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Integrating reading, language arts, science, and social studies curriculum with the use of technology

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INTEGRATING READING, LANGUAGE ARTS, SCIENCE, AND SOCIAL STUDIES CURRICULUM WITH THE USE OF TECHNOLOGY

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

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

by
Bonney Elizabeth Waters
September 2002
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Approved by:

Amy S.C. Beh, First Reader

John Kuttner, Second Reader
ABSTRACT

The purpose of the project was to develop three thematic units for fifth grade that integrate California State Standards in Reading, Language Arts, Science, and Social Studies with the use of technology. The benefits of doing so allows instructional time to be spent on more in depth study of the disciplines, students make connections across curriculum which allows them to develop a deeper understanding of what is being taught. Also, integrating curriculum with technology engages students and allows them to have more control over their learning environment. When students are actively involved in what is being taught, they will internalize the information for better understanding.
ACKNOWLEDGMENTS

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CHAPTER ONE

INTRODUCTION

Introduction

Chapter One begins with an explanation of the project. In each of its own subsection the purpose of the project is stated followed by the context of the problem, project overview, significance of the project, assumptions, and limitations. Finally, definitions of terms are presented.

Purpose of the Project

The purpose of the project was to design curriculum using three thematic units for fifth grade that integrate California State Standards in Reading, Language Arts, Science, and Social Studies with the use of technology. Integrating these subjects will allow more instructional time in Science and Social Studies. Also, the units are designed to engage students in what they are learning.

Context of the Problem

Palm Springs Unified School District adapted and implemented a new reading program to raise test scores on the norm reference state test in Reading and Language
Arts. Because of this implementation, the district requires the majority of instructional time each day to be spent in the areas of Reading and Language Arts leaving instructional time for Science and Social Studies extremely limited. A solution to the problem is to find a way to teach Science and Social Studies within Reading and Language Arts content areas. By doing so, the majority of instructional time each day would be spent in the areas of Reading and Language Arts at the same time teaching Science and Social Studies.

Project Overview

The project involves curriculum design that integrates Reading, Language Arts, Science, and Social Studies content areas for fifth grade. Within the design, three thematic units are developed that expand over a period of one school year. Each unit takes approximately six to eight weeks to complete, based on spending two to two and a half hours per day, four to five days a week with access to computer technology each day.

All three units require students to develop an end product that demonstrates what was learned such as group presentations, reports, and skits. The difference between
these units is how the end product is accomplished. For instance, in the beginning of the school year, the first unit is structured so that the students are guided through each step in the development process, which includes conducting research and deciding on the form of final presentation. Then, in the middle of the school year, the second unit is structured so that students accept more responsibility and less guidance than in the first unit to develop the end product. Here, students conduct research with less guidance and have more freedom to be creative in their form of final presentation. Towards the end of the school year, the third unit is structured in a manner that allows students to accept even more responsibility than in the second unit and continues to have less guidance in developing the end product. By this time, students are capable of conducting research on their own without too much guidance. Also, having experience throughout the school year with various presentation methods, they are able to choose an adequate form of final presentation fairly easily.

Several teaching strategies are used in developing each unit to ensure student success such as student cooperative groups, English language development methods,
and the use of technology to enhance performance. Also, several resources are used in each unit that includes, but not limited to, Internet Web sites, videos, textbooks, and literature pertaining to topics of study. Finally, various forms of assessment, both formal and informal, are built into the units. The degree to which assessment is measured for these units is to insure mastery of the standards being taught.

Significance of the Project

The Significance of the project was to address the importance of meeting California State Standards for fifth grade in Reading, Language Arts, Science, and Social Studies. However, raising test scores on the norm reference state test in Reading and Language Arts while meeting Palm Springs Unified School District's new reading program was equally as important. In order to meet standards and raise test scores, integrating Reading, Language Arts, Science, and Social Studies is a solution.

This project involves developing three thematic units for fifth grade that focus on Science and Social Studies topics within the areas of Reading and Language
Arts. Combining these subjects allows teachers to utilize instructional time in a more effective manner at the same time students are able to make connections across curriculum areas and become engaged in what they are learning.

Assumptions

The following assumptions were made regarding the project:

1. There is access to the following technology equipment such as computers, Internet connection, Encyclopedia software, word processing software, presentation software, video camera, video editing software, and means to edit and view videos.

2. There is access to a library with selections that relate to the thematic units within the subject as well as district adopted textbooks.

Limitations

During the development of the project it was noted that a needs assessment was not conducted. Also, the formative evaluation was not an in depth evaluation of
the project. Because of these, it presents limitations to the project.

A needs assessment is a survey that is given to a group of people with similar interest in order to assess whether or not a particular need is present. For this project, the question is whether or not there is a need for integrating curriculum. Knowing the answer could have had an impact on the project.

A formative evaluation involves an in depth examination of a product conducted by groups of people with special points of interests. For this project, these groups were not asked to conduct an in depth evaluation to the existent of running trail studies of the project or assessing final revisions. Without this type of formative evaluation, the project could have faults in the design and development stages.

Definition of Terms

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

The terms instructional design and instructional technology are used in much of the literature in relation to programs. The following definitions are used to
clarify these terms. Instructional design is the method of development for instructional specifications using instructional theory and learning to ensure the quality of instruction. Instructional technology is a form of instruction using computers, computer applications such as multimedia (digital integration of text, graphics, audio, still images, animation, motion video, etc.), and computer software (Semple, 2000).

Organization of the Thesis

The thesis portion of the project was divided into Four chapters. Chapter One provides an introduction to the purpose of the project, context of the problem, significance of the project, and definitions of terms. Chapter Two consists of a review of relevant literature. Chapter Three documents the steps used in designing and developing the project. Chapter Four presents conclusions and recommendations drawn from the design and development of the project. Project references follow Chapter Four.
CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Chapter Two consists of a discussion of the relevant literature to the project. Specifically, the benefits of integrating technology in classrooms, the effects of technology on learning environments, and the integration of curriculum with the use of technology.

Integrating Computers

Integrating computers in classrooms has been a popular idea for sometime. Many studies on this topic have been performed and the majority agrees on the benefits of implementing computer technology in classrooms. However, the degree of successful implementation in that computers were used to stimulate cognitive thinking processes is worth examining. The following researches give examples of attitudes towards the use of computers in classrooms over the last decade and more. They offer a perspective on the idea of using computers to learn with versus to learn from. The one idea, learning with computers, sees computers as a tool to invoke thinking processes where the other sees
computers as a tool for entertainment or drill and practice routines.

Looking at research that was performed in the late 1980s, over a decade ago, is a good place to start. These studies will demonstrate attitudes towards technology when classroom integration was a fairly new idea.

The title of this article is *The Changing Nature of Teaching and Learning in Computer-Based Classrooms* by Swan and Mitrani (1993). The main focus here is how the level of computer integration between students and teachers has changed the nature of teaching and learning. The use of computers creates a new classroom environment, one that is more student-centered and cooperative, and classrooms in which learning is more individualized.

These changes in educational structure will most likely appear at the level of individual interactions among students, teachers, and computers.

Two high schools located in Brooklyn and Staten Island participated in the study reported in this article. The subjects were 185 at-risk students, 13 teachers, and paraprofessionals in seven remedial reading and seven mathematics classes. Two competency-based, hierarchical systems in which individualized lessons and
unit sequences based on students' performance were utilized. These schools had offered the researchers an opportunity to be able to study the same students and teachers using differing environments due to the reason of teaching and learning that was evenly split between traditional classroom and computer-based settings (Swan & Mitrani, 1993).

The interest of the study was based on possible differences in two areas described as being affected by the use of computers: student- versus teacher-centeredness, and whole group versus individualized instruction. The results of the study demonstrated a significant change in teaching and learning in computer-based classrooms versus teaching and learning in traditional classroom settings. The changes that were noted are the attitudes of the students and the interaction they have with their teachers. Students told researchers that having control over their own learning was the best thing about using computers (Swan & Mitrani, 1993).

Advocates for educational computing have argued that computer usage will significantly change teaching and learning (Swan & Mitrani, 1993). This study proved this
argument. Although the study was conducted in the school year 1989-1990, it demonstrates the effects of computers in the classroom. This is important for the idea of integrating computers in classrooms.

The article *First Year Elementary School Teachers’ Utilization of Instructional Media* by Descy (1992) is another study that demonstrates attitudes towards integrating computers. What is interesting about this article is that the study was conducted 10 years ago and the concerns described in the study are similar to ones of today. Teachers at all levels do not incorporate large amounts of media into their lesson. They prefer traditional means of instruction. Cited within this article was a quote taken from another study, preformed over 20 years ago, where the researchers stated that "... the majority of teachers are afraid of media equipment, are unaware of resources available, and are unwilling to expand the extra effort required to locate media resources" (as cited in Descy, 1992, p. 16). This is an example of some attitudes that still exists today.

Descy’s report is based on a study conducted on first year elementary school teachers who were all graduates from winter 1988 through summer 1989 at Mankato
State University whose first complete year of teaching was 1989-1990. The purpose of this study was to measure the extent to which first year elementary school teachers utilize 21 types of instructional media. The instrument used was the Descy Instructional Media Survey that consisted of five pages of information, response questions on media and computer utilization, questions concerning attitudes towards media utilization in general, and their own pre-service media preparation (1992).

The results of this survey demonstrated a shift in media utilization practice compared to studies conducted in previous years. The utilization of computers in the elementary school classroom is one major shift. 77.1% of the respondents used computers in their classroom at least once a week. As Descy points out "If the American public education system is to flourish, it is imperative that teachers utilize instructional media to its fullest extent. Utilization of instructional media can increase student achievement, self-image, and attitude towards instruction" (1992, p. 19).

Although this early study did not describe the type of computer utilization; for instance, did they use
programs to stimulate cognitive thinking processes, which is undoubtedly important to the future of computers in classrooms? This study stimulates further studies into the integration of computers in the classrooms.

The article Exploring Individual Characteristics Associated with Learning to use Computers in Preservice Teacher Preparation by Ropp (1999) addresses the issue brought up in the last article about the need for teachers to utilize instructional media. This study measured the computer attitudes, computer anxiety, computer self-efficacy, technology proficiency, and computer coping strategies among fifty-three teacher preparation students in a semester-long course.

Ropp first mentioned how researchers have studied individual characteristics in relationship to learning to use computers over the past two decades. "These individual characteristics range from motivational variables that foster self-regulated learning to levels of computer anxiety that practically prevent any kind of learning with technology" (Ropp, 1999, p. 403). Negative thoughts toward computers may heighten feelings of anxiety that includes worries about looking foolish, embarrassed, or fear of damaging computer equipment.
Also, beliefs about preservice teachers who demonstrate proficiency integrating technology into their teaching does not necessarily indicate that they will teach using technology. This was the basis for the research conducted in this study.

The research included a survey on individual characteristics that was compiled from four different instruments of previous research. These were adapted into a six-point Likert scale. Students also completed a fast write at the end of the hands-on technology sessions. Nine different background variables; age, gender, computer ownership, computer access, weekly computer use, how many teachers used computers in previous schooling, method of most computer learning, and completed computer courses, were measured and included in the analysis (Robb, 1999).

The conclusions of this research provided evidence that the individual characteristics in relation to behaviors about computers responded in favor of instructional activities. However, further research needs to be conducted to investigate experiences over a longer time period (Robb, 1999).
This next article, *Networked Instructional Computers in the Elementary Classroom and Their Effect on the Learning Environment: A Qualitative Evaluation* by Keeler (1996), researches a school-wide computer implementation project. The results of this study reflected changes in teaching strategies, teacher attitudes, classroom management, classroom climate, and teacher's role in the classroom.

The study took place in an elementary school serving approximately 619 kindergarten through fifth-grade students. A total of 13 teachers, half of teachers at each grade level, were chosen to participate in this one year Teaching-Learning Computer pilot project. Everyone participating received one week of training on the project as well as classroom structures and management. Programs that were used included writing, math, and language arts (Keeler, 1996).

The project had a great impact on this school. Teachers became enthusiastic about their teaching and expressed new excitement and energy in the classroom. Teaching strategies changed as a result of computers. Centers for learning allowed students to discover knowledge for themselves. Teachers felt more informed
about student’s performance and were able to spend more time with individuals. Students became actively engaged in what they were learning. There was a switch in the classroom climate from teacher-centered to student-centered instruction. Teachers also found freedom to learn along with their students (Keeler, 1996).

The results of this study reflect a positive attitude toward the use of computers in the classroom. The demands for increased student learning and educational accountability over the past decade has placed educators in a tenuous situation. Changes in schools are becoming necessary. "...computer implementation has the potential to act as a catalyst for change at three levels: the classroom, the building, and the district" (Keeler, 1996, p. 336). Learning should be fun and exciting. Renewed teacher enthusiasm and student motivation creates a fun and exciting learning environment (Keeler, 1996).

The article by Maor, Teachers-As-Learners: The Role of a Multimedia Professional Development Program in Changing Classroom Practice (1999), continues the idea of changes in attitudes as a result of computer implementation. This study investigated the
transformation of teachers' thinking of the use of multimedia programs and constructivist approaches in their classrooms through a series of professional development workshops.

The research was conducted through workshops with secondary mathematics and science teachers. The design of these workshops was to guide teachers in promoting constructivist approaches to teaching and learning by using computers to support students' higher-level thinking skills. Key factors in this study were how teachers responded to changes and whether or not those changes lasted (Maor, 1999).

The results of this study indicate that teachers preferred working together to solve technical problems that occurred and to support one another in discussions about the task at hand. The teachers became aware of learning approaches that are inquiry-based and they plan to use it in their classroom. Classroom observations confirmed teachers implementing what they had learned by the motivation of students and how they were able to conduct investigations with little teacher supervision. This change in classroom learning environment is directly
related to the teachers' participation in the professional development program (Maor, 1999).

This study "...indicates that placing teachers in the role of learners in a novel situation is a strategy which has the potential to bring about epistemological change among the teachers" (Maor, 1999, p. 50). Also, clear instructions of programs, familiarity with the multimedia, and teamwork were pre-conditions for successful inquiry-based learning. Teachers used constructivist-oriented teaching in the classroom, promoted inquiry-based learning, and engaged their students in constructivist learning. This study suggests that future professional development programs include classroom support for teachers during and after completion of the workshop phase (Maor, 1999).

The article *Extending Educational Computing: A Case Extensive Teacher Development and Support* by Parr (1999), is another focus on teacher development and support in implementing technology in the classroom. In this study a fee-paying secondary school (Years 9-12) was used. This teacher-development and support program was in parallel with a plan for technology expansion in the school. It was administered in three phases.
The results of this program indicated clear support for the idea of incremental integration of technology into classrooms. Considerable progress was evident in the year of implementation of technology in terms of increasing staff level of experience and competence as computer users. However, the need to connect computer knowledge with teaching knowledge was apparent. Teachers lacking of classroom use of computers was associated with the lack of quality subject-specific software. Also, open-ended software was not applied towards classroom usage (Parr, 1999). Unlike the previous study, this one needed stronger computer-base instruction for teachers.

The next article, *Investigating Implementation Strategies for WWW-Based Learning Environments* by Oliver, Omari, and Herrington (1998), takes a look at using World Wide Web (WWW) learning activities and their effects on learner behaviors and learning outcomes. The researchers planned and developed WWW-based instructional materials to investigate differences in learner behaviors and achievement brought about by implementations where the controlled variables included student collaboration and use of a printed guide to direct and focus student behavior.
Motivation for this study stemmed from other articles the authors mentioned. These articles discussed how many writers are beginning to question students' exposure and the effectiveness of the WWW-based learning environments. "With any form of information or knowledge, providing students with access to meaningful content does not guarantee learning, a factor frequently overlooked by developers of WWW-based learning materials" (Oliver, et al., 1998, p. 122).

The researchers first developed WWW-based learning materials. They then chose a module from a Multimedia Networking and Communications course that had an enrollment of 60 university students. This course was based on a series of computer-based workshops and lectures. The environment of this course was an ideal setting for this study (Oliver, et al., 1998).

The results of this study supported the researchers' beliefs that the use of collaborative groups and support materials are useful implementation strategies in learning environments and support high levels of learner autonomy. Having students work with partners tended to cause each to remain focused on the learning task. The researchers intent to use this form of research to
further study collaboration activities that encourage students to be more attentive to textual information that is presented. "The WWW is a powerful and flexible resource and research of this nature is needed to ensure that its maximum learning potential can be gained" (Oliver, et al., 1998, p. 138).

The drive to reform education is an issue that has been the topic of many discussions. The use of instructional technology in classrooms has been viewed as a strong leader in this reform. The article by Clark, Urban Middle School Teachers’ Use of Instructional Technology (2000), is a qualitative study that investigated teachers’ perspectives on instructional technology. Twenty-eight teachers in a large urban middle school participated in the study.

Clark first reflects on the patterns of education reform, beginning with the 1983, A Nation at Risk: The Imperative for Education Reform (National Commission on Excellence in Education, a report to the United States Secretary of Education). This report, at the time, caused many leaders of the nation to feel that America’s schools were failing. Because of this report, education reform became a top issue to Americans. In 1996, a report by the
National Commission on Teaching and America’s Future indicate that in order to keep up with economic changes in today’s world, teachers need to continually learn new technologies. This report suggested that educational technology could be used to implement a change in the education system. Today Americans expect teachers to use the newest technology in their classrooms. “Technology is and will be an integral part of today’s students’ learning and working lives...America must have teachers who are ready and able to teach using technology” (Clark, 2000, p. 180). To avoid being part of a superficial curriculum, teachers must understand the nature of technology.

Returning to the nature of the study, two important findings regarding teachers’ views of technology and the role it plays in education process, were discussed. The findings suggest that teachers feel that technology plays an important part in the process of educating their students at the same time teachers see a need for more technology in their classroom. According to this study, “...teachers seem to have a positive attitude towards technology when it comes to what is good for student educational needs and teacher’s administrative uses for
technology" (Clark, 2000, p. 187). The main point is that integration of technology in the curriculum need to be encouraged by educational leaders (Clark, 2000).

This section has clearly stated the path technology is going towards in educational environments. Integrating technology has become a priority for our schools especially for the new century. The next section will discuss learning theories and their influence on the learning environment.

Technology and Learning

The integration of technology into the classroom and its influence on learning environments is worth examining. The article, Learning Theories and Their Influence on the Development and Use of Educational Technologies (2000), by Semple, traces the development of learning theories and the impact on educational technologies. In the 1950s and 1960s educational computing followed the introduction of programmed learning by machines. This was based on the psychological theory of behaviorism whose major proponent was B. F. Skinner. Learning was viewed as a process involving trial and error until a positive event occurred. To the
behaviorists, learning was to have taken place if there were observable changes in behavior (as cited in Semple, 2000, p. 24).

The formal design of the more traditional computer-based teaching systems indicates evidence of behaviorist principles. For example, drill and practice as well as tutorial programs give packets of information that provide positive feedback to the user. The control lies in the designer and the computer program rather than with the user (Semple, 2000).

Behaviorist did not take into consideration mental processes when explaining learning instead they would use terms of observable behavior. Cognitive theories, on the other hand, viewed learning as "...mental constructions involving active mental processes on the part of the learner" (as cited in Semple, 2000, p. 25). Computer technologies according to cognitive theories are cognitive learning or mind tools that amplify human abilities rather than instructional media. For example, the development of computers and software with an input-processing-output design reflects these ideas. "Jonassen (1994) argues that children cannot use them [computer technologies] without thinking deeply about the
content that they are learning; the cognitive tools
activate thinking and learning takes place through the
process of using the tool” (as cited in Semple, 2000, p. 25).

A third theory, constructivist, examine yet another
view on learning. “Piaget and Papert argued that children
construct their own knowledge through defined experiences
in accordance with their cognitive development” (as cited
in Semple, 2000, p. 26). However, they did not take into
consideration the influence of cultural transmission and
the effect of social interaction. Vygotskian
constructivism, views the child within a socio cultural
context, which also describes situated learning (as cited
in Semple, 2000, p. 26). These two views of
constructivist theory complement each other in that they
both emphasize the role of interaction and constructive
development processes of learning. Learning is considered
an active process versus a passive process proposed by
the behaviorist. “The power of technologies is invested
more in the user or learner than in the designer”
(Semple, 2000, p. 26).

All of this was said to better understand learning
theories and the influences on the use of technology in
schools. One feature in applying constructivist principles to learning is the use of collaboration. When collaboration occurs between students they come to view peers not as competitors but as resources. "Learning is enhanced by communication, resulting in new knowledge, re-organized knowledge or additional understanding, with groups of students learning how to use the tools or their culture in a collaborative learning environment" (Semple, 2000, p. 27). Constructivists recognize that the characteristics of the learners themselves influence learning. There would be no change in the philosophy driving learning if technologies were merely used to present, electronically, the same information that they would present in a traditional non-electronically manner (Semple, 2000).

The traditional learning environment for the learner before integrating technology relied on teacher-student interaction. The teacher was the main component in promoting student involvement in what was being taught. As technology is integrated into everyday learning the role of teacher merely shifts from teacher-center to learner-centered. The Analysis, Design, Development, Implementation, and Evaluation (ADDIE) Instructional
Design Model, (Fardouly, 1998), takes this new approach to instruction, learner-centered, to ensure effective learning. This design is geared towards preparing the student for self-paced learning verses face-to-face learning. This model is for the adult learner, one who already knows strategies for learning. However, having a learner-centered design of instruction for the elementary level student is not out of the question, it simply requires a different approach than the design for the adult or higher level learner. The role of the teacher would be that of an overseer or one who guides the learner (Fardouly, 1998).

This next article by Budin, The Computers Enter the Classroom (1999), address the influence technology has on education. Budin reviews several educational books on the topic of computers in classrooms. The author notes that a beginning of a movement to move computers into teachers' classrooms is a challenge for teachers to learn more about computers, software, and integration into their curricula. Computer labs were used to teach computer literacy at the same time isolating computers help succeed in reducing teachers' anxiety about how to use it. Drill and practice software had little or no relation
to what was being taught in class. "Instead of computers being a vehicle for higher-order thinking using databases and simulations, or for communication and research, they were being used to teach about themselves, and this was a waste of time" (Budin, 1999, p. 657).

Budin’s report has brought about an awareness that we are just beginning to ascend onto a relatively steep learning curve in terms of the effect of technology on education. Also, technology changes so quickly that it is hard to adjust to one level of computing before we are forced to learn another. "...the changing context of computer use from lab to classroom substantially changes the conditions of learning with and from the computer." Budin continues to state that "... past research has largely failed to address the question of learning effects" (Budin, 1999, p. 660).

Integrating technology in the classroom also includes using the Internet as a tool for instruction. How the learner and teacher utilizes this tool determines the level of success. Hoffman and Ritchie, of San Diego State University, authors of *Using Instructional Design Principles to Amplify Learning on the World Wide Web*, address this issue. The article describes instructional
design principles that utilize Web material to provide a powerful instructional medium.

Instructional sequences according to Ritchie and Hoffman usually include at least seven common elements:

1. Motivating the learner
   The use of graphics, animation, color, and sound in Web pages are used in motivating the learner. They attract the learner to the site and hold their attention.

2. Explaining what is to be learned
   Let the learner know what they will be responsible for. This helps learners focus on information.

3. Helping the learner recall previous knowledge
   Building background knowledge allows the learner to relate new information to be retained in long-term memory.

4. Providing instructional material
   Most important is that the learner must be actively involved and one way to insure active learning takes place is to require them to classify, compare, analyze errors, make abstractions, construct support, or analyze
perspectives that they encounter in their Web searches.

5. Providing guidance and feedback

Web pages provide links that are highlighted and underlined text that serve as a descriptor for that link. Using words such as "example", "relationship", "definition", or "shortest path" provide reasons for learners to choose them. Another method would be to require the users to make a choice after engaging in instruction.

Last, a more complex method is Common Gateway Interface (CGI) codes. These codes provide learners with information. The information placed by the students into forms or buttons can be compared to answers in a database file. This method allows the students to receive feedback thus providing the student with a deeper explanation of their choices.

6. Testing comprehension

On- or off-line testing through objective or subjective tests will ensure students have integrated desired knowledge. Using CGI methods
described above is one way to administer on-line testing. Another strategy is to develop learning artifacts such as constructing their own Web pages.

7. Provide enrichment or remediation

Instructional programs provide learners with either remediation in areas where the learner is lacking comprehension or enrichment that features information which extends the learner's knowledge. Methods such as CGI scrips can provide additional information directly to the learner (1996).

Integrating the Internet, World Wide Web, introduces unlimited access to information immediately. However, how instruction is delivered and received may be a new dimension that will require thoughtful analysis and investigation of how to use the Web together with instructional design principles (Ritchie & Hoffman, 1996).

Theories of learning have survived over time. However, the model for instructing what is to be learned is changing. Integrating technology in the classroom has spirited this need for change. The next section will
discuss in detail integration of curriculum and its influence on learning environments.

Integrating Curriculum

Integration of curriculum in schools has been encouraged by learning theorists and curriculum specialists for more than a decade. Davis, author of Design's Inherent Interdisciplinarity: The Arts in Integrated Curricula, presents an overview of integration and national reform. "...integrated curricular experiences...encourage students to make connections between and across disciplines" (1999, p. 8).

Davis explains that national reform legislation has addressed integration in the 1994 Goals 2000: Educate America Act. This Act describes outcomes for education in core subjects in which students must achieve mastery of discipline-based skills and knowledge (as cited in Davis, 1999, p. 10).

Unfortunately, according to Davis, in most integrated curriculum strategies what is revealed about subject matter and problem solving when thinking from one discipline is applied to another and how disciplines reinforce certain cognitive behaviors are missing.
"Students learn the specific connections anticipated by teachers but not how to make connections in general" (Davis, 1999, p. 11).

Reisberg, author of Facilitating Inclusion With Integrated Curriculum: A Multidisciplinary Approach, (1998), explains integrated curriculum and offers strategies for teachers. Although Reisberg discusses inclusion of students with disabilities the ideas are good practices for all learners. "Integrated curriculum is a model that minimizes instruction in isolated academic disciplines by combining goal and objectives from a variety of areas" (Reisberg, 1998, p. 272). When curriculum is integrated students are able to see relations between subjects and are able to learn more relevant information at a deeper level.

Reisberg presents three different models of integrated inclusion by Drake (1993). One is the multidisciplinary approach in which certain subject areas maintain their identity and the focus is on a given theme. Second is the interdisciplinary approach where the focus is on an area that is common to all subjects that have transcended through individual disciplines. The last model is the transdisciplinary/real-world approach where
real-life issues are merged with skills from each academic area (as cited in Reisberg, 1998, p. 273).

Using a curriculum integration approach allows teachers to include many relevant subjects in their lesson and unit plans. Which model is used for integration does not matter as long as a process of planning and development is used. First, determine the focus of study. Next, identify the disciplines and topics to be included in the plan. Then, identify the specific skills and knowledge that will be taught. Gather resources and materials for the students. Finally, develop learning activities and lessons (Reisberg, 1998).

Even though Reisberg’s article was directed towards students with disabilities, as mentioned before, using these strategies is fitting for second language learners as well. Another strategy that reflects good teaching is the Specially Design Academic Instruction in English (SDAIE) method discussed by Linquanti, author of Fostering Academic Success for English Language Learners: What do We Know? (1999). This method requires the instructor to use a variety of strategies when instructing students who have reached at least
Intermediate Fluency level of proficiency in English and who possess basic literacy skills (Linquanti, 1999).

Valle of Pepperdine University listed helpful strategies for using SDAIE methods.

1. Analyze textbook material from the point of view of the limited English proficiency (LEP) learner.
2. Provide background information to personalize the lesson.
3. Identify and teach essential vocabulary.
5. Use visuals with the lessons.
6. Paraphrase and simplify grammatical structures.
7. While teaching content, reinforce language learning.
8. Teach study skills and how to use textbook aids.
9. Use hands-on-activities and manipulative materials.
10. Continuously monitor student’s progress (Valle, 1999).

Up to this point the discussion of integrating curriculum has not included integration of technology.
The remaining articles will address the importance of using technology to integrate curriculum.

*Linking Technology With Social Studies Learning Standards*, by Danker, discusses the efforts of the Massachusetts Department of Education’s Learning Network project to use technology in the development of interdisciplinary curriculum and to incorporate the state’s standards for learning (2000).

A goal of the Learning Network project was to help teachers in the district align their curriculum with the state’s newly developed learning standards. Also, demonstrating to educators in the local districts how “the potential use of technology as a tool for helping students meet the challenges of the learning standards of the various curriculum areas” (Danker, 2000, p. 256).

The Learning Network project illustrated many areas where technology was interweaving the curriculum framework in Social Studies and Language Arts. For example, teachers and students in the Blackstone-Millville Regional School District created a virtual museum display touring the town of Millville. Included in this tour is a study of the local Nipmuc Indians. The accomplishment of the Learning Network
project in innovative curriculum development was a success. The project "fostered student mastery of history and social science learning standards in creative and lively formats, stressing both social studies content and state-of-the-art technology" (Danker, 2000, p. 257).

The next article Yesterday, Today, and Tomorrow: The History and Social Science Classroom, by Mason and Dralle, discuss the use of computer technology in social studies as well as the advantages of placing information in electronic form (1999).

The authors envision future uses for technology. One use is the hand-held computers known as Personal Digital Assistants (PDA). They see a use for them in the social studies classroom as a means to store information. Students would be able to receive and send files to and from the teacher. The volume of data that can be stored electronically is extremely large (Mason & Dralle, 1999).

This view is not so far in the future. Looking back, technology has reached tremendous growth. "In the past few years, classrooms equipped with computer and Internet technology have progressed from the exception to the norm" (Mason & Dralle, 1999, p. 4).
The authors stress the importance of immersing preservice teachers in technology and encourage the use of technology to enhance social studies learning. Also, educators must encourage them to consider the impact technology is having on our society (Mason & Dralle, 1999).

The last article by Cooper, Online Courses, examines the steps and procedures that instructors can take to ensure online courses are working effectively. First of all, there are a variety of online formats to choose from. An instructor may choose to create their own Web pages, use a computer-based classroom management system such as Topclass, Web CT, or Web in a box, or utilize an online system offered by a textbook vendor. No matter what form the instructor decides to use, the steps and procedures that are taken “to encourage interaction among instructor and students, increase students’ opportunities for learning, and improve students’ overall satisfaction with the class” (Cooper, 2000, p. 86).

Understanding students have different learning styles, it is important to offer them instructional materials in a variety of formats. Technology is one way to offer this variety; for example, PowerPoint
presentations to accompany each topic, links to interactive Web sites, and automatically graded exams (Cooper, 2000).

Online instruction can bring new opportunities to both students and instructors. If the instructor carefully plans and implements the online course and is open to student feedback and continues improvement then online instruction can be an effective educational environment that offers an alternative to traditional teaching (Cooper, 2000).

Summary

This chapter presented the literature important to the project. The details of integrating curriculum and technology in classrooms were clearly stated. The effects of integration on learning were examined. The next chapter uses the topics discussed in the literature to design and develop the project.
CHAPTER THREE
DESIGN AND DEVELOPMENT

Introduction

The project involves designing curriculum for fifth grade that uses three thematic units that expand over the period of one school year and integrates Reading, Language Arts, Science, and Social Studies content areas. Each unit requires students to produce a final end product where students present what they have learned.

Chapter Three describes the steps used for designing and developing the project. Certain teaching strategies were taken into consideration for the population of this project such as student cooperative groups, English language development, and technology used for enhancement. Also, choosing the resources for this unit were considered after an understanding of the population was determined.

The project requires students to work in cooperative groups, research a topic, and report on their findings. There are various forms of assessment, both formal and informal, built into the project. Each assessment measures the existent of understanding to insure mastery
of Palm Springs Unified School District Power Standards, the California State Standards, and the National Technology Standards being taught for fifth grade (see Appendix A).

Population Served

The project is designed for a class of fifth grade students at Two Bunch Palms Elementary which serves Kindergarten through Fifth grade and is within Palm Springs Unified School District in California. The school's accountability report card list the percentage of students in a racial/ethnic category according to California Basic Educational Data Systems (CBEDS) total enrollment for the school year 2000/2001. The percentages are as follows; 6.9% are African-American, 0.8% are American Indian or Alaska, 0.8% are Filipino-American, 69.1% are Hispanic or Latino, and 22.4% are White (not Hispanic). The report card continues to demonstrate that a large number of the population is second language learners resulting in various learning styles, English language proficiencies, and academic levels (Palm Springs Unified School District, 2002).
This project addresses the issues that surround the population for this particular school by designing units that support English language development through the use of various teaching strategies. Even though these strategies reflect good teaching for all learners, modifications can be made according to particular populations for other schools.

Teaching Strategies

Understanding the demographics of the population served, several teaching strategies were taken into consideration for this project. One technique, as discussed in chapter 2, that reflects good teaching is the Specially Design Academic Instruction in English (SDAIE) method (Linquanti, 1999). This method requires the instructor to use a variety of strategies when instructing students who have reached at least Intermediate Fluency level of proficiency in English and who possess basic literacy skills.

Another strategy used for this project is cooperative groups. As stated previously in chapter 2 by Semple, author of Learning Theories and Their Influence on the Development and Use of Educational Technologies,
(2000), when children collaborate with one another they come to view their peers as resources not competitors.

Using this strategy enables students of various academic levels to participate in a project that will have a positive outcome for each student. Students' working together on a common goal teaches cooperation, patience, and respect for one another. Everyone participating in a cooperative group helps each other to produce a final product.

Using technology as a tool is a strategy that engages the learner in what is being taught. Keeler, author of Networked Instructional Computers in the Elementary Classroom and Their Effect on the Learning Environment: A Qualitative Evaluation, as stated earlier in chapter 2, teaching strategies changed as a result of computers. The classroom climate changed from teacher-centered to student-centered instruction (Keeler, 1996).

Technology changes the classroom environment and for this project it creates a student-centered climate. When using technology successfully, student motivation increases, learning is fun and exciting, and teachers find more time to help students on a one-to-one basis.
The last strategy addressed is the integration of curriculum. Well planned and executed lessons that cross several curricula areas enable students to see many connections and obtain deeper understanding of concepts and skills. It also helps students transfer and retain knowledge (Resiberg, 1998).

The purpose of this project was to have time to teach Science and Social Studies. Integrating these subjects with Reading and Language Arts allows the time needed to do so. Initially, planning integration takes time. However, after the instructor becomes more comfortable with instruction, integration begins to run more smoothly. Students accept more responsibilities and begin working more independently. When the student is placed in the role of responsible learner, active approaches to instruction do not burden the teacher (Mason & Dralle, 1999).

Resources

There were several resources used for this project and each one is described below.
The Analysis, Design, Development, Implementation, and Evaluation Instructional Design Model

The design model used for the project was the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) Instructional Design Model (Fardouly, 1998). As stated in chapter two, this model uses a systematic approach to designing instruction. The aim is a learner-centered instructional design rather than the traditional teacher-centered approach to instruction. However, the population served for this project requires the role of the teacher to be that of an overseer or one who guides the learner.

There are several steps to this design model.

1. Analysis

Identify who the learners are; define what to achieve with the instruction; determine what skills, knowledge, and attitudes need to be taught; decide the scope of the content to be covered in terms of topic areas, time required, and number of lessons.

2. Design and Development

Define specific learning outcomes or measurable objectives; according to the objectives,
determine what skills, knowledge, and attitudes to develop; choose resources and strategies used for instruction; structure the content of your learning material; and decide what assessment methods will be used to assess the learners' understanding and whether or not they have met the objectives of the instruction.

3. Implementation

Implementation involves several things from presenting classroom instruction to teaching learners how to use time wisely with interactive learning materials.

4. Evaluation

To provide the basis for improvement and development, evaluation of the instruction by both teachers and learners are necessary.

Using this model will ensure that every component of the instruction is directed by the learning outcomes (Fardouly, 1998).

District Curricula

The textbooks used for this project are Palm Springs Unified School District's newly adopted and implemented reading program, SRA Open Court Reading, (Bereiter,
Brown, Campione, Carruthers, Case, Hirshberg, et al., 2000), which offers a variety of genres. The district’s Social Studies textbook that has been in use for several years is America Will Be, (Armento, Nash, Salter, & Wixson, 1991).

California State Standards

Grade Five California Standards in Reading, Language Arts, Science, and Social Studies were the basis for the project (see Appendix A).

Technology Standards

National Educational Technology Standards for Students in grades three through five were the basis for designing instruction for the educational technology aspects of the project (see Appendix A).

Other Resources

Other resources include but not limited to the following:

Encyclopedias, both software and hard copies such as Microsoft Encarta Encyclopedia.

Various library non-fiction books pertaining to topic of interest.

Various videotapes pertaining to topic of interest such as The Native American collection by TBS

Various Internet sites containing factual information pertaining to the topic.

Exam View 3.51, (2001), a software application that enables the user to create printed tests, computer based tests, and Internet tests.

Blackboard (2002, http://www.blackboard.com), this is an online service that allows instructors to create an online component to their classes quickly. Instructors are able to bring learning materials, class discussions, and tests online. This service also provides users with access to online educational resources for locating educational information.

Web Page Design

Integrating technology in the classroom has many benefits. However, before technology is used, the instructor must engage in careful planning. How technology is utilized determines the level of success. Therefore, using the Internet as a key component to this
project is one way of integrating technology successfully.

The World Wide Web (WWW), also known as the Internet, is a great source for information; however, when it comes to finding acceptable material for a diverse group of fifth graders, the information becomes overwhelming, and the students may lose interest. For this reason, the project uses the Internet by developing Web pages that have targeted links to ensure readability for the students.

According to the author of Integrating Social Studies and Ethno Botany: A Multicultural Approach, Harrell and Forney (2001), teachers should provide students with a list of Internet sites that are reliable. If the teacher decides to allow students to conduct searches, caution students to limit their searches to reputable organizations such as universities because of the amount of information available on the Internet.

Searching for topic-related links that are appropriate for the students is very time-consuming. However, the rewards for taking the time locating materials prior to starting the units are well worth it in the end. Students spend more time learning what was
intended and less time searching for information. However, students who are ready to go beyond the targeted links should not be discouraged from doing so.

Before designing Web pages for this project, knowing key elements that are involved in instructional design for Web pages are important. As stated previously in chapter 2 in the discussion of the article by Hoffman and Ritchie, Using Instructional Design Principles to Amplify Learning on the World Wide Web, instructional sequences include at least seven elements: motivating the learner, explaining what is to be learned, helping the learner recall previous knowledge, providing instructional material, providing guidance and feedback, testing comprehension, and providing enrichment or remediation (1996). Designing the Web pages for this project included these elements and took into consideration of how the project increases in levels of difficulty.

The three fifth grade units developed for this project are Native American Indians, Back Through the Stars, and American Civil War. In all three, students begin their research accessing the classroom home page and then going to the link directing them to the unit of study (see Figure 1). Activating the link pertaining to
the unit of study and keeping links to the other units inactive will ensure students focus on what they are researching. The sole purpose of this page was merely to have a central location for points of interest. For instance, it not only includes the Web sites for the units of this project but links to the school's home page, standards, grading rubrics, other units of study, online discussion, and a site for parents.
Welcome to Ms. Waters' Fifth Grade Class

My intention for my fifth graders is to use technology to integrate all subject areas. I invite you to have a look around.

<table>
<thead>
<tr>
<th>Social Studies Projects</th>
<th>Science Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Americans</td>
<td>Taking a Chance</td>
</tr>
<tr>
<td>Revolutionary War</td>
<td>Human Body</td>
</tr>
<tr>
<td>American Civil War</td>
<td>Back Through the Stars</td>
</tr>
<tr>
<td>States Reports</td>
<td>Capture Fair</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two Bunch Palms Home Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Grade Standards</td>
</tr>
<tr>
<td>Parents and Students</td>
</tr>
<tr>
<td>Trading Frontier</td>
</tr>
<tr>
<td>Blackboard Online Discussion</td>
</tr>
</tbody>
</table>

Figure 1. Classroom Home Page

Another use for the Internet in the units for this project is to have the students participate in an online discussion group through Blackboard. They will be able to access this site from the classroom home page. The purpose of this activity has three goals; one is to evaluate the depth of understanding the students have experienced for each unit, another is to strengthen writing skills, and the third is to offer students the opportunity to give the instructor feedback on each unit.
Native American Indians

The first Web page for the Native American Indians unit involves students more than the classroom home page. This site includes graphics to encourage the visitor to stay on the page and be guided through instructional material (see Figure 2 and for the full version of the Web page see Appendix C). After reading and choosing where to
Native American Indians
An Interactive Project for Students

Introduction

Each cooperative group will be responsible for choosing a Native American group, obtaining and filing information on their Native Americans, and presenting what they have learned in a group multimedia presentation. The following table will direct your group on their search.

<table>
<thead>
<tr>
<th>People</th>
<th>Language</th>
<th>Arts</th>
<th>Ceremonies/Pet-bitches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louis</td>
<td>Native</td>
<td>Native culture</td>
<td>Native traditions</td>
</tr>
</tbody>
</table>

Region
Learn about where your group lived or did live in one time.

Family
Learn about the family roles and values of your group.

Arts
Learn about the arts and crafts of your group.

Ceremonies/Pet-bitches
Learn about your group's pet-bitches and ceremonies.
To begin your project, choose your group by clicking on one of the following. Then, under your group's name, find and click on a tribe you want to learn about. Remember to save information on your tribe or print out a copy of the tribe's web page.

Northwest Culture
California - Intermountain Culture
Plains Culture
Southwest Culture
Woodlands Culture

*Remember to use the back arrow at the top of the window after each search to bring you back to the home page.

Filing
To save and file the information your group has collected you need to follow these steps:

1. To save text: Click and drag over the text you want to copy. From the edit menu, choose copy. Next, open a document and select paste. Your text should appear in the document. Save your document to your file.

Figure 2. Native American Indians' Web Page

go next, navigational buttons take the visitor to another page where they will begin conducting their research.

The following flow chart (see Figure 3) indicates navigational directions and will aide in understanding the complexity of the Web pages for this unit.
Figure 3. Flow Chart for Native American Indians Unit

The Native American Indians unit is taught in the beginning of the year. More guidance from the teacher and the Web pages is used with this unit for the purpose of training students in how to conduct research using the Internet. The next two units begin to allow students to take control of their research by not guiding them through every step in the Web pages.

Back Through the Stars

The Web page for Back Through the Stars unit is not as involved in design as the Native American Indians unit nor are the students guided in their searches. This page does not include photos or instruction (see Figure 4). The purpose of the Web page is for students to have a location to target their research by providing a number
of links. Instead of reading instructions on the Web page as in the Native American Indians unit, students will learn through classroom discussions and from using a grading rubric, what is expected of them.

Figure 4. Back Through the Stars’ Web Page

This unit is taught in the middle of the year when students have had more experience conducting research and are more comfortable writing essays and reports. Although the teacher’s role is still that of an overseer and guide, students are becoming more independent in using technology.
American Civil War

The Web page for the third unit, American Civil War, is similar in design to Back Through the Stars' Web page (see Figure 5). Again, the students will receive directions during class discussions as well as a grading rubric. The purpose of the Web page is to target students' research by providing links and allowing them to become even more independent in their searches as in the previous units.

Figure 5. American Civil War's Web Page
This unit is taught towards the end of the year when the students are very comfortable with using technology and the Internet. Students have gained knowledge of how to conduct research on their own with very little assistance from the teacher.

Units Planning

The following plans outline instruction for three fifth grade units developed for this project. The ADDIE design model as described previously was used as a guide to designing instruction. A summary of the components to this model are to first conduct an analysis of the group and materials to be used, then define the objectives and design and develop instruction, next is to implement instruction, and lastly is to evaluate what was learned and how to improve instruction.

The goal for all three units is to help students internalize what is being taught by actively involving them in their learning. Each unit also shares similarities in other areas such as certain strategies and evaluations. The teacher will use a rubric that shows mastery of Grade Five California State Standards, District Power Standards, and Technology Standards by
each student in all three units (see Appendix F). This rubric will enable the teacher to follow each student’s progress through all of the units in this project.

Native American Indians

Objective:

Students will demonstrate an understanding of major pre-Columbian settlements including California-Intermountain culture, Northwest culture, Plains culture, Southwest culture, and Woodlands culture by reading various genres, writing essays, delivering an oral presentation, and taking a written test.

Strategy:

The Native American Indians unit is taught in the beginning of the year where cooperative groups of 3 to 4 students are working close together to conduct research using a Web site that provides the students with research questions and targeted Web links on different tribes within a region of the country. They will also read literature as well as watch videos and participate in whole class discussions and threaded online discussions
through Blackboard on the topic of Native American Indians.

Group members are each responsible for their own tribe that requires them to document their findings and then compare their findings with those of other group members. The group is then responsible to report on these tribes as part of a region.

Each group will design a storyboard, which is a graphic representation of the multimedia project, to help organize their information to be presented. After the teacher approves a storyboard, the group then develops their slide show that will include sound, text, and graphics as part of the requirement. Students will be able to use graphics within the slide show program or draw a picture in another program on the computer and insert the drawing into the slide show. Another option is to save an image from the photos link located on the Web site they use to gather information and insert the photo into the slide show. When all the groups are finished they will take turns
presenting their findings to the class through their slide show presentation.

Measure:

There are both formal and informal assessments for the first unit. The teacher will observe students conducting research as to how well each student is working in a group, following directions, and whether each student displays understanding of how to gather information.

For a more formal assessment, the teacher and students will follow a Student’s Grading Criteria Rubrics (see Appendix G) based on Grade Five California State Standards that is designed specially for this unit that integrates Reading, Language Arts, and Social Studies standards (State of California Department of Education, 1999, 2001).

Technology standards have not been adopted for California at this time. The National Educational Technology Standards for Students will be used to assess students’ technology skills (International Society for Technology in Education, 2000).
Education [ISTE], 1998). The following is a list of standards that will be acquired by each student. The District Power Standards are indicated with an asterisk. See Appendix A: Standards for a full version of the standards used.

Headings for Grade Five Reading and Language Arts Standards

*1.0 Word Analysis, Fluency, and Systematic Vocabulary Development
*2.0 Reading Comprehension
*1.0 Writing Strategies
*1.0 Written and Oral English Language Conventions
1.0 Listening and Speaking Strategies
*2.0 Speaking Applications (State of California Department of Education, 1999)

Headings for Grade Five History-Social Science Standards

*5.1 Students describe the major pre-Columbian settlements, including the cliff dwellers and pueblo people of the desert Southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River.

*5.3 Students describe the cooperation and conflict that existed among the American
Indians and between the Indian nations and the new settlers.  
(State of California Department of Education, 2001)

Categories for National Educational Technology Standards for Students Grades 3-5

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications
5. Technology research tools
6. Technology problem-solving and decision-making tools (ISTE, 1998)

Students will demonstrate mastery of these standards through oral and written reports that will be delivered through slide show presentations accompanied by speaking in front of a whole group or class. Threaded online discussions will be assessed for content and proper use of the technology tool. A written test including multiple choice and short answer essays will be administered at the end of the unit to complete assessment.

Back Through the Stars

Objective:
Students will know the dynamics of the solar system that consists of nine planets and their satellites and other bodies such as asteroids and comets that orbit the Sun in predictable paths. Students will also know the composition of the Sun, planets, satellites, and other bodies in the solar system. Students will demonstrate their knowledge by reading various genres, writing a report, writing poetry and a play, delivering an oral presentation, and taking a written test.

Strategy:

Back Through the Stars unit takes the skills that were learned in the first unit to a higher level of expertise. In this unit, cooperative groups of 3 to 4 students research a specific planet assigned to their group. As with the first unit, they will use a Web site with targeted links to conduct their research. This time, they will have specific questions to research that are provided through whole class discussion. Again, students will be watching videos, reading literature, participating in
whole class discussions as well as responding to threaded online discussions through Blackboard related to space and planets.

Each group member is responsible for writing a report about the planet assigned to that group. The group members will then write a poem about their planet, create a fictional play including factual information about their planet to act out live or tape on video, and then present their work as a group through a slide show presentation to the class that includes sound, text, and graphics. The graphics for this unit will be attained in the same manner as in the Native American Indians unit. A storyboard will be used before developing the slide show presentation with an additional storyboard for the play.

Measure:

There are both formal and informal assessments for the second unit as well. The teacher will observe students in a similar manner as in the first unit by observing how they are conducting research, how well each
student is working in a group, following
directions, and whether each student displays a
better understanding of how to gather
information than in the first unit. The teacher
will notice improvement when the students
require less guidance than in the first unit.

For a more formal assessment, the teacher
and students will follow a Student’s Grading
Criteria Rubrics similar to the one used for
the first unit (see Appendix G). Again, this
rubric is based on Grade Five California State
Standards that is designed specially for this
unit that integrates Reading, Language Arts,
and Science standards (State of California
Department of Education; 1999, 2000). The same
National Educational Technology Standards for
Students will be used to assess students’
technology skills (ISTE, 1998). The following
is a list of standards in addition to the
Reading, Language Arts, and Technology
standards listed for Native American Indians
unit that will be acquired by each student.
Again the District Power Standards are
indicated with an asterisk. For a full version of the standards used see Appendix A: Standards.

Headings for Grade Five Reading and Language Arts Standards

*1.0 Word Analysis, Fluency, and Systematic Vocabulary Development
*2.0 Reading Comprehension
*3.0 Literary Response and Analysis
*1.0 Writing Strategies
*2.0 Writing Applications
*1.0 Written and Oral English Language Conventions
1.0 Listening and Speaking Strategies
*2.0 Speaking Applications (State of California Department of Education, 1999)

Headings for Grade Five Science Standards

Earth Sciences
*5. The Solar System consists of planets and other bodies that orbit the Sun in predictable paths. (State of California Department of Education, 2000)

Students will demonstrate mastery of these standards in the same manner as in the first unit with the addition of a skit.
The American Civil War

Objective:

Students will demonstrate an understanding of the causes, course, and consequences of the American Civil War. Students will demonstrate their knowledge by reading various genres, writing a persuasive essay, writing a research report, writing a play or speech, delivering an oral presentation, and taking a written test.

Strategy:

The unit on the American Civil War uses all the skills learned up to this point in the year to complete a Web-based project. For this unit students begin by reading literature that focuses on the events that led to the American Civil War and participating in whole class discussions and threaded online discussions through Blackboard on the topic. Next, as a class, a list of questions is generated relating to American Civil War topics. Students then choose one question to write a persuasive essay about. Cooperative groups are formed according to the questions chosen for their
persuasive essays. Group members will be responsible to conduct research through a Web site that offers links on topics relating to their question.

Group members share found information with each other and decide on a presentation format such as a play or speech. Each group will also present factual information using a slide show that includes sound, text, and graphics. Again, graphics will be acquired in the same manner as in the other units. A storyboard for both forms of presentation will be required from each group as in previous units. Then, each student is responsible for writing a research paper. When all groups are finished with developing their play or speech and slide show they will present their work to the class.

Measure:

There are both formal and informal assessments for the third unit as in the previous two. The teacher will observe students conducting research as to how well each student is working in a group, following directions,
and to the degree each student displays a better understanding of how to gather information than in the first two units. The teacher will notice continuous improvement when the students require even less guidance than in the first two units.

For a more formal assessment, the teacher and students will follow a Student’s Grading Criteria Rubrics, again similar to the ones previously used (see Appendix I). The rubric, as with the other two rubrics, is designed specially for this unit and based on Grade Five California State Standards that integrates Reading, Language Arts, and Social Studies standards (State of California Department of Education, 2001). Once again, National Educational Technology Standards for Students will be used to assess students’ technology skills (ISTE, 1998). The following is a list of standards in addition to the Reading, Language Arts, and Technology standards listed for the two previous units that will be acquired by each student. The district Power Standards are
indicated with an asterisk. See Appendix A for a full version of the standards used.

Headings for Grade Five Reading and Language Arts Standards

*1.0 Word Analysis, Fluency, and Systematic Vocabulary Development
*2.0 Reading Comprehension
*3.0 Literary Response and Analysis
*1.0 Writing Strategies
*2.0 Writing Applications
*1.0 Written and Oral English Language Conventions
1.0 Listening and Speaking Strategies
*2.0 Speaking Applications (State of California Department of Education, 1999)

Prerequisite of the following Grade Five History-Social Science Standards headings

*5.4 Students understand the political, religious, social, and economic institutions that evolved in the colonial era.
*5.5 Students explain the causes of the American Revolution.
*5.6 Students understand the course and consequences of the American Revolution.
*5.7 Students describe the people and events associated with the development of the United States Constitution and analyze the constitution’s significance as the foundation of the American republic.
*5.8 Students trace the colonization, immigration, and settlement
patterns of the American people from 1789 to the mid-1800s, with emphasis on the role of economic incentives, effects of the physical and political geography, and transportation systems. (State of California Department of Education, 2001)

Students will demonstrate mastery of these standards as in the previous units with the addition of a research paper.

Formative Evaluation

The project was presented to three different existing committees at the same elementary school site, Two Bunch Palms Elementary. Each committee received the project including a list of resources, Web design, units planning, and rubrics used for assessment. They were asked to review the project and offer recommendations for improvement. The following describes each committee and their recommendations for the project.

The Accountability Committee, also known as the Data Team, is comprised of four experienced teachers of various grade levels and two administrators. The duties of this team are to analyze data received from the state norm referenced test for the school, evaluate programs, and plan for improvement.
For this project they were to concentrate their evaluation on the measurement tools of assessment that included the Student’s Grading Criteria Rubrics and the Teacher’s Rubric for Standards for each unit. Their report recommended including written test with a combination of multiple choice and short answer essay. This recommendation was easily adopted into the project because such tests were already available through the newly implemented Palm Springs Unified School District’s reading program at the school site.

The Grade Level Committee is a team comprised of one grade level leader who is an experienced teacher chosen by peers, and the remaining teachers of that particular grade level. For this project the Fifth Grade Level Committee was chosen because the project is designed for fifth grade students. The committee was to concentrate on the content of the project in relationship to Grade Five California Standards for Reading, Language Arts, Science, and Social Studies.

The committee’s report was very positive. The project aligns with the standards with one exception; The American Civil War is not a Grade Five Social Studies Standard. However, the emphasis on Reading and Language
Arts in the unit fully covers the standards for Grade Five Reading and Language Arts. As a result of this report, a prerequisite of the Grade Five History-Social Science Standards, which includes events leading up to the American Civil War, was placed in the beginning of the unit.

The final committee chosen is the Technology Committee that is a team comprised of three experienced teachers with backgrounds in instructional technology. The responsibilities of the committee at the school site are to oversee spending of technology funds and trouble shoot technology problems at the site. For this project the committee used a rubric that enabled them to evaluate the Web sites used in the project. The team was to rate the sites according to content and usability on a scale of 1 to 5, 1 being very understandable and usable and 5 not understandable and not usable. This rubric represents all 3 responses and gives their average. The following represents their report:

Visibility:

1. Common and recognizable backgrounds, text, and color schemes throughout all pages
Objects, backgrounds, and text compliment each other and are consistent throughout pages.

Consistency of directional buttons throughout pages.

Navigation:

Flexibility to move through pages.

Accuracy of buttons, links, and steps throughout pages.

Consistent linking of pages.

Content:

Information accessible.

Meaning and logic of language.

Information relates to users task.

Format:

The use of Web pages as a learning tool.

Linked Internet sites relate to content of project.

The Technology Committee’s evaluation was helpful.

The main issues were that not all of the graphics were visible, failure of some links, and the vocabulary in some areas needed revision. These were minor problems that could distract the learner.
Summary

This chapter addressed the principles of the project. Integrating Reading, Language Arts, Science, and Social Studies requires teachers to examine their curriculum and find materials that relate to one another across all subjects. The initial implementation of integration is complicated. However, the result of integrating allows more time spent on mastering state and district standards in all areas.
CHAPTER FOUR
RECOMMENDATIONS AND CONCLUSIONS

Introduction
The recommendations extracted from the project are discussed. Further, the conclusions gleaned as a result of completing the project are presented in Chapter Four.

Recommendations
Implementing integration is a big step for teachers. However, with careful planning and the right materials it is very rewarding. When a teacher is ready for the challenge of integrating curriculum, there are several steps to follow. First of all, they need to know who the targeted audience is and from there, analyze different curriculum areas to determine which ones to use. Then, the teacher is ready to start planning goals and objectives.

The next step is to choose strategies and resources to be used for instruction. Before using technology, make sure the teacher is comfortable working with it. Also, when planning to use the Internet for research, target the links students' will be using prior to starting
instruction. This will save time and ensure readability of the sites.

Determining the method of assessment that will be used to assess the students’ understanding of the objectives is the next step. Using both formal and informal assessment will offer a more rounded view of students’ learning.

The teacher is now ready for implementation. This is when understanding the demographics of the class are very important. If the students are not accustomed to working in groups, then the teacher will need to instruct them in how to work in a group and how to use time wisely. The teacher should select students for each group to ensure successful group management.

Implementation also involves how the instruction is presented to the students. During the planning stage, the teacher should have determined this depending on the classroom environment, teacher-centered or student-centered.

Evaluation of the instruction by both teachers and students is the most important step in integration. This will provide the teacher with the basis for improvement.
Integrating for the first time is a challenge. There will always be room for improvement.

Conclusions

Integrating technology in classrooms is more than sending students to a computer to type a paper or practice drills. It means to use technology as a tool to enhance the learning environment. Students learn when they are actively involved with what is being taught. When the use of technology is included in this interaction, students are motivated, have control of their learning, and feel successful.

Integrating curriculum allows students to make connections from one subject to another. When technology is used as a method to make these connections, students learn more than a computer program or how to use a calculator. Students learn with technology.

The Internet opens the world to students in the click of a mouse. Using this technology together with integrated curriculum, the possibilities for instruction are endless.

After considering the impact technology is having on society, it is clear to say we are rapidly moving into a
new era, one of which having discussions about integrating technology will be non existent. So, instead of considering the impact technology is having on society, consider where do we go from here?

Integrating curriculum with the use of technology is challenging for any teacher. However, the benefits outweigh these challenges. Once the initial integration is implemented, it becomes easier each time.

This project, by integrating curriculum with the use of technology, produces a positive impact on education by demonstrating its importance through expert opinions, the design and development of thematic units, and putting it into effect within the learning environment. This positive impact on education will continue as long as educators understand the important role technology plays in education.
APPENDIX A

STANDARDS
California State Standards in Grade Five Reading and Language Arts

Items marked with an asterisk are the Palm Springs Unified School District Power Standards.

*1.0 Word Analysis, Fluency, and Systematic Vocabulary Development
1.1 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.
1.2 Use work origins to determine the meaning of unknown words.
1.3 Understand and explain frequently used synonyms, antonyms, and homographs.
1.4 Know abstract, derived roots and affixes from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., controversial).
1.5 Understand and explain the figurative and metaphorical use of words in context.

*2.0 Reading Comprehension
2.1 Understand how text features (e.g., format, graphics, sequence, diagrams, illustrations, charts, maps) make information accessible and usable.
2.2 Analyze text that is organized in sequential or chronological order.
2.3 Discern main ideas and concepts presented in texts, identifying and assessing evidence that supports those ideas.
2.4 Draw inferences, conclusions, or generalizations about text and support them with textual evidence and prior knowledge.
2.5 Distinguish facts, supported inferences, and opinions in text.

*3.0 Literary Response and Analysis
3.1 Identify and analyze the characteristics of poetry, drama, fiction, and nonfiction and explain the appropriateness of the literary forms chosen by an author for a specific purpose.
3.3 Contrast the actions, motives (e.g., loyalty, selfishness, conscientiousness), and
appearances of characters in a work of fiction and discuss the importance of the contrasts to the plot or theme.

3.4 Understand that theme refers to the meaning or moral of a selection and recognize themes (whether implied or stated directly) in sample works.

3.5 Describe the function and effect of common literary devices (e.g., imagery, metaphor, symbolism).

3.6 Evaluate the meaning of archetypal patterns and symbols that are found in myth and tradition by using literature from different eras and cultures.

3.7 Evaluate the author’s use of various techniques (e.g., appeal or characters in a picture book, logic and credibility of plots and settings, use of figurative language) to influence readers’ perspectives.

1.0 Writing Strategies

*1.2 Create multiple-paragraph expository compositions:
   a. Establish a topic, important ideas, or events in sequence or chronological order.
   b. Provide details and transitional expressions that link one paragraph to another in a clear line of thought.
   c. Offer a concluding paragraph that summarizes important ideas and details.

*1.3 Use organizational features of printed text (e.g., citations, and notes, bibliographic references) to locate relevant information.

1.4 Create simple documents by using electronic media and employing organizational features (e.g., passwords, entry and pull-down menus, spell checks).

1.5 Use a thesaurus to identify alternative word choices and meanings.

*1.6 Edit and revise manuscripts to improve the meaning and focus of writing by adding, deleting, consolidating, clarifying, and rearranging words and sentences.

2.0 Writing Applications

*2.1 Write narratives:
a. Establish a plot, point of view, setting, and conflict.
b. Show, rather than tell, the events of the story.

*2.3 Write research reports about important ideas, issues, or events by using the following guidelines:
  a. Frame questions that direct the investigation.
  b. Establish a controlling idea or topic.
  c. Develop the topic with simple facts, details, examples, and explanations.

*2.4 Write persuasive letters or compositions:
  a. State a clear position in support of a proposal.
  b. Support a position with relevant evidence.
  c. Follow a simple organizational pattern.
  d. Address reader concerns.

*1.0 Written and Oral English Language Conventions

*1.1 Identify and correctly use prepositional phrases, appositives, and independent and dependent clauses; use transitions and conjunctions to connect ideas.

*1.2 Identify and correctly use verbs that are often misused (e.g., lie/lay, sit/set, rise/raise), modifiers, and pronouns.

*1.3 Use a colon to separate hours and minutes and to introduce a list; use quotation marks around the exact words of a speaker and titles of poems, songs, short stories, and so forth.

1.4 Use a correct capitalization.

1.5 Spell roots, suffixes, prefixes, contractions, and syllable constructions correctly.

1.0 Listening and Speaking Strategies

1.1 Ask questions that seek information not already discussed.

1.2 Interpret a speaker’s verbal and nonverbal messages, purposes, and perspectives.

1.3 Make inferences or draw conclusions based on an oral report.

1.4 Select a focus, organizational structure, and point of view for an oral presentation.

1.5 Clarify and support spoken ideas with evidence and examples.
1.6 Engage the audience with appropriate verbal cues, facial expressions, and gestures.

1.7 Identify, analyze, and critique persuasive techniques (e.g., promises, dares, flattery, glittering generalities); identify logical fallacies used in oral presentations and media messages.

1.8 Analyze media as sources for information, entertainment, persuasion, interpretation of events, and transmission of culture.

*2.0 Speaking Applications

2.1 Deliver narrative presentations:
   a. Establish a situation, plot, point of view, and setting with descriptive words and phrases.
   b. Show, rather than tell, the listener what happens.

*2.2 Deliver informative presentations about an important idea, issue, or event, by the following means:
   a. Frame questions to direct the investigation.
   b. Establish a controlling idea or topic.
   c. Develop the topic with simple facts, details, examples, and explanations.

(State of California Department of Education, 1999)

California State Standards in Grade Five History-Social Science

Items marked with an asterisk are the Palm Springs Unified School District Power Standards.

*5.1 Students describe the major pre-Columbian settlements, including the cliff dwellers and pueblo people of the desert southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River.

*1. Describe how geography and climate influenced the way various nations lived and adjusted to the natural environment, including locations of villages, the distinct structures that they
built, and how they obtained food, clothing, tools, and utensils.

*2. Describe their varied customs and folklore traditions.

*3. Explain their varied economics and systems of government.

*5.3 Students describe the cooperation and conflict that existed among the American Indians and between the Indian nations and the new settlers.

*1. Describe the competition among the English, French, Spanish, Dutch, and Indian nations for control of North America.

*2. Describe the cooperation that existed between the colonist and Indians during the 1600s and 1700s (e.g., in agriculture, the fur trade, military alliances, treaties, culture interchanges).

*3. Examine the conflicts before the Revolutionary War (e.g., the Pequot and King Philip’s Wars in New England, the Powhatan Wars in Virginia, the French and Indian War).

*4. Discuss the role of broken treaties and massacres and the factors that led to the Indians’ defeat, including the resistance of Indian nations to encroachments and assimilation (e.g., the story of the Trail of Tears).

*5. Describe the internecine Indian conflicts, including the competing claims for control of lands (e.g., actions of the Iroquoios, Huron, Lakota [Sioux]).

*6. Explain the influence and achievements of significant leaders of the time (e.g., John Marshall, Andrew Jackson, Chief Tecumseh, Chief Logan, Chief John Ross, Sequoyah).

*5.4 Students understand the political, religious, social, and economic institutions that evolved in the colonial era.

*1. Understand the influence of location and physical setting on the founding of the original 13 colonies, and identify on a map the locations of the colonies and of the American Indian nations already inhabiting these areas.

*2. Identify the major individuals and groups responsible for the founding of the various
colonies and the reasons for their founding (e.g., John Smith, Virginia; Roger Williams, Rhode Island; William Penn, Pennsylvania; Lord Baltimore, Maryland; William Bradford, Plymouth; John Winthrop, Massachusetts).

*3. Describe the religious aspects of the earliest colonies (e.g., Puritanism in Massachusetts, Anglicanism in Virginia, Catholicism in Maryland, Quakerism in Pennsylvania).

*4. Identify the significance and leaders of the First Great Awakening, which marked a shift in religious ideas, practices, and allegiances in the colonial period, the growth of religious ideas, practices, and allegiances in the colonial period, the growth of religious toleration, and free exercise of religion.

*5. Understand how the British colonial period created the basis for the development of political self-government and free-market economic system and the differences between the British, Spanish, and French colonial systems.

*6. Describe the introduction of slavery into America, the responses of slave families to their condition, the ongoing struggle between proponents of slavery, and the gradual institutionalization of slavery in the South.

*7. Explain the early democratic ideas and practices that emerged during the colonial period, including the significance of representative assemblies and town meetings.

*5.5 Students explain the causes of the American Revolution.

*1. Understand how political, religious, and economic ideas and interests brought about the Revolution (e.g., resistance to imperial policy, the Stamp Act, the Townsend Acts, taxes on tea, Coercive Acts).

*3. Understand the people and events associated with the drafting and signing of the Declaration of Independence and the document’s significance, including the key political concepts it embodies, the origins of those concepts, and its role in severing ties with Great Britain.
*4. Describe the view, lives, and impact of key individuals during this period (e.g., King George III, Patrick Henry, Thomas Jefferson, George Washington, Benjamin Franklin, John Adams).

*5.6 Students understand the course and consequences of the American Revolution.

*1. Identify and map the military battles, campaigns, and turning points of the Revolutionary War, the roles of the American and British leaders, and the Indian leaders’ alliances on both sides.

*3. Identify the different roles women played during the Revolution (e.g., Abigail Adams, Martha Washington, Molly Pitcher, Phillis Wheatley, Mercy Otis Warren).

*4. Understand the personal impact and economic hardship of the war on families, problems of financing the war, wartime inflation, and laws against hoarding goods and materials and profiteering.

*5. Explain how state constitutions that were established after 1776 embodied the ideals of the American Revolution and helped serve as models for the United States Constitution.

*6. Demonstrate knowledge of the significance of land policies developed under the Continental Congress (e.g., sale of western lands, the Northwest Ordinance of 1787) and those policies’ impact on American Indian’s land.

*7. Understand how the ideals set forth in the Declaration of Independence changed the way people viewed slavery.

*5.7 Students describe the people and events associated with the development of the United States Constitution and analyze the Constitution’s significance as the foundation of the American republic.

*4. Understand how the Constitution is designed to secure our liberty by both empowering and limiting central government and compare the powers granted to citizens, Congress, the president, and the Supreme Court with those reserved to the states.
*5. Discuss the meaning of the American creed that calls on citizens to safeguard the liberty of individual Americans within a unified nation, to respect the rule of law, and to preserve the Constitution.

*6. Know the songs that express American Ideals (e.g., "America the Beautiful," "The Star Spangled Banner").

*5.8 Students trace the colonization, immigration, and settlement patterns of the American people from 1789 to the mid-1800s, with emphasis on the role of economic incentives, effects of the physical and political geography, and transportation systems.

*1. Discuss the waves of immigrants from Europe between 1789 and 1850 and their modes of transportation into the Ohio and Mississippi Valleys and through the Cumberland Gap (e.g., overland wagons, canals, flatboats, steamboats).

*2. Name the States and territories that existed in 1850 and identify their locations and major geographical features (e.g., mountain ranges, principal rivers, dominant plant regions).

*4. Discuss the experiences of settlers on the overland trails to the West (e.g., location of the routes; life in the territories at the end of these trails).

*5. Describe the continued migration of Mexican settlers into Mexican territories of the West and Southwest.

*6. Relate how and when California, Texas, Oregon, and other western lands became part of the United States, including the significance of the Texas War for Independence and the Mexican-American War. (State of California Department of Education, 2001)

California State Standards in Grade Five Science

Items marked with an asterisk are the Palm Springs Unified School District Power Standards.

Earth Sciences

90
*5. The Solar System consists of planets and other bodies that orbit the Sun in predictable paths. As a basis for understanding this concept:
   a. Students know the Sun, an average star, is the central and largest body in the solar system and is composed primarily of hydrogen and helium.
   b. Students know the solar system includes the planet Earth, the Moon, the Sun, eight other planets and their satellites, and smaller objects, such as asteroids and comets.
   c. Students know the path of a planet around the Sun is due to the gravitational attraction between the Sun and the planet. (State of California Department of Education, 2000)

**National Educational Technology Standards for Students Grades 3-5**

1. Use keyboards and other common input devices (including adaptive devices when necessary) efficiently and effectively.
2. Discuss common uses of technology in daily life and advantages and disadvantages those uses provide.
3. Discuss basic issues related to responsible use of technology and information; and describe personal consequences of inappropriate use.
4. Use general purpose productivity tools and peripherals to support personal productivity, to remediate skill deficits, and to facilitate learning throughout the curriculum.
5. Use technology tools (e.g., multimedia authoring, presentation, web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.
6. Use telecommunications efficiently and effectively to access remote information and communicate with others in support of direct and independent learning and for pursuit of personal interests.
7. Use telecommunications and on-line resources (e.g., email, online discussions, web environments) to participate in collaborative problem-solving.
activities to develop solutions or products for audiences inside and outside the classroom.

8. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem-solving, self-directed learning, and extended learning activities.

9. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.

10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (ISTE, 1998)
APPENDIX B

CLASSROOM HOME PAGE
Welcome to Ms. Waters' Fifth Grade Class.

My intention for my fifth graders is to use technology to integrate all subject areas. I invite you to have a look around.

Social Studies Projects
- Native Americans
- Revolutionary War
- American Civil War
- States Reports

Science Projects
- Projects
- Taking a Closer Look
- Human Body
- Back Through the States

Science Fair
- Home Page
- 5th Grade Standards
- Parents and Students
- Grading Rubrics
- Blackboard Online Discussion
APPENDIX C

NATIVE AMERICAN INDIANS
Native American Indians
An Interactive Project for Students

Introduction

Each cooperative group will be responsible for choosing a Native American group, obtaining and filing information on their Native Americans, and presenting what they have learned in a group multimedia presentation. The following table will direct your group on their search.

- **People**: Locate and list your group's language, any famous persons, and family values.
- **Region**: Locate and list where your group lives or did live at one time.
- **Arts**: Locate and list your groups art work.
- **Ceremonies/Potlatches**: Locate and list your group's primary/religion events, and dances.
To begin your project, choose your group by clicking on one of the following. Then, under your group's name, find and click on a tribe you want to learn about. Remember to save information on your tribe or print out a copy of the tribe's webpage.

- Northwest Culture
- California-Intermountain Culture
- Plains Culture
- Southwest Culture
- Woodlands Culture

*Remember to use the back arrow at the top of the window after each search to bring you back to this home page.

Filing

To save and file the information your group has collected you need to follow these steps:

1. To save text- Click and drag over the text you want to copy. From the edit menu, choose copy. Next, open a document and select paste. Your text should appear in the document. Save your document to your file.
2. To save an image: Choose an image by right clicking on the image (picture, map, etc.). Next, select "save image as." Open your file, name the image, and save.

3. To save music: Follow the same step to save an image.

Presenting

To present what you have learned, follow these tips:


2. Include in your presentation, images, some text, sound, and graphics.

3. Every group member must have a part in the presentation.

My intentions for this web page is to enhance students social studies by integrating technology at the same time increasing language arts skills. This project was designed with my fifth grade class in mind as well as sharing it with other classrooms and educators.

Copyright/Permission Statement

*Send questions and opinions concerning this project to Bonney Waters: super teachers@hotmail.com.
Flow Chart for Native American Indians

Home Page

Native American Indians

Northwest  California- Intermountain  Plains  Southwest  Woodlands

Choose your tribe  Choose your tribe  Choose your tribe  Choose your tribe  Choose your tribe
Native American Indians

Northwest Culture

Choose a tribe

<table>
<thead>
<tr>
<th>Yakama</th>
<th>Klickitat</th>
<th>Wisham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salishan</td>
<td>Kutenai</td>
<td>Esquima</td>
</tr>
<tr>
<td>Nez Perce</td>
<td>Wallawalla</td>
<td>Kwakadi</td>
</tr>
</tbody>
</table>
## Native American Indians

### California - Intermountain Culture

#### Choose a Tribe

<table>
<thead>
<tr>
<th>Tribe</th>
<th>Tribe</th>
<th>Tribe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yukon</td>
<td>Cabuilla</td>
<td>Daquenos</td>
</tr>
<tr>
<td>Luiseños</td>
<td>Mono</td>
<td>Panotsó</td>
</tr>
<tr>
<td>Washo</td>
<td>Turok</td>
<td>Shasta</td>
</tr>
</tbody>
</table>
Native American Indians

Plains Culture

Choose a Tribe

- Lakota
- Cheyenne
- Asperoke/Crow
- Cliff Dwellers
- Atsina
- Ankeara
- Mandan
- Arapaho
- Pemban

back
Native American Indians

Southwest Culture

Choose a Tribe

<table>
<thead>
<tr>
<th>Hopi</th>
<th>Navajo</th>
<th>Yuma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zuni</td>
<td>Apache</td>
<td>Rarilla</td>
</tr>
<tr>
<td>Comanche</td>
<td>Mohave</td>
<td>Pima</td>
</tr>
</tbody>
</table>
Native American Indians

Woodlands Culture

Choose a Tribe:

<table>
<thead>
<tr>
<th>Powhatan</th>
<th>Narragansett</th>
<th>Iroquois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micmac</td>
<td>Nipmuc</td>
<td>Shinnecock</td>
</tr>
<tr>
<td>Mohegan</td>
<td>Passamaquoddy</td>
<td>Wampanoag</td>
</tr>
</tbody>
</table>
APPENDIX D

BACK THROUGH THE STARS
**Back Through the Stars**

*Explore these sites to gather information for your research projects.*

<table>
<thead>
<tr>
<th>The Nine Planets</th>
<th>Hubble Images</th>
<th>Galileo Journey to Jupiter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Star Child</td>
<td>Johnson Space Center Images</td>
<td>Asteroids</td>
</tr>
<tr>
<td>Learn About Comets, Black Holes and More</td>
<td>The Use of NASA Imagery</td>
<td>Exploring Mars</td>
</tr>
</tbody>
</table>
APPENDIX E

AMERICAN CIVIL WAR
Use this chart to help you research Civil War topics:

<table>
<thead>
<tr>
<th>Abraham Lincoln (1809-1865)</th>
<th>Women in the American Civil War (1861-1865)</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Americans in the American Civil War (1861-1865)</td>
<td>Boy Soldiers in the American Civil War (1861-1865)</td>
</tr>
<tr>
<td>Casualties of the American Civil War</td>
<td>Mothers of the American Civil War</td>
</tr>
</tbody>
</table>

Have questions or comments about this web site? Send them to Donney Waters at superteach@hotmail.com
APPENDIX F

TEACHER’S STANDARDS MASTERY

CHARTS
<table>
<thead>
<tr>
<th>Standards Mastered</th>
<th>Not M= Not @ Mastery, N M= Near Mastery, M= Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading Language Arts Standards</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Unit 1</strong></td>
<td><strong>Unit 2</strong></td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Word Recognition</td>
<td></td>
</tr>
<tr>
<td>1.2 Word Origins</td>
<td></td>
</tr>
<tr>
<td>1.3 Synonyms, Antonyms, and Homographs</td>
<td></td>
</tr>
<tr>
<td>1.4 Roots and Affixes</td>
<td></td>
</tr>
<tr>
<td>1.5 Figurative words</td>
<td></td>
</tr>
<tr>
<td><strong>Reading Comprehension</strong></td>
<td></td>
</tr>
<tr>
<td>2.1 Structural Features</td>
<td></td>
</tr>
<tr>
<td>2.2 Analyze Text</td>
<td></td>
</tr>
<tr>
<td>2.3 Comprehension &amp; Analysis</td>
<td></td>
</tr>
<tr>
<td>2.4 Inferences, Conclusions, or Generalizations</td>
<td></td>
</tr>
<tr>
<td>2.5 Expository Critique</td>
<td></td>
</tr>
<tr>
<td><strong>Literary Response &amp; Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>3.1 Structural Features of Literature</td>
<td></td>
</tr>
<tr>
<td>3.2 Contrast the Actions</td>
<td></td>
</tr>
<tr>
<td>3.4 Understand Meaning or Mood</td>
<td></td>
</tr>
<tr>
<td>3.5 Describe the Function &amp; Effect</td>
<td></td>
</tr>
<tr>
<td>3.6 Evaluate Meaning</td>
<td></td>
</tr>
<tr>
<td>3.7 Evaluate Techniques</td>
<td></td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Organization &amp; Focus</td>
<td></td>
</tr>
<tr>
<td>1.2 Create Multiple Paragraph Compositions</td>
<td></td>
</tr>
<tr>
<td>1.3 Use Organizational Features</td>
<td></td>
</tr>
<tr>
<td>1.4 Create Simple Electronic Documents</td>
<td></td>
</tr>
<tr>
<td>1.5 Use a Thesis</td>
<td></td>
</tr>
<tr>
<td>1.6 Evaluation &amp; Revision</td>
<td></td>
</tr>
<tr>
<td><strong>Writing Applications</strong></td>
<td></td>
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<tr>
<td>2.1 Write Narratives</td>
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<tr>
<td>2.3 Write Research Reports</td>
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<tr>
<td>2.4 Write Persuasive Compositions</td>
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<tr>
<td><strong>Written &amp; Oral Eng., Lang., Conventions</strong></td>
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<tr>
<td>3.1 Sentence Structure</td>
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<tr>
<td>3.2 Grammar</td>
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<tr>
<td>3.3 Punctuation</td>
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<tr>
<td>3.4 Capitalization</td>
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<tr>
<td>1.5 Spelling</td>
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<tr>
<td><strong>Listening &amp; Speaking</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Ask Questions</td>
<td></td>
</tr>
<tr>
<td>1.2 Interpret Messages, Purposes, &amp; Perspectives</td>
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</tr>
<tr>
<td>1.3 Make Inferences</td>
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<tr>
<td>1.4 Select a Focus</td>
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<tr>
<td>1.5 Clarify Ideas</td>
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<tr>
<td>1.6 Engage the Audience</td>
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<tr>
<td><strong>Identify, Analyze, &amp; Critique Persuasiveness</strong></td>
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<tr>
<td><strong>Analyze Media</strong></td>
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<tr>
<td><strong>Speaking Applications</strong></td>
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</tr>
<tr>
<td>2.1 Deliver Narrative Presentations</td>
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</tr>
<tr>
<td>2.2 Deliver Informative Presentations</td>
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</table>

Grade Five Reading and Language Arts Standards

Mastery Chart
<table>
<thead>
<tr>
<th>Standards Mastered</th>
<th>Not M Not N Near Mastery, N M= Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standards</strong></td>
<td><strong>Unit 1</strong></td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td></td>
</tr>
<tr>
<td>5.1 Describe Major Pre-Columbian Settlements</td>
<td></td>
</tr>
<tr>
<td>1. Geography &amp; Climate Influences</td>
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</tr>
<tr>
<td>2. Describe Customs &amp; Traditions</td>
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<tr>
<td>3. Explain Penalties</td>
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<tr>
<td>5.2 Describe cooperation &amp; Conflict Among Indian Nations</td>
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</tr>
<tr>
<td>1. Describe Competition</td>
<td></td>
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<tr>
<td>2. Describe Cooperation</td>
<td></td>
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<tr>
<td>3. Prevent Conflict</td>
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<tr>
<td>4. Discuss Role of Broken Treaties</td>
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<tr>
<td>5. Describe Intercethe Indian Conflicts</td>
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</tr>
<tr>
<td>6. Explain Influence &amp; Achievements</td>
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</tr>
<tr>
<td>5.3 Understand Political, Religious, Social, &amp; Economic Institutions During Colonial Era</td>
<td></td>
</tr>
<tr>
<td>1. Understand Influence &amp; Location of 13 Colonies</td>
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<tr>
<td>2. Identify Major Groups</td>
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<tr>
<td>5. Describe Religious Aspects</td>
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<tr>
<td>4. Identify Significance of Great Awakening</td>
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<tr>
<td>5. Development of Self-Government</td>
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<tr>
<td>6. Describe Introduction to Slavery</td>
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<tr>
<td>7. Explain early Democratic Ideas</td>
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<tr>
<td>5.4 Understand the Cause of the American Revolution</td>
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<tr>
<td>1. Understand How Revolution Began</td>
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<tr>
<td>3. Declaration of Independence</td>
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<tr>
<td>4. Describe Key Individuals</td>
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<tr>
<td>5.6 Understand the Course &amp; Consequences of the American Revolution</td>
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<tr>
<td>1. Identify &amp; Map Major Battles</td>
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<td>3. Identify Roles of Women</td>
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<td>4. Understand Impact of War</td>
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<tr>
<td>5. State Constitutions</td>
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<tr>
<td>6. Significance of Land Policies</td>
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<tr>
<td>7. Declaration of Independence Changed Views</td>
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<tr>
<td>5.7 U.S. Constitution</td>
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<tr>
<td>4. Design to Secure Our Liberty</td>
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<tr>
<td>5. Safeguard Liberty</td>
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</tr>
<tr>
<td>6. Songs That Express American Ideals</td>
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<tr>
<td>5.8 Trace Colonization, Immigration, &amp; Settlement Patterns</td>
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<tr>
<td>1. Discuss Waves of Immigration</td>
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<tr>
<td>2. Name States &amp; Territories That Existed in 1850</td>
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<tr>
<td>4. Experiences of Settlers</td>
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<tr>
<td>5. Continued Migration of Mexican Settlers</td>
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<tr>
<td>6. Relate How Western Lands Became Part of U.S.</td>
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Grade Five Social Studies Standards Mastery Chart
<table>
<thead>
<tr>
<th>Standards Mastered</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Unit 3</th>
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<tbody>
<tr>
<td>Science</td>
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<tr>
<td>Earth Sciences</td>
<td></td>
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<tr>
<td>5. The Solar System</td>
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<tr>
<td>a. Know the Sun</td>
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<tr>
<td>b. Know the Solar System</td>
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<tr>
<td>c. Know the Path of a planet around the Sun</td>
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<td>Technology</td>
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<tr>
<td>1. Use Input &amp; Output devices</td>
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<td>2. Discuss Common Uses of Technology</td>
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<td>3. Discuss Basic Issues</td>
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<td>4. Use General Purpose Productivity Tools</td>
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<tr>
<td>5. Use Technology Tools</td>
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<td>6. Use Telecommunications</td>
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<td>7. Use On-line Resources</td>
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<tr>
<td>8. Use Technology Resources</td>
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<td>9. Determine When Technology is Useful</td>
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<tr>
<td>10. Evaluate Electronic Information Sources</td>
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Grade Five Science and Technology Standards Mastery

Chart
Unit 1: Native American Indians
Grading Criteria

Name of Tribe ___________________________ Region _______________________

<table>
<thead>
<tr>
<th>Possible Points</th>
<th>Points Earned</th>
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<tbody>
<tr>
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<tr>
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- **Group Participation**
- **Written Report**
  - Content
  - Structure
  - Grammar
  - Spelling
  - Neatness
  - (Total Points)

- **Blackboard Discussion**

- **Unit Test**

- **Total**
APPENDIX H

STUDENT'S GRADING CRITERIA

RUBRIC FOR BACK THROUGH THE STARS
Name __________________________

Unit 2: Back Through the Stars
Grading Criteria

Name of Tribe __________________________ Region __________________________

<table>
<thead>
<tr>
<th>Possible Points</th>
<th>Group Participation</th>
<th>Points Earned</th>
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<tr>
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<td>Written Report</td>
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<td></td>
<td>Structure</td>
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<td>Grammar</td>
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<td>Spelling</td>
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<td></td>
<td>Neatness</td>
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<td>25</td>
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<td>5</td>
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<td>45</td>
<td>Unit Test</td>
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<tr>
<td>100</td>
<td>Total</td>
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APPENDIX I

STUDENT'S GRADING CRITERIA

RUBRIC FOR AMERICAN CIVIL WAR
Name ____________________________  
Unit 3: American Civil War  
Grading Criteria

Name of Tribe ___________________  
Region ___________________

<table>
<thead>
<tr>
<th>Possible Points</th>
<th>Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
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</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Group Participation**

**Group Skit**

**Research Report**

- Outline
- Content
- Structure
- Grammar
- Spelling
- Illustration
- Neatness

(Total Points) 35

**Blackboard Discussion**

**Unit Test**

Total 100

118
REFERENCES


