8-2007

# Increasing Student Motivation and Achievement Using Interactive Technology

Heather Burch Young
*The College at Brockport*

# Increasing Student Motivation and Achievement Using Interactive Technology

by

Heather Burch Young

August , 2007

A thesis submitted to the

Department of Education and Human Development of the

State University of New York College at Brockport

in partial fulfillment of the requirements for the degree of

Master of Science in Education

Increasing Student Motivation and Achievement Using Interactive Technology

by

Heather Burch Young

APPROVED BY:

Thomas R. Allen — 7/19/07

Advisor — Date

Director, Graduate Programs — 7/25/07

Date

Table of Contents

List of Illustrations

# Chapter I

## Introduction

Advances in technology have put more than one computer into many classrooms and have encouraged the integration of technology into regular classroom activities. Technology has become more portable and user friendly. School districts also offer professional development in the use of various forms of technology. These classes are differentiated for novice to experienced technology users, enabling all teachers opportunities for integration. In 2003, the ratio of students to computers in all public schools was 4.4 to 1 (Department of Education, 2005). The use of technology has expanded from just simply using an overhead projector to the use of smart boards and podcasting. The possibilities for delivering and enhancing instruction in innovative ways have been increasing.

Integration of technology is not just using a computer to deliver instruction. To be integrated effectively, the use of the technology should encourage the students to use their higher order thinking skills (Beaver, 2004). Research by the Pew Internet and American Life Project shows that teens use the internet as an essential study aide outside the classroom and that the internet increasingly has a place inside the classroom (as found in Lenhart, Simon, Graziano, 2001). Beaver & Moore (2004) also suggests that the main problem with the way technology is currently being used in classrooms is that teachers tend to focus only on the technology they are

using instead of how it can be used to reach all learning types. A teacher only using presentation software such as an electronic white board to demonstrate a concept is not true integration. Using computer generated concept maps, analyzing, and synthesizing the information is true integration.

Integration of technology benefits all students, especially the students with special needs. The current population of students with special needs has been using various forms of technology for classroom and test modifications. These include such things as access to word processors and spell checkers, as well as FM auditory aides. Often these tools are used only in the school setting due to the lack of access to them at home (Lenhart et al., 2001). In a survey conducted by Pew Internet and American Life Project (2001) of 754 teens, they found that 73% of youth ages 12-17 use the internet. About 11% of these teenagers said their primary access was at school (as found in Lenhart et al., 2001).

Policy makers in New York State are also aware of the need for technology in the lives of its students. Part of the *No Child Left Behind Act* is focused on encouraging students to use technology as a way of closing the achievement gap. (The Department of Education, 2005). Technological devices such as MP3 players, hand held organizers, and laptops (one for each student), can be used to assist students with disabilities and capture their interest as well as motivate them to do more than just complete the traditional assignment (Yoder, 2006). Students with special needs could use

this portable technology in numerous ways. For example these students can complete and organize their class notes using word processing software, as well as develop classroom podcasts. Smolin & Lawless (2003) reminds us that "...technology affords instructional methods that traditional methods do not" (p.572). As computers, MP3 players, and other forms of technology become more inexpensive, access at school and home will increase. These students with special needs will most likely be using some form of technology as their main source of communication in their future. Coiro points out "Proficiency in the new literacies of the internet will become essential to our students' literacy future" (2003, p.458).

The idea of literacy and what it means to be literate is changing from traditional learning using text formats, to the ability of using technology to learn, comprehend, and interact in a meaningful way (Coiro, 2003). The manner in which students access information is also changing. Students use different reading strategies when reading from the internet. The *No Child Left Behind Act* requires that by 2014, every student should be technology literate by the time they finish the eighth grade (Department of Education, 2005).

## Statement of the Problem

I investigated ways that the use of technology will motivate and affect fifth and sixth grade students with special needs and influence their achievement in reading and writing. I created with the students, podcasts of

reader's theater performances in order to practice reading fluency. The students used sound recording software, to listen and "see" (through sound waves) how they read. Various on-line tools for students to practice word formations, vowel combinations as well as other reading and language elements were used as well. I also looked at ways my students can use technology to publish and share their completed work, such as a classroom webpage, classroom blog, and video conferencing with classrooms in other districts. Finally I investigated the use of iPods for testing modifications.

Significance of the Problem.

With initiatives such as the *No Child Left Behind Act*, the state standards, and grade level tests, there is more pressure on teachers to increase their students' reading and writing achievement scores. This has been difficult in the special education classroom. Working with this group of students, I had noticed that they were often frustrated with writing and reading, which, as a result, caused them to lose interest and motivation. A major component in all of the state tests is literacy. The students are expected to write effectively and communicate their learning in every subject. These students needed something new and exciting to encourage them to work on their writing and reading skills.

Reading and writing is a life skill that all students will need in order to communicate with family, peers and coworkers. The internet has reached into these students' lives. The internet "...has changed the way we inform

ourselves, amuse ourselves, care for ourselves, educate ourselves, work, shop, bank, pray and stay in touch" (Rainie, Fox, & Horrigan, 2005, p.57). Students at an early age need to be exposed to the internet and other uses of technology as well as internet safety. During the past five years of my teaching career, working in a fairly rural school setting, I have noticed that the majority of my students do not have access to technology at home. School is often the only place where they have access to updated technology that works.

## Rationale

I am sure that I am not the only special education teacher that was looking for new, innovative ways to reach and motivate students. There is new research being conducted about literacy and technology. Many professionals are also publishing articles about new ideas and activities that can be done using the internet and other forms of technology. My district is encouraging teachers to develop classroom web pages, putting more computers into classrooms, and is now offering professional development opportunities in technology. I have tried using video conferencing and podcasting with students in the past. There was a noticeable and positive effect on their motivation and achievement. My group of students this year is functioning at a wide range of grade levels, and need more modifications to their curriculum and assessments. Rainie et al. (2005) makes the point that people have been using the internet for activities that they already have done

before the web existed. Now we are using the internet for new kinds of activities in a way no one has ever thought of before. In using technology to modify and enhance student learning, I hoped to see additional, positive outcomes in their motivation and academic achievement levels.

## Definition of Key Terms

Educational Technology – Any form of instruction, different from the traditional worksheets and textbook, that uses computer generated graphic organizers, web hunt/quest, internet search engines, podcasting hardware, etc.

Technological literacy – The ability to use computers and other forms of technology to improve learning, productivity, and performance (Smolin & Lawless, 2003).

## Summary

This research focused on using Technology in many different ways to motivate and improve students reading and writing achievement. The following section will discuss the benefits of using technology during instruction, successful integration, and finally ideas for use of technology in the special education classroom.

# Chapter 2

## Literature Review

## Issues Facing Special Education Students in the English Language Arts Classroom

Students in special education classrooms face many issues. In a study by the Carnegie Foundation (2002) they found that more than half of the ninth graders in the 35 largest cities in the United States were reading at or below a sixth grade level. The ultimate goal in teaching reading skills is not a one-time test score but meaningful use of reading and writing in daily life (Kajder & Bull, 2003).

Learning disabled (LD) students tend to be passive learners who lack skills for processing and organizing writing and oral information. They have difficulties making inferences, understanding relationships & connections, distinguishing main ideas from insignificant details, and understanding the gist of a passage. Students with LD struggle to learn in the content areas (DiCecco & Gleason, 2002). Content area textbooks are often written in such a way that important connections and relationships are not made explicit. Content area teachers in grades four through twelve typically do not instruct students in comprehension processes. Students are generally assigned chapters to read and comprehension questions to answer with little instruction on how to decipher text structure and interpret information. It is not enough for students to acquire factual knowledge from their textbooks. Students must

also learn how concepts are related to each other (DiCecco & Gleason, 2002).

Hetzeroni & Shrieber (2004) points out students with disabilities experience significant difficulties with the writing process (2004). When a significant portion of school time is dedicated to various writing assignments, students' academic achievement as well as motivation will likely decrease. Illegible handwriting, spelling mistakes, and lack of text organization skills are some of the factors that will affect the academic outcomes of these students (Hetzroni & Shrieber, 2004). Hetzroni & Shrieber (2004) has found two main areas that are impaired for students with writing disabilities. The first area is their ability to read the written outcomes of their work, as well as teacher's capabilities to read it. The second area is the decrease in text length as a result of fine motor fatigue.

As students become involved in higher-level educational activities, and writing in the classroom becomes an essential tool for academic achievement, there will be a tremendous impact on academic functioning during class activities as well as home assignments. In the last decade, technological advances have provided new opportunities for individuals with LD. Assistive Technology (AT), tools for making the learning environment more assessable and for enhancing individual productivity, will take many forms in this technological age (Hetzroni & Shrieber, 2004).

## A New Framework for Literacy due to Advances in Technology

For five centuries literacy has been defined by the skills and strategies required to effectively obtain information in books and other printed material. This was made possible by the invention of the printing press and other technology (Leu & Kinzer, 2003). Literacy is based on the various social practices cultures use to communicate. In an age of information and technology, reading and writing experiences on the internet are increasingly becoming more authentic and more common then reading a book or writing with pencil and paper (Leu & Kinzer, 2003). In a techno-drenched atmosphere, students absorb and process information in fundamentally different ways (McHugh, 2005, p 33). According to Blackmore, (2005) "Today's brains are shaped by various information streams, constantly popping and sparking and competing for attention." (p.33). Blackmore goes on to explain that those minds take in the world via computing devices such as cellular phones, handheld gaming devices, laptops, and game consoles (as found in McHugh, 2005).

The framework for literacy has many components, which include technological literacy, visual literacy, information literacy, intertextuality, and web literacy. Technological literacy refers to the ability to use computers and other technology to improve learning, productivity and performance. A person who exhibits technological literacy understands what technology is, how it can be used, and is comfortable using this technology. A technological literate

student knows how to use technology in conjunction with school subjects to increase his or her academic performance (Smolin & Lawless, 2003).

Visual literacy refers to the ability to understand and produce visual messages. This person can examine, extract meaning and interpret the visual actions, objects, and symbols that they encounter in the technological environment. This type of literacy enables a student to use these visual messages to communicate with others (Smolin & Lawless, 2003).

Information literacy is the ability to find, evaluate, analyze, and synthesize information. This is connected to intertextuality, which deals with comprehending one text by means of a previously encountered text. . A teacher must help their students develop their abilities to use information to construct knowledge and allow students to understand that learning resources are not isolated from one another; rather they build on one another to help create a deeper understanding of the topic (Smolin & Lawless, 2003).

Web literacy refers to finding, scanning, digesting, and storing internet information. A web literate person must have a combination of key reading and navigation skills. This is related to print text and expanding critical reading skills to include evaluation of visuals and non-textual features, as well as a greater use of associative logic (Sutherland-Smith, 2002). Students must become proficient in accessing and analyzing information in order to reach a higher level of understanding. This produces a global community. If

students do not become proficient they may be left behind (Sutherland-Smith, 2002).

Students perceive web text reading differently from print text reading. In dealing with the internet materials, they believe they need to read quickly and in books they need to go slower. Students enjoy visual images on the web because they seem more lifelike (Sutherland-Smith, 2002). Internet sites often contain graphics, sounds, videos, and animations that help motivate students and can easily be used to enhance literacy instruction. The internet provides teachers and students with enormous amount of curriculum materials and the opportunity for authentic learning (Castellani & Jeffs, 2001).

Authentic learning is defined as realistic, complex learning experiences that encourage richer knowledge structures, not simplified, abstract content. Authentic learning environments promote a more active role for the learner and require students to engage more actively in the learning experience, which becomes intrinsically motivating (Castellani & Jeffs, 2001). Reading is more like the thinking process, it is non sequential. A reader on the internet jumps from one place to another by links. Relational thinking is another skill important to web literacy. The reader often needs to use related words and synonyms to search a topic. They also need to evaluate what they see, and determine if what they are reading is good or important to the information they are searching for (Sutherland-Smith, 2002).

## Successful Integration of Technology into the Classroom

Literacy learners will be increasingly dependent on social learning strategies, even more so than when they were immersed in the traditional context for literacy learning. If teachers want to prepare students for the literacy opportunities of their future, they must begin to provide a more complete preparation in a variety of textual forms, genres, and provide adequate experiences in dealing with informational text and communication. Teachers will need to thoughtfully guide students' learning within information environments that are richer and more complex than traditional print media (Leu & Kinzer, 2003).

Teachers need to investigate innovative ways to guide their students. According to McHugh (2005), "The key to teaching is keeping the kids involved, they like everything to be electronic, it is speaking their language." (p. 35). However, Sutherland-Smith (2002) reminds us that technology should not replace the teacher, as well as the internet should not be portrayed as being better than books. Instead the internet should be viewed as being different from books.

How computers are used with young students is more important than if computers are used at all (Haugland, 2000). The computer is not the focus but the tool for getting there. Learning should drive the technology not vice versa. When students use technology to access information, analyze it, interpret it, and represent it in a new way, the computer becomes a conduit

for the construction of knowledge rather than merely a tutor (Owens, Hester, Teale, 2002). Educators need to allow students with writing disabilities to have free access to a word processor in their classroom and to encourage their using the computer for home activities as well (Hetzroni & Shrieber, 2004).

When using technology during instruction teachers need to encourage, question, prompt and demonstrate the use of technology often. Teachers should also conduct whole group discussions about strategies they will need to use. It is important for the teacher to designate projects, and make sure special needs students are supported (Clements & Sarama, 2003). When planning lessons, a teacher should only use technology after they know how to use it. Taking advantage of professional development opportunities and hands-on practice in using new technologies is a key component in the integration process. After the teacher is familiar with the technology tools that they plan to use, they need to decide if curriculum modifications are needed. Lastly the teacher needs to make sure the appropriate software and hardware are available and will work on the computers in their district (Clements & Sarama, 2003).

The classroom environment can be arranged in many ways to facilitate effective integration and use of technology. One arrangement suggested by Clements & Sarama (2003) is to place two student seats in front of the computer and one at the side for the adult to encourage positive social

interaction. A multiple number of computers should also be placed close together in the classroom. Haugland (2000) suggests four steps to integrating computers. The first is to select developmental software, then select developmental websites. The teacher then integrates these resources into the curriculum. Lastly computers need to be obtained to support these learning experiences.

There are four types of student websites that should be considered in the integration process as well. Informational websites and virtual tours are used as reference resources. Common communication websites are e-mail servers and blogs, which are on-line journals. There are also a variety of publication websites that allows a teacher to display student work. Many websites are interactive in ways that are similar to educational software programs. (Haugland, 2000).

Students need to understand that when using the internet and other technology tools, that they should point, read, think, then click, not just point and click (Coiro, 2003). Students need to evaluate what they are reading in order to make appropriate choices for research. Through modeling proper strategies for internet research, students become healthy skeptics about pictures and information on the internet. The students understand that information can be manipulated (Sutherland-Smith, 2002). The students need to choose relevant as well as reliable information.

Within the new framework for technological literacy, strategies will need to be taught to students in order to effectively access information on the internet during instruction. Sutherland-Smith (2002) suggests seven strategies that are helpful. These strategies are snatch and grab, chunking, evaluate, refine key word searches, clear search guidelines, preset list of links, and a step by step hand out to model these techniques.

When using the snatch and grab strategy, students skim text to identify a keyword or phrase, then grab the text on a disk or save it as a bookmarked site. The students then go back and read the information later. Students also need to learn how to refine key word searches to limit number of website hits. It is helpful for teachers to provide clear search guidelines. The students need to know when they start the purpose of the search, and approximately how many searches will be needed (Sutherland-Smith, 2002).

If students are researching a complex topic, the chunking technique will break the topic down into manageable sections or chunks. The students then think of key words to narrow the search. A preset list of links for the students to choose from may also help the students focus their search. Limiting the links, limits frustration of finding nothing. It is important for the teacher to model these search techniques as well as provide a step-by step hand out for the students to refer back to. Students also need to learn how to evaluate visual images in their sources. They need to decide if the purposes

of those images are for information or just illustrations (Sutherland–Smith, 2002).

There will be implications for teachers when integrating technology tools into a classroom. A change in roles and responsibilities between the students and teachers must happen. A teacher cannot just send students to the computer lab to work on their own. Teachers must access a wider array of resources. The quality of the tools the teacher will be using must be evaluated. Technology must be integrated in a way that scaffolds the guidance given to their students. Teachers will need to construct, represent and communicate their knowledge of the technology and strategies to their students as well (Smolin & Lawless, 2003).

## Ideas for Technology Integration

Research into the essentials of reading instruction suggest non fluent readers listen to brief fluid reading models and then practice the model passage repeatedly until they can read it fluently before reading it out loud to others (Carbo, 2005). These types of activities can be done with the use of a digital recording device such as an iPod or other types of MP3 players. In 2005 a survey of 470 high school students found that 61 percent of students had some kind of MP3 player (Shen, 2005). Some schools are using iPods for instruction. MP3 players are the kind of technology the students use for their everyday lives. If schools want to reach today's learners, they cannot ignore it (Shen, 2005).

A teacher does not need a lot of equipment to produce a podcast. A digital recording device such as an MP3 player is not necessary. All that is needed is an inexpensive computer with a microphone jack and a simple microphone, as well as free sound editing software downloaded off the internet. When the podcast is ready to be published, the teacher will need is to sign up with an on-line service to host the podcast. The podcast hosting service provides a place to store audio files, and a RSS feed. The RSS feed is like a personal radio channel that allows other people to subscribe to the podcast (Butterfield, 2007).

Shen (2005) states that teachers have reported that benefits of using iPods are clear. The popular technology and possibilities of a wider audience motivates students. Beth Sanborn, fifth grade teacher discovered that her students, while producing their podcasts, researched and wrote better, read more, and understood the material used in their research (Shen, 2005).

Podcasting has become a very popular learning tool in many classrooms and schools. Podcasting has also been used by a variety of grade levels for a vast number of purposes. At Brandon Middle School in Virginia, sixth graders use podcasting as apart of their classroom blog. They talk about "true life stories" about classmates, "myths and Legends", and interviews with eighth graders about life as an older student (Lucas, 2005).

Library Media Specialist at Grandview Elementary in Monsey, New York loaded podcasts onto the library's website. 420 kindergarten through

third grade students accessed podcasts that were snippets of selected picture books. The Library Media Specialist also recorded questions related to each book. The students can also take home complete compact disk recordings of each book featured on the site along with a hard copy of the version (Ishizuka, 2005).

Room 208 podcast is written, produced and performed by third and fourth graders at Wells Elementary School in Wells, Maine. The podcast is a weekly 20-30 minute radio show with regular features such as student news, the week in sports, and word of the week (Todras-Whitehill, 2005). The teacher who coordinates this project with the students he found that "In building this product weekly, the kids were incredibly motivated to read, research, write, and they were telling me they could not wait to come to school" (Todras-Whitehill, 2005, par.4).

Research into essentials of reading instruction discusses asking key questions and having children draw conclusions about what they have read to build comprehension skills. Teachers also need to provide opportunities for dramatizations (Carbo, 2005). Podcasting would be a wonderful tool for publishing the dramatizations. According to Kajder & Bull (2003) using a classroom blog is an easy way for teachers to ask key questions and have their students drawn conclusions on a consistent basis as well as work on communication and other writing and reading skills.

A blog is an online personal journal. Blogs are usually free and easy to use. They can provide teachers and students with an engaging rich writing space that requires no technical knowledge of HTML. HTML is a special computer language that is needed for some webpage design. A blog also offers access to an instant publishing press (Kajder & Bull, 2003). Students can view their written work immediately, and other students and teachers can respond to their blog entries just as quickly.

Kajder & Bull (2003) describe six instructional characteristics of a blog. First is economy meaning that a well-developed blog post requires no scrolling and the writer has to get to the point from the start of the post. Archiving is important because it allows reader and writers to explore how ideas unfold and connect over time. Immediate feedback can begin as soon as the first post is published. This makes writing relevant, responsive and real to the students. Multimedia options allow a writing to post images and recorded sound files as an alternative or an enhancement to their posts. The publishing of the post directly to the web also gives an immediate sense of accomplishment and finally active participation becomes contagious by all students.

There are various possibilities for literacy based activities and classroom blogs. Kajder & Bull (2003) and Donohoo (2006) suggest using a blog for character journals, character roundtables, think aloud posting, and literature circle group responses. Students can also exchange opinions about

current events in their community, and reflect on quotes and define their meaning.

Blogs offer opportunities for authentic expression in the external world outside of the classroom. Best practice in writing instruction has taught teachers that the presence of an audience can increase motivation and depth of writing (Kajder & Bull, 2003). Students at all levels learn to write by writing. Blogs provide a different kind of writing space that plays by a different set of rules. It provides struggling readers and writers a creative and unique entrance into working with print and visual texts. Blogs also provide new options and new possibilities (Kajder & Bull, 2003). As students read and respond to blogs, they are critically evaluating information and taking part in the process of writing (Donohoo, 2006).

Blogs can also be used to connect students and classrooms in different parts of the world. A teacher used a blog to enhance The Teddy Bear Project. The Teddy Bear project was an email outreach program that promoted tolerance and education of other cultures. Two groups of students connect, in this example, one in Australia and Canada. The classes exchange teddy bears and send weekly messages about what the bears have done and participated in with the class they are visiting.

One teacher involved in this project was not satisfied with using emails, so she set up a blog account. At first the blog account was set up with security settings that allowed only the students and teachers from the two

classes to post to the blog. As the students became excited about posting they wanted to send posts from home. The teacher changed the security setting allowing the account to become moderated. The teacher is sent an email notification about any posts and then the teacher has to approve the posts before it can be published on the web. Using the blog the students were able to focus on communication skills rather than the technology. Parents and relatives posted comments as well, which excited the class (Sherry, 2007).

In Ontario, Canada, teachers used the blogs as forums for their middle school students to read and respond. Teachers started the blog and modeled with the initial posts, and then the students took over. This began a collaborative process in which they gave each other constructive criticism and feedback to improve student writing (Donohoo, 2006).

A teacher can also improve student motivation toward writing by having their students converse with an author or character, or an expert. One of the most exciting ways Rowen (2005) found to get students to write on the internet was to have them contact an author or book character. Many literary websites provide contact information for authors and have even set up a fictitious email account for a character in a popular story. It may take the teacher a little ingenuity and perseverance to find the right connection to an expert in the field that their students are studying. Rowen (2005) also

suggests creating an alter-ego that a teacher can set up an email account for their classroom.

Websites and e-mail offer many ways to motivate students to write. When students know someone other than their teacher will see their writing, it becomes easy to help them with process and mechanics. They take pride in their work, and make it look good (Rowen, 2005). Rowen (2005) found that his students were eager to participate in peer editing and the best part was the students carried their motivation and willingness to edit their other writing projects.

Simple design tools enable readers to construct personal responses to information and publish them on-line to share with others (Coiro, 2003). There are other possibilities other than blogs and podcasts for publishing student work. Digital imagery such as slide show tools can be used to create electronic portfolios. Classroom web pages are another tool a teacher can use to share student writing and artwork as well as list homework assignments and communication between home and school (Smolin & Lawless, 2003). Publishing student work on classroom web pages also guarantees no rejections of the writing, except for something deemed inappropriate (Rowen, 2005).

A purpose for writing extends beyond simply having a relevant and interesting topic for publication. It reaches into the power of the written message and asks why there is a need to communicate a particular message

(Roth, 2006). Students need to find the writing purposeful. Roth (2006) investigated using podcasts to motivate students during a science unit. Roth created a fictional character who communicated to the class through audio recordings. This character lost his treasure while deep sea diving, and asked the students for help. New clues were played from the character, and students investigated questions through science experiments. In order for the students to reply to the fictional character they were required to write clear and detailed letters explaining what they learned and how it might help him find his treasure (Roth, 2005). Roth discovered that the students were motivated at the beginning of the unit, however they lost interest as the unit progressed. He suggested due to time frames that the messages from the character were too spaced out. This illustrated the need for immediate feedback in response to students' writing (Roth, 2005).

Technology tools can be used for more than just publishing students work. Research into the essentials of reading instruction discussed using hands on vocabulary games and weekly challenges to encourage students to expand their vocabulary (Carbo, 2005). Kindergarten and first graders at Howard Elementary School in Eugene, Oregon who were low performing readers with lack of vocabulary and/or language experiences to become efficient readers took home "Reading Buddies", which were iPod Shuffles.

These reading buddies were loaded with audio files, recorded in their teacher's voice. These files were specific lessons supplementing what

students were learning in their classrooms. Along with the iPods student brought home hands on activities such as practice sheets and flashcards. Songs to practice letter sounds and rhyming were also included on the iPods. In the beginning of the project the students were non-readers, after using the intervention for a year they were at a benchmark reading levels (Ketterer & Greig, 2006). Ketterer & Greig (2006) discovered that the Reading Buddies intervention was a benefit to the students.

This program provided guided learning with more time on task. It also provided the students with individualized learning as well as an extension to their school day. The lessons recorded by the teachers could also be modified for use with English as Second Language students.

Technology tools can also aide a teacher during inquiry-based instruction. Inquiry based instruction allows students to select a topic of interest, formulate questions, gather, sift and synthesize information, do something with it, besides reporting on it. Students are pushed to expand understandings by creating new connections (Owens, Hester, Teale 2002). Many factors go into inquiry-based instruction, such as student curiosity, making inquiry visible, importance of the topics & questions, facilitating the process of gathering and presenting information, and finally technology (Owens, et. al., 2002). Students can then use the World Wide Web for inquiry-based research in place of an encyclopedia to gather their information

(Smolin & Lawless, 2003). Interest enhances motivation to learn and links personal experience to new information (Castellani & Jeffs, 2001).

Interactive websites are also a tool that can be used for educational purposes. Two examples of interactive websites are web hunts, and web quests. A web hunt is a series of questions that can be answered from using websites. The students' then synthesize the information. A web quest is similar however it is more of a highly structured cooperative activity. Web quests consist of challenging tasks that use internet resources to complete them and share with others (Smolin & Lawless, 2003).

Multimedia texts can be used to add images and sounds combined with written texts to create new ways of conveying a message and communicating interactively. Interactive texts produce interactive environments for readers instead of looking at static words on a page (Coiro, 2003).

Use of graphic organizers with students with LD in their recall of relational knowledge can be done with a variety of technological tools. Templates can be developed and easily modified using word processing software. There are also interactive graphic organizers available on many educational websites. Merely showing students the graphic organizer on the overhead projector without the teacher modeling through guided practice and review on other days will not be beneficial. The technology tools and interactive graphic organizer will aide the teacher in demonstrating how to use

the graphic organizers. Teachers can also use templates to develop electronic versions of student workbooks. This allows for instruction to move beyond the text to include multiple illiteracies (DiCecco & Gleason, 2002).

Global collaborative projects provide a variety of opportunities including ability to share and compare data, solve community-based problems, and learn from experts. Students need to use, question, and interact with a variety of media to communicate with audience beyond the classroom. Podcasting, blogs and other creative uses of technology tools will help an educator meet this need (Smolin & Lawless, 2003).

## Benefits of Using Technology During Instruction

The new century finds electronic technology used widely at home and in the workplace. To become productive adults in an increasingly computer oriented society, students should have the opportunity to become comfortable with computers early in their lives (Haugland, 2000). Through early exposure, computer use can become second nature. With computers students become deeply engaged in the learning process, they beg to learn. Only when computers are integrated into the curriculum do students demonstrate gains in conceptual understanding, develop abstract thinking, increase verbal skills, and have gains in problem solving (Haugland, 2000). To maximize the benefits of technology integration there needs to be the following three components: Students need access; multiple computers available per student is suggested. The availability of the computers for student use is also

important. Students need to be able to access the computers all the time. Parent collaboration is also suggested in regards to home computer use (Haugland, 2000).

Technology can influence our understanding of the cognitive traits commonly associated with both struggling and strong readers. Computer supported environments have been found to engage readers labeled "at-risk" or learning disabled in ways that "... may help compensate for inadequate reading ability" according to Coiro (2003, p.462). Cognitive development and learning are developed through creativity and expression, and increased use of language through social interaction (Clements & Sarama, 2003).

Social and emotional development can also be improved through the use of technology. The computer serves as a tool for positive social interaction and emotional growth. Computer use allows for students to socially and cooperatively plan, revise, and discuss spelling, punctuation, spacing, and text meaning and style as well as, increased social interaction between students with disabilities and their typically developing peers (Clements & Sarama, 2003, p.37). Clements & Sarama (2003) also found that kindergarteners were more motivated to write and edit in the same way that older students do when using computers. Students using word processors write more, have fewer fine motors control problems, worry less about making mistakes, and make further fewer mechanical errors.

The blog in the Teddy Bear Project mentioned earlier, gave opportunities to teach communication skills and editing skills. The second grade students could work with partners or independently. The students were motivated because they knew their work would be posted on the web. Students also went back to previous postings, reflected and made more comments. The students were also able to reach out to a wider audience in a very safe way with the blog (Sherry, 2007).

Teachers need to find various ways to increase student involvement and motivation. Focus on inquiry-based research heightens involvement and motivation for reading and writing as well as for reading and writing instruction if it is meaningful and interesting (Owens, et. al., 2002). New educational technology helps improve self-esteem and attitudes towards learning especially in context of collaborative learning activities (Coiro, 2003, p.462). Some teachers have also discovered the use of blogs as motivators. Teachers were surprised to discover the quality of writing for the blog surpassed their student's previous work. Their teachers thought the students were worried about being embarrassed; having an audience motivated the students to step it up a notch (Todras-Whitehill, 2005).

The variety of technology tools available for students and teachers allowed for differentiated instruction for special education students. Within the procedures for reading, editing, and writing associated with the use of iPods, blogs, podcasting, electronic publishing mentioned earlier, a variety of

literacy, communication, and social skills were used. All of the tools previously mentioned also provided a safe and engaging way for students to practice those skills. The students' teachers observed an increase in achievement in the areas of writing and reading as well as motivation.

# Chapter 3

## Applications and Evaluation

### Introduction

Students with disabilities struggle with reading and writing. These students often lack the motivation to practice and develop these skills. The fifth and sixth grade special education students in this study used many different forms of technology during instruction in a small group English Language Arts, science, social studies classes, as well as during resource room and study hall to practice these skills. The goals of this research were twofold: to motivate these students to read and write, and improve their achievement in these areas. Achievement in this study was measured by the total scores on the students' independent reading levels taken from the running reading records and fluency assessments.

### Participants

The study group consisted of eight special education students. The three girls and five boys had been diagnosed with a range of disabilities and functioned at various academic levels. These students had been identified by the Committee on Special Education, and were placed in a pull out English Language Arts class during this study. Three of these students were also placed in a life skills social studies and science class. Three of these students have been identified as being learning disabled. Another three students had been identified as having speech and language impairments.

The last two students had been identified as having multiple disabilities. These eight students were functioning at a grade range of kindergarten to third grade. This particular group of students found reading and writing very difficult and were reluctant to practice new skills. They completed the minimum of what was assigned and expected by their classroom teachers. These students had been enrolled in a rural school district in which they often lacked the background experience and knowledge of students their age in suburban school districts.

## Procedures of the Study

Students began the study by taking an interest survey about reading, writing and using technology. An example of the interest survey can be found in Appendix A. The survey also asked the students to identify what types of technology they typically used in their homes. Reading levels were then obtained through the use of running reading records (Appendix B). Reading fluency was also examined by a timed reading passage at their independent reading level (Appendix C). Technology was then introduced into the instruction in many different forms. These will be discussed in the Instruments of the study section. Observations, and anecdotal notes were taken throughout the instruction. Students also used technology to evaluate their work, and completed self-evaluations after each project. An example of the self evaluation forms are found in Appendix D. A second interest survey was given to the students at the end of the study (Appendix A). This survey asked

the same questions as the one previously mentioned, in order to investigate whether the students' feelings about reading and writing had changed. It asked again what type of technology was currently used in their homes. Reading levels and fluency were again checked at the end of the study using the same assessment tools as previously mentioned to determine individual student achievement (Appendix B and C). A letter to the parents was also sent home prior to the start of the study. This letter described the purpose of the research and asked for permission to use their child's data from the assessments and interest surveys. An example of this letter can be found in Appendix E.

## Instruments of the Study

Running reading records and timed readings were used as formal assessments. Student reading levels and fluency were obtained by using the running reading records and timed passages from the online reading program Reading A to Z (see Appendix B and C). Each student's independent reading level was used as his or her benchmark reading and fluency level.

Many types of informal assessments were used throughout the study. The students completed two interest surveys (see Appendix A), one at the beginning and one following the study. These surveys asked how the students felt in regards to their reading and writing skills and their use of technology. The surveys also asked what types of technology were available to be used in their homes. Observations and anecdotal notes were taken

throughout the study based on conversations with students, parents, and other teachers. Students completed self-evaluations (see Appendix D) after each project, and reflected on their work in a classroom blog. Examples from the blog are located in Appendix F, which contains descriptions of the projects. iPods were used for test modifications for a few students for their general education science and social studies tests. Students reflected on the use of the iPod for their testing modification on the blog as well.

A variety of technology tools were used during the instruction. A Smart Board was used during a few lessons to take class notes, compile information for research, as well as share examples of work from the students and other sources found on the internet.

A classroom blog was used for many types of student reflections, as well as instructional purposes. Students set personal goals for reading and writing, then revisited then a few times to reflect on their progress towards these goals. Students also used a reader's response section to answer questions about books they were reading in class. Questions were specific in some cases, while other questions asked the students to make inferences and predictions.

A few students also used the blog to write about current events they viewed on the daily CNN Student News podcasts. These students watched CNN Student News everyday in order to find out what was happening all over the world. They then had to pick a current event at the end of the week that

interested them. The students identified who, what, when, why and where of their current event, stated at least three specific details, and discussed how the story related to them personally. Examples from the blog of the current events are found in Appendix F.

These same students also used the internet and Microsoft Word to develop a travel guide for the classroom website. They investigated places someone might want to visit over vacation, and used the websites from these places to find information about admission costs, hours of operation, and examples of exhibits or activities you would find. They also used MapQuest and Google Maps to get directions from their school to the place of interest. Microsoft Word was used to publish their work as well as other inquiry based research projects of bees, volcanoes, bats, and whales. Examples of the travel guide and inquiry based research can also be found in Appendix F. These were also published on the classroom website.

Students watched a few educational video podcasts and produced a few audio podcasts of their own. Three of the students interviewed the school superintendent about being a beekeeper. All eight of the students produced two Readers' Theaters in which they decided how it should sound and what sound effects needed to be added. The students also used the podcasting format for electronic publishing of three classroom books. All of these activities were posted on the classroom website.

The classroom website also contained links to online educational tools and activities. These activities and tools included word building and sorting, as well as graphic organizers. Students could also use interactive online books to practice skills at their individual level. Links for the educational tools and activities as well as the address for the classroom webpage and blog are located in Appendix G.

# Chapter 4

## Results

Due to varying abilities, the students reading progress was evaluated on an individual basis. The reading levels were determined through the use of leveled running reading record passages from the Reading A to Z program (Appendix A). The programs reading levels ranged from level A to Z, which is equivalent to kindergarten through fifth grade. As you will see in Table 1 found on the next page, the reading levels of the students in the study group ranged from level B, middle of Kindergarten, to level H, middle of first grade. The difficulty of the passage was determined by the students' accuracy rate while reading out loud. To find the accuracy rate the student's total errors were subtracted from the total words read in the passage, then divided by the total words read, and finally multiplied by 100.

For example if the leveled passage contained 99 words and the student made eight errors that would be 99-8 = 91. Then 91/99 x 100 = 91.9 % or 92% rounded to the nearest whole number. The student needed to score 95-100% to be at an independent reading level. If the accuracy rate was 90-94% the reading passage was considered to be at an instructional level. An accuracy rate of 89% or below meant the passage was too difficult for the student to read. Table 1 shows the students' independent reading levels based on the running reading records as well as the approximate grade equivalent given at the beginning and end of the study.

Table 1 Students' Pre and Post Reading Level Results

| Student Number | Pre-Study Independent Reading Level | Pre-Study Grade Equivalent | Post-Study Independent Reading Level | Post-Study Grade Equivalent |
|---|---|---|---|---|
| 1 | D | Beginning First Grade | G | Middle First Grade |
| 2 | D | Beginning First Grade | G | Middle First Grade |
| 3 | G | Middle First Grade | H | Middle First Grade |
| 4 | G | Middle First Grade | G | Middle First Grade |
| 5 | B | Middle Kindergarten | C | End of Kindergarten |
| 6 | G | Middle First Grade | H | Middle First Grade |
| 7 | D | Beginning First Grade | G | Middle First Grade |
| 8 | G | Middle First Grade | G | Middle First Grade |

According to the Reading A to Z program, students reading at levels A-C are considered to be early emergent readers, levels D-J are emergent readers, levels K-P are early fluent readers, and levels Q-Z are fluent readers. According to the results in Table 1, students 1 through 4 and 6 through 8 were emergent readers and reading at the first grade level at the beginning of the study. Students 1, 2, 3, 6 and 7 increased to a different letter level, even though they remained emergent readers at first grade. Students 4 and 8 maintained the same reading level throughout the study. Student 5 increased

his letter level while remaining an early emergent reader within the kindergarten leveled text.

The students' reading fluency was also evaluated on an individual basis. Students were a given timed, leveled, reading passages from the Reading A to Z program (Appendix B). Students were evaluated on the number of words read per minute, number of errors, and accuracy rate. If the student struggled with a word for 3-5 seconds the teacher told them the word so the student could move on. Errors included skipped words, mispronounced words, substitutions (incorrect forms), words told by the teacher, and the wrong order of words. Self-corrections were not counted as errors.

The accuracy rate was determined by subtracting the number of errors from the total words read in one minute, dividing the number of words read, finally multiplying that number by 100. For example if the student read 60 words in one minute and made 6 errors, that would be 60 – 6 = 54, and then 54/60 = .9 , and finally multiplied by 100 equals a 90 % accuracy rate. Table 2, found on the next page, shows the students' reading fluency levels (words per minute, number of errors, and accuracy rate) as well as grade equivalents at the beginning and end of the study.

Table 2 Students' Pre and Post Fluency Results

| Student Number | Passage Level & Grade Equivalent | Pre-Study # of Errors | Pre-Study Accuracy (%) | Pre-Study Words Per Minute | Post-Study # of Errors | Post-Study Accuracy (%) | Post-Study Words Per Minute |
|---|---|---|---|---|---|---|---|
| 1 | Level F Middle First Grade | 3 | 95 | 41 | 5 | 85 | 33 |
| 2 | Level F Middle First Grade | 4 | 94 | 68 | 6 | 91 | 69 |
| 3 | Level M Beginning Second Grade | 2 | 97 | 75 | 0 | 100 | 73 |
| 4 | Level M Beginning Second Grade | 5 | 93 | 67 | 2 | 98 | 87 |
| 5 | Sentences End of Kindergarten | 6 | 91 | 70 | 5 | 90 | 49 |
| 6 | Level M Beginning Second Grade | 0 | 100 | 44 | 0 | 100 | 52 |
| 7 | Level F Middle First Grade | 2 | 98 | 80 | 3 | 95 | 66 |
| 8 | Level M Beginning Second Grade | 5 | 86 | 37 | 3 | 88 | 26 |

Students 3,4,and 8 lowered their number of errors in the post study timed reading. Students 1,2,5,and 7 increased their number of errors. Student 6 maintained zero errors in the timed reading for both pre and post study assessments. Students 4 and 6 were the only students to increase their number or words read per minute, the other students' words per minute

decreased. The accuracy of students 1 and 7 decreased, while student 6 maintained 100% accuracy. Students 2 through 5, and 8 all increased their accuracy rate on the post study timed reading.

The results in Table 2 show that all students fell in between the range of below first grade through second grade. Students 1,2,3, and 8 maintained the same grade level for fluency (words per minute) between the pre and post study assessments. Students 5 and 7 decreased a grade level from the pre study timed reading. Students 4 and 6 increased their grade level for words read per minute.

In the pre-study interest survey (Appendix C) the students were asked to read the question and circle the choice that best describes their feeling towards reading, writing as well as using the computer and internet to complete reading and writing assignments. In the post-study interest survey (Appendix C) the students were asked to answer the same questions to determine any difference. The results in Table 3, found on the next page, were combined for an over all group percentage of how they answered each question. Each question was based on 100 percent of the class of eight students.

Table 3 Student Interest Survey Part One

| Question | Pre-Study Group Results | Post-Study Group Results |
|---|---|---|
| 1. a. I like to write. | 50 % | 37.5 % |
| b. I love to write. | 12.5 % | 12.5 % |
| c. I hate to write. | 0 % | 0 % |
| d. I'll write if I have to. | 37.5 % | 50 % |
| 2. a. I like to read. | 0 % | 37.5 % |
| b. I love to read. | 25 % | 25 % |
| c. I hate to read. | 12.5 % | 0 % |
| d. I'll read if I have to. | 62.5 % | 37.5 % |
| 3. a. I feel that I am an excellent writer. | 12.5 % | 12.5 % |
| b. I feel that I am a good writer. | 75 % | 75 % |
| c. I feel that I am not a good writer. | 12.5 % | 12.5 % |
| 4. a. I feel that I am an excellent reader. | 12.5 % | 0 % |
| b. I feel that I am a good reader. | 62.5 % | 75 % |
| c. I feel that I am not a good reader. | 25 % | 25 % |
| 5. a. I like using the computer to find information on the internet. | 37.5 % | 87.5 % |
| b. I don't like using the computer to find information on the internet. | 0 % | 0 % |
| c. I don't care if I use or don't use a computer to find information on the internet. | 62.5 % | 12.5 % |
| 6. a. I like using the computer to do my writing. | 50 % | 87.5 % |
| b. I don't like using the computer to do my writing. | 0 % | 0 % |
| c. I don't care if I use or don't use a computer to do my writing. | 50 % | 12.5 % |
| 7. a. I feel technology is important to me. | 87.5 % | 87.5 % |
| b. feel technology isn't important to me. | 12.5 % | 12.5 % |

According to Table 3, the results show an increase in students' interest in reading. In the pre-study survey 0 % of the students liked to read, 12.5 % of the students hated to read, and 62.5% would read only if they had to. In the post-study survey 37.5 % liked to read, 0 % hated to read, and 37.5 % would read if they had to. The percent of students who loved to read stayed

consistent. Their interest in using the computer to write and read also increased. Their personal feelings about their ability to read and write as well as their interest in writing did not change.

In part two of the interest survey, students were asked what types of technology they used at their homes. This was also reported as a group percentage of each item being 100 percent of the class of eight students. Results can be found in Table 4 below.

Table 4 Student Interest Survey Part Two

| Technology Items | Pre-Study Group Results | Post-Study Group Results |
|---|---|---|
| iPod/MP3 Player | 25 % | 50 % |
| Computer | 100 % | 100 % |
| Internet | 50 % | 62.5 % |
| Hand held Organizer | 0 % | 0 % |
| Electronic Spell Checker | 0 % | 0 % |
| DVD Player | 87.5 % | 100 % |
| CD Player | 100 % | 100 % |
| Playstation/Nintendo/Xbox | 75 % | 87.5 % |
| Gameboy | 75 % | 87.5 % |
| Digital Camera/Video Recorder | 62.5 % | 37.5 % |

The use of technology tools in the students' homes increased as well. The use of a handheld organizer and spell checker did not change. The only item that decreased in use from the pre-study survey and post-study survey

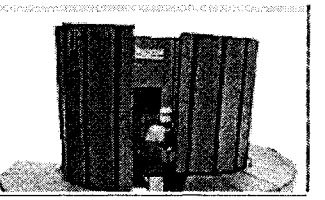
was the use of digital cameras and digital video cameras. Students commented that their parents are the ones who use those tools the most.

A classroom blog (see Figures 1,2 and 3 found on the next few pages) was developed for students to use as an online journal. They answered questions about the use of technology in their classroom as well as other questions related to classroom activities and projects. As shown in Figures 1,2 and 3, the answers from the students based on questions regarding the use of technology, indicated that student motivation to read and write had increased due to the use of technology.

The question in Figure 1, How has using technology in our classroom helped you?, was posted on the blog after a number of activities and lessons involved the use of technology in different ways.

Figure 1 Blog Reflection – Using Technology

Today is April 9, 2007



Using Technology

How has using technology in our classroom helped you?

It helps be do better on my tests, shows me bigger pictures and helps us with the podcasts. Technology helps make things easier for me. I LOVE using technology.
Comment Posted on March 7, 2007 at 12:59 PM by JM

Technology helps make my work easier. I don't have to write everything by hand, and it tells me when something is written wrong.
Comment Posted on March 7, 2007 at 12:38 PM by CH

Technology helps me follow along in class.
Comment Posted on March 6, 2007 at 12:27 PM by DC

I like using technology because I like science stuff, like teloscopes, smart board, and the computer.
Comment Posted on March 6, 2007 at 12:26 PM by JG

The technology helps me learn.
Comment Posted on March 1, 2007 at 09:53 AM by JS

I like useing the iPod to record my reading. It helps me hear how I read.
Comment Posted on February 27, 2007 at 12:25 PM by CE

I like using technology because its FUN!
Comment Posted on February 26, 2007 at 09:53 AM by AF

I have fun typing on the computer to write facts about volcanes, whales, bats and other science topics.
Comment Posted on February 26, 2007 at 09:44 AM by AF

The smart board helped me watch CNN Student News. it made it bigger for everyone to see it.
Comment Posted on February 26, 2007 at 09:35 AM by NC

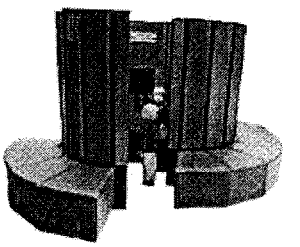
Students responded to this question in various ways. This indicated that students saw the individual benefits of technology and how it helped them on an individualized level. Technology helped the students focus while completing the task as well as the specific assignments. In many instances the students decided how the technology would and should be used after the tool was introduced. One student decided that we should record the words to our first online book and have it play underneath the images of the pages. The students took pride in their work and went much further in the assignment than their teacher had intended. The students' faces showed excitement and pride when viewing their finished work, as well as when reflecting on their

work when they entered their posts on the blog. When the students used the blog they spent more time, and their reflections were more thoughtful than when they used the pen and paper self-evaluation forms (Appendix D).

Technology was also incorporated into testing modifications for students in the general education science and social studies classroom. The tests were recorded onto an iPod for students who have their tests read as a modification. Students had the choice to have a classroom aide read their test or listen to the test using the iPod. The classroom science and social tests were written at a comprehension level that was too difficult for most of these students to read on their own. These students often needed to have the questions read more than once during a testing session. Student responses to using the iPod for test modifications are shown in Figure 2 on then next page.

Figure 2 Blog Reflection – Using iPods For Tests

Today is April 9, 2007



Using iPods for your tests

How has using the iPod helped you when you have been taking a science or social studies test? Please be specific.

The iPod helped me do better on the test, beacuse I could hear the person reading the test and it gave me time to think about the questions.
Comment Posted on March 7, 2007 at 12:56 PM by JM

I liked using the iPod when I was testing because I could go back a listen to the question again.
Comment Posted on March 6, 2007 at 12:31 PM by JG

The iPod is helpfull during the test when I need to go back and reread the question. I don't have to wait until the end and have someone read it again.
Comment Posted on March 6, 2007 at 12:29 PM by DC

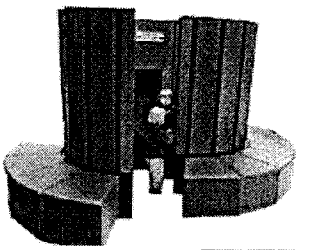
I liked being able to go at my own speed, and I could go back a listen to the question again. This also helped me focus better on my test, and i didn't have to ask anyone to repeat the questions!
Comment Posted on March 6, 2007 at 09:05 AM by RS

The answers to the question asked in Figure 2 indicated the students' feelings towards taking the tests had changed. The students' scores did not improve significantly when they were compared to tests taken without the iPods.

The district in which this study was conducted had purchased portable Smart Boards for the teachers to share. The Smart Board was used in all the classes for demonstration purposes, interactive lessons, watching podcasts, as well as note taking. Student responses to using the Smart Board are found in Figure 3 on the next page.

Figure 3 Blog Reflection – The Smart Board

Today is April 9, 2007



The Smart Board

What do you like about using the smart board in our classroom? How does the smart board help you?

– Mrs. Young

The smart board helped me by showing me a bigger picture when we looked on the internet for the fables.
Comment Posted on March 7, 2007 at 12:57 PM by JM

I like that it makes the computer picture bigger so I can see better.
Comment Posted on March 7, 2007 at 12:39 PM by CH

It was fun to use and helped me in ELA when we were listening and looking at the fables.
Comment Posted on March 6, 2007 at 12:35 PM by DC

I like the smart board because the words are bigger and easier to see from farther away. It was also cool that we could draw on it and use our fingers to move things.
Comment Posted on March 6, 2007 at 12:33 PM by JG

I liked having the smart board in our room.It made everything bigger and easier for me to see it. I can't wait to get it back in our room.
Comment Posted on March 1, 2007 at 09:56 AM by NC

I liked writing on it to figure out a math problem. It was cool to try out. It helps us out a lot.
Comment Posted on February 27, 2007 at 12:21 PM by CE

I REALLY liked using the smart board. It helps me see what Mrs. Young is writing during class.
Comment Posted on February 26, 2007 at 09:51 AM by JS

I wish we could have the smart board in our room everyday!
Comment Posted on February 26, 2007 at 09:50 AM by AF

The students were quite disappointed when they learned they had to share the Smart Boards with other classrooms. The interactive capabilities of this tool amazed the students. They were continuously suggesting to me ways I could use the Smart Board to help them during the lesson. The tool captured their interests, which then motivated them to participate more frequently during class. As can be seen from their reflections on the blog in Figure 3, the students saw practical ways that the technology helped in their instruction. The technology was not just a tool at this point; it was used in a variety of ways to encourage the students to use higher order thinking skills.

Most of the students' comments on the self-evaluations revealed that they liked the projects because it was fun (Appendix D). The students liked recording their voice into the microphone and then listening to it. Many of the students felt they needed to improve their reading fluency. With the use of the recordings they could hear their own voice and hear how smoothly, or in most cases how choppy it sounded. They then discussed as a class without any teacher prompting, that the choppy voice took away from the story and distracted the listener.

Many of the students decided that reading more fluently should be their personal reading goal for the rest of the year. The students wanted to listen immediately after they recorded something to see if it sounded right. They insisted on recording it multiple times until they were satisfied with their work. This motivation to go above and beyond had not been apparent in the students' work prior to implementing these various forms of technology.

# Chapter 5

## Conclusions and Recommendations

The purpose of the study was to investigate ways that the use of technology would motivate and affect eight fifth and sixth grade students with special needs and influence their achievement in reading and writing. Technology was integrated into instruction during this study in a variety of ways. The students used technology for research, teaching aides, graphic organizers, extra skills practice, electronic publishing, and the completion of projects in their English Language Arts class. Three of the students continued to use technology in a variety of ways in their life skills science/social studies class. These activities included three electronic class books, four podcasts, multiple topics of inquiry-based research, and a travel guide. All of these projects were posted onto the classroom website to share with the global community. They also utilized a classroom blog to set personal goals, reflect on classroom projects, share current events, and respond to literature.

Students in this study invested more time and work into their projects when given choices in how they used the technology. These special education students took over and lead the class. They often suggested ways to use the technology that I had not considered. The results from the post-study interest survey, when compared to the pre-study survey, showed most of the students' feelings related to their ability to read and write had improved

after using the various forms of technology tools. Students, who previously did not like to read and write, expressed that they either liked or loved to read and write as a result of this experience. They wanted to continue to produce podcasts, as well as a video podcast of a play after the study was completed.

Having the students relate current events to themselves or evaluate the actions of a character in a story were examples from this study that were effective with the different academic levels of these special education students. The use of the technology made it easier to differentiate the instruction. This type of instruction increased motivation and gave the students a sense of accomplishment and pride.

The podcasts such as CNN Student News allowed the students to see what was going on in the world around them. They enjoyed discussing current events and social issues. This lead to in depth conversations with their peers and other adults, which was exciting for me because this group of students had a hard time making inferences and drawing conclusions to what they read. The CNN Student News podcast also made the students excited to write about current events. In fact watching CNN Student News was such an exciting daily routine, they were really upset when, due to technical difficulties, there was no broadcast to watch that day. The students insisted that we look at some form of the news on the internet. This started a new routine of checking local news after watching the CNN Student News. They were also motivated to write an email to the producers of the podcast, to

communicate their disappointment. They were so amazed when they received a response to their email. That experience made the need for and benefit of written communication real for them.

The results of this study revealed that the use of technology did increase student motivation in reading and writing. The improvement in reading levels and fluency for a few of the students seemed to be a result of motivation to read more frequently. The students also had many opportunities to practice their reading and writing while completing the various projects. Other people outside of the school have made comments on the classroom blog. This really excited the students to have an authentic audience and purpose for their work. It was exciting for me to witness the students get so involved in the blog, they wanted to check the blog for comments almost everyday, and were eager to post comments and respond to other classmates' posts as well. The use of this technology significantly motivated the students as well.

The students expressed that using the iPods for test modifications gave them immediate access to review the test questions. They did not have to wait until the end of the test for other students to finish. The privacy of using the iPod also eliminated the stigma associated with having to ask the teacher or support staff to reread a question in front of their peers. The use of the iPods also gave me a true indication of the student's mastery of the subject matter. It eliminated the possibility for other support staff or me to

inadvertently prompt the student, or lead them to the right answer. For a few students who are easily distracted, the headphones cut out the majority of background noise and helped them focus. As discussed in chapter 4 results, the students' scores did not improve significantly when compared to tests taken without the iPods. I believe other factors such as the amount of studying for the test affected student scores more than the use of technology.

Student achievement, which was measured by the increase or decrease in independent reading levels, did increase but not as significantly as I expected at the beginning of the study. A few students increased their reading level to the next letter level of difficulty, but stayed within the same grade level. Other students' reading levels remained the same. However, no student reading level decreased when assessed at the end of the study. These students had significant learning disabilities which effect their reading and writing achievement on a daily basis and therefore it was difficult for me to evaluate whether the lack of significant achievement indicated that technology had little effect or if the students' disabilities had such a great impact that it hindered learning.

I recommend this study to be conducted again however with a larger group of students over a longer period of time. This study should be replicated using a control group of students that have similar disabilities but do not have technology integrated into their instruction. That control group should then be compared with the group of students receiving the instruction

with technology. This would help to further investigate which had made more of an impact on achievement and motivation, the students' disabilities or the use of technology.

In evaluating the results from this study I believe it is apparent that the multiple uses of these different types of technology during instruction were beneficial to these special education students. The group of students in this study needed different styles of teaching to keep them interested and focused, technology played and important roll in helping this happen. I believe that on a long term basis the use of technology has the potential to increase academic achievement as well.

## References


Beaver, R. & Moore, J. (2004). Curriculum design and technology integration: A model to use technology in support of knowledge generation and higher-order thinking skills. *Learning and Leading with Technology.* 32(1), 42-45.

Butterfield, G. (2007). iPod, uPod: The gizmo phenom also shines in class. *Edutopia.* 3(3), 22.

Carbo, M. (2005). What principals need to know about reading instruction. Retrieved January 16, 2007 from http://www.naesp.org/Content Load.do?contentId=167 2&action=print

Castellani, J., & Jeffs, T. (2001). Emerging reading and writing strategies using technology. *Teaching Exceptional Children.* 33(5), 60-67.

Clements, D.H., & Sarama, J. (2003). Young children and technology: What does the research say? *Young Children.* 58(6), 34-40.

Coiro, J. (2003). Reading comprehension on the internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher.* 56(5), 458-464.

Department of Education (2005). Educational technology fact sheet. Retrieved October 3, 2006 from http://www.ed.gov/about/ offices/list/os/technology/facts.html.

DiCecco,V.M., & Gleason, M. (2002). Using graphic organizers to attain relational knowledge from expository text. *Journal of Learning Disabilities*. 35(4), 306-320.

Donohoo, J. (2006). Increasing Literacy: Reflections on a blog pilot project. *Learning and Leading with Technology*. 33(8), 34-35.

Haugland, S.W. (2000) What role should technology play in young children's learning? Part 2. Early childhood classrooms in the 21st century: Using computers to maximize learning. *Young Children.* 55(1), 12-18.

Hetzroni, O. E., & Shrieber, B. (2004). Word processing as an assistive technology tool for enhancing academic outcomes of students with writing disabilities in the general classroom. *Journal of Learning Disabilities*. 37(2), 143-154.

Ishizuka, K. (2005) Tell me a story. *School Library Journal.com.* Retrieved January 12, 2007 from http://www.schoollibraryjournal.com /article/CA6253062.html

Kajder, S. & Bull, G. (2003) Scaffolding for struggling students: Reading and writing with blogs. *Learning and Leading with Technology*. 31(2), 32-35.

Ketterer, K. & Greig. C., (2006). Reading buddies: iPods go to school. *Learning and Leading with Technology*. 34(2), 34-35.

Lenhart, A.,Simon, M.,Graziano, M. (2001). *The internet and education: Findings of the Pew Internet and American Life Project.* Retrieved October 3, 2006 from http://www.pewinternet.org/pdfs/PIP_Schools_Reports.pdf

Leu, D.J., & Kinzer, C.K. (2003). Toward a theoretical framework of new literacies on the internet: Central Principles. In J.C. Richards & M.C. McKenna (Eds.). *Integrating Multiple Literacies* in K-* Classrooms (pp. 18-37). Mahwah, NJ: Lawrence Erlbaum.

Lucas, C. (2005) Pod people: Teachers find cool new uses for Apple's ubiquitous music player. *Edutopia.* 1(5), 12

McHugh, J. (2005). Synching up with the iKid: Educators must work to understand and motivate a new kind of digital learner. *Edutopia.* 1(7), 33-35.

Owens, R.F., Hester, J.L., & Teale, W.H. (2002). Where do you want to go today? Inquiry-based learning and technology integration. *The Reading Teacher.* 55(7), 616-625.

Rainie, L., Fox, S., Horrigan, J. (2005). *Internet: The mainstreaming of online life.* Retrieved October 3, 2006 from http://www.pewinternet.org/pdfs/Internet_Status_2005.pdf

Roth, T.J. (2006). Implementing podcast technology as a method for sparking student motivation to learn and write. Retrieved May 16, 2007 from http://209.85.165:104/search?q=cache:DyNN1cEqlywJ:origen.ed.psu.edu/pds_download/2006InquiryProjects/rothT.pdf+%22student+motivation%22+%2B+technology&hl=en&ct=clnk&cd=20&gl=us

Rowen, D. (2005). The write motivation: using the internet to engage students in writing across the curriculum. *Learning and Leading with Technology*. 32(5),22-43.

Shen, F. (2005) Teachers see iPods as educational tool. The Seattle Times. Retrieved January, 12 2007 from http://seatletimes.nwsource.com/html/Education/2002571859_podschool20.html

Sherry, B. (2006-07) Teddy bears go blogging. *Learning and Leading with Technology*. 34(4), 36-37

Smolin, L. I., & Lawless, K. A. (2003). Becoming literate in the technological age: New responsibilities and tools for teachers. *The Reading Teacher*. 56(6), 570-577.

Sutherland-Smith, W., (2002). Weaving the literacy web: Changes in reading from page to screen. *The Reading Teacher*. 55(7), 662-669.

Todras-Whitehill, E. (2005) New tools: Blogs, podcasts and virtual classrooms. *New York Times.com*. Retrieved January16, 2007 from http://www.nytimes.com/2005/08/03/technology/techspecial3/03ethan.html?ex=1176523200&en=562e40e56f0a3c13&ei=5070

Yoder, M.B. (2006). Adventures in electronic constructivism. *Learning and Leading with Technology*. 34(1), 24-27.

# Appendices

# Appendix A: Interest Surveys

# ***Reading, Writing and Me***

***Read*** the following questions and ***circle*** the choice that *best* describes your feelings.

1. a. I ***like*** to write.
   b. I ***love*** to write.
   c. I ***hate*** to write.
   d. I'll write if I ***have to***.

2. a. I ***like*** to read.
   b. I ***love*** to read.
   c. I ***hate*** to read.
   d. I'll read if I ***have to***.

3. a. I feel that I am an ***excellent*** writer.
   b. I feel that I am a ***good*** writer.
   c. I feel that I am ***not a good*** writer.

4. a. I feel that I am an ***excellent*** reader.
   b. I feel that I am a ***good*** reader.
   c. I feel that I am ***not a good*** reader.

5. a. I ***like*** using a computer to find information on the Internet.
   b. I ***don't like*** using a computer to find information on the Internet.
   c. I ***don't care*** if I use or don't use a computer to find information on the Internet.

6. a. I ***like*** using a computer to do my writing.
   b. I ***don't like*** using a computer to do my writing.
   c. I ***don't care*** if I use or don't use a computer to do my writing.

7. a. I feel technology ***is important*** to me.
   b. I feel technology ***isn't important*** to me.

## ***Circle*** the following items if you ***use*** them at *home*

Ipod/MP3 player

Computer

Internet

Hand held organizer

Electric spell checker

DVD Player

CD player

Playstation/Nintendo/XBox

Gameboy

Digital Camera/video recorder

# ***Reading, Writing, Technology and Me***

Now that you have used technology in your classroom, ***read*** the following questions and ***circle*** the choice that *best* describes your feelings.

8. a. I ***like*** to write.
   b. I ***love*** to write.
   c. I ***hate*** to write.
   e. I'll write if I ***have to***.

9. a. I ***like*** to read.
   b. I ***love*** to read.
   c. I ***hate*** to read.
   e. I'll read if I ***have to***.

10. a. I feel that I am an ***excellent*** writer.
    b. I feel that I am a ***good*** writer.
    d. I feel that I am ***not a good*** writer.

11. a. I feel that I am an ***excellent*** reader.
    b. I feel that I am a ***good*** reader.
    c. I feel that I am ***not a good*** reader.

12. a. I ***like*** using a computer to find information on the Internet.
    b. I ***don't like*** using a computer to find information on the Internet.
    d. I ***don't care*** if I use or don't use a computer to find information on the Internet.

13. a. I ***like*** using a computer to do my writing.
    b. I ***don't like*** using a computer to do my writing.
    d. I ***don't care*** if I use or don't use a computer to do my writing.

14. a. I feel technology ***is important*** to me.
    b. I feel technology ***isn't important*** to me.

## ***Circle*** the following items if you ***use*** them at *home*

Ipod/MP3 player

Computer

Internet

Hand held organizer

Electric spell checker

DVD Player

CD player

Playstation/Nintendo/XBox

Gameboy

Digital Camera/video recorder

## Appendix B: Running Reading Records

# Reading a-z Running Record

**Level C**

Student's Name _____ Date _____

**How Things Move**
**49 words**

Have the student read out loud as you record.

Assessed by _____

| page | E = errors S-C = self-correction<br>M = meaning S = structure V = visual | E | S-C | E<br>M S V | S-C<br>M S V |
|---|---|---|---|---|---|
| 3 | Things move<br>in many ways. | | | | |
| 4 | The top goes<br>around and around. | | | | |
| 5 | The yo-yo goes<br>down and up. | | | | |
| 6 | The people go<br>in and out. | | | | |
| 7 | The swing goes<br>back and forth. | | | | |
| 8 | The skiers go<br>zig-zag. | | | | |
| 9 | The roller coaster<br>goes in loops. | | | | |
| 10 | Things move all around you.<br>How do these things move? | | | | |
| | **Totals** | | | | |

**Accuracy Rate:** _____ **Error Rate:** _____ **Self-correction Rate:** _____

# Reading a-z Running Record

**Level D**

Student's Name _____ Date _____

**The Wheel**
**99 words**

Have the student read out loud as you record.

Assessed by _____

| page | E = errors S-C = self-correction<br>M = meaning S = structure V = visual | E | S-C | E<br>M S V | S-C<br>M S V |
|---|---|---|---|---|---|
| 3 | The wheel comes off the truck. | | | | |
| 4 | It rolls down the hill.<br>Faster and faster. | | | | |
| 5 | The wheel rolls through the field.<br>It rolls past the cows.<br>Faster and faster. | | | | |
| 6 | The wheel rolls through the barn.<br>It rolls past the chickens.<br>Faster and faster. | | | | |
| 7 | The wheel rolls toward the river.<br>It rolls over the bridge.<br>Faster and faster. | | | | |
| 8 | The wheel rolls into the school.<br>It rolls out the door.<br>Faster and faster. | | | | |
| 9 | The wheel rolls through the town.<br>It rolls past the policeman.<br>Faster and faster. | | | | |
| 10 | The wheel rolls through town<br>and into the garage.<br>The man puts it back on the truck. | | | | |
| | **Totals** | | | | |

**Accuracy Rate:** _____ **Error Rate:** _____ **Self-correction Rate:** _____

# Reading a-z Running Record

## Level G

Student's Name _____ Date _____

**Big and Small Cats**
**163 words**

Have the student read out loud as you record.

Assessed by _____

| page | E = errors S-C = self-correction<br>M = meaning S = structure V = visual | E | S-C | E<br>M S V | S-C<br>M S V |
|---|---|---|---|---|---|
| 3 | There are many kinds of cats.<br>There are big cats and small cats.<br>All cats have sharp claws and sharp teeth.<br>And all cats have fur. | | | | |
| 4 | All cats like to eat meat.<br>They use their sharp teeth and claws to get and eat food. | | | | |
| 5 | Housecats are small cats with soft fur.<br>They make good pets.<br>They like to play and cuddle. | | | | |
| 6 | Leopards are big cats.<br>They have spots on their fur.<br>They are hard to see in trees and grass.<br>Leopards sleep in trees and<br>even drag their food into trees. | | | | |
| 7 | Cougars are big and powerful cats.<br>They live in rocks and caves.<br>They eat deer and other animals. | | | | |
| 8 | Lions live where there are not many trees.<br>They live together with many other lions.<br>Many lions living together are called a pride.<br>A pride of lions sleeps most of the day. | | | | |
| 9 | Tigers are the biggest cats of all.<br>They have orange fur with black stripes.<br>There are not many tigers in the world. | | | | |
| | **Totals** | | | | |

**Accuracy Rate:** _____ **Error Rate:** _____ **Self-correction Rate:** _____

## Appendix C: Fluency Assessments

Fluency

# Assessment Reading Sentences • Form 1

Name _____ Date _____ Number of errors _____

Number of sentences read _____ Number of sentences answered correctly _____

Percent correct _____

**DIRECTIONS:** Read each sentence out loud. Circle Y if the sentence is true. Circle N if the sentence is false. You have one minute to read as many sentences as you can.

| | | |
|---|---|---|
| 1. An apple is a fruit. | Y | N |
| 2. A dog has wings. | Y | N |
| 3. Clouds are in the sky. | Y | N |
| 4. All cats have three legs. | Y | N |
| 5. A wagon has wheels. | Y | N |
| 6. A banana is blue. | Y | N |
| 7. Water is wet. | Y | N |
| 8. A snake can hop. | Y | N |
| 9. Boats fly through the sky. | Y | N |
| 10. Cows make milk. | Y | N |
| 11. A mouse does not have a tail. | Y | N |
| 12. Rain falls from the sky. | Y | N |
| 13. A barn may be on a farm. | Y | N |
| 14. You read words in a book. | Y | N |
| 15. A car is smaller than a bus. | Y | N |
| 16. An orange has seeds. | Y | N |

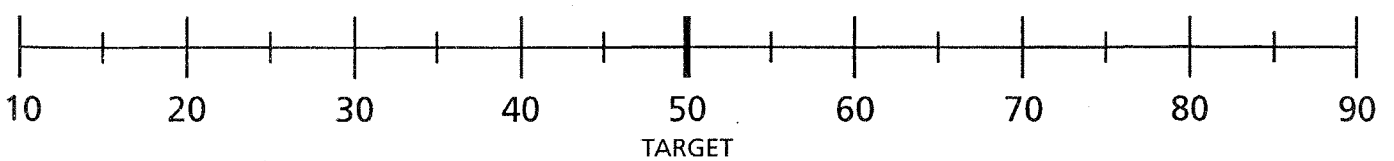
Name _____

**Kim's Flowers**
Word Count: 80

Kim picks some flowers for Mom. 6
She walks into the field where 12
the flowers grow. 15
She picks blue and red flowers. 21
She picks orange flowers, 25
and she takes some leaves, too. 31
She brings the flowers to Mom. 37
Mom smiles. 39
"Thank you so much," she says. 45
Mom fills a white vase with water. 52
She puts the flowers in the vase and 60
sets the vase on the table. 66
People ask, "Where did you get 72
the pretty flowers?" 75
"Kim picked them," Mom says. 80

Number of Errors: 1 2 3 4 5 6 Accuracy (%):

Reading Rate (Words Per Minute):



Name _____

**The Great Candy Caper**
Word Count: 118

"I'm tired of being eaten," said the lollipop. "Children's mouths are sticky." 9 12

"And they smooth out all my nice squares and corners," said the rock candy. 22 26

"Let's escape, everybody," the lollipop said to the whole candy store. A sweet cheer went up from the shelves. 35 45

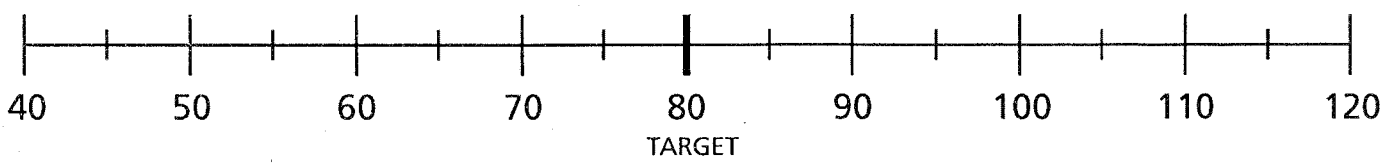
The gummy worms crawled out of their bins, and the chocolates rolled off the shelves like boulders. Gumdrops bounced across the floor. The lollipops marched from their bowl on the counter. 55 63 72 76

On the floor, the ribbon candy built itself into a ladder. A licorice whip climbed up and unlocked the door, and the candy escaped. They found a nice dry spot under the stairs behind a bakery, where they lived happily ever after. 87 97 108 118

Number of Errors: 1 2 3 4 5 6

Accuracy (%): _____

Reading Rate (Words Per Minute):



Appendix D: Self-Evaluation Form

Name _____

***A Snowmen for Mrs. McKay Podcast***
***Self Evaluation***

1. What did you like about working on this project?

_____

_____

_____

2. In your opinion the final product was (circle one).

   a. Unsatisfactory

   b. Satisfactory

   c. Well Done

3. For my parts of the project I felt that I did well on:

_____

_____

_____

4. For my parts of the project I felt I needed to improve:

_____

_____

_____

Put an X in the box that best describes your effort on this project

| No Effort | Poor Effort | Good Effort | Excellent Effort | Outstanding Effort |
|---|---|---|---|---|
| | | | | |

Appendix E: Parent Letter

(Printed on School Letterhead)

11/30/06

Dear Parents/Guardian,

I am currently completing my graduate work at SUNY Brockport. Part of my requirements for my permanent teaching certification is the completion of an action research study. I will be looking at how technology plays a role in developing strategies and motivating students in their reading and writing abilities. The major activities/projects for the study will be given as regular class assignments. These activities will involve podcasts, internet language tools, and the use of other technology. I will be using the results of your child's work for the data in my study. I will also be checking the students reading fluency and levels. These score will be included with my data. Again, these projects will be a part of the regular classroom activities and will need to be completed by everyone. I will not use any child's name in the final write up of the results. Below is a consent form for you to fill out in order for me to use your child's work/results in my study. Please return the bottom portion of this letter by 12/4/06.

Thank you for your help in completing my graduate requirements.
Sincerely,

Heather Young

**********Cut here and return to Mrs. Young**********

I _____ ***GIVE*** my consent for my child _____ to participate in Heather Young's graduate study. I understand that my child's name **will not** be used in any work samples, surveys and test results turned in for final write up.

I _____ ***DO NOT GIVE*** my consent for my child _____ to participate in Heather Young's graduate study. However, **I understand** that my child **is still responsible** for the completion of the classroom activities, even though my child's work and results will not be included in the results and publication of the study.

_____ _____

Parent/Guardian Signature Date

## Appendix F: Project Descriptions

### *Inquiry Based Research*

Students used inquiry-based research to investigate science topic of interest. They suggested a topic and the teacher gave them a list of topics, then the students suggested what to investigate in regards to their topics. They then completed their research, typed their final draft and added pictures. The students then published their work on the classroom webpage.

Filter by Type: All Files

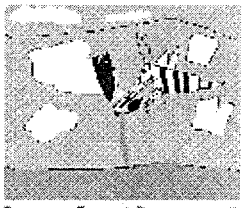
| Name | Size | Date | Category |
|---|---|---|---|
| Australian Flying Fox | 70.54 Kb | 01/10/07 | Bat Facts |
| Bee Facts | 309.89 Kb | 02/25/07 | Bee Facts |
| Body Parts of a Bee | 58.09 Kb | 02/25/07 | Bee Facts |
| Bottlenose Dolphins | 76.55 Kb | 01/10/07 | Whale Facts |
| Builder Bees | 107.85 Kb | 02/25/07 | Bee Facts |
| Dome Volcano | 5.76 Kb | 01/10/07 | Volcano Facts |
| Fin Whales | 25.03 Kb | 01/10/07 | Whale Facts |
| Garden Bees and Wasps | 88.76 Kb | 02/25/07 | Bee Facts |
| Indian Flying Fox | 43.10 Kb | 01/10/07 | Bat Facts |
| Mexican Free-Tailed Bat | 38.18 Kb | 01/10/07 | Bat Facts |
| Nesting Bees | 83.74 Kb | 02/25/07 | Bee Facts |
| Orca Whales | 47.91 Kb | 01/10/07 | Whale Facts |
| Shield Volcano | 10.70 Kb | 01/10/07 | Volcano Facts |
| Stages of Pollination | 34.08 Kb | 02/25/07 | Bee Facts |
| Stratovolcano | 9.28 Kb | 01/10/07 | Volcano Facts |
| The Life Cycle of Bees | 27.33 Kb | 02/25/07 | Bee Facts |
| Vampire Bat | 62.18 Kb | 01/10/07 | Bat Facts |
| Volcanoes | 31.47 Kb | 01/11/07 | Volcano Facts |
| Whale Facts | 158.15 Kb | 01/10/07 | Whale Facts |
| Works Cited | 33.83 Kb | 02/28/07 | Bee Facts |

Example of Inquiry-Based Research

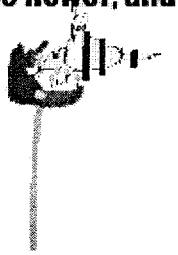
# Stages of Pollination

***Stage 1:*** **A bee smells a flower and lands on it.**

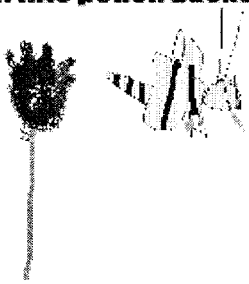
***Stage 2:*** **The weight of the bee opens up the flower.**



***Stage 3:*** **The bee sips the nectar inside the flower, and the bee is dusted with pollen.**



***Stage 4:*** **It combs pollen into pollen baskets on its legs and flies away.**



## *Travel Guide*

The students used websites and brochures to investigate places for students and their families to visit over vacation. They used *Google Maps* and *Map Quest* to write the directions, check mileage and travel time.

Category
Travel Information (8)

Filter by Type: All Files

| Name | Size | Date |
|---|---|---|
| The George Eastman House | 50.30 Kb | 03/15/07 |
| The JELL - O Gallery | 136.34 Kb | 03/15/07 |
| The CN Tower | 37.90 Kb | 03/21/07 |
| The Corning Museum of Glass | 30.28 Kb | 03/30/07 |
| The National Baseball Hall of Fame | 53.19 Kb | 03/16/07 |
| The Rochester Museum and Science Center | 41.69 Kb | 03/30/07 |
| The Seneca Park Zoo | 36.70 Kb | 03/13/07 |
| The Strong Museum of Play | 112.17 Kb | 03/20/07 |



Example

# Seneca Park Zoo

2222 St. Paul Street
Rochester, New York 14621

***April 1 through October 31***
Hours: 10:00 a.m. – 5:00 p.m.

Admission: Adults (Ages 12-62) **$8.00**
Youth (Ages 3-11) **$5.00**
Seniors (Ages 63+) **$7.00**
Children (Ages 0-2) **Free**

The Seneca Park Zoo is about 27 miles from Byron Bergen Middle School
The approximate travel time is about 36 minutes.

***Directions from Byron Bergen Middle school***

1. Head north on West Bergen Rd toward route 262
2. Turn right at route 262
3. Turn right at Lake Ave (Route 19)
4. Turn left at route 33
5. Continue on route 33A
6. Sight right to merge onto 490 E toward Rochester
7. Merge onto 390 N via exit 9A to Greece
8. Merge onto 104 E via the 104 E/Ridge Rd exit 24A
9. Take the St. Paul St N exit to Ridge Rd E
10. Turn right at St. Paul Street.

This zoo has African Elephants and Eurasian Arctic wolves, which you can only see at this zoo in New York State. The Rocky Coast has underwater habitats were you can see polar bears, sea lions, and penguins. There is a ZOT Zone were you can learn about zoo careers. There is also a Zoo Gift shop and Eagle's Landing Café.

**For more information go to www.senecaparkzoo.org**

### *Podcasts*

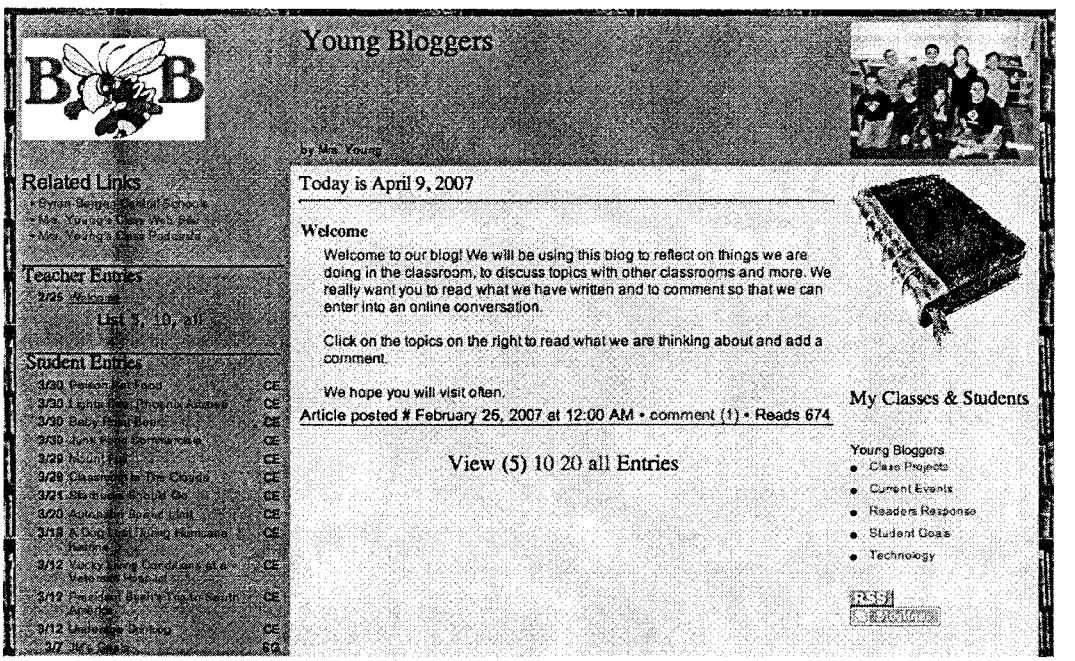
Students used the podcasting format to create audio podcasts as well as publish class books. Students recorded, helped with editing, illustrated, and decided on sound effects. Often they helped create the sound effects.


The following are descriptions of the podcasts:

- **How About Bats** – Reader's theater performance loaded with bat facts. Students also created the commercials.
- **Snowmen at Night II** – Class book based on a picture book read in class. Students wrote their pages edited and made final copies. They then recorded their writing on an iPod, which was then put into the electronic book format. Students designed the about the authors page as well.
- **Fun Fables for Life** – This was another Electronic class book. Student read original fables, and listened to a few examples off the internet. They then took the main ideas and modernized them. This was also recorded on to an iPod. Students published their fables on the computer and added pictures.
- **What's all the Buzz About?** – The three science students interviewed the district superintendent. They came up with their own questions about bee keeping. This project was an extension from the bee research.
- **A Snowman for Mrs. McKay** – Another audio podcast of a reader's theater performance.
- **Things that are the Most in Mrs. Young's Class** – An electronic class book based on another picture book read in class. Students designed the text page and illustrated a picture for their individual ideas.

### *Classroom Blog*

Students posted articles and comments to the Classroom Blog. They answered questions about the current novel we were reading, set personal reading and writing goals, and responded to questions about using technology in their classroom. The three science students also wrote current event articles after viewing the CNN Student News video podcast each week. Other teachers from a few different school districts have checked out the classroom blog and left comments for the students. Students were also able to comment on their class podcats as well as get the global community to comment as well.

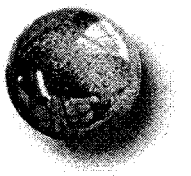


## Example 1: Blog – Current Events

# Current Events

Young Bloggers

by Current Events — teacher: Mrs. Young



Blog Entries

3/30 Poison Pet Food
3/30 Lights Over Phoenix Arizona
3/30 Baby Polar Bear
3/30 Junk Food Commercials
3/29 Mount Fuji
3/28 Classroom In The Clouds
3/21 Starbucks Should Go
3/20 Autobahn Speed Limit
3/19 A Dog Lost During Hurricane Katrina
3/12 Yucky Living Conditions at a Veterans Hospital
3/12 President Bush's Trip to South America
3/12 Underage Drinking
3/7 Tornado in Alabama
3/2 Making The Oscar Award
3/2 Tornado Hits a High School
2/25

List 25, 50, all

Conditions of Use

## Today is April 9, 2007

**Poison Pet Food**

On CNN Student News for March 26, 2007 we saw a report about poison in pet food. Cats and dogs got sick because the food had rat poison in it. The poison food is, "wet cuts and gravy" style. Menu Foods had to recall over 90 brands of dog and cat food across Canada and the United States. I would be sad and worried about Cooper's health if this happened to him.

~ JS

Article posted # March 30, 2007 at 12:15 PM • comment (2) • Reads 22

**Lights Over Phoenix Arizona**

On March 23, 2007 CNN Student News reported a story about lights over Phoenix Arizona. This happened 10 years ago and thousands of people claimed they saw UFO's. The Former Governor of Arizona, Fife Symington has now admitted he saw them. He couldn't admit to it before because he was a governor at the time and didn't want people to panic. What they saw were larger than a football field and silent. They were also V shaped. Many people had it on videotape. I think it was a fake out, but I do believe in Martians.

~ AF

Article posted # March 30, 2007 at 12:13 PM • comment • Reads 5

## Example 2: Blog – Readers' Response

**Journal of Douglas Allen Deeds #3**

What is it about Douglas Allen Deeds that causes Mr. George Donner to say it was a lucky day when Douglas joined up? (June 5th)

~ Mrs. Young

Article posted # March 3, 2007 at 08:27 PM • comment (3) • Reads 18

**Journal of Douglas Allen Deeds #2**

What is "the book"? Why do most of the travelers think it's a "marvelous book"? How do their perceptions of it change? Why?

~ Mrs. Young

Article posted # March 3, 2007 at 08:25 PM • comment (4) • Reads 20

**Journal of Douglas Allen Deeds #1**

When Douglas Allen Deeds and the rest of the party leave Independence Missouri on May 12th, where are they headed? Why?

~ Mrs. Young

Article posted # March 3, 2007 at 08:20 PM • comment (7) • Reads 36

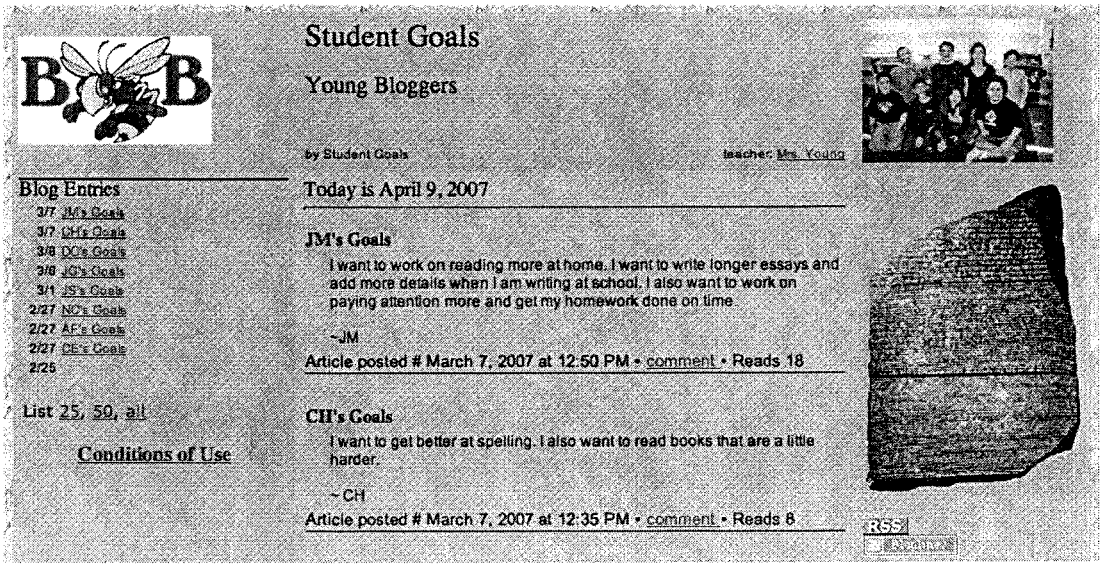
**Betsy Who Cried Wolf**

We read a story that took place after The Boy Who Cried Wolf. What did you like about this version of the story?

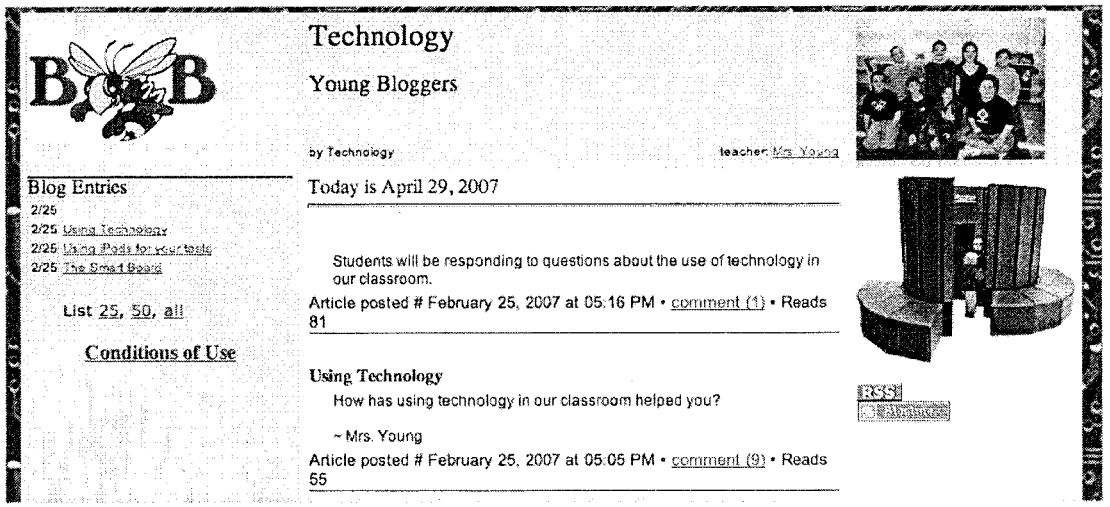
~ Mrs. Young

Article posted # March 3, 2007 at 07:54 PM • comment (8) • Reads 33

## Example 3: Blog – Student Goals




## Example 4: Blog – Technology Questions



## Appendix G: Web Links

## Web Links

**CNN Student News:** Video podcast for middle and high school students

http://www.cnn.com/education

**Classroom Website:** Student writing and projects are published here.

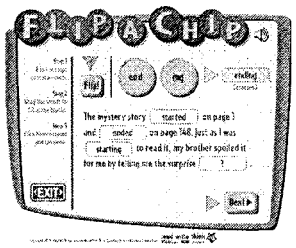
http://byron.ny.schoolwebpages.com/education/staff/staff.php?sectionid=132

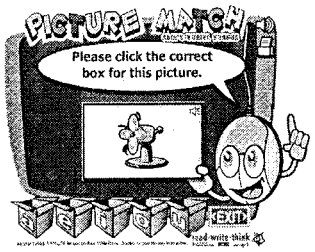
**Classroom Blog:** Blogmeister an educational blog site for teachers

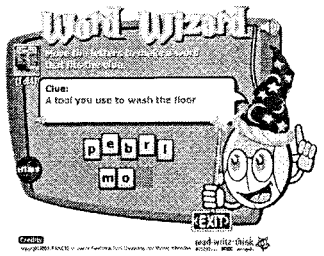
http://classblogmeister.com/blog.php?blogger_id=5911

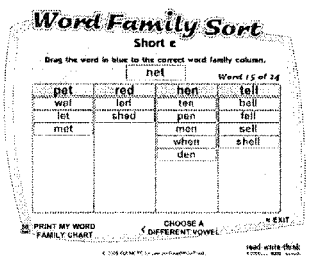
**Read Write Think Web tools:** Students used many of these activities to practice language arts skills.

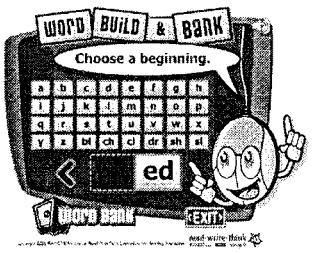
http://www.readwritethink.org/student_mat/index.asp

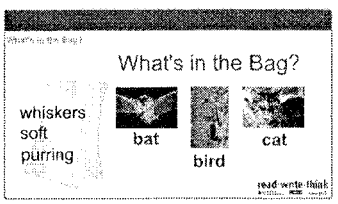


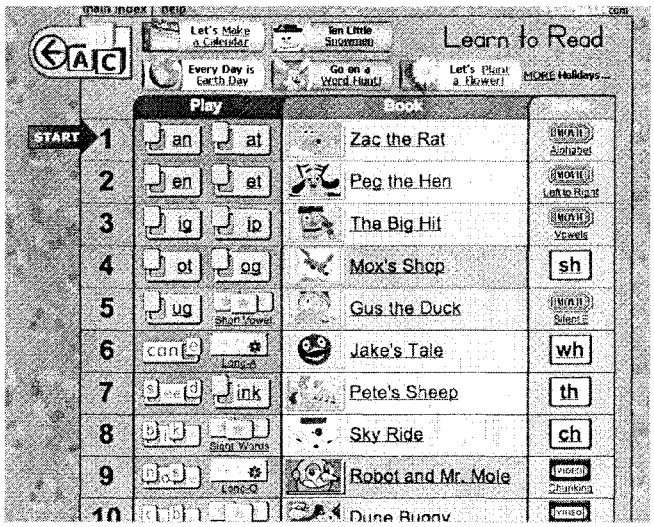



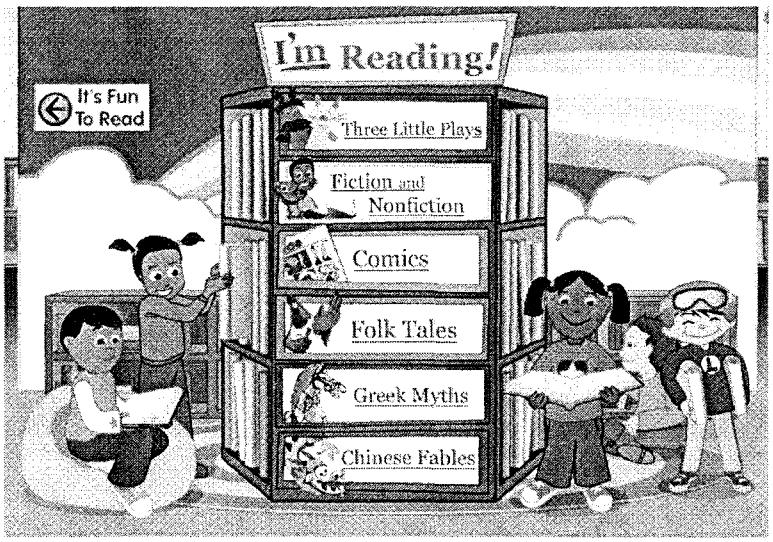
**Starfall Web Tools:** This site contains a variety of primary level reading activities.

http://www.starfall.com

**Learn to Read:** http://www.starfall.com/n/level-a/learn-to-read/load.htm?f




**I'm Reading:** http://www.starfall.com/n/level-c/index/load.htm?f




**Reading A - Z:** http://www.readinga-z.com/