students during the post assessment as shown in Figure 4.5. Two of the questions dealt with spelling and one question had to do with a clarification of wording. This change in numbers shows an increase in student confidence of the material. The results of the assessment also showed more confidence in the understanding of the material as students elaborated on answers and did not leave any blanks.

Figure 4.6 shows that the percentage of students to miss between zero and two questions increased by 91%. Figure 4.7 shows each students scores on both pre and post assessments.

There is a clear overall improvement in scores: nineteen students showed growth, three students maintained the same score, and only one student had scores drop. Figure 4.7 shows Student M with a higher pre assessment score than post assessment score which could be attributed to her two absences during the animation weeks of the unit. Overall, 83% of the class showed improvement in understanding the history content pertaining to the Battle of Lake Erie. This growth is illustrated in figure 4.8.

![Graph showing number of questions asked during pre and post assessment](image)

**Figure 4.5.** This graph illustrates the number of questions that students asked the teacher during the pre assessment compared to the number of questions asked during the post assessment.
Figure 4.6. This chart illustrates the post assessment data collected after students completed stop motion animation movies retelling the Battle of Lake Erie. The legend notes the number of questions that were missed by students.

Figure 4.7. This graph shows the improvement of student scores after the use of stop motion animation with a comparison of pre and post assessments.
The post sense of place survey was administered to fourth grade students upon completion of the Battle of Lake Erie post assessment. There was a direct correlation between positive sense of place statements and the Battle of Lake Erie. Figure 4.9 shows seventeen students mentioned the Battle of Lake Erie in their responses at least once, compared to the pre survey of only eleven students. The students answered the post survey of one-hundred-fifteen questions with a total of one-hundred-two positive responses. Overall, positive answers increased after work with stop motion animation and local historical content. Students were taught about an event in history that connected to their personal place. Students who previously answered “nothing” in response to the question “What is special about your town?” had detailed responses like “We built the ships for the Battle of Lake Erie.” Five students had a similar response for that question, which was not used as a response in the pre survey. It was evident in the surveys that students identified with the content as their responses were written using the
word “we” instead of the “United States.” The researcher noted an empowerment in students when they discussed the victory of the U.S. over the British, as if they had a personal connection to the battle.

Figure 4.9. This graph illustrates the correlation between the overall classroom increase in positive answers regarding the students’ sense of place to surveys that included references to the Battle of Lake Erie.

Student Reflections

The final assessment tool that was used in this research study was a student reflection worksheet. Students were asked four questions pertaining to stop motion animation and using this style of learning again in the future. Figure 4.10 depicts the percentages of students who
thought that stop motion animation should be used as a teaching tool. The results show that 87% of the class believed that this style of learning worked and should be used again. Positive responses to the question “Do you think stop motion animation could be used to teach your friends about history” included answers such as:

• “Yeah, I guess so, it is a fun way to help people learn more about things.”
• “Maybe because once you are done you could show your friends your movie.”
• “Yes because you could make a bunch of stuff about history and then show it to your friends.”

Negative responses included answers such as:
• “No because there is no talking in the movie.”
• “No because it has no information.”

Students thoroughly enjoyed using the iPad2s for animating purposes. History content was learned and retained in an enjoyable way. Students were active in their learning and benefited from the interdisciplinary method of instruction.

![Agree vs Disagree Pie Chart](image)

*Figure 4.10.* This chart illustrates student reflections on whether stop motion animation can be used successfully as a teaching tool.
Summary

The research question in this study asked if students would increase their understanding of local history content, in turn increasing their sense of place, if an interdisciplinary approach was taken using stop motion animation in the art room. Evidence from the findings shows students clearly understood content in a deeper way after retelling their stories using stop motion animation. The final sense of place surveys offered evidence to an increased sense of place and connection with the community when the understanding of local history was established. The findings have confirmed that integrated learning with art and history is beneficial to student achievement.

Chapter Five will contain specific recommendations for integrated learning in elementary classroom. The results of the study will be shared with the intermediate level teaching staff of Union City Elementary, as well as ways to integrate art into the regular classroom’s academic content. Further research into the success of integrated learning is needed to solidify the findings of the researcher, which will be discussed in the final chapter.
CHAPTER V

DISCUSSION AND CONCLUSION

Introduction

The researcher began this study interested in the ways that students learned. The research explored the question; how does integrated learning with stop motion animation and history affect a fourth grade student’s understanding of the Battle of Lake Erie? Specifically, does learning about local historical events increase a fourth grader’s sense of place?

The findings showed that when students of the fourth grade used the modern technology of stop motion animation to complete a task of retelling the Battle of Lake Erie factually and with personal artwork, there was an increase in student engagement with the material, in the sense of place, and with history content. It is imperative to build opportunities to teach about the local into the curriculum. The field of art education must embrace the changing dynamics of art education. Art education is no longer able to be art for art’s sake.

This chapter discusses how the classroom based study had an impact on the researcher. This study focused on why authentic arts integration is necessary in an elementary classroom and ways that a teacher can integrate learning. Recommendations are offered for colleagues who are interested in using technology to facilitate interdisciplinary learning. Suggestions for improvements or changes that could be made to the study are shared as well as the conclusions of the research.
Discussion

Personal Impact of the Study

This classroom based study has shown how students thrive when their learning is paired with the arts and technology. The researcher saw how students connected multiple content areas naturally and confidently with stop motion animation technology. The content was not only retained but it was also strengthened when students shared their found knowledge with others in the school. More opportunities for technology use in conjunction with other academic disciplines will be used by the researcher based on these findings. Students also showed great awareness and pride in their community after learning about local history. “Students learn better when they can connect their learning in meaningful ways to their own lives...” (Ball and Lai, 2006, p. 268). Connections to other aspects of local history will also be included in the elementary art curriculum.

Impact on Practice

Students were highly motivated to accomplish the task of retelling a moment in history through stop motion animation. After seeing first hand how students reacted to a lecture format of teaching the history information, the researcher knew how important the integrated, student guided approach was to learning. The learners actively constructed knowledge in a “dynamic process” through which they built “upon prior knowledge” and reformulated previous understandings” (Stewart & Walker, 2005, p. 69). The fourth graders were constructing their own knowledge and sharing it with others through the creation of their movies. This inspired the researcher to use the movies as teaching tools for other grades to learn about the local history. The researcher connected with regular classroom teachers to share insights into using the
istopmotion animation application with the iPad2s in the classroom. It was important for other educators to realize that stop motion animation use was not limited to simply the art room. Several primary teachers began using the application with students to build meaning behind their vocabulary and spelling words through the simple animation process. Students were communicating through art in a new and meaningful way.

The unit on the Battle of Lake Erie was chosen for the study because of the need for students to understand local history. By linking Pennsylvania visual art standards with the history standards, students could connect big ideas such as community, conflict, and commemoration. Students with diverse learning styles were able to achieve greater understanding of difficult historical themes through the artistic process, which allowed them to connect more fully with the meaning of historical events. The construction of personal art responses allowed students to collaboratively create a stop motion animation movie with a group of four. The unit of study emphasized critical thinking skills, pushing students to think through complex ideas relating to art and local history. The weekly lessons were structured for opportunities to apply art skills to make complex decisions and solve problems in innovative ways. Students were taught that collaboration and working together toward a common goal while valuing others’ contributions made the final product powerful. When students created authentic art they were given a purpose and were expressing thoughts and feelings in ways that others can learn from.
Recommendations

This study could continue to be taken in new directions, teaching local history content to elementary students. The researcher noted that teaching different aspects of the Battle of Lake Erie, such as the building of the fleet, crossing of the sand bar, etc. could have been used as prompts for retelling with stop motion animation. The study could have been broader if individual student groups had animated these different aspects of the battle and then had the other groups view the movie, extracting the content and learning the history through their peers’ artwork.

Time was a great constraint during this study and required continuous adaptations on the researcher’s part to guarantee completion. A recommendation for smoother technology use would be to have the technology teacher within the school orient students to the iPad2s first. If this is not an option, then having an initial exploratory day with the iPad and application would be necessary before beginning any formal projects. The more exposure students have to the device, the more their confidence is built.

Suggestions for Educators

Educators who are interested in implementing an arts integration approach must keep in mind the authentic purpose of the arts in education. The arts have spent a great amount of time in curricular segregation. For many years, art educators lobbied for the arts to be valued as their own separate subject in comparison to the core subjects of math and reading. Art education’s long history of marginalization within the education world left teachers asking, are the arts taught most effectively when they are taught for their own sake? Constance Bumgarner Gee (2007) claimed that “since Sputnik and the advent of the more math, more science, era in public
education, arts educators and researchers have sought evidence of knowledge and skill transfer between arts learning and academics” (p. 6). Discrepancies between the way art is taught to youth and the way artists value the arts is dangerous to the field. She felt the field of art education was pressured to claim the ability of increasing math and reading skills to justify funding. Valuing art education has moved away from mere appreciation of the intrinsic qualities of visual works. Bumgarner Gee warns, “let us always keep in the forefront the survival and health of the field; the survival and health of the means to educate students K-university in and about the arts” (p. 11). Art education promotes interdisciplinary thinking in that “everything interacts; there is no content without form, and no form without content” (Eisner, 2009, p. 7). The arts are natural allies in the demand for a more balanced and comprehensive elementary education.

The job of the art teacher is to inspire students to take ideas further. The connection of disciplines makes this happen. This style of integrated learning and teaching also advocates for the art program, making the art program an asset to the school. Students learn through action and no teacher knows that better than the art teacher. Meaningful lessons that require critical thinking skills and cooperative group work prepare students for their futures. Opening the doors by connecting content areas will inspire students to deepen their learning in both the arts and general education.
Conclusion to the Research

The use of stop motion animation technology in the art room to integrate learning with art and history proved to be very successful. Fourth grade students learned about the local history of their geographic region with the Battle of Lake Erie, increasing their senses of place and understandings of history. This classroom-based study showed evidence that when students created authentic art they were given a purpose and were expressing thoughts and feelings in ways that others can learn from and understand. Art integration pushed students to think through complex ideas relating to history and art.

Participants in this classroom-based study benefited from using technology and integrated content. It is important to note that more studies of this kind are needed to better understand the effects of teaching history through the arts. A solid foundation of knowledge is needed in both content areas to maintain the integrity of the disciplines. Studies could be conducted for longer periods of time with multiple history units exploring different concepts. In addition, a comparison of student scores should be made with student scores from classes who do not use integrated methods of learning. It is the researcher’s hope that in the future, teachers of all grade levels will feel comfortable integrating the arts into their academic content, with the guidance of the arts specialist in the building. Integrating the arts into learning allows students to creatively problem solve and make life long learning connections.
REFERENCES


APPENDIX

A1 Lesson Plan

LESSON- Retelling the Battle of Lake Erie through Stop Motion Animation

LENGTH OF LESSON: 6 classes, 40 minutes each

RELATIONSHIP TO LIFE: Students are given a task to work with a movie team to illustrate the Battle of Lake Erie. Working towards the common goal of a stop action movie allows students to see first hand how relying on others within a team to do a job will get the work done quickly and efficiently. The movie team allows students to build on each other’s ideas, reinforcing history concepts. Students discover that important history events took place in their community 200 hundred years ago.

PROBLEM/ACTIVITY: Students are tasked with creating props to accurately illustrate and reenact the Battle of Lake Erie. Students create story boards to show the order of events in preparation of stop motion animation. Students use iPad2s and the istopmotion animation application to execute the retelling of the Battle of Lake Erie.

GOALS:

Know:
PA Art: 9.1.5.A: Art Production
Know and use the elements and principles of design to create an original piece of art that communicates meaning.

Understand:
PA Art: 9.1.5.E: Art Production
The importance of teamwork and how to work together for a common goal.
PA History: 8.1.6.D: Historical Analysis
The historical events that happened locally and how life in the United States would be different if the British had won the Battle.

Be Able To:
PA Art: 9.1.5.H: Art Production
Demonstrate safe use and selection of art materials when collaborating and constructing the props for a stop motion animation movie.

**PA Art: 9.4.5:D: Aesthetic Response**

Explain choices made regarding media, technique, and subject matter that depict conflicting sides in a stop motion animation movie.

**OBJECTIVES:**

Students will:

- Construct accurate props, using paper and sculpey clay, that depict the two sides (U.S. and British) during the Battle of Lake Erie.
- Create a storyboard that illustrates the events of the Battle in chronological order.
- Animate a stop motion movie with team of peers that describes the Battle of Lake Erie.
- Complete sense of place surveys, reflections, and assessment questions related to the Battle of Lake Erie.

**RESOURCES AND MATERIALS:**

- 6 iPad2s with istopmotion animation applications
- Camera for photographing student movie making
- Flip video camera for recording sound/narrative for movie
- Mixed paper and collage materials
- Sculpey clay
- Scissors
- Glue
- Pre and post sense of place surveys
- Reflection questions asked before work with stop motion animation and narrative reflection questions asked after stop motion animation.
- “Battle of Lake Erie Event Stories” for each movie group to use to accurately retell the event through animation
- Prop list of necessary “props” required for retelling the history event, as well as images of the ships in both fleets
- Rubric
- Artist images: Julian Davidson, *The Battle of Lake Erie*
MOTIVATION:

Topic Questions
What do you know about Lake Erie and the boats that travel on it? What can you tell about the jobs of ships 200 years ago from Julian Davidson’s *The Battle of Lake Erie*?

Association Questions
Have you ever been onboard the *Niagara* in Erie? Why and when was this ship built? What could we compare the Battle of Lake Erie to today?

Visualization Questions
Why would a country need a fleet of ships when fighting a battle? The battle lasted several hours. Do you think the ships were moving fast? How could you explain what happened during the battle using only clay and paper?

Transition Questions
In your movie teams, you will be showing two opposing sides (the U.S. and the British) with sculpey clay. How can you show the differences in the two sides with color? How can you identify the differences in ships? How could you show a cannonball moving through the air? How can you divide your movie team so that everyone has a job?

PROCEDURES:

*Discussion:*

Students are initially given a sense of place survey that questions their feelings about their community. Students are then presented with a visual history lecture of the Battle of Lake Erie and are then assessed on the content. The teacher discusses why the United States had to build a fleet of sailing ships in a short amount of time. The location of the ship building in Erie, PA on Lake Erie is important to note because of the landlocked harbor that the Presque Isle Peninsula created, keeping the city safe from the British during the building of the fleet. The British could not cross over the sandbar that was present underwater.
Lake Erie harbor was chosen for the building of the US fleet due to its protection by the sand bar and two channels. Small schooners could move in and out, but two brigs could not cross the bar. The bar made sure British couldn't just sail in and attack Erie. The US needed to lift the brigs over the bar with camels. They built four barges which were squared logs, because timber was available in unlimited supply. The barges were attached along side the ships. They were flooded and then criss crossed timber up to the gun ports which then lifted the ship three or four feet. The anchor was dropped forward and then the ships pulled themselves forward. The US needed to send the guns off the ships to lighten load. Perry was afraid the British would be waiting when he didn't have guns on board. Perry waited until Barclay went to leave to get supplies before crossing the sand bar. It took 4 1/2 days to get the Lawrence over the bar between July 31 and August 4th. Niagara went over in a day because the wind blew the water back in the channel. The ships were very vulnerable without guns. Barclay appeared as the Niagara was still crossing the bar, but he didn't realize their vulnerability. Perry ordered the fastest schooners, Scorpion and Ariel, to shoot at the British long range and Barclays mizzen mast was hit. Barclay left, allowing the US to build strength.

Perry took small boats to look for Barclay. The crew was exhausted and seasick because they had never been on the water before. This was their first shakedown sail. (It was a bad night and they had to send down the top gallant mast due to wind...got back to Erie on August 7th and Perry finds out he is getting more experienced crew (over 100) and Jesse Elliot who was an experienced US Captain (he captured the Caledonia from the British at night before Niagara falls).)

Perry's fleet left August 12th and it took four days to get to the opposite side of lake Erie.

The fleet anchored in Put in Bay and at Kelly's island. These were the western islands on Lake Erie and were Perry's base to watch for the British.

Perry Arrives August 16th but the battle doesn't start until September 10th and he gets more men from the army to fill his crew and does drills and training until the battle. People are sick with fever. The British came out on the tenth because they were hungry and looking for supplies. Barclay needed to fight or he would have to burn his fleet to avoid capture and he would be blamed for the British departure. He leaves Detroit on the ninth.

At dawn, September 10th was when the battle started

Wind was south west and they needed to short tack the ships to get out of the shelter of the islands.

At 10am ships are still getting out but blocking each other. They had a hard time and were not clear of rattle snake island. The U.S. accepted the downwind position.
In a naval battle you want the upwind position. It is dangerous to the shore to be downwind. Perry called it because the British were coming fast. nPerry wanted to ware ship but the wind went flat and the ships just rocked. The wind shifted to the South East and was behind which allowed the U.S. to shift to upwind. It was pure luck that allowed Perry to start pursuing.

It took 1 hour 45 minutes to cover three miles. Both sides were trying to stay compact and in line. Everything was silent because everything had been prepared. (Hot still air, light wind, voices echo which encouraged people to whisper. Only could hear water at the bow and people breathing.)

Perry's 32 lb long guns were so far out of range they are not effective, which meant he was in range of Detroit’s long guns with only 2/3 of his fleet. The Lawrence got hit first. Perry took an extreme risk aiming right for the British line head on (which is called raking fire). This was more dangerous than broadside firing (which is when both ships are parallel to each other). Because you couldn't fire back. It is more deadly and is when you are heading straight at someone in broadsides. Perry covers two miles in raking fire with the Lawrence.

Niagara held back with Elliot in command. He was engaged with the long guns the entire time

The wind died and the positions of the ships stay the same for two hours. Charlotte and Detroit were pounding the Lawrence. The Caledonia started firing with the scorpion and Ariel. The Lawrence crew were very courageous and stuck together. Because they kept fighting after all the shrouds were shot away and everyone was wounded. Masts did not crash down because there was little wind. Over two hundred holes in spanker Sail. Not a hands width of wood that was not damaged. It is not clear how many crew were on board maybe 115. 22 dead and 61 wounded.

At 2:30 in the afternoon a breeze came in from south east and the smoke cleared. Lawrence was dropping back and the Niagara started to set top gallants. Perry gets off his boat onto a cutter headed to the Niagara with four men and says, "if there's a victory to be gained, I'll gain it" with the “don’t give up the ship” flag. The British aim for the small boat, but miss. The trip takes ten minutes.

Elliot takes the small boat to bring the small boats to range and gets on the Somers

Niagara turns and rakes down the bow of the Detroit. Queen Charlotte tries to get away and crosses bows with Detroit’s Aft and gets stuck. Niagara takes advantage of the British situation and fires ten double shot on both ships.
• Niagara stops and reloads, taking only one minute and gives another broadside. The gunboats are now close enough that they can use grape shot which is hitting the Niagara. The British surrendered just before 3 o'clock.

• All British flags are lowered. Everyone anchors, and both sides sort things out. Perry writes his famous letters on the Niagara and then goes back to the Lawrence so his men could see the surrendering of the British. (W. Rybka, personal communication, February 25, 2012)

Groups of four divide in half (2 students work as US animators, and 2 students work as British animators). Students are given a prop list that states the ships in both fleets, what they look like as well as how many guns they carry. The prop list is followed to illustrate the battle properly in the movie. Images of the ships are provided for students as well.

Students are given history check lists that state the events in the battle that will need to be illustrated in the movie. From this list students are able to sketch their ideas first in a story board fashion. Each group member sketches a story board and then a master story board is created, combining frames from each group member.

The teacher demonstrates how to use the iPad correctly with an emphasis on exaggerating movements slowly to capture the event in stop motion. The iPad2s are used to create stop motion animations of the Battle of Lake Erie, using props and storyboards created in previous weeks.

Students complete post assessment reflection questions as well as post sense of place surveys after the completion of the project.

**Work Period:**

Week 1- Pre sense of place survey

  - History lecture and assessment
  - Prop list in movie teams, begin working with clay

Week 2- Complete Prop list

  - Begin History check list and story boards

Week 3- Complete Story boards

  - Make final story board with movie team
  - Practice with iPad2
Week 4- Animate Battle of Lake Erie movie with movie team and iPad2
Week 5- Animate Battle of Lake Erie movie with movie team and iPad2
Week 6- Post assessments and reflections
    Post sense of place survey
    View movies as a group

Closure:
View movies from all groups, note the similarities and differences in the retelling. Check for accuracy and understanding.

EVALUATION:
Student movies are assessed with a rubric. Video footage, photographs, and observations helped to document student learning during the stop motion animation process.
**Prop List for United States Animators**

You must create 9 ships

Niagara and Lawrence were the fleet’s flagships and each had 20 guns

- Caledonia - 4 guns
- Ariel - 3 guns
- Scorpion - 2 guns
- Somers - 2 guns
- Trippe - 1 gun
- Porcupine - 1 gun
- Tigress - 1 gun

The U.S. fleet had two sizes of cannonballs (12 lb and 32 lb)

☐ How can you show cannons firing from the ships?
☐ Did you include sails, masts, anchors, small boats on your ships?
☐ How can you show water moving?
☐ How can you show a cannonball hitting a ship?
☐ Did you show Perry and Elliot?
☐ How will you show the victory?
☐ Do you have a don’t give up the ship flag?

**Prop List for British Animators**

You must create 6 ships

Detroit and Queen Charlotte were the fleet’s flagships. Detroit had 19 guns and Queen Charlotte had 17 guns.

- Lady Provost - 13 guns
- Brig Hunter - 10 guns
- Little Belt - 3 guns
- Chippers - 1 gun

The British fleet had one size of cannonballs (24 lb)

☐ How can you show cannons firing from the ships?
☐ Did you include sails, masts, anchors, small boats on your ships?
☐ How can you show water moving?
☐ How can you show a cannonball hitting a ship?
☐ Did you show Barclay?
☐ How will you show the defeat?
The Battle of Lake Erie Fact Sheet

**Setting:** Western islands of Lake Erie, September 10th, 1813

**Time:** Dawn, on a hot and hazy day with little wind

**U.S. Characters:** Oliver Hazard Perry- Commodore of the U.S. Fleet, Jesse Elliot- Captain of Niagara

**British Characters:** Robert Barclay- Commander of the British Fleet

**Cause of Battle:** The need for control of the Great Lakes

**Beginning**
- The ships left Erie on August 12th and it took 4 days to get to the opposite end of Lake Erie.
- The fleet anchored in the Western islands in Lake Erie which were Perry’s base to watch for the British.
- Dawn, September 10th was when the battle started.
- The US tried to sail towards the British, but the wind was not working in their favor.
- It took many tacks (moving the sails back and forth) to get the ships to move.
- The wind suddenly shifted in the US’s favor so that it was behind their ships sails, it was pure luck! Perry started heading towards the British.
- It took 1 hour 45 minutes to cover three miles. Both sides were trying to stay close together and in line.
- Everything was silent because both sides had everything ready for battle. It was very hot with light wind. The only thing to be heard was water at the bow and people breathing.

**Middle**
- The Lawrence gets hit first by the Detroit and Queen Charlotte. Perry takes an extreme risk aiming right for the British line head on (which is called raking fire). This was more dangerous than broadside firing (which is when both ships are parallel to each other with cannons aimed directly at one another).
• Perry could not fire back for 2 miles when he sailed the Lawrence towards the British. The Lawrence was completely destroyed! The crew stuck together, even though there were over two hundred holes in one of the sails and all the wood was damaged on the ship.
• Niagara held back with Elliot in command and waited.
• The wind died and the positions of the ships stayed the same for two hours. The Caledonia started firing with the Scorpion and Ariel.

End

• At 2:30 in the afternoon a breeze came in and the smoke cleared and the Lawrence was dropping back. The Niagara started to set the sails.
• Perry got off the Lawrence in a small boat and was rowed over to the Niagara with the Battle flag!

• Elliot then left Niagara and took the small boat to lead the rest of the U.S. fleet on the Somers.

• Niagara turned and raked down the bow of the Detroit. The Queen Charlotte tried to get away and crossed bows (front) with Detroit’s aft (back) and got stuck.
• Niagara took advantage of the British situation and fired ten double shot on both ships.

• Niagara stopped and reloaded, taking only one minute, and fired another broadside at the British.
• British surrendered just before 3 o'clock.
• All British flags were lowered. Everyone anchored, and both sides sorted things out. Perry went back to the Lawrence so his men could see the surrendering of the British.
A4 Animation Story Board

Name________

Story Board

1

2

3

4

5

6
A5 Animation Positioning Sheet

KEY

Blue = U.S. Fleet

Red = British Fleet
# Grading Rubric: Stop Motion Animation Unit

## Name:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Advanced 10 Points</th>
<th>Proficient 9 Points</th>
<th>Basic 8 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Props</td>
<td>All ships were sculpted. Cannonballs were crafted. Water is shown. Key characters are visible.</td>
<td>Meets all criteria.</td>
<td>Slight weakness of one or more of the criteria.</td>
<td>Major weakness in meeting one or more of the criteria.</td>
</tr>
<tr>
<td>Story Board</td>
<td>Clear understanding of events in frames.</td>
<td>Jaw dropping WOW!!</td>
<td>Almost outstanding with a little work.</td>
<td>Average technique, but a bit careless.</td>
</tr>
<tr>
<td>Movie</td>
<td>History checklist was used. Class time was used to the fullest extent.</td>
<td>Absolutely. There is no question that the student put forth his/her best effort.</td>
<td>Generally. The student could have been a bit neater, but overall, time was well spent and form is neatly done.</td>
<td>Little class time was used to create a polished work. Minimum work to get by.</td>
</tr>
<tr>
<td>Team Spirit</td>
<td>Student demonstrated diligent effort, patience and a positive attitude when working with group.</td>
<td>Always. Student helped others and demonstrated exceptional behavior and attitude in the group.</td>
<td>Mostly. Student demonstrated a decent behavior and attitude while working in the group.</td>
<td>Lacking. Student rarely demonstrated decent behavior and attitude while working in the group.</td>
</tr>
</tbody>
</table>

**Teacher Comments:**

_____________________________________

_____________________________________

_____________________________________
Sense of Place Survey

Name ___________________________    Date ______________________

1. Are you proud to be from Union City?

___________________________________________________

2. What is special about your town?

___________________________________________________

___________________________________________________

___________________________________________________

3. What would you tell someone from out of town if they wanted to move here?

___________________________________________________

___________________________________________________

___________________________________________________

___________________________________________________

4. Was this region of Pennsylvania important in history?

___________________________________________________

5. You live in Northwestern Pennsylvania, describe an event in history that happened here:

___________________________________________________

___________________________________________________

___________________________________________________

___________________________________________________

___________________________________________________

___________________________________________________
Battle of Lake Erie

Name: ______________________________________________

1. What countries fought in the Battle of Lake Erie? ____________________________________________

2. When did the battle take place? ___________________________________________________________

3. In what lake was the battle fought? _______________________________________________________

4. Why was there a battle on the lakes? ______________________________________________________

5. How many ships were in the US Fleet? _____________________________________________________

6. Who was the captain? ___________________________________________________________________

7. Why was Erie, PA chosen as the building site? _____________________________________________

8. What country won the battle? ____________________________________________________________

9. What ship is responsible for the victory? ___________________________________________________

10. How did the winning side defeat the enemy? _______________________________________________
Reflection Questions:

Name____________________________________________________

What did you like about using stop motion animation?
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

What did you contribute to your team’s movie?
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Would you like to make more movies like this?
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Do you think stop motion animation could be used to teach your friends about history?
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________