A TEACHER'S APPROACH:

INTEGRATING TECHNOLOGY APPROPRIATELY INTO A FIRST GRADE

CLASSROOM

A thesis submitted in partial fulfillment
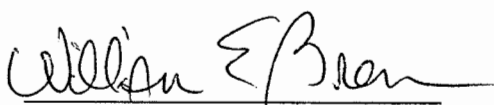Of the requirements for the degree of
Masters of Education

By

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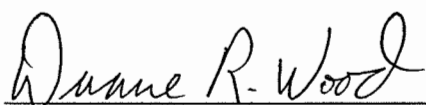B.S. Education, Ohio University, 1995

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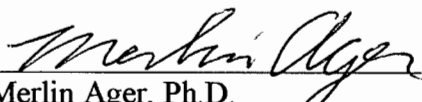CEDARVILLE UNIVERSITY

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY
SUPERVISION BY Loretta Jean Phalen ENTITLED A Teacher's Approach: Integrating
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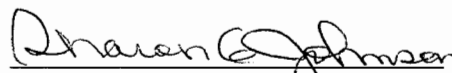Education.


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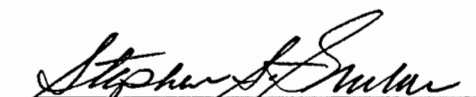
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ABSTRACT

Phalen, Loretta J. M.Ed., Education Department, Cedarville University, 2004. A Teacher's Approach: Integrating Technology appropriately into a First Grade Classroom.


How are first grade classrooms using technology? How are children using technology at home? Does the use of technology really improve academic achievement? An experiment was conducted to determine the effectiveness of using technology to teach a unit in Social Studies to first grade students. The study occurred in a Christian school in Lancaster, Ohio using thirty-seven first grade students. One class comprised the control group with Social Studies instruction taught in a traditional manner. The other class was the experimental group, which used technology such as the Internet, PowerPoint Presentations, and video and audio recordings to provide the instruction. One Social Studies unit was used in the six-week study with an assessment taken each week. Independent-Samples T-Tests were done on the six assessments. Only one of the assessments showed a significant difference in scores in favor of the experimental group. The other five assessments did not show a significant difference. Due to the experimental group having one of the assessments showing a statistically significant difference, and to the fact that the means were higher on four of the other tests, although not significantly, the researcher is encouraged that technology does provide a difference in student achievement. When combined with the increase in interest and enjoyment of the students using technology, technology appears to be a positive motivation for student achievement.

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DEDICATION

I am dedicating this thesis to my students; past, present, and future. They are such wonderful, precious creations of God. Without the children, I would never have had the desire to become a better teacher. Because I know they deserve excellent teaching I will continue to strive, with God's help, to give them my best.

CHAPTER I: INTRODUCTION

*Educational Significance*

Technology has a broad impact on all facets of society.  In Education, technology is now viewed as a necessary component. According to Burdette, McGraw, and Ross (2001), "Information technologies have changed the way we learn, work, and live, transforming the way teachers teach and students learn.  "Technology is a major part of the reform agenda for American schools today.  Instead of viewing computers as a specific topic of study, we now realize that computers can enhance and change the way school subjects are taught" (Beichner & Swartz, 1999).

The question which perplexes educators remains: Does the use of technology really improve academic achievement?  Various studies show both academic gain and/or loss while using technology in the classroom.  Research changes drastically due to the rapid changes in technology (Kimble, 1999).   "On the basis of critical reviews, we are unable to ascertain whether computers in classrooms have in fact been or will be the boom they have promised to be" (Cuban & Kirkpatrick, 1998).

Opinions of educators concerning technology are varied.  Some educators state technology may cause damage to student health and learning, while others say technology has improved schools and educational opportunities (Armstrong & Casement, 2000; Haugland, 1997). "Research (NAEYC, 1996) indicates that computers can be used in developmentally appropriate ways beneficial to children and also can be misused, just as any tool can" (NAEYC, 1996).  Some educational professionals view technology as

the answer to all instructional difficulties.  Others state technology is of little or no use in reaching educational goals (Cuban & Kirkpatrick, 1998; Stratham & Torell ,n.d.; Armstrong, 2000).

Before technology can be incorporated into a classroom, access to such tools must be available.  With computers, a suggested ratio of one computer to five or seven children is important (Haugland, 2000; Stratham, n.d.).  The more computers available, the more benefit to the students (Kelley & Ringstaff, 2002).  The teacher must ensure the children have equal access to the equipment.  Students should have one hour at the computer per day in order to experience the optimal benefits technology can provide. (Stratham, n.d.) The grade-appropriate use of computers is more important to increasing learning than the ratio of computers to students or time spent on computers (Kimble, 1999; Kleiman, 2000).

A technology plan should be developed at the School or District level before technology is placed into individual classrooms (Burdette, 2001; Baylor, 2002).  The technology plan addresses the goals for technology in the classroom and the types of technology that will be used.  Teacher training, technical support, and maintenance are also key components when considering a technology plan.  This preparation should also include methods of integrating the technology into the curriculum.  After a specified amount of time using the technology, the plan should provide a method of evaluation in discovering the impacts technology has made on student achievement or teacher efficiency.

The classroom teacher has the responsibility of implementing technology placed in the classroom in the most beneficial way for the student.  The classroom teacher has the responsibility to create an interesting and creative environment that meets the needs of the learners (Clements & Swaminathan, 1995; Kleiman, 2000).  Because teacher experience varies, some teachers may not be excited or interested about the use of technology. The teacher may disagree with changing his/her teaching methods.  The administration makes the decision to buy the machines, but the teacher has to be the one who decides to use the machine (Cuban, 1996).

"Teacher surveys indicate that about half of United States teachers use technology in classroom instruction, though this use varies from school to school" (Education, 2003). Most teachers at all levels remain occasional users or nonusers of technology.  "Teachers who are regular users seldom integrate the machines with core curricular or instructional tasks" (Cuban, 2000).  The lack of technology use in the classroom may be intensified because the teacher's role is so complex.  The teacher is responsible to maintain order, create personal relationships, cover academic content, teach skills, and teach students to get along in the world.  At times, these factors cause the use of technology to have a low priority.  Teachers may decide the time spent on technology is not the most efficient (Cuban 1996; Education, 2003).

Research (Kleinman, 2000) indicates the use of technology in the classroom will change as teachers learn more about technology.  Teachers may progress through several steps as they begin to use technology.   According to Baylor and Ritchie (2002), teachers

require long exposure to new ideas and skills before classroom behaviors change. It has been found that for teachers to feel in command of educational technologies and to know when and how to use them, it can take as long as five to six years. At first, teachers may be concerned about the amount of time taken by technology. Soon the teacher may begin to blend the technology into the classroom through drill and practice software, games, and word processors; all of which fit more easily into their schedule. As teachers have more time and experience with the technology, they may try using the computer for presentations and curriculum enhancement. Eventually, the teacher will begin to integrate technology into their methods of teaching. Finally, the teacher will experiment with technology usage and new software applications. As technology is used more and more, the teacher's excitement will transfer to the students. The students then become more interested and unafraid to use technology on their own (Kleiman, 2000).

Three main categories of computer instruction are present with technology use. The first two types, CAI (computer-assisted instruction) and CMI (computer-managed instruction), do not require much teacher/student interaction. CAI includes computer programs which provide students with drill and practice or tutorial exercises. Analysis has shown that CAI positively affected the achievement of elementary school students (Badget, 2003). Drill and practice software does lead to gains in wrote skills, but has not been shown as effective in improving conceptual skills (Clements, 1995; Kelley 2002). CMI programs evaluate and diagnose the needs of the students, guide the student through ways to improve learning, and then record the student's progress. Tutorials and some computer games fall into this category.

The category of computer instruction that requires a hands-on role from the teacher is CEI (computer-enhanced instruction.) CEI includes use of the Internet, word processing, and other software programs for well-designed projects that enhance student learning. Discovery-based software is included in CEI and works well for conceptual skills. Projects designated or designed by the teacher are more effective than allowing students to freely explore the software (Clements, 1995). The Internet, when monitored closely, can be used for experiential learning. This information tool enhances understanding and meets the varied needs of a wide range of learners (Northwest Regional Educational Laboratory, 2002).

Studies have shown that CAI and CMI were more effective than CEI in raising achievement test scores in primary and secondary classrooms (Cuban, 1998). CEI may be more effective in achieving curriculum goals (Northwest Regional Educational Laboratory, 2002). Computer use provides an additional medium for encouraging reading, writing, and communication in a real-world environment which is meaningful for students (Northwest Regional Educational Laboratory, 2002; Yost, n.d.). Technology works well for focusing on specific content knowledge, and also aims at developing higher order thinking. This includes problem-solving software, which will assist the student in any context (Clements, 1995).

Technology provides ways for the teacher and school to utilize time more efficiently (Burdette, 2001). Technology also presents teachers with ways to improve personal productivity by using computers for grades, communication, and planning.

(Thorpe, 1999). Technology can be used as part of the daily routine of the class. Technology should not be used as the only way of teaching students, but as a teaching tool in accordance with the chalkboard, pencils and paper (OQE, 2002). Schlechty states, "Students are more likely to engage in work asked of them if they are continually exposed to new and different ways of doing things" (Sparks, 1998). Technology can be used to present information in a new, more appropriate way (Clements, 1995). Internet and computer software can be used to enrich curriculum content, integrate curriculum or extend the curriculum (NAEYC, 1996).

Technology must be integrated in the classroom with the focus on curriculum goals and discovering improved ways to teach students. For example, drill and practice software could be used to develop reading and phonics skills. As a result, children could use these skills to write and publish on the internet (Clements, 1995).

Caution should be used when using technology in early elementary years. Jane Healey, in her book, *Failure to Connect* (1998) suggests technology should not be used to replace more concrete learning experiences in early elementary years, but for interactive problem-solving and open-ended learning with supervised use of the Internet. Hands-on and interpersonal activities should be the beginning focus of computer work (Kimble, 1999). "Computers should be used sparingly in the elementary grades, during which time the emphasis should be on the basic skills of literacy, numeracy, and reasoning" (OQE, 2002).

Technology should be used carefully to eliminate any harmful physical or emotional effects which may result from extended usage of the computer. One study from the Alliance for Childhood stated that computers can cause stress injuries and eye strain (Alliance, 2001). Some harmful emotional effects are possible from technology being used in ways that are not developmentally appropriate. Students can be stressed by the amount of information on computer programs and the internet. Flashing lights, along with loud sounds and intensive action, may be over stimulating. The creativity of the students can be limited by relying too much on other people's ideas while not creating individual ideas. Too much time spent using technology can cause limited communication opportunities. Moral issues may also come into play since the Internet is filled with sites which are not appropriate for children (Alliance, 2001).

To counteract the negative effects of the use of technology, adults must have a key role. Computer use should be monitored using commonsense and balance. For example, an appropriate use of technology would not be using the computer the entire day. A child's time in front of the computer must be limited and observed carefully by the teacher. Although technological contact can be increased if students and teachers work together, time with technology must not take the place of one-on-one and group interaction. Use of technology must be balanced with traditional learning materials to meet the needs of the student. When students are using computers for extended times, breaks should be given (Children's Software Revue, 2003; Early Connections, 2002).

Benefits of the use of technology in the classroom vary because of the differences in classroom applications. The advantages of technology include planned lessons, immediate feedback to students, individualized attention, student motivation, interest, enjoyment, assessment ability, access to information, communication, and simulations (Kimble, 1999). To provide student benefit, software must not only match the curriculum goals, but also be developmentally appropriate. Gains from technology can be seen according to the way technology is used and the amount of time a student has access to these learning tools. According to Susan Haugland (2000), primary-aged children need opportunities to make choices, but also need directed activities with technology. Haugland also states, "The potential gains for kindergarten and primary children are tremendous, including improved motor skills, enhanced mathematical thinking, increased creativity, higher scores on tests of critical thinking and problem solving…" (Haugland, 2000). "Technology can be a catalyst for improving student achievement and impacting the types of activities that teachers use in their classrooms" (Isernhagen, 1999).

Technology provides a tool to increase a child's self-esteem and relations with other children. The student, when using technology, also has power to develop their imagination throughout the many available computer programs (Thorpe, 1999). Many software packages reinforce the child's success as they work through problems. Successful problem-solving leads to a sense of accomplishment.

Problems with the implementation of technology include the lack of teacher training and support staff, the expense of technology, software developed for lower-order

thinking skills, and the failure of proof that technology improves education (Cuban, 1998; Early Connections, 2001). Research (Kelley, 2002) indicates the main problem in implementing technology is the lack of teacher training to use technology efficiently in the classroom (Kelley, 2002). Because schools are anxious to incorporate technology into the classroom, teachers may not be trained how to use the technology (Kleiman, 2000; Kelley 2002). Unfortunately, teacher training is often a step that is ignored because training takes time, and classroom change can be a slow process (Cuban, 1996).

The goal of the classroom teacher must be to use the technology available to the fullest extent in order to benefit students academically, in a developmentally appropriate way. To accomplish the successful implementation of technology, many areas need to be addressed to make the cost of technology worth the benefits to students. Without teacher training, technical support, and adequate software, the computer may collect dust, or be used for games and free-time activities which have little academic benefit for the student (Haugland, 2000; Kleiman, 2000; Staresina, 2003).

*Purpose*

The purpose of this study was to find methods to effectively integrate technology into the first grade classroom. This study investigated methods for using technology in ways which are appropriate and academically beneficial for six to eight year old children in first grade. According to Francis Wardle, Ph.D. (2002), "Appropriate use of technology in the classroom is to expand, enrich, implement, individualize, differentiate, and extend the overall curriculum." The research was conducted to answer three

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questions. The first, how are first grade classrooms currently using technology? Secondly, how are students using technology at home? Thirdly, does the use of technology really improve academic achievement?

*Methodology*

The methodology used to answer the research questions had three components. The first component was a cross-sectional survey study of first grade teachers in Fairfield County, Ohio. The purpose of the study was to determine how technology is currently being used in first grade classrooms and the level of satisfaction the teachers and students experience while using this technology. The survey included questions concerning the teachers' use of technology in the classroom, and addressed variables such as access to technology, experience, and training.

The second component was a survey sent home to the parents of the first grade students. This survey's purpose was to establish the prior experience of the students with technology in the home.

The third component of the methodology was a quasi-experiment between two first grade classes at Fairfield Christian Academy in Lancaster, Ohio. The purpose of the quasi-experiment was to determine if a change in academic achievement would result when one class was taught with integration of technology in the social studies curriculum. Each class was taught a unit in Social Studies for six weeks by the same teacher. The instruction for one class, the control group, was conducted traditionally with a textbook

using prepared lesson plans by the author.  The instruction for the other class, the treatment group, was developed by the instructor based on the objectives in the curriculum.  The treatment group instruction consisted of a variety of technology including the Internet, Software, interactive PowerPoint presentations, electronic learning games, video, and audio recordings.  The classes were evaluated each week using identical assessments to determine any differences in achievement between the groups.

*Biblical Integration*

Because the use of technology has become necessary and beneficial in our world, it is important to explore what God's word has to say about technology.  Of course, the word technology or computer is not mentioned in the Bible, but some areas that can direct us in how to use technology are found when searching God's word.

Man has dominion over non-human creation according to Genesis 1:26 (New International Version).  "Then God said, "Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground."  Technology is under man's control, to be used as a resource in ways that honor God.

Sin affects all areas of life which includes technology.  Although technology provides important educational resources, it is also a source of morally questionable material.  "Because young children in elementary schools are most susceptible to the influences of electronic media, computer use should be monitored carefully" (Armstrong,

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2000).   Children should be taught not to accept everything they see in media as fact.

Adult interaction and observation will help guard against a child's accidental access to

questionable information.  Filtering devices can be added to some types of technology to

screen out inappropriate messages.  As Proverbs 22:6 states, **"Train a child in the way he**

**should go, and when he is old he will not turn from it."**   Christians have a call to purity

in all areas of life, one of which includes technology.  Philippians 4:8 states, "Finally,

brothers, whatever is true, whatever is noble, whatever is right, whatever is pure,

whatever is lovely, whatever is admirable—if anything is excellent or praiseworthy—

think about such things."


Finally, finding balance in the use of technology is another important concept to

consider.  Individuals can use the good from technology such as efficiency, productivity

and speed to achieve their mission, but not spend so much time with technology that it

distracts from homes, families, or the greatest good — God (Funk, 1999).  Ephesians

5:15 states "Be very careful, then, how you live—not as unwise but as wise, making the

most of every opportunity, because the days are evil."   Also In Luke 10:40, 41, Jesus

speaks about distractions and emphasizes concentration on Him is of the highest

importance. "But Martha was distracted by all the preparations that had to be made. She

came to him and asked, "Lord, don't you care that my sister has left me to do the work by

myself? Tell her to help me!" "Martha, Martha," the Lord answered, "you are worried

and upset about many things, but only one thing is needed. Mary has chosen what is

better, and it will not be taken away from her."  Technology can be a significant

component in education, but should be balanced with many other learning activities.

Technology should not be used as the only way of teaching students, but as a teaching

tool in accordance with the chalkboard, pencils and paper (OQE, 2002).

*Application to Current School*

Technology is not being used by first grade students at Fairfield Christian

Academy.   The school administration strives to have a school of excellence and therefore

purchased technology with the expectation that students would benefit from its use.

However, the classroom teachers continue to instruct students in a traditional method

with little integration of technology into the curriculum.  Some obstacles to the teacher's

use of technology are lack of training, little access to software, and inadequate technical

support. The teachers are uncertain how to best use the technology, and if its use will

actually benefit the students.

This research has been designed with three goals which will help the teachers

begin to implement technology.  The first goal is to explore and evaluate ways other

schools are using technology in first grade to see if their methods could be adapted into

our classrooms.  The second goal is to determine how familiar the students are with using

technology and how much technology experience they have at home.  The third goal is to

determine if technology benefits the students academically when integrated into the

curriculum.

*Summary*

Technology is an integral part of education.  As technology continues to develop,

research and study must persist concerning the impact on student achievement, higher-

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order thinking, and creativity. The school must decide what equipment will benefit teachers, enhance student learning, and align with curriculum goals. School Districts should have a detailed plan in place before purchasing technology and placing it into the classrooms. Teachers must be aware of what is expected and provided with training and support to use the technology to meet the school's goals. The evaluation of computer instruction and acquisition of software which aligns with the curriculum goals is necessary before teachers can include the technology in instruction. Methods of using technology to increase student achievement must be evaluated and explored before and after the technology is implemented. Teaching with technology should be balanced with traditional teaching methods, to assure the most efficient and developmentally appropriate method is used with the students. The benefits and problems with using technology must be carefully and continually weighed to assure appropriate use and define technology policies.

As a teacher's experience with technology improves, teachers will recognize whether or not students are benefiting from such programs (Staresina, 2003). To use technology in the most developmentally appropriate way, educators must keep current with research and training. Educators must continually evaluate old methods of teaching, while discovering ways in which technology impacts student achievement.

*Definition of terms*

At-risk Students  At-risk students are those who have not been successful learning in the regular classroom environment.

Behaviorist  The Behaviorist looks at the student as a receiver of information and not an active participant in learning.

CAI (computer-assisted instruction)   CAI includes computer programs which provide students with drill and practice or tutorial exercises

CEI (computer-enhanced instruction)  CEI includes use of the Internet, word processing, and other software programs for well-designed projects that enhance student learning.

CMI (computer-managed instruction)  CMI programs evaluate and diagnose the needs of the students, guide the student through ways to improve learning, and then record the student's progress.  Tutorials and some computer games fall into this category.

Computer Lab  For the purposes of this paper, a computer lab refers to a specific room, apart from the regular classroom, where there are enough computers for each student.

Concrete Learning Experience  The term Concrete Learning Experience means hands-on learning using  manipulative items which the student can touch and manipulate to learn.

Cognitive Structures  A model of human learning which says cognition operates with various components and information structures of the mind.

Collaborative Work  Students and teachers working together to share knowledge and authority.  The teacher acts as a facilitator or mediator.

Constructivist   An approach to teaching and learning based on the premise that cognition (learning) is the result of "mental construction."  Students learn by fitting new information together with what they already know. Constructivists believe that learning is affected by the context in which an idea is taught as well as by students' beliefs and attitudes.

Cooperative Learning  A form of collaborative work which refers primarily to small groups of students working together.

Developmentally Appropriate  The term developmentally appropriate in this study is primarily based on information from Susan Haugland, PhD., who is a professor in Early Childhood Education.  Developmentally appropriate practices with technology for first grade students would include providing children access to a computer center with software on their level.  Students could also participate in teacher-directed activities to match learning objectives.  The use of technology should include opportunities for students to work in groups, investigate, interact with others, solve problems and cooperate to reach a goal (Haugland, 2000).  "Computers should be used sparingly in the elementary grades, during which time the emphasis should be on the basic skills of literacy, numeracy, and reasoning" (OQE, 2002).  A child's time in front of the computer must be limited and observed carefully by the teacher. (Children's Software Revue, n.d ).

Differentiate  Ways to change learning experiences to meet the needs of the specific student.

Experiential Learning  Student learning achieved through experience.  A concept meaning that students learn by doing.

Gifted Students  Gifted students are those identified by professionally qualified persons to have outstanding abilities and are capable of high performance.

Hardware  A term used to describe computer equipment.

Howard Gardner's Theory of Multiple Intelligences   Howard Gardner describes several ways in which people learn such as linguistic (word smart), logical-mathematical (number/reasoning smart), spatial (picture smart), kinesthetic (body smart), musical (music smart), interpersonal (people smart), intrapersonal (self smart), and naturalist (nature smart).

Integrate  To combine technology with other methods of  teaching to help students meet specific learning objectives.

Learning Styles  A learning style is a preferential method by which you learn and remember what you have learned.  The three primary styles are visual, auditory and kinesthetic.

Off-computer activities  These activities refer to learning activities not done on the computer such as reading a textbook, discussion, or a worksheet.

Presentation Software  Computer programs used to present lessons or presentations to a class or group.   One type of presentation software is PowerPoint.

Software  A term used to describe computer programs.

Teaching Method  The disciplines and techniques used by an instructor to teach.

Technical Support   Technical support is used in this paper to describe technical help and assistance to solve problems which arise with hardware and software when using technology on a daily basis.

Technology  For the purpose of this study, technology means computer-based tools including hardware, software, the Internet, and computer-based multimedia.

Technology Plan  A plan developed by the school or the district which includes goals of technology in the classroom and types of technology to be used.

Traditional Teaching Methods  Traditional teaching methods refers to teacher-directed instruction using a textbook, worksheets, and hands-on activities in large and small groups.

Web-based Activities  Web-based activities use Internet sites to create learning activities.  Examples include interactive PowerPoint presentations and web quests where questions are asked that can be answered by visiting various Internet sites.

CHAPTER II:  Review of Literature

*Introduction*

The question of how to use technology appropriately in a first grade classroom is answered in varied and controversial ways.  The term "technology" for the purpose of this paper means computer-based tools including hardware, software, the Internet, and computer-based multimedia (Kelley, 2002) . Technology equipment is continually being purchased and provided to more and more classrooms.  However, simply placing technology in schools does little to increase student learning (Baylor & Ritchie, 2002). With computer use becoming essential for everyday life, schools are looking for ways to integrate technology into the curriculum. Technology is now viewed as a necessary component in education (Armstrong & Casement, 2000).  Computer technology seems to have taken over public perceptions of what education is all about.  The mindset appears to be that unless computers are involved, nothing worthwhile is happening within the school (Dosag, Jukes & McDonald, 2000).

Advocates of technology look forward to exciting future educational possibilities. The internet described by Dosaj (2000), is an amazing tool for researching current factual information.  Students consider the internet as an electronic playground which supplies information, activities, amusement and social contact.

Critics of technology look at social and educational costs and consider the internet as a wasteland of unedited information (Dwyer, MacLean & Victor, 1999).  As stated by Dosaj (2000), "For some the lush world of cyberspace is eagerly welcomed as an escape

from the flat two-dimensional aspects of paper-based resources. On the other hand, some

educators and decision makers regard the Internet as a wolf in sheep clothing."

Dosaj (2000) reasons that students need to use technology because they will have

to work, play, live, and learn within this world.  Because educators have the

responsibility to prepare students for reality, students must be proficient with paper-based

information and real people, but also with digital information and virtual people (Dosaj,

2000).

According to Alessi & Trollip (2001), educators and scientists began using

technology for instructional purposes forty years ago, beginning in the 1960's and

1970's, with large mainframe computers.  Near the end of the year 1970, the

microcomputer was invented.  It took eight years before the first widely available

microcomputers were released.  In 1981, the release of the IBM personal computer, and

in 1984, the release of the Apple Macintosh, resulted in expansion of the microcomputer

market into business and industry.  Educational computing began with a few, large,

government funded projects on mainframe and microcomputers.

A great increase in the use of technology in education came when the Windows

operating system was invented which helped make computers easier to use.  In the early

1990's, the World Wide Web, or Internet, transformed the use of educational technology

by supplying a worldwide resource (Alessi, 2001).

Software took several years to develop, which enabled computers to be used for instructional purposes. Technology has quickly become more available and efficient. Unfortunately, due to the lack of excellent and effective educational software, the small number of people with the skills to develop quality courseware, and disagreements on how computers should be used in education, improvement in learning has been less than expected (Alessi, 2001).

Armstrong and Casement (2000), in their book *The Child and the Machine,* state the belief that computer technology will positively influence education is so widely held that few have questioned it. Some believe the computerizing an activity automatically improves the activity. Parents and community leaders feel technological expertise will help students succeed in college and in a career. The public views computers as equated with high intelligence and success. Advertisers promote the idea that children need computers because those who have them will outperform those who do not (Armstrong, 2000).

According to Armstrong (2000), within society two beliefs concerning educational technology prevail. The first belief is technology makes education more productive, relevant and interesting for all students. The second belief is that because technology is becoming more and more a part of daily life, students must understand and have access at school to be able to participate in society. But Armstrong (2000) cautions that the widespread use of computers in our schools is actually still experimental and the outcomes are uncertain. Studies (Cuban, 2000), show that knowledge of specific

software or anything beyond simple computer experience, and may not have benefit in attaining a job. Employers value skills and qualities such as trust, motivation, initiative, problem-solving, communication, and cooperation above specific technological skills (Cuban, 2000).

The question which perplexes educators remains: Does the use of technology really improve academic achievement? Various studies show both academic gain and/or loss while using technology in the classroom. Research changes drastically due to the rapid changes in technology (Kimble, 1999). Cuban (1998) writes, "On the basis of critical reviews, we are unable to ascertain whether computers in classrooms have in fact been or will be the boon they have promised to be."

Some educators state technology may cause damage to student health and learning, while others say technology has improved schools and educational opportunities. According to the National Association for the Education of Young Children (1996), "Research indicates that computers can be used in developmentally appropriate ways beneficial to children and also can be misused, just as any tool can." Some educational professionals view technology as the answer to all instructional difficulties. Others state technology is of little or no use in reaching educational goals (Cuban, 1998; Stratham,n.d.).

Before technology can be used appropriately in the classroom the school must obtain the equipment, the school district must establish goals for the technology, and the

school must create a plan to meet the goals.  Further, the teacher must have training and

support to use the technology appropriately at the level of the student.  Finally the

methods, benefits, and problems of using the technology must be explored and evaluated

to determine appropriate use and effects on achievement of technology use in education.


*Obtaining Technology*

Before technology can be incorporated into a classroom, access to such tools must

be available.  With computers, a suggested ratio of one computer to five or seven children

is important (Haugland, 2000; Stratham, n.d.). The more computers available, the more

benefit to the students (Kelley, 2002).  The teacher must ensure the children have equal

access to the equipment.  Students should have one hour at the computer per day in order

to experience the optimal benefits technology can provide (Stratham, n.d.).  The grade-

appropriate use of computers is more important to increasing learning than the ratio of

computers to students or time spent on computers (Kimble, 1999; Kleiman, 2000).


The placement of technological equipment can have an effect on student and

teacher use.  The location of the hardware can either promote or hinder use. Computers

may either be put in a centralized location, such as a computer lab, or in individual

classrooms.  According to Haugland (2003), the best placement for computers in early

elementary classrooms, is a central location arranged so monitors are assessable and

easily viewed, to support social interaction.  Children can then see when the computer is

available and interact with those involved in other activities**.**

Some schools may have a combination of in-class hardware and a computer lab. Kelly (2000), states that students who have access to technology in their classrooms show more improvement in basic skills than those who received instruction in computer labs away from the classroom. Classrooms with computers allow more time to use the computers and an increased sense of confidence and competence in computer skills in comparison with computers placed only in a lab environment (Kelley, 2002).

Before technology can be implemented, the teacher must understand the school's goal for technology. Questions concerning computer implementation within the classroom which should be answered by the school's goals include: Is the computer to be used basically for familiarizing the students with technology, or for teaching the curriculum? Should the computer actually be used in teaching the curriculum or only for review, drill and practice, and tutoring? Can students be taught more effectively with traditional methods, or will the technology make a difference in the student learning? Technology cannot be used appropriately until goals are examined and ways to obtain the goals are researched. The school or district administration is responsible for establishing the goals for technology (Kleiman, 2000).

*The Role of the School or the District*

A technology plan should be developed at the School or District level before technology is placed into individual classrooms. The technology plan addresses the goals for technology in the classroom and the types of technology that will be used. Teacher training, technical support, and maintenance are also key components when considering a

technology plan.  This preparation should also include methods of integrating the technology into the curriculum.   As stated by Baylor & Ritchie (2002), "Given a school's curriculum provides instruction that results in student progress toward a stated learning objective, it would follow that technology activities should be aligned to that curriculum."

A necessary part of the district plan, one which is often neglected, is review and evaluation. The use of technology may need to be monitored, reviewed, evaluated, and updated frequently.  After a specified amount of time using the technology, the plan should provide a method of evaluation in discovering the impact technology has made on student achievement or teacher efficiency.  Without a district or school wide plan, individual classroom teachers do not have direction in the use of technology and an increase in learning and student success, the true goal of the technology, will not be evaluated properly (Kleiman, 2000; Kelley, 2002).

*The Teacher's Role*

The classroom teacher has the responsibility of implementing technology placed in the classroom in the most beneficial way for the student.  The classroom teacher has the responsibility to create an interesting and creative environment that meets the needs of the learners (Clements, 1995; Kleiman, 2000).  Because teacher experience varies, some teachers may not be excited or familiar about the use of technology. The instructor may disagree with changing his/her teaching methods.  Including technology within the classroom is not normally the decision of the teacher.  The administration makes the

decision to buy the machines, but the teacher has to be the one who decides to use the machine (Cuban, 1996). According to Baylor (2002), teacher openness to change facilitates a teacher's acceptance of technology. The teacher also needs to see the relevance of technology use to the goals and objectives for the students. Use of technology outside of class, by the teacher, may be an indicator of interest and skills with technology. Teachers may avoid technology, integrate, or specialize with computers (Baylor, 2002).

Technology cannot be put into practice in the classroom without the teacher. The teacher must be active in making sure software and activities are consistent with the students' past experience, interest, and ability. Before technology can be used in powerful ways to impact the students, a teachers' beliefs about learning and teaching may need to change (Kelley, 2002). In order for technology to be integrated, the teacher must make decisions on how the classroom is managed. Also, he/she must choose whether the technology available aligns with the goals of the curriculum.

Teachers are responsible for using technology appropriately, integrating the technology into the classroom atmosphere, providing access to all students, screening software for violence or stereotyping, and learning how to use the technology adequately (NAEYC, 1996). Teacher flexibility is necessary when incorporating the use of technology, in order to meet the needs of the curriculum.

As technology is implemented, the teacher's role and needs of the child may change. At first the teacher may need to demonstrate and assist students with problem-solving, setting goals, and planning. Once the student has become confident, the teacher can become an observer and facilitator when needed (Clements, 1995; Muchasic, n.d.; Kelley, 2002). When using technology, the teacher must become more like a guide compared to the traditional role of imparter of all knowledge (Thorpe, 1999). The teacher provides guidance in using technology, but allows the student to lead (Burdette, 2000; Muchasic, n.d.). Instead of teacher direction, teacher prompting with questions significantly improves the students' understanding and deepens the learning experience. (Muchasic, n.d.) Teaching with technology, as with other types of teaching, sometimes offers an unexpected opportunity for learning and "teachable moments." (Clements, 1995; Haugland, 2003).

Technology is only one component of the learning environment. Many other components of education must be used together to find the most appropriate way to teach students (Kelley, 2002). Teachers must provide other suitable activities to reinforce the activities on the computer. "Research shows that computer activities yield the best results when coupled with suitable off-computer activities." (Clements, 1995).

"Teacher surveys indicate that about half of United States teachers use technology in classroom instruction, though this use varies from school to school." (Education, 2003). Most teachers at all levels remain occasional users or nonusers of technology. "Teachers who are regular users seldom integrate the machines with core curricular or

instructional tasks." (Cuban, 2000). The lack of technology use in the classroom may be intensified because the teacher's role is so complex. The teacher is responsible to maintain order, create personal relationships, cover academic content, teach skills, and teach students to get along in the world. At times, these factors cause the use of technology to have a low priority. Teachers may decide the time spent on technology is not the most efficient (Cuban 1996; Education, 2003).

The philosophy of the teacher and/or the school district will profoundly influence the way in which technology is used. According to Beichner and Schwartz (1999), philosophically teachers tend to fall along a continuum ranging from highly behaviorist on one hand to radically constructivist on the other. Teachers who are more behaviorists will favor uses of technology that allow them to more effectively manage the individual learning of skills and objectives. Teachers who are more constructivists will prefer uses of technology that permit students to explore and investigate areas of knowledge (Beichner, 1999). According to Beichner (1999), the constructivist teaching style leads to more acceptance of technology in the classroom.

Research (Kleiman, 2000) indicates the use of technology in the classroom will change as teachers learn more about technology. Teachers may progress through several steps or stages as defined in the Jossey-Bass Reader (2000) by Dwer, Ringstaff, and Sandhotz. At the first stage, the entry stage, the teachers may look at the amount of time taken by technology as a distraction. Soon the teacher will reach the adoption stage and begin to blend the technology into the classroom through drill and practice software,

games, and word processors; all of which fit more easily into their schedule. As teachers

become more comfortable with the technology, they will be in the adaptation stage and

may try using the computer for presentations and curriculum enhancement. Eventually,

the teacher will reach the appropriation stage and begin to integrate technology into their

methods of teaching. Finally, the teacher will arrive at the invention stage and begin to

experiment with technology usage and new software applications. As technology is used

more and more, the teacher's excitement will transfer to the students. The students then

become more interested and unafraid to use technology on their own (Kleiman, 2000).


Teachers may find it tempting to use technology as a toy. According to Burdette

& McGraw (2001), some teachers may use computer work as a reward for students who

have finished other work or for good behavior. Others may view time in the computer

lab as release time or neglect to coordinate technology skill development with curricular

goals. The desired result is for technology use to be meaningful. To make the time using

technology meaningful the teacher must carefully plan and restructure the traditional day

to fully integrate technology into the classroom. Integration requires the curriculum to

drive the technology use (Burdette & McGraw, 2001). The teacher will not be able to

teach in the old way (Christensen & Knexek, 2002). Successful technology integration in

a classroom environment appears to require will, skill, and access to technology tools on

the part of the teacher (Christensen, 2002).

*Types of Computer Instruction*

Three main categories of computer instruction are present while using technology. The first two types, CAI (computer-assisted instruction) and CMI (computer-managed instruction), do not require much teacher/student interaction. CAI includes computer programs that provide students with drill and practice or tutorial exercises. According to Baylor (2002), the majority of technology-based instruction has focused on the acquisition of factual information rather than higher order thinking and problem solving. Teachers are more likely to use technology for drill and practice of isolated skills and for remediation. Analysis has shown that CAI positively affected the achievement of elementary school students (Badget, 2003). Drill and practice software does lead to gains in wrote skills, but has not been shown as effective in improving conceptual skills (Clements, 1995; Kelley 2002).

CMI programs evaluate and diagnose the needs of the students, guide the student through ways to improve learning, and then record the student's progress. Tutorials and some computer games fall into this category.

The category of computer instruction that requires a hands-on role from the teacher is CEI (computer-enhanced instruction.) CEI includes use of the Internet, word processing, web-based activities and other software programs for well-designed projects that enhance student learning (Alessi, 2001). Discovery-based software is included in CEI and works well for conceptual skills. Projects designated or designed by the teacher are more effective than allowing students to freely explore the software (Clements, 1995).

The Internet, when monitored closely, can be used for experiential learning.  This

information tool enhances understanding and meets the varied needs of a wide range of

learners (Northwest Regional Educational Laboratory, 2002).


Educators who follow the constructivist philosophy teach with technology using

CEI.  Typical use of technology for the constructivist listed by Beichner & Schwartz

(1999) includes:

1. Allowing the student to engage in a little free exploration with the technology.

2. Having the student pose a problem or define a question to be pursued using
   technology.

3. Guiding the student in finding the resources to answer the question or solve
   the problem.

4. Helping the student create a multimedia presentation to be used for sharing
   about the problem with others.

5. Providing a forum for students to share their multimedia presentation.


Studies have shown that CAI and CMI were more effective than CEI in raising

achievement test scores in primary and secondary classrooms (Cuban, 1998). CEI may be

more effective in achieving curriculum goals (Northwest Regional Educational

Laboratory, 2002).  Computer use provides an additional medium for encouraging

reading, writing, and communication in a real-world environment which is meaningful

for students (Northwest Regional Educational Laboratory, 2002; Yost, n.d.).  Technology

works well for focusing on specific content knowledge, and also aims at developing

higher order thinking.  This includes problem-solving software, which will assist the

student in any context (Clements, 1995). Many lessons combine methodologies, such as a

lesson that begins with a tutorial and then follows with a drill or game (Beichner, 1999).

*Methods of Using Technology in the Classroom*

Technology provides ways for the teacher and school to utilize time more

efficiently.  Technology also presents teachers with ways to improve personal

productivity by using computers for grades, communication, and planning (Thorpe,

1999).  Technology can be used as part of the daily routine of the class. Technology

should not be used as the only way of teaching students, but as a teaching tool in

accordance with the chalkboard, pencils and paper (OQE, 2002).  Technology has a role

in education as a tool to provide a space in which learning takes place, to store the results

of learner activity, and to take care of time-consuming tasks which detract from learning

(Alessi, 2001).  According to Dosaj (2000), technology can be easily seen as providing

new tools that allow educators to do new things or to do old things better, but it also

directly shapes our thinking and practices in vast, unseen ways (Dosage, 2000; Clements,

1995). Schlechty states, "Students are more likely to engage in work asked of them if

they are continually exposed to new and different ways of doing things." (Sparks, 1998).

Internet and computer software can be used to enrich curriculum content, integrate

curriculum or extend the curriculum (NAEYC, 1996).  As stated by (Baylor, 2002):

"…it is becoming increasingly clear that technology in and of itself, does not

directly change teaching or learning. Rather, the critical element is how

technology is incorporated into instruction.  When students and teachers perceive

computers as a separate subject, unassociated with the context of the lesson or

classroom, the content or concepts studied are often left fragmented in the

learners' mind. But if a technology-enhanced lesson is integrated into the larger

curriculum with direct tie-ins, students are more likely to infuse the knowledge

into existing cognitive structures. Technology integration requires teachers to

alter their teaching process, no longer being the sole distributor of information."

(p.57)

To be effective, technology must be integrated in the classroom with the focus on

curriculum goals and discovering improved ways to teach students. For example, drill

and practice software could be used to develop reading and phonics skills. As a result,

children could use these skills to write and publish on the internet (Clements, 1995).

Wardle (2002) states that educators must continually strive to use technology in

ways where it is particularly powerful including individualizing, addressing learning

disabilities and different learning styles and bringing the world into the classroom."

Alessi (2001) indicates that computers should be used only in situations where they are

most likely to be beneficial. Beneficial technology use include situations where the cost

of instruction by other methods is high, where safety is a concern, where the material is

difficult to teach otherwise, where extensive individual practice is needed, where learner

motivation is lacking, or where learners have special needs.

Technology should be used carefully to eliminate any harmful physical or

emotional effects which may result from extended usage of the computer. One study

from the Alliance for Childhood stated that computers can cause stress injuries and eye strain (Alliance, 2001). Some harmful emotional effects are possible from technology being used in ways that are not developmentally appropriate. Students can be stressed by the amount of information on computer programs and the internet. Flashing lights, along with loud sounds and intensive action, may be over stimulating. The creativity of the students can be limited by relying too much on other people's ideas while not creating individual ideas. Too much time spent using technology can cause limited communication opportunities. Moral issues may also come into play since the Internet is full of sites which are not appropriate for children (Alliance, 2001).

To counteract the negative effects of the use of technology, adults must have a key role. Computer use should be monitored using commonsense and balance. For example, an appropriate use of technology would not be using the computer the entire day. A child's time in front of the computer must be limited and observed carefully by the teacher. Although technological contact can be increased if students and teachers work together, time with technology must not take the place of one-on-one and group interaction. Use of technology must be balanced with traditional learning materials to meet the needs of the student. When students are using computers for extended times, breaks should be give (Children's Software Revue, n.d.; Early Connections, 2002).

*Benefits of Technology Use*

Benefits of the use of technology in the classroom vary because of the differences in classroom applications. The advantages of technology can include planned lessons,

immediate feedback to students, individualized attention, student motivation, interest and enjoyment, assessment ability, access to information, communication, and simulations of dangerous, expensive or unique environments (Kimble, 1999; Alessi, 2001). Other benefits include more convenient and less expensive distribution of materials , ease of ensuring all users have the most recent version of materials, and ease of the learner to access the materials at their convenience even when the learner is disabled (Alessi, 2001).

To provide student benefit, software must not only match the curriculum goals, but also be developmentally appropriate. Gains from technology can be seen according to the way technology is used and the amount of time a student has access to these learning tools. According to Susan Haugland (2000), primary-aged children need opportunities to make choices, but also need directed activities with technology. Haugland also states, "The potential gains for kindergarten and primary children are tremendous, including improved motor skills, enhanced mathematical thinking, increased creativity, higher scores on tests of critical thinking and problem solving… (Haugland, 2000). "Technology can be a catalyst for improving student achievement and impacting the types of activities that teachers use in their classrooms (Isernhagen, 1999).

Technology provides a tool to increase a child's self-esteem and relations with other children. The student, when using technology, also has power to develop their imagination throughout the many available computer programs (Thorpe, 1999). Many software packages reinforce the child's success as they work through problems. Successful problem-solving leads to a sense of accomplishment.

Technology increases student interaction when used appropriately. "Children engage in high levels of spoken communication and cooperation on the computer." (NAEYC, 1996). Arranging the environment by putting two chairs together per computer screen encourages students to work together (Clements, 1995; Early Connections, 2000). Open-ended or problem-solving software also creates opportunities for peer involvement. "Computers, for a variety of reasons, always have welcomed and seemed to require several minds working together." (Thorpe, 1999). Working on the computer has instigated collaborative work and cooperative learning( Clements, 1995; Stratham, n.d.; Early Connections, 2002).

Technology also benefits the learning environment because children feel computers are exciting and enjoyable. "Computers are intrinsically compelling for young children." (NAEYC, 1996). Certain computer software may seem like a game, when it is really teaching a lesson. Children, through technology, have the opportunity to interact with information from their classroom, other classrooms, or classrooms around the world (Clements, 1995). Because of student interest in technology, classrooms participating in computer usage show improved behavior and lower school absentee rates (Stratham, n.d.). The student's initial excitement for technology though, called the novelty affect, may diminish as with any new learning activity a teacher brings into the classroom (Haugland, 2003).

Another benefit of technology is many software programs provide an opportunity for assessment. Assessment segments of programs automatically show the child and teacher what objectives have been met and what materials need to be reviewed (Clements, 1995). Computers also benefit learners by offering activities appropriate for all levels of development, varied learning styles, and multiple intelligences (Clements, 1995). At-risk and gifted students benefit from computer instruction since it provides extra practice and extended opportunities at an appropriate level. Use of technology can provide the student with a less threatening avenue to learn (Stratham, n.d.; Kelley, 2002). Schools should be a place where the student has many opportunities to demonstrate successful competence not only in traditional areas, but also in the usages of technology (Isernhagen, 1999).

*Problems with Implementation of Technology*

Problems with the implementation of technology include the lack of teacher training and support staff, the expense of technology, software developed for lower-order thinking skills, and the failure of proof that technology improves education (Cuban, 1998: Early Connections, 2001). Research indicates the main problem in implementing technology is the lack of teacher training to use technology efficiently in the classroom (Kelley, 002).

Professional Development and training must be provided to educators before technology will be used in the classroom. Teachers and faculty members must have the skills, knowledge, and attitudes necessary to infuse technology into the curriculum.

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Teachers require long exposure to new ideas and skills before classroom behaviors will change. It has been found that for teachers to feel in command of educational technologies and to know when and how to use them, it can take as long as five to six years (Baylor & Ritchie, 2002). Unfortunately, teacher training is often a step that is ignored because training takes time, and classroom change can be a slow process (Cuban, 1996; Kleiman, 2000; Kelley 2002). "Training should be sequenced in short, incremental lessons interspersed with actual classroom implementation and access to consultation, advice, and problem-solving." (Stratham, n.d.). A report done by Gatewood & Conrad states, "only a few teachers in a relatively small number of schools have been trained to maximize technology use in classrooms." (Haugland, 2000; Kleiman, 2000).

Four components of training which should be included are practical experience, workshops, models and mentors, and supervisory follow-up." (Haugland, 2000). As the teacher is trained, ways of implementing technology to maximize learning will be discovered. Teachers must be given time to prepare and train before and after the technology is implemented (Kleiman, 2000). "Teachers must be given opportunities to explore, reflect, collaborate with peers, work on authentic learning tasks, and engage in hands-on, active learning." (Kelley, 2002).

Research by Kleiman (2000) shows that even if the teacher has been trained to use technology, assistance for software (programs) and hardware (equipment) problems may not be available. Teachers have difficulty using technology in the classroom due to lack of support or assistance. When schools purchase technology, the school may not have a

technology support person who can fix small problems. As the technology is used in the classroom and a problem arises, the class is interrupted indefinitely until someone is located who can solve the problem. Without a technology support person, the required maintenance could take a day or weeks (Kleiman, 2000). Teachers who are comfortable using technology in their classroom will stop if the technology is unreliable because of lack of time or skills to fix equipment in most circumstances. Adequate on-site technical support allows teachers to use technology successfully. (Kelley, 2002)

Another obstacle is the availability of software that aligns with curriculum goals. The school may not have included software purchases with the acquisition of the hardware. Before purchasing software, teachers should research and analyze what software helps them meet their educational goals. (Cuban, 1998) Before teachers can decide on appropriate software, a level of expertise is necessary to understand the software and how these programs are able to meet the educational goals of the students.

The goal of the classroom teacher must be to use the technology available to the fullest extent in order to benefit students academically, in a developmentally appropriate way. To accomplish the successful implementation of technology, many areas need to be addressed to make the cost of technology worth the benefits to students. Without teacher training, technical support, and adequate software, the computer may collect dust, or be used for games and free-time activities which have little academic benefit for the student (Haugland, 2000; Kleiman, 2000; Staresina, 2003).

*Appropriate Uses of Technology in the First Grade Classroom*

Before technology should be used in a first grade classroom, the educator must have an understanding of what will appropriately benefit the learner. According to Haugland & Wright (1997), for young children's optimal growth, they should be assured of early childhood experiences that maximize their development. These include experiences that expand children's view of the word and help them to discovery the joy of learning. Technology, used appropriately, may be an influential tool to enhance young children's potential, facilitating the learning process.

Although computers are only one of the many educational resources we provide young children, when used appropriately, computer software is a valuable resource enriching young children's growth and development. Beichner (1999), states, "One effect of presentation software on children's learning is that it more easily engages their attention than do other forms of presentation." Software selection is the most important decision teachers make when integrating computers. The software children use determines to a large degree whether computer experiences are developmentally appropriate. When children use developmentally appropriate software, research (Haugland, 2003), has shown the learning outcomes are significantly different than when children use non-developmental software. The software programs children use determines to a large degree whether computer experiences are developmentally appropriate. A study conducted by Haugland (1992) assessed the effect of developmental and non-developmental software on children's cognition, creativity and self-esteem. Using non-developmental software had a detrimental effect on children's creative abilities. The children's creativity scores dropped fifty percent when using drill and

practice software.  The children using developmentally appropriate software did not have a drop in creative ability (Wardle, 2002).

Haugland (1997),  states that technology helps fit learning experiences to the learning styles of all children.  Technology provides participatory learning experiences where the students control learning processes through exploring, constructing concepts, and building knowledge.  Learning with technology involves children actually exploring the world.  Through active participation they acquire and construct knowledge which fits the way young children learn best (Haugland, 1997).

The primary concern of the educator is student learning.  Burdette & McGraw (2001) state student learning should be at the center of any educational model and the focus of any change efforts.  Technology should not replicate traditional activities, but expand learning skills and offer new challenges.  According to Haugland (1992) research, only when supplemental activities such as manipulatives, art, and language activities were made available to reinforce the major objectives of software did children show significant gains in conceptual skills, verbal skills, problem solving, and abstraction.

Research (Wardle, 2002) shows how developmental needs of young children match up well with appropriate use of technology in classroom.  Wardle (2002) states, "Howard Gardener's theory of Multiple Intelligence has shown that young children exhibit a diversity of learning styles, and the optimum way for many children to learn is not the traditional teacher-directed, verbal approach."  When using technology in

a developmentally appropriate manner Haugland (1997) states the teacher should model

the activities, answer questions, provide assistance when needed, propose problems,

facilitate peer interaction, and challenge students to apply what they have learned with

technology to other situations and projects.  Teachers should be active and encourage

open-ended discovery by raising questions, asking students to predict outcomes,

identifying unexpected outcomes, proposing projects, extending children's experiences

and introducing the concepts and terminology related to computer experiences

(Haugland, 1997).  The purpose of integrating technology into curriculum is to expand

enrich, implement, individualize, differentiate, and extend the curriculum to meet the

needs of all learners (Wardle, 2002).

Parents and educators need to evaluate technology use carefully.  Technology is

all around us but the uses need to be monitored to what is beneficial for a child.  In

integrating technology into classrooms, caution should be used, especially with young

children in elementary school who are most susceptible to the influences of electronic

media (Wardle, 2002).   Research (Wardle 2002) indicates there is a danger when

technology is used for earlier and more academic skill acquisition which may not be

appropriate at a young child's developmental level.  Extended computer use can

compromise time for physical play, outdoor learning time, nature, music, social skills and

moral values.  Armstrong (2000) states, "The increase in computer use in the classroom,

as well as at home, means children are spending a much greater part of their day in a way

that exposes them to a number of serious health hazards and that deprives them of

physical exercise."

Caution should be used when using technology in early elementary years. Jane

Healey, in her book, <u>Failure to Connect</u> (1998), suggests technology should not be used

to replace more concrete learning experiences in early elementary years, but for

interactive problem-solving and open-ended learning with supervised use of the Internet.

Hands-on and interpersonal activities should be the beginning focus of computer work

(Kimble, 1999). "Computers should be used sparingly in the elementary grades, during

which time the emphasis should be on the basic skills of literacy, numeracy, and

reasoning." (OQE, 2002). It is critical that computers do not drain critical resources from

other essential instruction.

Technology use should be fully integrated into the overall curriculum of the

school. If not fully integrated, technology can actually negatively impact children's

creativity. Things to do to prevent a negative impact include choosing developmentally

appropriate software and websites. It is advisable to stay with one subject area before

moving to another due to the time it takes to effectively integrate the technology (Wardle,

2002).

Another caution for use of technology with young children is reported in research

by Armstrong (2000). This research states that keyboarding skills needed when using

technology may not be appropriate for primary children because the children do not

always possess sufficient eye-hand coordination until the age of eight or nine. Also, in

connecting children to the world, children are also exposed to less desirable aspects of the world such as pornography, pedophilia, and hate literature.

The overwhelming volume of information on the Internet can be a problem for primary children, according to Armstrong (2000), because there is too much to see, and too many possibilities to explore. A constant stream of images that appear on the screen may crowd out thoughts and reflection, undermining the ability of the student to concentrate on quieter and more subtle experiences. Armstrong states, "When children learn to use a computer, they are not just learning a skill. They are changing the relation between themselves and the world around them. The way in which information is accessed, the manner of its presentation, and the ways in which it can be manipulated all alter children's perceptions of knowing and doing." Early childhood experiences have a profound and far-reaching effect on later development. Too much stimulation can be a problem (Armstrong, 2000). As stated by Armstrong (2000), "Imposing computers on young children is yet another technological innovation that we may live to regret. We cannot accurately forecast the long-term effects of regular computer use on child development."

Armstrong (2000) also points out young children need to be oriented to the world around them with its sights sounds, smells, tastes and textures. Technology cannot provide these kinds of sensory experiences, nor cultivate the emotional and intellectual bonds that develop between children and those who help them learn. A teacher is still

important to the educational process, perhaps even more important with the use of

technology (Burdette, 2001).

*Achievement and Technology*

Identifying the value of technology in increasing achievement is a challenge.

Hundreds of research studies have been conducted to prove a connection between an

increase in achievement and the use of technology.   Reasons for the difficulty in showing

an increase in achievement using technology include the fact that technology is rapidly

changing, which makes research difficult.  Also, the classroom environment is complex

and does not provide opportunities for an isolated study of cause and effect (Armstrong,

2000; Baylor, 2002).  According to Alessi (2001), reviews of the studies show a majority

claim a small effect of increase in achievement in favor of instruction using technology.

Researchers believe that a greater effect would be made if the instruction delivered using

technology was designed better (Alessi, 2001).  Joe Archer indicates that the benefits and

gains in achievement due to technology depend primarily on how the technology is used

(Jossey-Bass Reader, 2000).  Also, Haugland (2003) indicates positive results from

studies receive more attention and are more likely to be published than negative ones.

Dede (1998), in the book, *Learning With Technology,* states:

> "four kinds of improvements can result from technology:  increased learner
>
> motivation, mastery of advanced topics, students acting as experts, and better
>
> results on standardized tests. Conventional achievement tests may not measure the
>
> full impact of technology.  Moving beyond learning about technology, to learning
>
> with technology will make an impact on achievement scores." (Pg. 26)

*Conclusion*

As schools continue to implement technology within their classrooms, many areas must be researched and addressed. The school must decide what equipment will benefit teachers, enhance student learning, and align with curriculum goals. School Districts should have a detailed plan in place before purchasing technology and placing it into the classrooms. Teachers must be aware of what is expected and provided with training and support to use the technology to meet the school's goals. The evaluation of computer instruction and acquisition of software which aligns with the curriculum goals is necessary before teachers can include the technology in instruction. Methods of using technology to increase student achievement must be evaluated and explored before and after the technology is implemented. Teaching with technology should be balanced with traditional teaching methods, to assure the most efficient and developmentally appropriate method is used with the students. The benefits and problems with using technology must be carefully and continually weighed to assure appropriate use and define technology policies.

Because technology is an integral part of life in our present day, classrooms, as well as other areas of life, will continue to change. Continued studies on the impact of technology on student achievement, higher-order thinking, and creativity and research skills must continue to take place. As a teacher's experience with technology improves, teachers will recognize whether or not students are benefiting from such programs (Staresina, 2003). To use technology in the most developmentally appropriate way,

educators must stay current with research and training.  Because the goal of the educator is to increase student achievement, educators will continue to evaluate old methods of teaching while discovering the ways in which technology impacts the improvement of student achievement.

The researcher used thirty-nine sources in this chapter to discuss topics related to technology use in education.  In addition, the researcher reviewed fifteen sources of studies on achievement with technology in education.  Of the fifteen sources, eleven showed positive results, but not always statistically significant, of technology improving achievement, one source showed negative results where achievement was lowered when using technology, and the remaining three sources showed no differences in achievement with the use of technology.

The researcher is confident that she has conducted an exhaustive search of the research available on technology in education and the effects on achievement, and has presented these sources faithfully, citing the literature throughout the review.  Chapter three examines the procedures and results of the methodology used to answer the research questions of how first grade classrooms are currently using technology, what experience first grade students have had using technology, and if the use of technology really improves academic achievement.

CHAPTER III:  Procedures and Results

*Presentation of the Problem*

It is evident from the research that using technology in teaching young children has not been proven to increase academic achievement.  Identifying the value of technology is a challenge.  The classroom environment is complex and does not provide opportunities for an isolated study of cause and effect with technology (Baylor & Ritchie, 2002).  "On the basis of critical reviews, we are unable to ascertain whether computers in classrooms have in fact been or will be the boon they have promised to be" (Cuban & Kirkpatrick, 1998).  As stated by Burdette, (2001), student learning should be at the center of any educational model.  If using technology does not improve student learning from using traditional methods, a change may not be needed.  Technology should not be used to replicate traditional activities, but expand learning skills and offer new challenges (Burdette, 2001).

As Haugland (1997) states, young children should be assured of educational experiences that maximize development.  Technology can provide useful tools to help a child's development but is only one type of educational resource.   But technology should be used with caution.  Some potential dangers according to Haugland (1997), are images are too abstract or unrealistic.  Also, the student may feel isolated from other students in using technology on their own.

*Presentation of the Hypotheses*

In order to determine if students learn better under a traditional teaching model or

a teaching model using various types of technology, the researcher based her experiment

on the following null hypothesis.

$H_o$: There will be no statistically significant difference between the experimental group
and the control group when comparing the difference in the assessment scores of a unit in
Social Studies.

*Subjects*

The subjects of this study were two classes of first grade students at Fairfield

Christian Academy in Lancaster, Ohio. There were forty students, separated into two

classes. The experimental group had twenty-one students, and the control group had

nineteen students. Each class was taught by the researcher using different methods. The

experimental group's lesson centered on using various types of technology and the

control group was taught using the textbook with lecture and review.

These children were all Caucasian students from middle to upper-middle-class

families. Students were not randomly selected for each class. Classes were constructed,

though, by Kindergarten teachers and Administrators in an attempt to evenly distribute

genders, academic abilities, and behavior levels.

*Variables*

*Independent Variable*

The independent variable in this study is the type of instruction. The

experimental group was taught using the curriculum integrated with various types of

technology such as the Internet, Software, and Videos.  The control group was instructed

primarily using lesson plans created by the textbook author through traditional methods,

focusing on reading the text, discussion, and worksheets.


*Dependent Variable*

The dependent variables in the study are scores from six tests taken at the end of

each week of the unit.  These tests were prepared by the researcher based on the

objectives of the lessons and review questions in the curriculum.  (See Appendix  A).

Both groups of students were given an identical test.  Differences in the scores of these

tests were compared to determine statistical significance.  (See Table 3).


*Procedures*

The researcher began this project by seeking permission from her administrator to

perform the study.  The researcher also sought permission from another first grade

teacher to cooperate in the research by allowing her class to be taught the Social Studies

curriculum by the researcher.


There were several reasons the researcher chose to conduct this experiment with

the curriculum area of Social Studies.  The first reason was because this curriculum area

is not graded at our school.  Another reason was the curriculum area is not as imperative

to first graders as Reading or Mathematics.  Finally, because the Social Studies Unit

lends itself to computer integration because it includes learning about areas which would

be impossible to visit personally, but could be virtually visited through the Internet.

When permission was granted by both the administrator and the other teacher, the researcher sent a letter to parents of students in both classes (see Appendix B) in the weekly folder which goes home each Friday. The letter's purpose was to inform parents that their child would be participating in an experiment that was approved by the administrator of the school. Attached to the letter were a Consent Form (see Appendix C) and a Computer Use Survey (see Appendix D) for the parent to fill out to show the previous computer experience of the student. Parents were not given details of the project but were assured that they could see the results on the completion of the project.

Twenty parents from the experimental group and nineteen parents from the control group returned the consent form, and thirty-six parents returned the computer questionnaire. The results of the computer questionnaire (see Table 1) helped the researcher to understand how the students have used technology in the past and to establish where the students would need to begin in using different types of technology.

Prior to the beginning of the experiment, the researcher mailed a letter with an attached survey (see Appendix E) to one hundred first grade teachers who taught in Fairfield County, to find out the different ways these teachers were using technology. Twenty-nine teachers returned the survey. The results (See Table 2) helped the researcher to see ways computers were used in other classrooms, before planning the lessons used in this experiment.

Also, before the experiment, the researcher reviewed Software and Videos to find those which aligned with the Social Studies curriculum objectives.  Software was difficult to find that met the specific objectives of the curriculum.  The choices of videos were more abundant, and aligned well with the curriculum objectives.  The educator's school ordered the needed software and videos.  Software was installed on the four classroom computers.   The researcher also spent a large amount of time finding Internet resources to align with the curriculum.   Again, age appropriate internet resources were difficult to find, which met the particular curriculum objectives.  The researcher developed one interactive PowerPoint to use as review for the unit.  Then the researcher planned thirty lessons using the purchased software, internet resources, PowerPoint, and videos (see Appendix F).

In the months before the experiment began, students in the experimental group were taught how to use the Internet and software games.  Each student spent time weekly on the computers learning how to use the keyboard, mouse, and ways to maneuver on the Internet.  This experience helped the students to become comfortable using the computers before beginning the Social Studies unit.  The students were able to use software programs independently, but needed teacher direction and guidance when using the Internet.

During the experiment, the researcher taught the control group from the textbook with discussions, reading, worksheets, and books.  The control group appeared on task and interested, participating actively in class.  After the first week of instruction, several students in the control group stated that the subject of Social Studies was their favorite

part of the day.  Part of the students' enjoyment and interest can possibly be attributed to the fact that the researcher was not their usual teacher.

The researcher taught the experimental group differently.  The textbook objectives were used, but were fulfilled using various technologies as stated in the lesson plans developed by the researcher.  (See Appendix E).   The main technologies used in the lessons were computers with the Internet, a computer projector, interactive PowerPoint presentations, and video and audio recordings.  A television with a VCR and DVD player was available in the classroom along with a compact disc player.  There were also a total of five computers in the classroom.

According to research, (Clements, 1993), computer activities yield the best results when combined with off-computer activities."  The lessons were written with this research in mind.  The students learned through videos and computer activities, but also used the textbook and work sheets to reinforce learning.  Students rotated from the computers to reading, writing, and coloring activities designed in the lesson plans.

Throughout the lessons the students used the computers in groups of two or three. The students were grouped because  research (NAEYC, 1996) states that when using computers with young children,  partners or groups is an appropriate way to encourage communication and cooperation.  The students were grouped in mixed ability groups, to enable the students to help each other with reading or the mechanics of the computers.

Reading and activities were also completed in groups and pairs, with the class regrouping for discussion and of sharing the newly acquired information.

The students had a difficult time using websites on the Internet at first. The researcher had to have the websites ready before the students came to the computer and then specifically instruct the students on what to do. As the students navigated through the websites they consistently had difficulties with advertisements appearing on the screen, and pushing the wrong side of the mouse. The more prior experience the student had with computers, the better they were able to function and maneuver on the Internet. Some students appeared to have a natural aptitude for understanding computer use. However, the researcher had to stay with the majority of the students the entire time they were using the Internet, monitoring content and helping with problems.

To help alleviate the students' difficulties using the computers, the researcher decided to develop interactive PowerPoint Presentations for many of the lessons. The PowerPoint presentations had not been in the original plan for the lessons. The researcher developed six PowerPoint Presentations which incorporated many websites. Developing the presentation was time consuming, with each presentation taking from six to eight hours to complete.

In teaching with the PowerPoint presentations, the researcher would show the presentation through a projector to the class, discussing the content and showing the students where to click to link to the Internet sites. Then the students would work in pairs

to go through the PowerPoint, clicking on hyperlinks to explore and learn from appropriate websites. This method of teaching worked much better with the students. The PowerPoint presentations were created at the student's developmental level, so the students had less difficulty understanding what to do, providing more time for exploration.

As the weeks progressed the students appeared to feel more comfortable with using the computer and truly began discovery learning. The students would click on more links, then in turn would learn and share more information. The students were not just learning the objectives of the lessons, but many other things not planned in the lessons. Students were becoming more and more aware of what computers can do to help them experience the world around them. As students had questions outside of the learning objectives, the instructor helped them find the answers using the Internet. This led to many unplanned "teachable moments."

The videos worked extremely well with the students, and met the specific objectives of the unit. The students were very excited about the videos at first. But after about three lessons with videos, the novelty had worn off and they were not as interested. The videos were not used in their entirety, but segments were shown which pertained to the day's lesson. The videos were used in conjunction with the computers, and not as a complete lesson.

The students were excited about using the computers. The students interacted well with the other students they were working with and stayed on task throughout most of the lessons. The students enjoyed the PowerPoint Presentations because of the pictures, sounds, colors and interesting links. When the researcher asked the students how they liked to learn best, they all agreed it was with the computers. The class usually cheered when they were told we would be using the computers.

A problem throughout the unit was technical difficulties with the computers. The school does not have a full-time technical person, so it was difficult to get help with problems. With the computers being new to the school, there were several problems to work through before the Internet was up and running. The school also shares the computer projector with the church, and therefore the researcher had to work around the churches schedule of use. These difficulties took much work and time from the researcher to get the needed technical help. Eventually, the problems were worked through so the unit could be completed.

Another difficulty which arose was the Software selection. Because of the researcher's lack of experience and expertise in purchasing software, most of the Software did not support the specific objectives of the unit, and was not appropriate to use. One set of Software that was purchased and would have met the unit objectives, had been advertised as "great for school research projects," but was not licensed for use in schools, colleges, or public libraries. The researcher should have investigated the software more thoroughly before the purchase. If more time had been available, the

researcher would have tried the software before purchasing.  Fortunately, the students can use most of the software to supplement learning.  Also, other grade levels will be able to benefit from some of the purchased software.

Some difficulties arose as students were absent and missed lessons.  Within the control group if a student was absent, the researcher sent home the assigned pages as makeup work.  Within the experimental group, the researcher also sent home the missed pages in the textbook to read as makeup work.  Then the instructor would have another student work with the student to complete the missed technology activities.  Students from either group were not assessed until the makeup activities were completed.

During the course of the experiment, many of the parents were interested in the progress of the research.  One parent appeared concerned, but only because they did not want their child's name used in the research.  Many parents expressed that they were happy to have their child in the experimental group where technology was being used. One parent exclaimed, "Thank God my boy is in the group using computers."  Parents indicated that they wanted their child to know how to use and learn from technology.

The researcher used SPSS Graduate Pack 11.5 for Windows to run independent t-tests on the sores of  the six assessments given during the experiment. (See Table 3).

*Results*

*Parent Computer Questionnaire*

The results of the computer questionnaire sent home to parents are shown in the following table. Thirty-six parents out of forty-one returned the questionnaire. Table 1 indicates that ninety-four percent of the students have computers at home. Computer use time for the students ranged from less than an hour to fifteen hours per week. The majority of the students used the computer for two hours or less. Fifty-five percent of the students use the internet in comparison to nine percent who send and receive e-mails. Table 1.1 shows the favorite websites of fourteen of the students. The favorite website was Nick, Jr. followed by PBS kids, Barbie, and Disney.

Table 1.2 shows the students favorite computer activities. The top percentage was painting, followed by curriculum enhancement. Table 1.2 also lists the favorite games of the students. Thirty-four surveys indicated that the students played games on the computer. The parents listed twenty-nine different games which their students enjoyed. The favorite games with six responses each were Reader Rabbit and Jump Start.

Table 1

Responses to Survey questions by parents of First Grade Students (N=36)

| Characteristic | n | % |
|---|---|---|
| Has computer at home | 34 | 94 |
| Has more than one computer at home | 13 | 36 |
| Type of computers | | |
| PC | 30 | 88 |
| Mac | 1 | 3 |
| Laptop | 3 | 9 |
| Type of Operating System | | |
| Windows 95 | 5 | 13 |
| Windows 98 | 12 | 32 |
| Windows 2000 | 7 | 18 |
| Windows XP | 14 | 37 |
| Internet Access | 33 | 97 |
| First Grade student uses Internet | 18 | 55 |
| First Grade student sends and receives emails | 3 | 9 |
| Computer has the following equipment: | | |
| Printer | 32 | 94 |
| Scanner | 18 | 52 |
| Digital Camcorder | 4 | 12 |
| Digital Camera | 10 | 29 |
| Web Cam | 2 | 6 |
| Voice activation | 1 | 3 |
| DVD | 10 | 29 |
| First Grade Student uses the following equipment: | | |
| Printer | 21 | 58 |
| Scanner | 3 | 8 |
| Digital Camcorder | 2 | 5 |
| Digital Camera | 8 | 22 |
| Web Cam | 0 | 0 |
| Voice Activation | 1 | 3 |
| DVD | 6 | 17 |

(Table 1 continued)

Hours the First Grade Student uses the computer per week:

| | | |
|---|---|---|
| One hour or less | 18 | 50 |
| One to two hours | 8 | 22 |
| Two to four hours | 5 | 14 |
| Five to six hours | 1 | 3 |
| Seven hours | 1 | 3 |
| Fifteen hours | 1 | 3 |

Table 1.1

Responses to Survey Question "What are your child's favorite websites?

| Response | n | % |
|---|---|---|
| Barbie.com | 2 | 14 |
| Cartoon Network | 1 | 7 |
| Disney | 2 | 14 |
| Miniclips.com | 1 | 7 |
| Nick, Jr. | 5 | 36 |
| PBS.kids | 3 | 21 |

Note – N = 14

Table 1.2

Responses to Survey Question "What are your child's favorite activities on the computer?"

| Response | n | % |
|---|---|---|
| Clip Art | 2 | 6 |
| Curriculum Enhancement | 14 | 41 |
| Information (e.g. encyclopedia) | 5 | 15 |
| Movies | 0 | 0 |
| Painting | 17 | 50 |
| Word Processing | 3 | 8 |
| Software and Games used | | |
| Arthur | 1 | 3 |

| | | |
|---|---|---|
| Barbie | 4 | 12 |
| Baseball | 1 | 3 |
| Commander & Generals | 1 | 3 |
| Dino Adventures | 1 | 3 |
| Dinosaur Circus | 1 | 3 |
| Disney Princess | 1 | 3 |
| Fine Artist | 1 | 3 |
| Freddy Fish | 2 | 6 |
| Hearts | 1 | 3 |
| Hunting | 2 | 6 |
| I Spy | 1 | 3 |
| JJ & Jet Plan | 1 | 3 |
| Jump Start | 6 | 18 |
| Kid Pix | 1 | 3 |
| Learning Company | 3 | 8 |
| Matching Games | 1 | 3 |
| Match Box Emergency | 1 | 3 |
| Math Blaster | 3 | 8 |
| Minnie Mouse Kitchen | 1 | 3 |
| Miss Spider Party | 1 | 3 |
| Monopoly | 1 | 3 |
| Phonics Game | 1 | 3 |
| Reader Rabbit | 6 | 18 |
| Rescue Heroes | 2 | 6 |
| Scooby Do | 1 | 3 |
| Spelling | 1 | 3 |
| Tonka  Town | 1 | 3 |
| Zoo Tycoon | 2 | 2 |

Note – $N$ = 34.

*Teacher Survey*

Table 2 summarizes the results of the teacher survey.  Twenty-nine first grade teachers from Fairfield County, Ohio, responded out of one hundred teachers who were mailed surveys.  The teachers' ages ranged from the mid-twenties to the mid-sixties.  The teachers were from city, county and private schools.  The number of computers in their classrooms ranged between two and seven with the highest percentage between three and

five computers.   The class sizes ranged from eight students to thirty-two students with
the average of twenty-one students per classroom.

Most of the teachers reported they had enough computers to meet their needs.
Computers were used the most for reading and writing, followed by play, the Internet, e-
mail, mathematics, science, research,  social studies and PowerPoint, respectively.
Ninety-three percent of the teachers reported their students used the computer one hour or
less per day.

The majority of the teachers answering the survey indicated that they felt
competent in assisting their students using computers, reported the time spent on
computers was educationally productive, and stated their students could assist each other
on the computers.  Fifty-nine percent of the teachers reported they felt comfortable
teaching with computers, whereas forty-one percent did not.

Most of the teachers who responded to the survey enjoy using the Internet for new
teaching ideas.  The majority also indicated that if they had access to better programs
their students would use the computer more.

Table 2

Demographic Characteristics of Participants N=29

| Characteristic | n | % |
| --- | --- | --- |
| Age at time of survey (years) | | |
| 20-30 | 8 | 28 |
| 30-40 | 7 | 24 |
| 40-50 | 7 | 24 |
| 50-60 | 6 | 21 |
| 60-70 | 1 | 3 |

(Table 2 continues)

(Table 2 continued)

| Characteristic | n | % |
|---|---|---|
| **Type of school** | | |
| Lancaster Public | 9 | 31 |
| Fairfield County Public | 19 | 66 |
| Private | 1 | 3 |
| | | |
| **Teaching experience** | | |
| Under 1 year | 1 | 3 |
| 1-3 years | 5 | 17 |
| 3-10 years | 9 | 31 |
| 10-20 years | 5 | 17 |
| 20-30 years | 7 | 24 |
| 30-40 years | 2 | 8 |
| | | |
| **Number of computers in classroom** | | |
| 2 | 1 | 3 |
| 3 | 5 | 17 |
| 4 | 9 | 31 |
| 5 | 12 | 43 |
| 6 | 1 | 3 |
| 7 | 1 | 3 |
| | | |
| **Number of students in classroom** | | |
| 8 | 1 | 3 |
| 12 | 1 | 3 |
| 18 | 2 | 8 |
| 19 | 3 | 10 |
| 20 | 3 | 10 |
| 23 | 3 | 10 |
| 24 | 1 | 3 |
| 25 | 12 | 43 |
| 26 | 1 | 3 |
| 28 | 1 | 3 |
| 32 | 1 | 3 |
| | | |
| **Operating systems used** | | |
| Windows 95/98/200 | 11 | 37 |
| Macintosh | 16 | 55 |
| Not reported | 2 | 8 |

(Table 2 continued)

| Characteristic | $\underline{n}$ | % |
|---|---|---|
| Classrooms on a network | 29 | 100 |
| Enough computers to meet needs | | |
| Yes | 18 | 63 |
| No | 11 | 37 |
| Average number of computers desired | | |
| 0-4 | 6 | 21 |
| 5-8 | 16 | 55 |
| 12-25 | 7 | 24 |
| Teachers with access to a lab | | |
| Yes | 10 | 35 |
| No | 14 | 48 |
| Not reported | 5 | 17 |
| Computer Use in Classroom | | |
| Mathematics | 17 | 57 |
| Science | 14 | 48 |
| Reading/Writing | 26 | 90 |
| Social Studies | 11 | 37 |
| Power Point | 4 | 3 |
| Play | 22 | 76 |
| Internet | 22 | 76 |
| Research | 12 | 41 |
| E-mail | 21 | 72 |
| Hours of student computer use per day | | |
| 1 hour or less | 27 | 93 |
| 1 – 3 hours | 2 | 7 |
| Teacher use of computer | | |
| Grades | 11 | 37 |
| Lesson planning | 16 | 55 |

(Table 2 continued)

| Characteristic | n | % |
|---|---|---|
| Other types of technology used in classroom | | |
| VCR | 27 | 93 |
| DVD | 5 | 17 |
| Tape Recorders | 25 | 86 |
| Electronic games | 6 | 21 |
| Overhead projectors | 26 | 90 |
| Laser disc | 2 | 7 |
| Digital Camera | 2 | 7 |

Table 2.1

Responses to Survey Question "I feel competent in assisting students to use computers."

| Response | n | % |
|---|---|---|
| Strongly disagree | 3 | 10 |
| Disagree | 5 | 17 |
| Agree | 13 | 45 |
| Strongly agree | 8 | 28 |

Note – N = 29.

Table 2.2

Responses to Survey Question "The time that my students spend on the computer is educationally productive."

| Response | n | % |
|---|---|---|
| Strongly disagree | 1 | 4 |
| Disagree | 2 | 7 |
| Agree | 21 | 72 |
| Strongly agree | 5 | 17 |

Note – N = 29.

Table 2.3

Responses to Survey Question "Students are able to assist one another in using the computer."

| Response | n | % |
|----------|---|---|
| Strongly disagree | 1 | 4 |
| Disagree | 5 | 17 |
| Agree | 19 | 65 |
| Strongly agree | 4 | 14 |

Note – N = 29.

Table 2.4

Responses to Survey Question "If I had access to better programs my students would use the computer more."

| Response | n | % |
|----------|---|---|
| Strongly disagree | 1 | 4 |
| Disagree | 9 | 31 |
| Agree | 17 | 57 |
| Strongly agree | 2 | 7 |

Note – N = 29.

Table 2.5

Responses to Survey Question "I am comfortable with using computers as a teaching tool."

| Response | n | % |
|----------|---|---|
| Strongly disagree | 0 | 0 |
| Disagree | 12 | 41 |
| Agree | 12 | 41 |
| Strongly agree | 5 | 18 |

Note – N = 29

Table 2.6

Responses to Survey Question "My students know more about computer applications than I do."

| Response | n | % |
|---|---|---|
| Strongly disagree | 6 | 21 |
| Disagree | 16 | 31 |
| Agree | 6 | 21 |
| Strongly agree | 1 | 3 |

Note – N = 29

Table 2.7

Responses to Survey Question "I enjoy using the Internet to find new teaching ideas."

| Response | n | % |
|---|---|---|
| Strongly disagree | 0 | 0 |
| Disagree | 5 | 18 |
| Agree | 17 | 57 |
| Strongly agree | 7 | 25 |

Note – N = 29

Table 2.8

List of software used by first grade teachers in survey.  N=29.

| Software | n |
|---|---|
| Easy Grade Pro | 1 |
| Reader Rabbit | 6 |
| Math Rabbit | 1 |
| Math Tek | 4 |
| Treasure Math Storm | 1 |
| Safety Signs | 1 |
| Millie's Science/Math | 2 |

| Software | n |
|---|---|
| Math blaster | 1 |
| CCC-Success Maker | 2 |
| Kid Pix | 5 |
| Kid Keys | 1 |
| Kid Works I & II | 2 |
| Living Books | 1 |
| Franklin Learns Math | 1 |
| Magic School Bus | 2 |
| Jump Start 1$^{st}$ Grade | 4 |
| Kid Phonics | 1 |
| Amazing Writing Machine | 1 |
| Sammie's Science House | 1 |
| STAR Testing | 1 |
| Accelerated Reader | 1 |
| First Class E-mail | 1 |
| Hyper Studio Word | 1 |
| Kid's Works | 1 |

Table 2.9

List of Internet sites used by first grade teachers in survey. N=29.

| Internet Site | n |
|---|---|
| Scholastic | 4 |
| The Learning Page | 1 |
| Atozteacherstuff.com | 1 |
| Yahooligans.com | 1 |
| Nationalgeographic.com | 2 |
| Themailbox.com | 1 |
| Crayola.com | 3 |
| Discoveryschool.com | 1 |
| Jan Bret | 1 |
| Brainpop.com | 1 |
| Abcteach.com | 1 |
| Google.com | 1 |

| Internet Site | n |
|---|---|
| Lessonplanz.com | 1 |
| Tech-nology.com | 1 |
| Kathyschrock.com | 1 |
| Any author website | 1 |
| Weeklyreader.com | 1 |
| Any National Historic sites | 1 |

*Assessments*

Assessments were taken at the end of each week's instruction. An identical assessment was given to the control group and the experimental group. The assessments were designed by the researchers to reflect the objectives of the lessons. Due to student absences in both classes and a student leaving in the control group, only seventeen scores were available for the control group and twenty scores were available for the experimental group.

The researcher used SPSS Graduate Pack 11.5 for Windows to run independent t-tests on the sores of six assessments given during the experiment. As indicated on Table 3, five out of six of the assessments showed a higher mean score in the experimental group than in the control group. But the difference in means was only statistically significant in one of the assessments. The assessment for week two, showed a t-score of -3.019 indicating a significant difference at the .001 level. Because this was the only assessment that showed a statistically significant difference, this difference could be

accounted for because of the use of technology, but also by other factors such as differences in student interests or the lack of time the instructor spent with the control group that week due to a snow day earlier in the week.

Table 3

Differences in Test Scores Between Students Who Were Taught Without Using Technology and Those Who Were Taught Using Technology

| Test | Without Technology | | With Technology | | df | T |
|------|------|------|------|------|------|------|
| | M | SD | M | SD | df | T |
| One | 86.82 | 15.14 | 88.45 | 8.74 | 35 | - .408 |
| Two | 85.29 | 12.31 | 95.00 | 6.88 | 35 | -3.019 * |
| Three | 75.35 | 15.80 | 83.65 | 13.25 | 35 | -1.738 |
| Four | 87.88 | 10.33 | 87.55 | 12.75 | 35 | .086 |
| Five | 86.82 | 8.49 | 88.00 | 10.32 | 35 | - .374 |
| Six | 72.18 | 13.45 | 81.00 | 13.09 | 35 | -2.013 |

*p< .001

Because five out of the six assessments did not show a significant statistical difference in the test scores, the researcher accepts the null hypothesis that there will be no statistically significant difference between the experimental group and the control group when comparing the difference in the assessment scores of a unit in Social Studies.

CHAPTER IV:  Summary and Conclusion

Although the results of five of the assessments showed no significant statistical difference between the control group and the experimental group, the researcher is still encouraged with the use of technology in the classroom.  One of the assessments did show a significant statistical difference, and four others showed a higher mean score on the assessments.  To the researcher, this is still a positive result.

Part of the reason the scores were not statistically significant may have been the assessments used to cover the material.  The assessments were limited to the specific objectives covered.  These assessments could not show the differences in what was actually learned on each subject.  The students using technology received in-depth instruction, learning much more about each subject than was stated in the objectives.  Using technology to present the information engaged the students visually and audibly, allowing them to explore and learn on their own.  The students, when visiting the websites were free to explore and probably saw and heard much more than the stated objectives for the lesson.  The presentation of the lessons through technology held the students attention in a way traditional pictures, reading, and lecture could not.

If the researcher would repeat this project, she would change several things.  First, the experiment would need to be done with one specific type of technology.  The variety of technology used did not allow for a specific cause-effect relationship.  It is impossible to determine if the Internet sites, PowerPoint Presentations, or videos were more effective in instructing the students.  The researcher would teach one unit using just

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interactive PowerPoint presentations to see if this made a difference.  Then perhaps use just videos for the next unit to determine their effectiveness.

Second, the researcher would use a different type of assessment.  The multiple choice assessments did not show the depth and breadth of what the students had learned. It would have been better to use an oral assessment or some type of alternate assessment with each child.  However, due to the time constraints of this project, that was not possible.

Third, the researcher would have used two different units and the same classroom of students.  The differences in behavior, ability, and concentration between the two classes could have accounted for the difference in scores.  Also the experimental group was comfortable with the researcher because she is their teacher, but the control group was unfamiliar with the researcher as a teacher.   If the same students had been used, they would have been familiar with the instructor and the difference in ability level between the classes would not have been an issue.  Only the material and the presentation method would change.

Fourth, this experiment could have been completed better during the last months of the school year.  Even though the students did very well with the Internet sites and the PowerPoint presentation, reading abilities for first grade students increase rapidly.  A few more months of reading instruction and practice on the computers could have enabled the

students to feel more comfortable using the computers and also reading the information on the Internet sites and PowerPoint Presentations.

Fifth, because computers and technology use is new to our school, many difficulties arose in attempting to use the computers. This experiment would work better in an environment where technology has been established and any difficulties have been corrected. With extra work and determination the researcher was able to use the technology whenever it was required, but it was a struggle many days. If this experiment were conducted again, it would have to be with an assurance that the technology was ready for use on a daily basis.

The researcher is delighted about the information received on the surveys from other first grade teachers showing the ways technology is used in their classrooms. Almost ninety percent of the teachers felt that the time students spend with technology was educationally productive.

The survey also showed that the first grade teachers felt using computers for all subjects was helpful. Reading and Writing was the main use of the computers in ninety percent of the responding teachers' classrooms. The high use for reading and writing could be attributed to the availability of developmentally appropriate software for these subject areas, or just to the fact the first grade teachers spend most of their time teaching reading and writing. Interestingly, Internet use and miscellaneous play activities accounted for the second highest use of seventy-six percent. This aligns with research

claims that many teachers are using technology for free time play.  These responses to the survey give the researcher some guidance on common uses of the computers for first grade students and what subject to attempt to integrate with technology in her classroom.

If the researcher were to mail a survey again to first grade teachers, the survey would not ask so much about the teacher's background and experience.  Instead, the researcher would ask how the computers were used for each subject area with the students and how using a small amount of computers with a large group of students was managed.  This information would be more helpful to the researcher in setting up daily classroom use of computers.

The parent survey was helpful to the researcher because the survey showed that most of the students did have access to computers at home.  Because computer use should be limited for young children it was refreshing to see that the majority of students used the computer one hour or less per week.   The survey also showed that most students are using the computers for games and painting.  Several of the types of software listed are learning-centered software, but most of the software reportedly used at home is designed for entertainment.

The researcher was not surprised by the students' interest in computers and technology when used in the classroom.  The students in the control group were highly motivated to use computers and watch the videos.  The interest of the student was evident throughout the entire lesson.  Whenever it was time to show a movie, or use the computer

the students cheered.  However, first grade students are always excited about something new in the classroom.  The students show the same excitement for a new math game or a new recess toy.  The excitement may not be because technology was used, but because it was something new.  Technology would need to be used often, for an extended period of time, to determine if the students' excitement continued.

The researcher was surprised that the students in the control group were equally excited about studying Social Studies.  This excitement could be due to the fact the students had a new instructor or to the subject matter itself.  The students in the control group also cheered when the researcher walked into the classroom.  Several of the students indicated that Social Studies was their favorite time of the day.  The instructor did find it more difficult to keep the students motivated throughout the whole lesson time.  When the students were asked on the final assessment what they liked best about Social Studies, many students had a difficult time choosing just one area.  One student wrote a note which said, "I can't choose.  I loved it all."

The author would like to state that she feels the students did benefit from the use of technology.   Not the use of technology alone, but as it was integrated into the curriculum.  The students enjoyed the technology, but also needed books, worksheets, and discussions to complete the learning experience.  Technology was just one of the tools used to help the students obtain the objectives.  The use of technology extended the students' learning and enabled them to answer more of their own questions; causing learning beyond the boundaries of the objectives.

At the first grade level, the author agrees with research, that the students should not be using technology more than one hour per day.  More than one hour out of the school day would seriously limit the time students need for adult interaction, reflection, hands-on learning and other ways of learning.

The author found through the experiment that first grade students have difficulty exploring the Internet and need structure when using technology.  The students were much more relaxed and interested when the researcher began using interactive PowerPoint presentations.  These presentations directed the students to the Internet sites that were on their developmental level.  When the students searched the Internet, or just looked at specific sites on their own, the information was too vast and overwhelming for them.

The author also found the research valid that allowing groups of students to work at the computer is better than students working alone at this developmental stage.  The students were much happier and successful when working in groups on the computer. Groups of two worked very well for the researcher.  The students were paired so one student of a higher reading ability was with one student who could not read as well.  The students worked together, took turns, and helped each other.  As the researcher listened, the conversation between the students pertained to the subject matter.  There were times of laughter and astonishment at what the students were experiencing together.  Working

together, the students were able to help each other through some technical issues without the help of the instructor.

While teaching the unit, the researcher discovered that she had to be available to the students when they were at the computers. At times the researcher attempted to work with other students while students were on the computer. The students on the computers continually needed assistance or had questions. The lessons worked much better when the researcher walked between the computers as the students explored, and was on hand for any help, discussion or questions. Because the students were using Internet sites, the instructor also wanted to be close at hand in case any objectionable material was accidentally found.

The researcher feels the use of developmentally appropriate software would be more fitting to a classroom of first grade students than use of the Internet because software is geared to first grade abilities and understanding. Unfortunately, the researcher could not find any software which suitably addressed the objectives of the unit.

The author wrote this thesis because our school has been purchasing technology to use in the classroom and the author had not been trained how to teach with technology. The author did not want to use technology just because it was available, but only if it was the best way to instruct students. The author was unfamiliar with appropriate ways to use technology with young children, and wanted to use the equipment effectively. Because

of this research and experiment, the author now knows that teaching with technology does not mean sitting a student in front of a computer with a software game, or showing a movie to the class and expecting them to learn.  Teaching with technology is just like using any other teaching tool.  The instructor must take time to study and plan ways to integrate the technology with all of the other effective methods of instruction to meet the students' educational needs.  Technology alone is not the answer to helping students improve academically, but combining and integrating the use of technology into the curriculum objectives can certainly extend learning, increase student interest, and enhance student achievement.

MY AMERICA AND MY WORLD                    WEEK 1
NAME: _____

1.    What are large bodies of water on the Earth called?

      a. oceans          b. continents          c. the globe

2.    What are large bodies of land on the Earth Called?

      a. oceans          b. continents          c.  The globe

3.    The four directions are:  N_ _ _ _; S_ _ _ _; E_ _ _; & W__ _

4.    How many states in the United States?

      a. 50              b.  15                 c.  5

5.    What is the name of your state?

      a. United States  b. America        c.  Ohio

6.    How many stripes are on the flag? _____

7.    How many stars are on the flag? _____

8.    Having a Free Country means we can do whatever we want.

       Yes or No

Fill in the following with A. B. C. or D.

**A.** The Freedom of Worship
**B**. The Freedom of Speech
**C**. The Freedom of the Press
**D.** The Freedom of Assembly

9.    Which Freedom means we can go to any church, pray
       whenever we want, and read our Bible?   _____

10.   Which Freedom means we can talk to anyone, and anyone
       can talk to us?    _____


11.   Which Freedom means we are free to write what we believe
       in newspapers and magazines?   _____

12.   What freedom allows us to gather together for a meeting?
         _____

Name_____

1. What is a symbol?
   a. a pretty picture
   b. something that stands for something else
   c. an animal

2. Where can we see the Great Seal?
   a. on a dollar bill
   b. in the newspaper
   c. in the zoo

3. What does E Pluribus Unum mean?
   a. one out of many
   b. this is worth a lot
   c. this is fun

4. What does Liberty mean?
   a.    freedom          b.    happiness          d.    war

5. Why was the Liberty Bell rung on July 8, 1776?
   a.    To declare freedom from England
   b.    To declare freedom in Christ
   c.    To declare freedom for slaves

6. What does Uncle Sam stand for?
   a.    our government
   b.    our friends
   c.    our family

7.    Why did France give the Statue of Liberty to the United States?



     a.    because they liked the USA
     b.    to wish the USA a happy 100$^{th}$ birthday
     c.    so more people would visit France

8.   Why is there a broken chain at the feet of the Statue of Liberty?
     a.    It broke accidentally
     b.    It shows we are a free country
     c.    That was just the way the statue was made

9.    Martin Luther King, Jr. was a great man because



     a.    He liked children
     b.    He wanted all people to be treated the same.
     c.    He helped us get a day off of school.

10.   Martin Luther King, Jr. was a
     a.    Minister
     b.    factory worker
     c.    President

Name_____

1.  All coins for the United States have "In God We Trust" written on them.
    Yes  or  No

2.  All coins in the United States have the word "Liberty" written on them.
    Yes  or No

3.  All coins in the United States have the word "President" written on them.
    Yes or  No

4.  The Declaration of Independence is a document that told the world that America:

    A. is a free country
    B. was discovered by Columbus
    C. was a land where the Pilgrims came to worship God

5.  The Bill of Rights is part of the:
    A. Declaration of Independence
    B.  Constitution
    C.  Bible

6.  The Bill of Rights tells Americans:
    A.    The different freedoms they have.
    B.    How much they have to pay to be free.
    C.    What is right and what is wrong.

Fill in the following sentences using these words:

**Smoke Signals**  **Pony Express**  **Television**
**Telephone**  **Plane**  **Horses**

1.  How did Native American's send messages?

    _____

2.  Before we had mail trucks how did people receive their mail?

    _____

3.  What helps us see and hear what is happening far way?

    _____

4.  How can you talk to someone who lives many, many miles away?

    _____

5.  In the early days in our country, how did people get to other towns?

    _____

6.  If you need to get across the country in just a few hours, how should you travel?

    _____
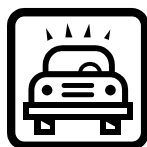
Name_____

1.   The pilgrims landed at this place when they came from
     England.

     A.   Plymouth Plantation
     B.   Plymouth Rock
     C.   Pilgrim Rock

2.   What is the name of the beautiful falls on the border between
     the United States and  Canada?

                    A.  Water Falls
                    B.   Niagara Falls
                    C.   Beautiful Falling Water

3.   What is the Statue of Liberty a symbol of?
     A.   France        B.   Freedom   C.   Fun

4.   Who wrote our National Anthem?
     A.   Francis Scott Key
     B.   Fort McHenry
     C.   The Star Spangled Banner

5.   What is our National Anthem?
     A.   Francis Scott Key
     B.   Fort McHenry
     C.   The Star Spangled Banner

6.  Washington, D.C. is where:
    A.  The president lives.
    B.  George Washington died.
    C.  Where people do the wash.

7.  The name of the house the President lives in is:
    A.  The President's House
    B.  The Washington House
    C.  The White House

8.  Williamsburg is:
    A.  A modern town.
    B.  A town where Mr. Williams lives.
    C.  A town made to look like an early American town.

9.  The longest river in the United States is:
    A.  The Ohio River
    B.  The Mississippi River
    C.  The Kanawha River

10. The Great Plains are:
    A.  Flat land where crops grow
    B.  Huge airplanes
    C.  Mountains

11. What crops grow on the Great Plains:

    A.  Bananas and oranges
    B.  wheat and corn
    C.  carrots and radishes

Name_____

1.    Four Presidents' faces are carved into what mountain?

      a.  Mt. Rushmore        b.  Mt. Pleasant  c.  Mt. Vernon

2.    Circle the presidents' names whose faces are carved into the
      mountain.

      a.      George Washington
      b.      George Bush
      c.      Thomas Jefferson
      d.      Theodore Roosevelt
      e.      Abraham Lincoln
      f.      Mrs. Peters

3.    What is the name of the geyser that spouts water in
      Yellowstone National Park?

      a.  Old Faithful  b.  Old Yellow   c.  Old Yogi Bear

4.    What are the Rocky Mountains?

      a.  a beautiful Mountain Range
      b.  a pile of rocks that looks like a mountain
      c.  a mountain with the faces of Presidents carved in it.

5.    A type of land that has many rocks and steep cliffs  is called

      a.      A mountain        b.      a canyon  c.      a prairie

6.	What is the largest Native American Tribe in the United States?

	a.	The Navajo Indians
	b.	The   New Americans
	c.	 The Cherokees

7.	Draw something the Native Americans we studied about might make.
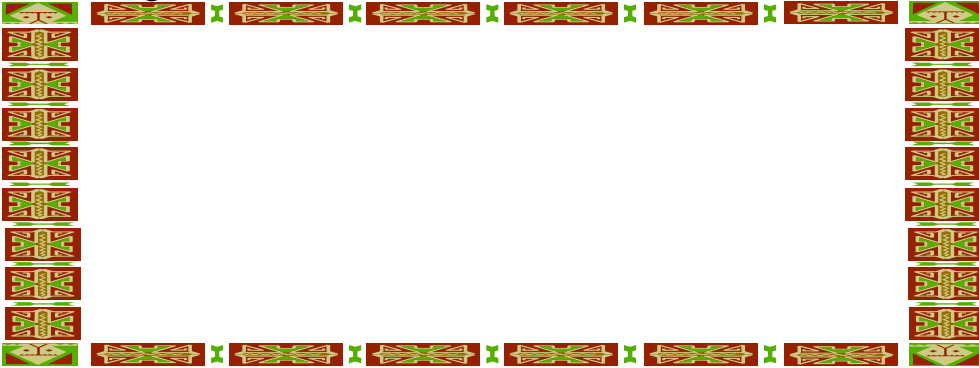
8.	What is Death Valley?

	a.	A place where people die.
	b.	a desert
	c.	a tall mountain

9.	What special plant grows in the desert?
	a.	a palm tree
	b.	a cactus
	c.	corn and wheat

10.	A desert is
	a.	cold and snowy
	b.	warm and rainy
	c.	hot and dry

Name_____

1.    Yosemite National Park is in:
      A. Ohio          B.    Canada     C.  California

2.    Draw one thing you would see in Yosemite National Park.

[ ]

3.    Why did San Francisco grow so quickly?
      a.  Gold was discovered there.
      b.  People loved to visit there.
      c.  It is on the ocean.

4.    There is a special part of San Francisco where you can
      pretend you are in another country.  It is called:

      a.    Chinatown
      b.    Spanish town
      c.    Holland town

5.    Where would you go in San Francisco to see fishing boats or
      eat seafood?

      a.    The fishing dock
      b.    The fishing pier
      c.    Fisherman's Wharf

6. What is the name of the famous bridge in San Francisco?
   a. The Golden Gate Bridge
   b. The Arch Bridge
   c. The Brooklyn Bridge

7. What is the name of the Ocean that touches the coast of California?

   

   a. Atlantic Ocean    b. Pacific Ocean    c. Arctic Ocean

8. What three states make up the Pacific Coast?

   a. Ohio
   b. Kentucky
   c. Florida
   d. California
   e. Oregon
   f. Washington

9. We get much of this kind of food from the Pacific Coast.

   a. fruit        b. bread        c. vegetables

10. Who made our beautiful Country?

a. God        b. George Washington   c. President Bush

11. What was your favorite part of exploring America?
    a. Learning about the Flag
    b. Learning about symbols
    c. Learning about the government
    d. Learning about different states

# APPENDIX B

# *A note from Mrs. Phalen*

October 23, 2003

Dear Parents:

I have been working diligently to complete my Master's in Education Degree.  The classes are completed and all that is left is completing a Thesis.  The title of the thesis is *"A Teacher's Approach:  Integrating Technology Appropriately Into a First Grade Classroom."*  The reason I chose this topic is to make certain that technology is being used in the best way to benefit student learning, and not just as free time fun.

You and your student will have the opportunity to help me write my thesis.  The students will not even realize they are helping.   This is what is planned.  Beginning in January, during the teaching of the Social Studies Curriculum, *My America and My World Book*, I will be teaching both my class and Mrs. Neff's class.   When teaching Mrs. Neff's class, I will teach the curriculum for approximately one-half hour per day without technology, as the curriculum has always been taught.  When teaching my class, I will teach the curriculum for the same amount of time using technology as much as possible.  This unit will last approximately six weeks.  Each week, the classes will be assessed to see how well they are learning the material. These assessments will not be part of the students' grades because the students do not receive letter grades for this subject.  As long as the students follow along, listen and cooperate, they will receive a satisfactory.  Mrs. Neff's class will have an opportunity to use technology in other curriculum areas.

Here is what I need you to do.  First, in order to keep things valid, please do not mention that I am conducting a study to your child.  The students in my class will not even notice that anything is different. The students in Mrs. Neff's class will notice they have a different teacher for My America, but we will just explain that Mrs. Phalen has decided to teach this subject.  Second, please fill out, sign, and return the consent form.  Finally, if your child is in Mrs. Phalen's class, please complete the attached computer-use survey and return it as soon as possible.

Thank you so much for your help in this matter.  I will share my results with any of you who are interested.  I would appreciate your prayers in this endeavor, for as in all things I do; I wish to do it for God's glory.

Sincerely,


Mrs. Phalen

APPENDIX C

HUMAN SUBJECTS CONSENT FORM

Purpose of the Study: Examination of 1<sup>st</sup> grade computer availability, usage, training, and support.

Principle Investigator: Loretta Phalen, graduate student in education

1. Federal and University regulations require researchers to obtain the signed consent of research participants in order to perform investigative procedures. After reading the statement below, you are asked to indicate your consent by signing your name below the statement.

II. Statement of Procedure.

You are being asked to participate in research that is designed to evaluate the perceptions and recommendations of 1<sup>st</sup> grade teachers in regard to computer availability, usage, training, and support in their classrooms. You will complete a 41-item questionnaire that will gather demographic information, data concerning the present status of computers in your classroom, and your recommendations for more efficient use of computers in the curriculum. You are asked to not put your name or any other identifier on any paper except this one.

*All responses will be kept anonymous and confidential. Participation in this research project is voluntary and you may quit at any time if you feel uncomfortable.*

Thank you for participating in this study. Your help and cooperation in this research is greatly appreciated.

**I CERTIFY THAT I HAVE READ AND FULLY UNDERSTAND THE STATEMENT OF PROCEDURE. I CERTIFY THAT I MAY TERMINATE MY SERVICE AS A SUBJECT AT ANY TIME. I FURTHER CERTIFY THAT I AM AT LEAST EIGHTEEN YEARS OF AGE.**

_____

# Computer Survey for First Grade Students Attending
# Fairfield Christian Academy – Mrs. Phalen's Class

Please read and answer the following questions. If the answer to question number one is no, then you may stop there. If the answer is yes, please finish the questionnaire.

| 1. Do you have a computer at home? | Yes | No | | |
|---|---|---|---|---|
| If "Yes" how many? | 1 | 2 | 4 | 5 |
| If "Yes" which type? | P.C. | Apple Mac | Laptop | Other |
| If "Yes" do you have Windows? | 95 | 98 | 2000 | XP |
| If "No" do you plan to buy a computer within: | 6 months | 1 Year | 5 Years | |
| | | | | |

| 2. Does your computer have Internet access? | Yes | No | | |
|---|---|---|---|---|
| If "Yes" does your child use the Internet? | Yes | No | Favorite Websites? _____ |
| If "Yes" does your child send/receive e-mails? | Yes | No | How Often? _____ |
| | | | |

| 3. What types of activities does your child use the computer for? | | | |
|---|---|---|---|
| Word-Processing | Painting | Games If so, which games _____ _____ | Clip Art |
| Curriculum Enhancement | Information (e.g. encyclopedia) | Other | |

| 4. Does your P.C. have any of the following? | | | |
|---|---|---|---|
| Printer | Scanner | Digital Camcorder | Digital Camera |
| Web cam | Voice Activation | DVD | |

| If so, which of these has your child experienced using? | | | |
|---|---|---|---|
| Printer | Scanner | Digital Camcorder | Digital Camera |
| Web cam | Voice Activation | DVD | |

How many hours does your child use the computer each week? _____

# Mrs. Loretta Phalen

Dear Principal:

My name is Loretta Phalen. I am a first grade teacher at Fairfield Christian Academy in Lancaster and a graduate student at Cedarville University. To complete the requirements for my Master's degree I am writing a thesis entitled, "*A Teacher's Approach: Integrating Technology Appropriately into a First Grade Classroom.*"  Part of this project is to survey first grade teachers to see how they are using technology in the classroom.  The purpose of this project is to effectively use technology in our first grade classrooms at Fairfield Christian Academy.  Hopefully, this study will benefit all of us by compiling ideas from the entire county.  I have sent surveys to all of the schools in Fairfield County and am hoping for many responses, therefore, your participation in this project is greatly appreciated.

I have attached to this letter a letter for the first grade teachers in your building, a computer survey, a consent form, and a stamped-addressed envelope in which to return the survey. Because I am uncertain of how many first grades are in your building, I have included four copies. If you need additional surveys, please contact me.   Please distribute the letters and surveys to the first grade teachers in your building. I have indicated that I would like the surveys returned by September 30, 2003, if possible.

The thesis will be completed by May, 2004.  I would be delighted to share the results with you.  Please contact me if you are interested.

Again, thank you for your participation.  Feel free to contact me by phone, mail, or email with any questions and comments.

Sincerely,


Loretta Phalen

# Mrs. Loretta Phalen

Dear First Grade Teacher:

My name is Loretta Phalen. I am a first grade teacher at Fairfield Christian Academy in Lancaster and a graduate student at Cedarville University. I am writing a thesis entitled, "*A Teacher's Approach:  Integrating Technology Appropriately into a First Grade Classroom.*"  Part of this project is to survey first grade teachers to see how they are using technology in the classroom. Your participation in this project is greatly appreciated.  With the busy lives of teachers, I understand one more piece of paper to fill out can be a burden, so I thank you in advance for your help.

 This survey has been designed to gather information from first grade teachers about the availability and usage of technology in their classrooms. Your participation in and assistance with this study is greatly appreciated. Names or any other identifiers are not important, but please attempt to answer all of following questions to the best of your ability. If you are interested, I would be happy to share the results with you at the completion of this study if you contact me. The results will be available by May, 2004.

Please complete the survey and signed consent, then return in the addressed stamped envelope provided by September 30, 2003.

Your responses will be kept completely confidential. Again, thank you for your cooperation.

Sincerely,

Loretta Phalen

HUMAN SUBJECTS CONSENT FORM

Purpose of the Study: Examination of 1st grade computer availability and usage.

Principle Investigator:  Loretta Phalen, graduate student in education at Cedarville University.

1. Federal and University regulations require researchers to obtain the signed consent of research participants in order to perform investigative procedures. After reading the statement below, you are asked to indicate your consent by signing your name below the statement.

II. Statement of Procedure.

You are being asked to participate in research that is designed to evaluate recommendations of 1st grade teachers in regard to computer availability and usage in their classrooms. You will complete a questionnaire that will gather demographic information, data concerning the present status of computers in your classroom, and your recommendations for more efficient use of computers in the curriculum. You are asked to not put your name or any other identifier on any paper except this one.

 *All responses will be kept anonymous and confidential. Participation in this research project is voluntary and you may quit at any time if you feel uncomfortable.*

 Thank you for participating in this study. Your help and cooperation in this research is greatly appreciated.

 **I CERTIFY THAT I HAVE READ AND FULLY UNDERSTAND THE STATEMENT OF PROCEDURE. I CERTIFY THAT I MAY TERMINATE MY SERVICE AS A SUBJECT AT ANY TIME. I FURTHER CERTIFY THAT I AM AT LEAST EIGHTEEN YEARS OF AGE.**


_____     _____

Name                                                              Date

**TECHNOLOGY SURVEY**

**Please answer the questions to the best of your ability. If there is a question you feel uncomfortable with, please feel free to omit it.**

1. **My school is: Lancaster Public___ Fairfield County Public___ Private___**

2. **My sex is: female___ male___**

3. **My age is: 20 to 30___ 30 to 40___ 40 to 50___ 50 to 60___ 60 to 70___**

4. **I have been teaching for:**

   **under 1 year___ 1 to 3 years___ 3 to 10 years___ 10 to 20 years___**

   **20 to 30 years___ 30 to 40 years___ over 40 years___**

5. **I have been teaching at this school for:**

   **under 1 year___ 1 to 3 years___ 3 to 10 years___ 10 to 20 years___**

   **20 to 30 years___ 30 to 40 years___ over 40 years___**

## Computer Availability:

1. **How many computers do you presently have in your classroom? _____**

2. **How many students are in your class? _____**

3. **Which operating system are you using in your classroom?**

   **DOS___ Windows 3.1.1___ Windows 95/98/2000___**

   **Macintosh___ other: _____**

4. **Is your classroom on a network? Yes___ No___**

5. **Do you have access to the Internet in your classroom? Yes___ No___**

6. **Do you have enough computers to meet your instructional needs? Yes___**

   **No___**

7. **How many computers would you like to have in your classroom? _____**

8. **Do you have access to a computer lab?**

## Computer Usage:

1. **I use computers in my classroom for:**

    **Mathematics___ Science___ Reading/Writing___ Social Studies_____**

    **Power Point _____ Play___ Internet access___ E-mail___ Research___**

2. **How many hours of the class day does each student spend on the computer?**

    **(average) less than 1 hour___ 1 to 3 hours___ 3 to 5 hours___**

3. **I use a computer program to keep track of student grades.  Yes___ No___**

4. **I feel competent in assisting students to use computers.**

    **strongly disagree___ disagree___ agree___ strongly agree___**

5. **I use computers to plan my lessons.  Yes___ No___**

6. **The time that my students spend on the computer is educationally productive.**

    **strongly disagree___ disagree ___ agree___ strongly agree___**

7. **Students are able assist one another in using the computer.**

    **strongly disagree___ disagree ___ agree___ strongly agree___**

8. **If I had access to better programs my students would use the computer more.**

    **strongly disagree___ disagree ___ agree___ strongly agree___**

9. **I am comfortable with using computers as a teaching tool.**

    **strongly disagree___ disagree ___ agree ___strongly agree___**

10. **My students know more about computer applications than I do.**

    **strongly disagree___ disagree ___ agree___ strongly agree___**

11. **I enjoy using the Internet to find new teaching ideas.**

    **strongly disagree___ disagree ___ agree___ strongly agree___**

# <u>Computer Favorites</u>

Favorite Software:

_____

_____

Favorite Websites: _____

_____

# <u>Computer Recommendations:</u>

Please report any recommendations that you would like to make for any of the following categories as it relates to computers in your classroom.

**Availability:**_____
_____
_____
_____
_____

**Usage:**_____
_____
_____
_____
_____

# Other Types of Technology Used In The Classroom:

**_____VCR      _____DVD     _____Tape Recorders _____Electronic Games**

**_____Overhead Projectors _____Other…Please list _____**

# APPENDIX E

**Lesson Plans**

**Week 1 - Lesson 1 – January 5, 2004**

**Objectives:**
1.      The students will be able to identify oceans, continents, and the four Cardinal directions.
2.      The students will be able to tell the number of states in the United States.

**Materials:**
Computers, Galaxy Globe, Song on Tape "America the Beautiful."

**Lesson Outline:**
1.      Teacher shows student globe and students discuss what they know about the globe.
2.      Using the Galaxy Globe oceans, continents, directions, United States, and Ohio were identified.
3.      Students will be assigned to centers:
        Center one:      Computers using Web sites
                         http://bensguide.gpo.gov/k-2/index.html
        Center two:      Galaxy Globe to find country, oceans, continents, state.
        Center three:    Map to color (will finish during independent seatwork time.)
        Center four:     Read Textbook "My America and My World" (A Beka Books) pages 4&5
4.      Students rotated.
5.      Students and teacher discussed what was learned.
6.      Recording of America the Beautiful was played with pictures from the book America The Beautiful was shown to go along with the words.

**Week 1 - Lesson 2 – January 6, 2004**

**Objectives:**
1.      The students will be able to identify the American flag by naming the colors, the number of stars, the number of stripes, and what each stands for.
2.      The student will be able to explain what the pledge means.
3.      The student will be able to show how the flag has changed throughout time.

**Materials:**
Computers, VCR, Flag Coloring Page

**Lesson Outline:**

1.      Show 15 minutes of Video by Schlessinger on the Flag (fast forward through the Star Spangled Banner and stop at the care of the flag)

2.      Rotate groups of 3students to computer with the following websites:
        Introduce flag
        http://bensguide.gpo.gov/k-2/symbols/flag.html
        Parts of flag – meaning of stars and stripes
        http://www.usflag.org/
        http://www.geocities.com/EnchantedForest/Dell/7002/flagday.html
        Pledge and meaning
        http://bensguide.gpo.gov/k-2/symbols/pledgeallegiance.html
        How flag has changed
        http://www.usflag.org/toc.flags.html
3.      Students not on computers will complete flag coloring page and worksheet
        Also read textbook pages 6-8
4.      Review Flag as a group

## Week 1 -Lesson 3 – January 7, 2004

**Objectives:**
1.      The students will be able to explain what Freedom of Worship, Freedom of
        Speech, and Freedom of assembly means.
2.      The student will be able to explain that laws are what keeps our country free.

**Materials:**
        Computers, Galaxy Globe, Video

**Lesson Outline:**
1.      Review Directions on Globe
2.      Introduce Freedom - What do the students think is meant by a free country?
3.      Show Preamble song of America Rocks Video
4.      Use projector to view web-sites and discuss.
        http://bensguide.gpo.gov/3-5/citizenship/rights.html
        http://www.teach-at-home.com/fastfacts/usconstitution/constitution.asp listing of
        amendments
        http://fekids.factmonster.com/ipka/A0769450.html rights written easy to
        understand
5.      Read Textbook in partners pages 9-13.
6.      Discuss – What have we learned about Freedom?

## Week 1 - Lesson 4 & 5 – January 9, 2004

**Objectives:**
1.      Students will review necessary information from Lessons 1-3.

2.      Students will show what is learned through an assessment.

**Materials:**

Equal Rights for all Video (Schlessinger), Galaxy Globe, Computers & Websites from prior lessons

**Lesson Outline:**
During independent seatwork time students will review with Galaxy Globe and websites:
http://bensguide.gpo.gov/k-2/index.html;
www.ri.net/schools/central_falls/u/218/index.html

Show Video "Equal Rights for All" (stop at Quakers)

Brief Oral Review
Give Assessment

**Week 2 – Day 1 – January 12, 2004**

**Objectives:**
1.     The students will be able to state the definition of a symbol.
2.     The student will be able to name the Great Seal, the American Flag, and the Eagle as symbols of the United States of America.
3.     The students will be able to explain the parts of the Great Seal, what it is used for, and why it is a symbol of America.
4.     The student will be able to explain why the Eagle is a symbol of America.

**Materials:**

Computers, Schlessinger Video – The Constitution – last 10 minutes on the Great Seal, Textbook– My America and My World pages 14-16, coloring sheet of the Great Seal and the Bald Eagle from http://bensguide.gpo.gov/k-2/games/obverse.html and http://bensguide.gpo.gov/k-2/games/eagle.html.

**Lesson Outline:**
1.     Gather students around the computer and discuss symbols. Review Flag.  Show web site of the Great Seal and the bald eagle. Some students have already visited web sites during independent seat work time.
2.     Divide students into groups of three on 4 computers using websites:
       To learn about the Eagle:
       http://bensguide.gpo.gov/k-2/symbols/index.html
       Pictures of bald eagle http://losbird.org/labirds/baea.htm and
       http://www.eagles.org/all.html
       http://jeffcoweb.jeffco.k12.co.us/isu/ss/k2hist/1symbols.html - Eagle Links
       To learn about the Great seal:
       Great Seal web sight http://www.greatseal.com/
       http://bensguide.gpo.gov/k-2/games/interactive.html color great seal; liberty bell
       http://rims.k12.ca.us/symbols_freedom/pages/symbolsoffree.html all symbols
       Some students reading textbook pages 14-16
       Some students will color the Great Seal.

Some students will write sentences about the Great Seal, Eagle, and Flag

3.      Regroup with students and show video about Great Seal
4.      Discuss what was learned – each group

**Week 2 – Day 2 – January 14, 2004**

**Objectives:**
1.      The students will be able to state the definition of a symbol.
2.      The student will be able to name the Liberty Bell, Uncle Sam, and the Statue of
        Liberty as symbols of the United States of America.
3.      The students will be able to explain what the Liberty Bell was used for, what
        liberty means and why it is a symbol of America.
4.      The student will be able to tell the story of the Statue of Liberty and why it is a
        symbol of America.

**Materials:**
Computers, Where in the USA is Carmen SanDiego software, Textbook – My America
and My World pages 17-20, coloring sheet of the Liberty Bell, Uncle Sam and the Statue
of Liberty.

**Lesson Outline:**

1.      Review Symbols from Lesson 1.
2.      Show Symbols Video beginning with the Liberty Bell
3.      Intro Liberty Bell, Uncle Sam and the Statue of Liberty by Looking at pictures in
        text  book and discussing video.
4.      Students explore websites in pairs while others are Reading Textbook and
        Coloring symbol pictures.
        Websites:
        Liberty Bell:
        http://www.123philadelphia.com/360-travel-photos/liberty-bell.htm liberty bell
        virtual tour
        http://bensguide.gpo.gov/k-2/games/interactive.html
        Uncle Sam:
        http://www.win.org/library/matls/govdocs/kids.htm  Uncle Sam for kids
        Interactive coloring:  http://www.niehs.nih.gov/kids/jvsam.htm
        Statue of Liberty
        http://www.newyork.com/visit/attractions/liberty.html facts and virtual tour
        http://www.nyctourist.com/liberty1.htm another picture tour
        Some students reading textbook pages 17-20
        Some students will color pictures of Uncle Sam, the Statue of Liberty and the
        Liberty Bell
        Some students will write sentences about the Uncle Sam, the Statue of Liberty
        and the Liberty Bell.
5.      Discuss what was learned – let each group share

**Week 2 – Day 3 – January 15, 2004**

**Objectives:**
1.      The students will be able to state some facts about Martin Luther King, Jr.
2.      The students will be able to write sentences to explain why we celebrate Martin
        Luther King Day.

**Materials:**
Computers, Martin Luther King, Jr. Video, Coloring Page

**Lesson Outline:**
1.      Introduce Martin Luther King Jr. by showing a picture.
2.      Show video on Martin Luther King Jr.
3.      Students will look on website in pairs for information on Martin Luther King, Jr.
        Read the story of Dr. King's life written by second graders.
        http://www2.lhric.org/pocantico/taverna/98/1.htm
        http://www.time.com/time/photoessays/mlk/index.html  Photos
        http://www.annieshomepage.com/mlkday.html Use links on this page
        http://www.webcorp.com/civilrights/mlkfr.htm speech recordings
4.      Complete coloring page and discuss.

**Week 2 – Day 4 – January 16, 2004**

**Objective:**
Assessment

**Lesson Outline:**
1.      During independent work time students will explore websites from the week.
2.      Brief Oral Review
3.      Assessment
4.      Review answers from assessment

**Week 3 – Day 1 – January 20, 2004**

**Objective:**
1.    The students will be able to name three important documents (The Declaration of
       Independence, The Constitution, and The Bill of Rights) and state why these
      documents are important.
2.    The students will be able to tell what is written on coins and why that is important.

**Materials:**
Constitution Book, Textbook, Computers, Video Constitution – Documents and coins
portion only, Video – Declaration of Independence, coins (real and chocolate wrapped),
Test Book pg 21-23.

**Lesson Outline:**
Review Maps using Galaxy Globe
Using Projector review the following websites:
Intro Documents using.
   o   http://www.earlyamerica.com/freedom/index.html copies of documents
   Students will view independently video about Declaration of Independence at:
   o   http://earlyamerica.com/independence.htm.
Intro coins – review what is on coins.  Give students each a coin.
   o   Use projector to view
       http://www.usmint.gov/about_the_mint/fun_facts/index.cfm?action=fun_facts
       5 for information about In God We Trust.
   o   Students look up:
       http://www.atl.frb.org/invoke_brochure.cfm?objectid=83FD4A4C-9AF0-
       11D5-898400508BB89A83&method=display_body
   o   Students use independently
          Coin Games - http://www.usmint.gov/kids/index.cfm?fileContents=games
          –coin match
       o   http://www.usmint.gov/kids/index.cfm?fileContents=games adding up
           coins
       o   http://www.coolbank.com/Elementary/PK2/money.htm coins and dollar
           pictures
       o   http://hbogucki.staffnet.com/aemes/apps/change/changeit.htm counting
           money
       o   http://primarygames.com/Spending%20Spree/start.htm What do you
           want to buy game.
Show CONSTITUTION VIDEO and DECLARATION OF INDEPENDENCE VIDEO –
information on the documents only
Students read Textbook pages 21-23 in groups
Regroup and discuss key points

**Week 3 – Day 2 – January 21, 2004**

**Objective:**
1.   Review Constitution, Bill of Rights, Declaration of Independence and coins.

**Materials:**
Text page 39-45, Computers,   Interactive PowerPoint "My America Grows."

**Lesson Outline:**

Review Constitution, Bill of Rights, and Declaration of Independence.
Review Coins.

Show teacher created PowerPoint with projector about changes in America which
includes the following websites:

Now and Then Travel and Communications Comparison
- pony express web quest My America Travels
picture of pony express poster
history of transportation
virtual tour - pictures of early transportation
page to explore about transportation

Students will use interactive PowerPoint and explore each hyperlink.
Students cannot use in groups due to sounds and earphones.

Regroup and discuss.  Relate to field trip taken earlier to a 100 year old working farm.

**Week 3 – Day 3 – January 23, 2004**

**Objective:**
Review and Assessment

**Materials:**
Text page 39-45 and Computers

**Lesson Outline:**
Use websites from previous lessons and text for review.
Give written assessment
Go over answers on assessment

**Week 4 – Day 1 – January 26, 2004**

**Objectives:**
1.   Students will discuss various places to visit in the United States.
2.   Students will describe Plymouth Rock, Plymouth Plantation, Niagara Falls, and Fort McHenry.
3.   Students will recall information about the Statue of Liberty.
4.   Students will name the National Anthem, who wrote it, and where it was written.

**Materials:**
Text pg. 46-49, 66& 67, Computers, Websites, Flag Video, PowerPoint, CD of the Star Spangled Banner.

**Lesson Outline:**
1.   The teacher shows the Exploring the USA interactive PowerPoint to the students on the Projector.
2.   Students independently and in groups of 2 or three view PowerPoint, access all the

internet hyperlinks which include the following websites:

Pilgrims and Plymouth:

http://pilgrims.net/plimothplantation/vtour/index.htm - Plymouth Plantation

Niagara Falls:

http://falls.net/pictures/ Niagara Falls pictures

http://www.historychannel.com/exhibits/niagara/ Falls history

Fort McHenry & the Star Spangled Banner

http://web8.si.edu/nmah/htdocs/ssb-old/opening.html (National Anthem site

http://www.bcpl.net/~etowner/patriots.html  (Fort McHenry Site)

http://www.bcpl.net/~etowner/anthem.html About Francis Scott Key

3.    Class independently and in groups look at textbook pages.
4.    Teacher shows FLAG VIDEO – 10 MINUTES ABOUT FORT MCHENRY.
5.    Class regroups discusses what was learned.


## Week 4 – Day 2 – January 27, 2004


**Objective:**

1.    Students will review the places in the United States we visited in yesterday's lesson.

2.    Students will be able to state the name of our Country's Capitol.
3.    Students will be able to name at least three buildings of importance in Washington, D.C.
4.    Students will be able to tell that the President lives in the White House.


**Materials:**

Star Spangled Banner CD, Washington, D.C. video, websites, test book page 50, worksheet to make a small book about Washington.

Lesson Outline:
1.    Play the Star-Spangled Banner CD and sing along.  Review that the Star Spangled banner is our National Anthem and was written by Francis Scott Key at Fort McHenry.
2.    Introduce Washington, D.C.  Review the symbol for the Capitol on the map.
3,    Show first twenty (20) minutes of Washington D.C. Video
4.    Students in pairs view web sites on computers:
    Washington, D.C. http://kids.dc.gov/
    http://jeffcoweb.jeffco.k12.co.us/isu/ss/k2hist/1symbols.html - White house sites
    http://www.artsci.clarion.edu/khs/
    http://www.gospelcom.net/peggiesplace/tour.htm
    http://www.alt.wcboe.k12.md.us/mainfold/schoopag/elementary/paramount/class_webs/5/washingtonlinks.htm

5.    Students not on computers work on making a Washington, D.C. Book.
6.    Discuss important places and things learned.  Review using pictures and completed books.

**Week 4 – Day 3 – January 28, 2004**

**Objective:**
1. Students will review the places in the United States visited this week.
2. Students will state why Williamsburg is important.
3. Students will name the Mississippi River as the longest river in the USA.
4. Students will identify the uses of the Mississippi River.
5. Students will explain what the Great Plains are and how the benefit the people of the United States.
6. Students will name the food that is grown on the Great Plains.

**Materials:**
Teacher created interactive PowerPoint, Computers, Projector, Plains and Mississippi River Worksheet, Text Page 51-52.

**Lesson Outline:**
Introduce PowerPoint with Projector. PowerPoint includes the following links:
- Williamsburg, Virginia, Mississippi River, Great Plains
  http://www.history.org/;
  http://www.greatriver.com/;
  http://mbgnet.mobot.org/sets/grasslnd/index.htm

Students work in groups:
- Some on PowerPoint following the links in pairs.
- Some reading Textbook
- Some filling out the worksheets on Great Plains and Mississippi River.

Regroup and review
Check worksheets for accuracy

**Week 5 – Day 1 – February 2, 2004**

**Objective:**
1. Review Plymouth Rock and Plantation, Niagara Falls, Fort McHenry, Washington, D.C., Williamsburg, Mississippi River and Great Plains.
2. Assessment

**Lesson Outline**:

Review using projector and two teacher created PowerPoint's.
Give Assessment
Review Assessment with students

**Week 5 – Day 2 – February 3, 2004**

**Objectives**:
1. Students will be able to describe Mount Rushmore and list the 4 presidents carved in

the rock.
2. Students will tell about some things such as geysers, waterfalls, wildlife that can be seen in Yellowstone and Grand Teton National Park.
3. Students will be able to describe the Rocky Mountains and tell about the differences in areas in the United States.

**Materials**:  Text pages 53-56, Teacher created interactive PowerPoint, Computers, and Worksheets.

**Lesson Outline**:
Show PowerPoint on projector and discuss each location.
Review text pages 57-59.
Students then use interactive PowerPoint in pairs to explore each location's links to internet.  Internet links are listed below.
- Mt. Rushmore
  http://www.nps.gov/moru/;
  http://www.pbs.org/wgbh/amex/rushmore/sfeature/sf_footage.htmlhttp://www.pbs.org/wgbh/amex/rushmore/tguide/index.html#hist
  http://bensguide.gpo.gov/3-5/symbols/mountrushmore.html
- Yellowstone National Park, Grand Teton      National Park
  http://www.nationalgeographic.com/yellowstone/index.html;
  http://www.grand.teton.national-park.com/http://lamar.colostate.edu/~ttracy/rocky/
  (virtual tour of Rocky Mountains)

**My America Lessons -Week 5 – Day  2 – February 3, 2004**

**Objectives:**
Continue yesterday's objectives concerning Mount Rushmore, Yellowstone National Park, Grand Teton National Park, and the Rocky Mountains.

Students complete worksheet comparing different landforms
Students continue on PowerPoint Presentation
Teacher and student discuss what was learned through exploring internet links.

**Week 5 – Day 3 – February 5, 2004**

**Objectives:**
1. Students will be able to describe the Grand Canyon.
2. Students will be able to tell about the Navajo Indians, where they live, how they live, and draw something they make.
3. Students will be able to describe Death Valley as a desert and name some of the features of a desert.
4. Students will be able to tell why people came to Death Valley originally, and why Death Valley has its name.

**Materials:**
Text pages 57-59, Computers, Projector, Teacher created interactive PowerPoint, Landform Worksheets.

**Lesson Outline:**
1.     Teacher introduces lesson with PowerPoint on projector.
2.     Students then explore PowerPoint in groups of 2 exploring the hyperlinks which include:  Grand Canyon Navajo Indians, Death Valley, Yosemite National Park http://www.nps.gov/deva/index.htm ;http://www.terragalleria.com/parks/np-lf.death-valley.html ;http://www.kaibab.org/gc/gcvv/gc_vv.htm (virtual tour of Grand Canyon) http://encarta.msn.com/medias_761576887_-_1/Navajo_(people).html
3.     Other students work on worksheet and reading pages in Text.
4.     Regroup and discuss what was learned through Websites.

## Week 5 – Day 4 – February 6, 2004

**Objectives:**
1.     Review of Mount Rushmore, Yellowstone National Park, Grand Teton National Park, Rocky Mountains, The Grand Canyon, Navajo Indians, and Death Valley.
2.     Assessment

**Lesson Outline:**

1.     Briefly review PowerPoint's using projector.
2.     Give assessment.
3.     Go over answers to assessment.

## Week 6 – Day 1 – February 9, 2004

**Objectives:**
1.     Students will be able to name three things that can be seen at Yosemite National park.
2.     Students will be able to describe Yosemite Falls has the tallest water fall in the world.
3.     Students will know the name of the Golden Gate Bridge.
4.     Students will be able to describe Chinatown, Fisherman's Wharf, and the streets in San Francisco.
5.     Students will be able to show on the map of the United States the Pacific Ocean and name Washington, Oregon, and California as the states which border the Pacific Ocean.
6.     Students will describe the Pacific Coast as rocky, beautiful and a place where fruit is grown.

**Materials:**

Computers, Text Pages 60-64, Projector, Teacher-created PowerPoint, Software (Pacific Coast), Galaxy Globe

**Lesson Outline:**
1.    View PowerPoint on projector to introduce.
2.    Read and review text pages as a class.
3.    Students work in pairs on PowerPoint following links which include:
      http://gocalifornia.about.com/bl_sfphoto.htm
      http://www.californiapictures.com/oceanmugu1cimg3.html
      http://www.surfnetkids.com/goldrush.htm
4.    Regroup and discuss.

**Week 6 – Day 2 – February 10, 2004**

**Objectives:**
1.    Review of My America Places to Visit

**Materials:**  Galaxy Globe, Computers, My America is Beautiful Review PowerPoint Presentation, Textbook.

**Lesson Outline:**
1.    Students review textbooks on their own.
2.    Students view the review PowerPoint Presentation "My America is Beautiful".
3.    Students interact with teacher as they view PowerPoint.

**Week 6 – Day 3 – February 11, 2004**
**Objectives:**
1.    Review of My America Places to Visit

**Materials:**  Galaxy Globe, Computers, My America is Beautiful Review PowerPoint Presentation, Textbook

**Lesson Outline:**
1.    Students review textbooks on their own.
2.    Students view the review PowerPoint Presentation "My America is Beautiful".
3.    Students interact with teacher as they view PowerPoint.

**Week 6 – Day 4 – February 13, 2004**

**Objectives:**
1.    Review of San Francisco, Pacific Coast and Yosemite
2.    Assessment

**Materials:**  Galaxy Globe, Computers, My America is Beautiful Review PowerPoint Presentation, The Final Trip PowerPoint Presentation, Textbook

**Lesson Outline:**
1. Students and teacher discuss what they have learned.
2. Give Assessment.
3. Review answers to assessment

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**VITA**

Loretta Phalen was born May 18, 1958, in Lancaster, Ohio.  She is the youngest of six children raised by her parents Ernest and Betty Wasem.  Loretta was baptized into Christ when she was eight years old.

Loretta graduated from Lancaster High School in 1976.  She worked two years at Diamond Electronics and seventeen years as a clerk for American Electric Power Service Corporation.  During this time she attended Ohio University part-time and attained an Associate in Science degree in 1993.  Loretta eventually began attending college full-time. She received a Bachelor of Science in Education degree in 1995 from Ohio University.

After graduation, Loretta taught one year of fourth grade and one year of first grade at Fairfield Community Christian School in Lancaster, Ohio.  The next year Fairfield Christian Academy opened where Loretta has taught first grade for five years.

Loretta is a member of Fairfield Christian Church and is involved in their Children's ministries during the summer.  She is actively involved in the community as the wife of the Fairfield County Sheriff.

Loretta is married to her husband Dave Phalen.  They have three children and four grandchildren.

It has taken three years to complete the graduate work at Cedarville University. The Cedarville experience has been challenging, rewarding and enjoyable.  Much has been learned from each class which has helped Loretta to be a more effective teacher.

Loretta is planning on using the information learned from this thesis to help her to use technology as a tool to become a more effective teacher.  She is also planning on sharing this information with other teachers so they can also more effectively meet the needs of their students.

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