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UNIVERSITY OF CALIFORNIA, SAN DIEGO

Improving Geographic Literacy:
The effects of motivation, project-based instruction, and collaborative learning

A Thesis submitted in partial satisfaction of the requirements
for the degree Master of Arts

in

Teaching and Learning (Curriculum Design)

by

April Cohen

Committee in Charge:

James Levin, Chair
Cheryl Forbes
Marcia Sewall

2011

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The Thesis of April Cohen is approved and it is acceptable in quality and form for publication on microfilm and electronically:

Chair

University of California, San Diego

2011

DEDICATION

This work is dedicated to all the educators out there striving to make a difference in each and every student's life.

This work is also dedicated to my loving parents for whom I am eternally grateful for their wisdom, guidance, and support.

Finally, I would like to dedicate this work to my beautiful baby girl, Brooklynn Rose who, like this thesis, was conceived and born during the program.

EPIGRAPH

“Tell me, and I will forget.
Show me, and I may remember.
Involve me and I will understand.”
-Confucius, 450 B.C.

“The illiterate of the 21st Century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.”
-Alvin Toffler

“You can teach a student a lesson for a day; but if you can teach him to learn by creating curiosity, he will continue the learning process as long as he lives.”
-Clay P. Bedford

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Finally, I would like to thank the amazing group of friends in my cohort. The support that I feel we all showed each other enabled us to find our way through this challenging and rewarding experience in the most positive way. I am so happy to have shared this experience with you.

ABSTRACT OF THE THESIS

Improving Geographic Literacy:
The effects of motivation, project-based instruction, and collaborative learning

by

April Cohen

Master of Arts in Teaching and Learning (Curriculum Design)

University of California, San Diego 2011

James Levin, Chair

Traveltopia was created as a tool for educators to teach elementary geography skills. By developing map-reading skills, through encoding and decoding maps, this curricular project explores how students can expand their spatial thinking skills and conceptual understanding of geography. The curriculum was implemented in a fourth grade classroom of thirty-two students with a wide range of academic abilities. The students collaborated on group projects with an authentic audience of people interested in the content, not just an audience of one, such as the teacher. Students had an equal opportunity to participate in the research, written, visual, and presentation of their culminating project. Theories of motivation and collaboration regarding student

choice, flexible environments, and heterogeneous grouping were factored in this project design.

Traveltopia offers support to teachers who are interested in teaching geography in an interactive and engaging way. The unit was designed to establish a cooperative learning environment through independent, small group, and whole class activities. Through this method of teaching and learning, students were also able to establish a community of learners.

Data was collected and analyzed from teacher observations and field notes, student writing prompts and surveys, interviews, and the students' final group project. Results indicated that the majority of students became more motivated working collaboratively and improved their geography skill sets when immersed in project-based learning. Ultimately, students will be able to apply the skills learned in this unit and connect it to the geography that touches their own lives outside of the classroom.

Chapter I -- Introduction

Would you be able to identify Louisiana on a map of the United States? If you answered “no,” then you are not alone. Despite the wall-to-wall media coverage of the damage from Hurricane Katrina, user friendly access to Global Positioning System (GPS), and websites such as www.googlemaps.com, a recent poll showed that nearly one-third of young Americans, ages 18-24, could not locate Louisiana on a map while nearly half were unable to identify Mississippi (Associated Press 2010/Ropers Poll, 2006). As shocking as these facts are, the real question isn't whether one can identify a hot spot such as Louisiana on a map, but why so many Americans can not? To analyze this issue more closely, we must start by looking at how the school systems are failing to address their students' poor geographic literacy. To begin that analysis, we need to look closely at the core of that lack of literacy.

Currently, the majority of students are geographically illiterate (Winter, 2009). They are unable to read, encode, decode, or decipher different types of maps. They are also unable to identify current hot topic areas of the nation and world. My own observations and experiences show that the subject of geography and the skills of spatial thinking are not being fostered and developed enough in the classroom. Spatial thinking is "a constructive amalgam of three elements: concepts of space, tools of representation, and processes of reasoning" (Nation's Report Card, 2001, p. 3). In the subject of geography, this is most easily exemplified in the ability to encode and decode maps. For the purpose of map reading, encoding is the process of putting

together a sequence of symbols into a specialized format for efficient transmission or storage. Those symbols typically appear in a map legend such as a star for a capital or a blue line for a river. Decoding is the opposite process-converting the encoded format back into its original sequence (Lloyd, 1989). In other words, to read maps effectively, one must be able to both break apart and put together the components of a map to transfer and internalize its meaning. When referring to fourth grade students, they need to be able to create their own maps and read other maps with understanding. This deficit in teaching and learning stems from the lack of attention to these areas in the California Curriculum and Frameworks (Key Curriculum Press, 2006). More importantly, surveys and assessments conducted by such organizations as the Nations Report Card (2001), Key Curriculum Press (2006), and our Nation's Geographic Education Foundation (2006) show that students and young adults do not really see the urgency or relevance to being more geographically literate and globally minded. This is caused by a lack of emphasis placed on teaching geography. It is axiomatic that in order to become more knowledgeable 21st century citizens and to bridge the gaps of communication across the globe, our young students and adults must be exposed to and well versed in geography.

Whether it is following directions, planning a vacation, or being connected to current events, the tools of geography are everyday skills that productive citizens need to be familiar with. As the previously mentioned survey and tests show, Americans in particular seem disconnected with much of what is going on in the rest of the world.

Geography is about much more than capitals and landforms; it brings an awareness to our global community through people, places, culture, and environment. In a world that is increasingly defined by a “global community, cultural migration, and mounting environmental challenges” (National Geographic Education Foundation, 2006), geography is a guiding force towards citizenship and more positive worldly relations.

We are living in a global community where issues such as national security, world trade, and foreign policy are of the utmost importance. Beyond asking the students to memorize states and capitals, our schools and educators are responsible for supporting and developing cultural sensitivity that will transfer young global citizens into the real world. Why then has the subject of geography, and social studies as a whole become subordinate to other subjects like language arts and mathematics? Why are students’ spatial thinking skills not adequately developing and improving? And finally, what is it about the way geography is being taught that isn’t working in the classroom? Finding the answers to these questions guided the design and facilitation of the curriculum I created.

This thesis reviews the mounting evidence of needs and challenges the teaching of geography face. It takes a hard look at the different types of circulating curricula currently used in our public school systems and analyzes research studies which offer different theories of learning. This project explores how classroom communities of collaboration, along with the use of an authentic audience, could not only effect a student’s level of motivation, but could help to deepen one’s deeper

understanding of geography and spatial thinking skills. The names of all students and teachers, school, and districts in this document are pseudonyms.

Chapter II -- Assessment of Needs

Geography is derived from the Greek word “geo” meaning earth and “graph” meaning to write or describe. Today there are probably as many different definitions for geography as there are introductory textbooks. Although the phrasing may differ, the meanings are essentially the same. National Geographic’s definition is typical. It states that geography is “the science of space and place that brings together Earth's physical and human dimensions in the integrated study of people, places, and environments” (National Geographic Education Foundation, 2006). To effectively teach geography in the classroom, it is important to touch on all three of these components of geography:

- 1) Physical - The study of the earth's natural features.
- 2) Human - The study of where and how people live.
- 3) Environmental - The study of the earth's surroundings.

To further help define and assist teaching geography, in 1984 the Joint Committee on Geographic Education of the National Council for Geographic Education (NCGE) and the Association of American Geographers (AAG) created an official list with five themes of geography (National Geographic, 2003). These five themes tie in the three categories of physical, human, and environmental geography. For the next decade educators used these parameters when teaching the elements of geography. In 1994, National Geographic went a step further and published a total of six categories of geography with eighteen different geography standards to

specifically guide geographic education in the United States. These 18 standards define what a geographically informed person should know and understand. Table 1 shares the six categories of geography along with the correlating 18 standards. Through the implementation of these standards in the classroom, every American student would become a geographically minded citizen (Salter, Hobbs, & Salter, 1998). As we are living in the 21st century, it is imperative that students have a global awareness that includes familiarity with different cultures, beliefs, and lifestyles to understand and address global issues (Nagal, 2008).

**Table 1: Six Categories and 18 National Geography Standards
(National Council of Geography Education 1994)**

Category	Standard
The World in Spatial Terms	<ol style="list-style-type: none"> 1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective. 2. How to use mental maps to organize information about people, places, and environments in a spatial context 3. How to analyze the spatial organization of people, places, and environments on earth's surface
Places and Regions	<ol style="list-style-type: none"> 4. The physical and human characteristics of places 5. Creating regions to interpret earth's complexity 6. Culture and experience influence people's perceptions of places and regions
Physical Systems	<ol style="list-style-type: none"> 7. The physical processes that shape the patterns of earth's surface 8. The characteristics and spatial distribution of ecosystems on earth's surface
Human Systems	<ol style="list-style-type: none"> 9. The characteristics, distribution, and migration of humans on earth's surface 10. The characteristics, distribution, and complexity of earth's cultural mosaics 11. The patterns and networks of economic interdependence on earth's surface 12. The processes, patterns, and functions of human settlement 13. How the forces of cooperation and conflict among people influence the division and control of earth's surface
Environment and Society	<ol style="list-style-type: none"> 14. How human actions modify the physical environment 15. How physical systems affect human systems 16. The changes that occur in the meaning, use, distribution, and importance of resources
The Uses of Geography	<ol style="list-style-type: none"> 17. How to apply geography to interpret the past 18. How to apply geography to interpret the present and plan for the future

Budget Crisis and Business of Textbook Adoption

California is in the middle of a deep budget crisis which is responsible for some of the current challenges we face in our classrooms. Essentially, there is a freeze on curriculum development and textbook adoption. Not only is the budget crisis affecting school districts' ability to adopt more up-to-date textbooks, the choices among existing texts are limited. Since California established its academic frameworks and standards in the late 1990s, the State's process for adopting instructional materials has become more complex and has severely limited the number of selections available to school districts. The State Board of Education (SBE) is required by the California Constitution (Article IX, Section 7.5 of the California Constitution) to adopt new textbooks at least twice every six years for the subjects of language arts, math, science, social science, and bilingual education.

Top educational publishing companies such as Houghton Mifflin, Harcourt Brace, and McGraw Hill offset the costs of adopting their new textbooks as an incentive for districts to buy their curricula. Because of this business arrangement, the SBE has a limited list of publishing companies for the districts to choose from. Another factor discouraging publishing companies from expanding their coverage of social studies curricula are the limited standards themselves set by the State Board of Education in California and other states. This practice precludes smaller, more creative publishing companies from appearing on the list put out by the SBE. If districts are interested in buying curricula outside of this list, then they are responsible for covering

the extra costs. Given the current economic climate, few, if any, public school districts can absorb the cost of an alternative textbook adoption. Some districts are opting to freeze any textbook adoptions due to the state of our economy. For example, Oceanside Unified School District (OUSD) has used the same materials for language arts in K-6 since 2002 with no plans to change until the 2013-2014 school year. The primary focus for education programs and curriculum publishing companies is on language arts and mathematics. Other subjects, such as social studies, and more specifically geography, are given little, if any attention. For example, one national program that allocates funds towards each academic core subject is the No Child Left Behind (NCLB). As part of the President's budget for the fiscal year of 2009, the NCLB charts the annual breakdown of the funding levels for each subject per district. Incidentally, there has never been any money allocated towards geography through NCLB since 2002. Table 2 compares the annual funding allocated for language arts, math, and geography for the 2009-2010 school year.

Table 2: No Child Left Behind Budget (2009)

Language Arts	Mathematics	Geography
\$1,112,549,000	\$178,978,000	\$0

The NCLB fiscal budget has no money for teaching and learning geography. Teachers and students are using textbooks that cover far too much in a shallow, thin layered approach which is not current with grade level technology standards.

California still has not adopted technology standards. This permits large textbook companies to leave out important technology applications in their California editions (Key Curriculum Press, 2006).

Lack of Trained Teachers

Another major problem with geography education is that many teachers who never studied geography are now being asked to teach it (Greg & Leinhart, 2004). Social Studies teachers are not typically trained in the two areas of physical and social science as much as they are in history. According to the National Center for Educational Statistics (NCES), there are two broad elements that most observers agree characterize teacher quality: (1) teacher preparation and qualifications, and (2) teaching practices. A 1998 national report from the NCES found that many teachers did not feel prepared to meet many of the challenges they currently face in their classrooms. Given the lack of attention to geography in policy and curriculum adoption the conditions today have not changed much. Only 36% of public school teachers feel prepared to implement their curriculum standards, while only 20% use any educational technology. The percentages of teachers who majored in a field of study correlating with their classroom placements are: 9% elementary, 22% middle school, and 29% high school (Forgione, 1999). It should be noted that these numbers are 13 years old; therefore, further research is needed. In education, having an academic degree is important, but only if the diplomate is teaching in that field. It wasn't until 1998 that New York mandated that all public school social studies

teachers take a geography course before being considered for a teaching position. Of course, the majority of teachers were certified before 1998 and therefore most are likely not to have taken any geography courses (Palmer & Bloom, 2001).

State and National Assessments

The National Assessment of Educational Progress (NAEP) and the Nation's Report Card (NRP) take a comprehensive look at how 4th, 8th, and 12th graders performed in geography nationally. The assessments are based on the NAEP Geography Frameworks which serves as the blueprint for the assessments. Figure 1 shows the five instructional themes for geography instruction and the three content learning outcomes for assessment.

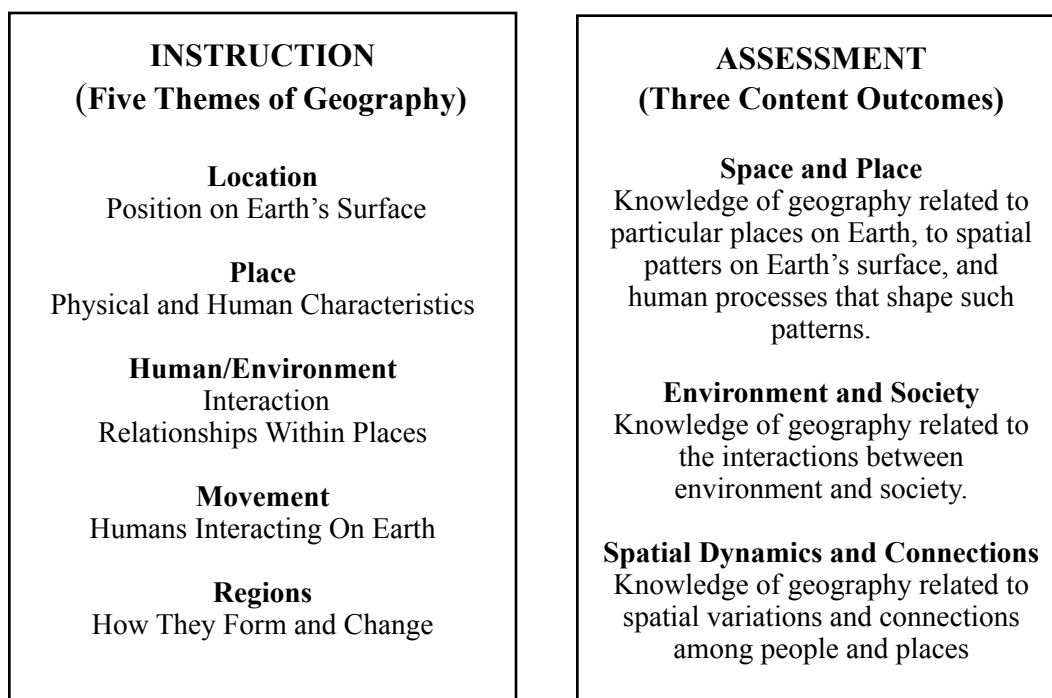
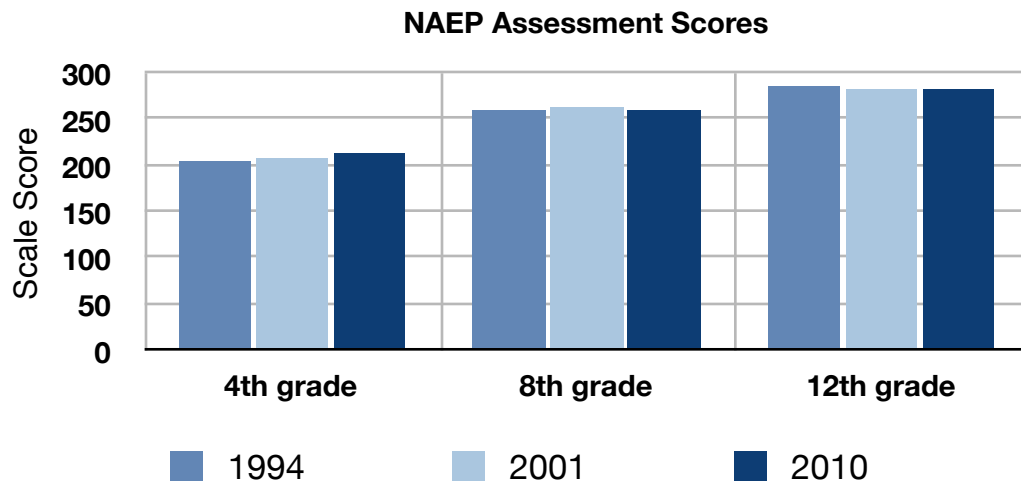


Figure 1: Instructional themes and content learning for the NAEP Framework.

Students in grades 4, 8, and 12 in nearly 1,500 schools participated in the assessment that measured students' knowledge of geography in the context of space and place, environment and society, and spatial dynamics and connections (NAEP, 2010). These assessments were conducted in 1994, 2001, and 2010. It is worth noting the frequency of assessments in geography as compared to assessments for Language Arts and Mathematics, which are tested annually. Recently, the 2010 results for geography were made public. In 2010, 21% percent of fourth-graders, 27 % of eighth-graders, and 20% of twelfth-graders performed at or above the *Proficient* level on the 2010 geography assessment. Graph 1 compares the test score results for all three grade levels from 1994, 2001 and 2010.

Graph 1: Nation's Report Card: Geography



The National Council for Geographic Education conducted a further study, the 2006 Roper Poll, where 510 people ages 18-24 were interviewed extensively with a

variety of questions to gage their overall geographic knowledge. The survey questions were distributed among physical, human, and environmental geography. Types of questions ranged from identifying states in the US to countries that had recently been in the media such as the Indonesian Tsunami of 2005 and the ongoing wars in Afghanistan and Iraq. Also, other topics covered religion and languages around the world. Half of these subjects interviewed believed that, although important, it is not necessary to know where countries in the news are located.

Here are some facts to note from this survey:

- 54% answered one-half of the questions correctly
- Six in ten couldn't identify Iraq
- Eight in ten couldn't find Afghanistan on a map
- 75% couldn't identify Indonesia on a map

Our teachers are not trained or qualified to use technology as much as they should. Advocate groups such as The National Geographic Education Foundation are working hard to make the subject of geography more important in our schools while generating more funding for the subject. One way this organization is doing this is by drafting legislation to be presented to Congress. The *Teaching Geography Is Fundamental* Legislation is an educational policy that, at this time, has been introduced and referred to the House of Education and Labor, Subcommittee on Early Childhood, Elementary, and Secondary Education. The next steps in the process will be to have the initiative reported by the committee, House vote, Senate vote, and finally signed by the President. The Bill Summary & Status 111th Congress (2009 - 2010) H.R. 1240 Act's are:

1. To reinforce Congressional and Executive Branch endorsement of geographic literacy as a national priority.
2. To secure federal funding for teacher training and other innovative improvements in geography education at the state and local levels.
3. To establish a national resource for geographic education to share best practices and advances the field.
4. To ensure that geography continues to be assessed as a core academic discipline.

Teaching to the Test

Due to a paralyzed budget and a lack of teacher training, we must acknowledge a problem with priorities. The current curriculum designs in use cover far too much at a shallow level. Administration expect teachers to follow a pacing guide and/or follow text book outlines.

Teachers are spending more time teaching to the test than developing more critical thinking skills and cognitive understanding. The types of tests that are given are taken from textbook or district assessment. For geography in fourth grade for example, the textbook assessments are filled with memorization of missions, regions, latitude and longitude coordinates and elevation (Reflections, 2007). The material does not connect to the students' personal experience or interest when it could. Rote memorization and test preparation takes precedence over learning transfer and personal choice. Classrooms that support personal choice not only gives each student ownership and investment in their work, it also gives them the opportunity to hear differences in each others' culture, religion, regional background, and personal beliefs

(Zemelman, Daniels, & Hyde, 2005). In the last 20 years, the emphasis in education has shifted from process-problem based, critical learning skills to high product achievement and accountability by students, teachers, and administrators (Palmer-Maloney, & Bloom, 2001).

Today much classroom time is spent learning the materials with the goal of improved test scores. Unfortunately this means that the needs of all types of students cannot possibly be addressed. There is a discrepancy between the existing status and the desired set of needs being met in our classrooms from Kindergarten through 12th grade. First and foremost it must be noted how much emphasis our public school system places on our annual standardized tests. District test scores determine what types of rewards and consequences each school may receive. High stakes testing outcomes, fueled by the No Child Left Behind act, can range from individual grade retention to rewards or punitive measures for schools and/or districts (Marchant, 2004, p. 16).

These “crutches” generally employ rote memory learning and the students do not retain the information. This practice follows them from grade to grade. Our legislatures, politicians, and administrators have turned the priorities of teaching and learning into test taking, and the current curriculum reflects this. Essentially, students are becoming machines for rote memorization to pass tests and then quickly lose the learning as they move on to the next topic (Zemelman, Daniels, & Hyde, 2005).

Survey data from the Roper Poll, NRC, California STAR test results, and Key Curriculum Press reviews show that there is a deficit in geographic literacy. This thesis will look specifically at the constructs of memory compared to memorization, conceptual understanding, authentic learning and prior knowledge as ways to identify deficiencies in learning and how to narrow the achievement gap. As far as student activities go, the curriculum lacks personal connection, choice, or substantial opportunities for an authentic learning experience. A core component of geographic education is developing the skill of spatial reasoning. In the Literature Review section, the study takes a more in depth look at how important these factors are for a successful learning experience. We also analyze how technology can be integrated more effectively for authentic learning and spatial thinking.

Conclusion

Today we are living in a world where we need to know much more than what the capital of New York is or where Afghanistan is on a map. As we head further into the 21st Century, we are living in an ever changing and interdependent world. Not only do our students need to develop their spatial thinking skills to understand how to interpret various maps, but they also need to see how the social skills of collaboration and communication will help them become more globally aware. As is already true in the work place, students must be able to work together and build within their classroom community.

With its global economy, cultural migration, and environmental challenges, geography provides a valuable vehicle and tool for adapting to the changes in the 21st century. A way to meet these challenges is to think geographically. Thinking geographically is not a research oriented approach to investigating the world; rather it is a way to know where something is, how its location influences its characteristics, and how its location influences relationships with other phenomena. According to the National Geographic Education Foundation (2006) the five steps to thinking geographically are:

1. Ask geographic questions
2. Acquire geographic resources
3. Explore geographic data
4. Analyze geographic information
5. Act upon geographic knowledge

Research tell us that a teacher lecturing and giving direct instruction is an ineffective way for students to learn and maintain conceptual understanding of geographic concepts (Reed & Mitchell, 2001). The National Geographic Education Foundation (1994) maintains that the key to improved student performance relies on the planning and delivery of inquiry-driven lessons that focus on conceptual understanding. *Traveltopia*, the curriculum that I have developed, and which you will read about in the upcoming chapters, is a project-based geography unit that is built around the assessments of student needs and acknowledges the increasing globalization of the 21st century.

Chapter III -- Review of Relevant Research

What Research Has Said About Teaching, Learning, and Geography

Geography has three major strands: physical geography, human geography, and geographical skills (Farrell & Cirriciones, 1989). Many teachers consider map interpretation to be the most important and useful to cover in the classroom. To comprehend the meaning of maps, one needs to be able to do three things:

(1) recognize and differentiate symbols (e.g. stars and dots); (2) understand that these symbols refer to real three dimensional places (e.g. actual cities); and (3) be able to project spatial arrangements of these symbols on the map (e.g. understanding what the symbol for a freeway on a 2-dimensional map means and how to transfer that to the real world) (Byrnes, 2008). Much of a student's ability to become more skilled in encoding and decoding maps is the cognitive development of his spatial abilities, or, geographic literacy. In order for an individual to develop a deeper understanding of the content, he must be developmentally ready.

Child psychologist Jean Piaget (1896-1980) initiated the Constructivist theory of cognitive development and stages of progression children go through based on their age. Constructivism argues that humans generate knowledge and meaning through an interaction between their experiences and their ideas (Huitt & Hummel, 2003). In other words, Piaget developed a theory of how one's experiences shape how one learns. Part of this theory looks at the developmental phases a child goes through and how each phase influences that child's capability to learn. When it comes to spatial

awareness and geographic literacy, studies show that there is a direct correlation between success on Piagetian spatial tasks and map reading tasks (Liben & Downs, 1993). Piaget opined that children under 11 simply are not ready developmentally to explore spatial reasoning ‘especially in determining relationships among various global patterns of geographic phenomenon in large unfamiliar environments’ (Hannibal, Vasiliev, & Lin, year, p. 1). He felt that it wasn’t until children were at least 11 years of age that they were developed enough to internalize this skill (Huitt & Hummel, 2003). If Piaget is correct, then attempts at developing spatial reason before the 5th or 6th grade are doomed to failure. However, the work of Lev Vygostky (1896-1934), another cognitive psychologist, gives us some hope for an earlier readiness.

Lev Vygostky shared many of the same views as Piaget about how children learn, but placed more emphasis on the role of how social interactions affects a student’s learning process. His theory is formally known as Social Constructivism. The active role of learners was emphasized by Lev Vygotsky (1978), who pointed to other supports for learning. Vygotsky was deeply interested in the role of the social environment, included tools, cultural objects, and people, as agents in developing thinking. Perhaps the most powerful idea from Vygotsky to influence developmental psychology was that of a zone of proximal development (Bransford, Brown, & Cocking, 1999). The zone of proximal development, or ZPD, is the difference between what a learner can do without help and what he or she can do with help. In

an ideal classroom setting, students would be able to work within their own ZPD to get the most out of their educational experience. According to Vygotsky (1978), every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level (Warschauer, 1997).

After Piaget's and Vygostky's passing, there has been an enormous technological surge beyond what they could have ever imagined. With tools such as computers, phones, and car systems at the population's fingertips, it is reasonable to believe that a young child's developmental capabilities have become much more accelerated and capable in areas such as spatial thinking. Because we are living in a forward thinking technological age, kids are exposed to many forms of visual stimulation and therefore may have a far more developed sense of spatial intelligence than those children of the 1930s. Keeping this in mind, educators must look more carefully at modern tools such as technology to enhance the skill set of spatial thinking and geographic literacy.

Spatial Thinking. According Dr. Howard Gardner, founder of the Multiple Intelligence Theory, spatial intelligence is one among eight kinds of intelligence (Gardner, 1999). Gardner defines spatial intelligences as involving the potential to recognize and use the patterns of wide space and more confined areas. He describes spatial intelligence as the ability to recreate one's visual experience and reasoning about shape, measurement, depiction and navigation (Gardner, 1999). Educators, administrators, parents, and politicians can widely agree that thinking skills improve

through education and that there are various forms of thinking skills that should be fostered. Spatial thinking is a building cognitive skill that helps people makes sense of relationships between space and place. Using the properties of space and place for structuring problems, finding answers, and expressing solutions, spatial thinking finds meaning in 1-2-3 dimensional shapes, sizes, locations and directions (Gardner, 1999; National Research Council, 2006). Spatial thinking is a specific form of reasoning that is becoming more important as technology is more widely used.

Empirical research on the development of spatial thinking and geographic literacy within school geography is insufficient. It is in a geoscience such as geography where students should be developing their spatial thinking skills. Specific studies that test student performance on spatially demanding tasks has been slow to change in the geoscience field (Saliero, et al., 2005) and these tasks are considered some of the most challenging for students (Hemler & Repine, 2006). Researchers need to look more closely at why students are having such a difficult time.

Spatial thinking is the cornerstone of geography and geographic information systems, or GIS technology, has become an essential tool in supporting the development of spatial thinking skills (Liu et al., 2010). GIS is an online program that can capture, store, retrieve, analyze and display spatial data. By increasing time spent on map use and experience in school, students will acquire more skills in this area. By offering students the opportunity to have more choice in how to develop these skills, the more motivated and engaged they will be in the process (Liu, et al. 2010). Another

point to consider is how educators could use these modern tools for developing spatial reasoning while supporting and building on one's intra and interpersonal zones of proximal development.

Geographic Illiteracy. Decades ago, the concept of "social studies" was created, lumping geography, history, economics and civics courses into one portion of the curriculum. Part of the current challenge with how to effectively teach geography is the lack of the teachers' understanding of the content. Some elementary school teachers earned their teaching credential without any college coursework in geography. This was not remedied in their teacher training because there was no focus on geography (Rosenburg, 2011). It wasn't until 1994 that geography was recognized as a core subject of the "Goals 2000: Educate America Act" and was tested by the NAEP. Establishing different practices in the classroom and engaging student interest to trigger deeper understanding, teachers must know how their learners develop their own structures of understanding (Reeder, 2002).

Educators who are newer to the profession or are focused on their own professional development are making good progress towards becoming more current with ways to use modern technology to develop a student's cognitive understanding of geographic literacy. One way to engage students is to use examples from the real world. This mean incorporating modern technology with using maps that are relevant to their lives rather than just learning about them through textbooks. This will motivate students to use their data to retain information longer as opposed to the rote

memorization which has become a standard teaching and learning practice (Doering & Velesianos, 2007). Motivation, collaboration, and authentic audience are three important constructs. Focusing on them can provide help a more positive and productive learning environment and experience.

Motivation. Many scholars agree that humans have three basic needs: competence, autonomy, and relatedness (Deci, 2000). Competence is the need one has to master and be successful within her environment. Autonomy comes with being able to accomplish things on his own as well as being given the freedom to make choices on her own. Relatedness comes from the desire to be connected with others or a group (Byrnes, 2008). One can look more carefully at how motivation can build on these needs and effect a students' performance.

Why is it that some students seem to do just what is necessary to get by, while others enthusiastically embrace new challenges? Most students are motivated when they are engaged in something that interests them and challenges them, however the level of challenge can't be too difficult for them to achieve or they may lose interest (Wentzel & Wigfield, 1998). As students' levels of competence grow, they become more confident with their content knowledge. This may mean that the teacher incorporates students' interests into class material, lets students select which of several assigned tasks they wish to do first, and allows students to choose how they present projects. In a typical classroom setting, students are used to doing their standard assignments for their teacher and in turn receive a grade for their work. Although that

grade may be enough to motivate some, it doesn't work for others. Allowing students a variety of ways to present their work is important to consider as well as assigning more than one grade for their work.

What is the link between autonomy and motivation? There is convincing evidence that people who take the initiative with their learning, proactive learners, attack their learning more purposefully and with greater motivation than those who are more passive (Stipek, 2002). Teachers can help promote students' autonomy by helping to develop their motivation to learn. When students can take control of their learning, set goals, and evaluate their own progress, their sense of autonomy and independence increases (Stipek, 2002). Providing students with numerous and varied experiences increases their opportunities to be successful and competent, but they are also more challenged and in greater control of their own progress (Byrnes, 2008). In the traditional classroom, there are not these opportunities.

Deci (1995) analyzes the relationship between students' understanding and their motivation to achieve. When students understand, they have an increased intrinsic, or internal motivation to achieve, which then leads to content competency and confidence. This may explain why some students are motivated more than others to perform tasks in the classroom. Studies suggest that providing students with opportunities to experience a variety of activities and creating an environment in which students can: (1) feel competent, (2) believe in the efficacy of effort, and

(3)experience success could foster intrinsic motivation to actively engage in activities (Weidong et al., 2005).

One way to provide students with these opportunities is to give them a more active role in their learning. One who has a voice and choice with her learning opportunities will become more invested in her experience and therefore more intrinsically motivated. It is important to note that giving students full freedom to choose their own path in learning can also be too loose and may backfire. The degree of choice should be monitored by the teacher (Boakarts, 1997).

To enhance a student's motivation and autonomy a teacher will want to set up different types of goals: learning goals, performance goals, and social goals (Wentzel & Wigfield, 1998). The teacher can facilitate and scaffold each student's process of selecting her own goals, becoming more reflective, and eventually becoming more independent. Research shows that along with having academic goals such as being a successful student, one also has the social goals such as earning peer approval, having fun, making friends, and collaborating (Wentzel & Wigfield, 1998). These goals can help motivate or discourage a student. Many students like learning from and working with their peers as opposed to the standard teacher-lecture-student approach. They are more motivated to participate in a smaller group setting. One inevitable by-product of shifting towards a more student centered learning environment is the potential for competition.

Deci (1995) and Smith (1998) attribute the appearance of competition to the lack of student autonomy since students can no longer walk away from the activity without detrimental consequences. This leads to an apparent paradox: in order for engagement to take place, understanding is crucial, yet for students to be engaged and motivated, they must understand and experience competency. To promote content mastery in geography, for example, researchers such as Palmer-Maloney and Bloom (2010) and Smith, Johnson and Johnson (1992) suggests looking at practices that are intrinsically motivating, that balance conceptual understanding and procedural fluency, and that encourage collaboration and cooperation.

A teacher must therefore decide how to balance cooperation and competition and consider what kind of environment will promote that balance, making sure to provide students with numerous experiences for them not only to be successful and competent, but also challenged and in control of their own success (Byrnes, 2008)

Collaboration. An effective collaborative learning model consists of five components: (1) creating effective groupings, (2) providing sufficient time, (3) encouraging individual accountability, (4) supporting each participant's perspectives, and (5) incorporating peer review and reducing competitiveness (Reed & Mitchell, 2001). Vygotsky (1978) believed that all learning is social and that understanding and development occur through the collaboration with others. Collaborative learning puts the emphasis on structured group work in which students have an invested interest in working together and supporting one another's work. According to Smith et al.

(1992), collaborative learning is equally, if not more, effective than a teacher lecturing in helping students master conceptual skills. Some, like Vgoystky, would even argue that as students engage in collaborative learning and become more active in teaching one another, the results produce superior learning outcomes (Mills et al., 1995). The importance of what each individual active learner can contribute to the group is part of what makes collaboration such a powerful style of learning.

A careful examination of the content and standards for fourth grade geography show that students are expected to master skills without being taught effective strategies for doing so. While collaborative learning activities vary widely and can be applied to all subjects of learning, most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it (Smith & MacGregor, 1992). The collaborative learning approach offers many golden opportunities for the students to learn from each other and share their prior knowledge and experience with the subject matter. This is also true for the specifics of geographic literacy.

Collaboration and Prior Knowledge

A critical component to helping find and adjust the zone of proximal development (ZPD) of each student is to begin with the prior knowledge of an individual student and what she comes to class already knowing. The zone of proximal development is the difference between what a learner can do with and without help (Vygotsky, 1978). Once there is an understanding about the student's

prior knowledge, educators can then add new information that connects to what they already know. Keeping the ZPD in mind, teachers can mediate between prior and new knowledge and develop some lessons that will stay with students far beyond the day of the test. Meaning is derived from connecting new information to what is already known. The reasoning for what is being learned now makes more sense because there is an invested interest with these learners. Bayer (1996) stated that the scaffolding and connecting of new knowledge to prior knowledge is an illustration of Vygotsky's description of how mediation facilitates movement of knowledge from the inter-psychological to intra-psychological.

By taking one's prior knowledge and using a collaborative learning model, students are often able to reach higher levels of understanding. A team is more likely to conquer material that may be too challenging for individual members of the team. I submit that the whole can be greater than the sum of its parts. If curriculum, lessons plans, and classroom time is based on what the students already know, then there will be more success -- both intra-personally, personal understanding, and interpersonally, understanding through communicating with others. Figure 2 illustrates the idea of recognizing the individual's learning needs, using forms of communication to share ideas, create opportunities for learning, and then apply it to the subject at hand.

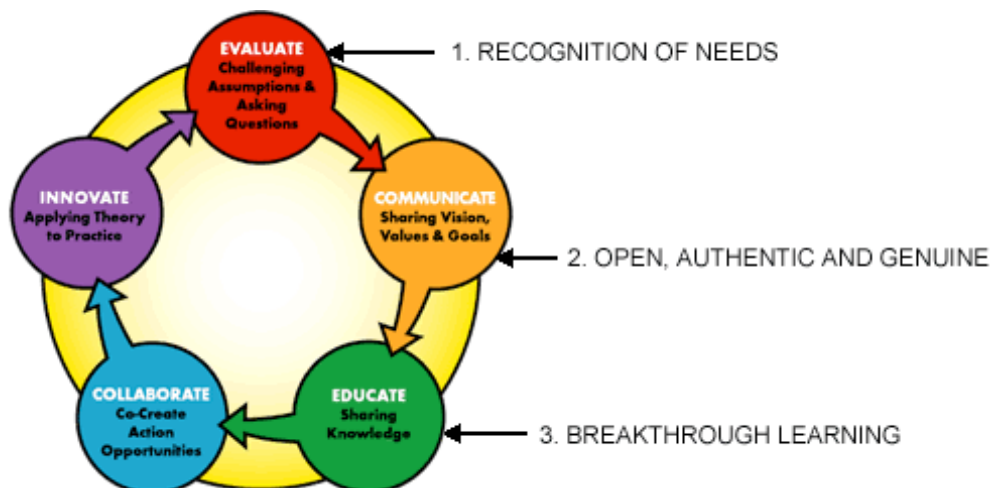


Figure 2: Collaborative Learning Model-Relationship between needs, communication and breakthrough learning (Tapscott & Williams, 2010).

Technology, Geography, and Authentic Audience. Audience matters.

Students will work harder for an authentic audience than for a grade and will do more if they leave a legacy beyond a grade (Wilber, 2010). It is more motivating to cook dinner for a group rather than just for oneself. So too, when sharing something one has worked on with an audience, one tends to put more of an effort into the presentation. Think about how we change when our audience changes. Having an authentic audience as part of teaching and learning is an excellent way to promote a more invested interest in the subject studied. Rather than turning in a final paper that will only be read by a teacher, add the idea that by creating a collaborative project with a final presentation, the audience has grown to include peers and beyond.

In today's world, an authentic audience is not only the immediate audience such as classmates, teachers, and parents, but now includes on-line pen pals, podcasts,

and blogs which extend around the world. As to how one can incorporate the study and learning of geography through an authentic audience and apply it to the real world, the possibilities are endless. Whether on your phone, in your car, or at the computer, when it comes to geography, specifically map decoding, resources such as Google Earth, Mapquest, and geographic information systems (GIS) are all available. As authentic learning involves real ideas applicable to the real world (Hemler & Repine, 2006), these on-line learning opportunities offer easy access as authentic tools.

One team of researchers found that geospatial technology such as GIS and Google Earth have the potential to create a stronger sense of motivation in students studying geography along with the importance of authentic and collaborative learning in the classroom (Doering & Veletsianos, 2007). Doering and Veletsianos discuss different theories about the use of technology in the classroom and review the data of other researchers. West (2003) discusses the use of GIS in the classroom as a way to support higher-order thinking skills and motivate student learning. However, Meyer et al. (1999) argue that the educator's focus shouldn't be on how to use technology such as GIS for learning, but rather to focus on GIS to learn how to use geography. In other words, if learners are using technology passively they will learn no more or no less than if they used another medium such as a textbook or lecture. No matter the tool or arena of learning, learners still must be engaged in some type of authentic activity to develop a deeper meaning and understanding of the lessons.

Online tools should be integrated into a curriculum. For example, if a class is working on topics such as a weather unit, longitude & latitude of their city, land formations of their county, or indigenous resources, students could use online resources such www.nationalgeographic.com to collect information on these topics of interest. Their data could then be analyzed by geospatial technologies, specifically with www.googleearth.com. Students could then compare and make sense of the information and how it relates to their lives. Visual data representation, communication with other students around the country, and interactive research could not be feasible without the aid of technology.

The potential for student engagement grows the more “hands on” they become (Zemelman & Hyde, 2005). When learning how to encode and decode maps, students can take on the role of the “scientist” to help research and create their own maps as opposed to reading maps from textbooks, maps which are out of context. Technology allows the students not only to be more creative with their research, but also see the same map through a variety of different lenses: 3-D, topographically, and zooming in and out. Students can more easily compare the same type of map between two geographic areas; e.g. annual inches of rainfall, or average temperatures between Las Vegas and New Orleans. Concurrently they can use Google Earth to explore their own neighborhood, town, city, or state to identify the same topics of interest; e.g. global climate change, longitude & latitude coordinates, effects of industry on environment, etc. Using their authentic experience supports a co-construction of knowledge along

with a more meaningful and sustaining geographical learning experience (Doering & Veletsianos, 2007). This research supports the idea that not only does technology promote authentic learning through personal connection and prior knowledge and sustain a richer and deeper understanding of the materials being studied, but it can also motivate the students to be more engaged. According to Doering and Veletsianos (2007), “The authentic data that was made available by Google Earth enabled the students to modify their view of the world and their conceptual understanding of space almost as if giving them alternative lenses to view their world with” (p. 220).

As the use of geospatial technology in the classroom is relatively new, there is still a call for more research in this area. In the United States, particularly California, there is a lack of specific geospatial technology curriculum in K-12 (Doering & Veletsianos, 2007). Looking specifically at geography, both state and national tests and surveys indicate that the mode of memorizing information and learning about topics that are disconnected from the students’ lives is ineffective. Using the California State History and Social Studies Standards, I will demonstrate that students’ cognitive understanding, memory, and learning transference will be more stimulated and produce more effective results through a curriculum that offers more access to prior knowledge and student choice. By looking further into how children best learn, we can begin to develop a clearer understanding of why current practices in the classroom need to be modified.

Chapter IV -- Review of Existing Curricula

There are probably as many different definitions for geography as there are introductory textbooks. Although the wording may differ, all do say, more or less, the same thing. Another definition of geography is that it is the study of the earth with particular emphasis on spatial phenomena (National Research Council, 2001). The word "spatial" refers to space on the earth's surface, and spatial phenomena are material -- to put it simply--that may be shown on maps.

History of Geography Education

Little is known about how much geographic literacy, such as encoding and decoding maps, is incorporated into the current geography curriculum, curriculum materials, instructional activities, and assessments. Before the NCLB and state mandated assessments, there was a big push for vamping up geographic curriculum in the 1990s. As politicians and educational leaders in the United states are turning their attention towards the subjects of reading, math, and test scores, geographical education has moved to a much lower priority in K-12 education. As previously stated, the curriculum for geography is superficially represented in our textbooks and assessments within our social studies curriculum. In the last 20 years, the emphasis in education has shifted from process-problem based, creative and critical learning-to product-high achievement and accountability by students, teachers, and administrators (Palmer-Maloney & Bloom, 2001).

Current Teaching and Learning Practice

Most social studies lessons come from state adopted textbooks. Teachers tend not to stray from these textbooks because: (1) administrators and publishers provide school-wide and textbook pacing plans, (2) the teacher lacks in-depth knowledge of the subject, and (3) teachers themselves were taught from textbooks and believe that is the way they should also teach (Zemelman, Daniels, & Hyde, 2005). There is the expectation that textbooks purchased by the district will cover the state standards for the grade. Most social studies textbooks approach social studies, including geography, through the memorization of facts. The problem with this is that to cover each of the standards within the school year, these textbooks have such a rapid pacing guide that memorization can occur without deeper understanding.

Teachers are under pressure to cover their grade level standards, so they often follow the textbook's learning guide. The cost of this methodology is the lack of depth vs. breadth: wider coverage vs. deeper understanding (Wiggins & McTighe, 1998). This is a common problem with teaching today. Not only do teachers feel pressure to get through the textbooks, but what may appear to be connected and meaningful to them can appear disconnected and meaningless to their students (Wiggins & McTighe, 1998). Without a connection to the meaning of the lessons, in the long run, students will not retain the information they've learned.

Because social studies is such a broad subject, the units bounce between politics, geography, economics, history, and social justice so the design is already biased for a

lack of connection, meaning, and long term memory. “Complete ‘coverage’ in social studies inevitably results in superficial and unengaging teaching” (Zemelman, Daniels, & Hyde, 2005, p 177). These texts are packed with so much information (names, dates, facts) that there’s no way students can retain all of the information in a short period of time. Social studies is one subject that has potential to connect to people’s lives and be fun and engaging (Zemelman, Daniels, & Hyde, 2005). Topics such as current events, the fun of travel, capitals, cities, countries, climate, population, natural disasters, language, food, and holidays are all areas that can be covered in geography. The way the current textbook units are designed, especially in social studies, is to move from one unit to the next without going back to make connections.

Although not true for all schools, one challenge specific to geography is that it is still not considered its own subject by some elementary schools. Along with history, economics, politics, and social justice, geography is just one component of social studies. Much of the content of the geography lessons in these textbooks has to do with the social studies unit being studied. For example, when learning how to encode and decode different types of maps, the maps used will be an illustration of a topic, such as California Missions, which is part of the fourth grade standards. The problem with this is that there is no real life connection for the students to relate to (Bransford, Brown, & Cocking, 2000). Those students who have no prior knowledge, connection, or interest in the subject won’t be able to internalize the geography lesson. They will, at best, have a superficial level of understanding. Zemelman, Daniels, & Hyde, (2005)

found that with so many topics to cover, areas like geography are being glazed over without much depth of inquiry. Ideally, text books would have many opportunities to foster and build on geographic literacy, yet they fall short of meeting current state criteria (Key Curriculum Press, 2006). There has been little research done that has examined social studies textbooks for how geographic literacy and spatial awareness are being addressed. In other words, there is a shortage of valid criteria developed which can be used for such examination. This suggests a need for further relevant research.

Spatial thinking and map reading are considered essential skills to be developed in schools and used in real life. More specifically, being able to encode and decode maps, becoming more geographically literate, are not only key components to understanding geography, but also to success in everyday life. Geography emphasizes spatial perspectives and analysis and gives it the potential to foster this important thinking skill (Byrnes, 2008). To support spatial thinking in classrooms, publishing companies, administrators, and educators must be more current with modern ways of developing this important skill in the classroom.

In addition to the problems with the available materials, we must also look carefully at the constructs of learning that are not adhered to enough in everyday classroom practice. Motivation, collaboration, and authentic audience are facets of learning that our current textbooks don't emphasize. Rather, these important aspects of learning are left to the individual teacher. Unfortunately those individual teachers

too often rely on rote memorization allowing it to take precedence over understanding (Reeder, 2002). Learning, thinking and understanding cannot occur without memory (National Research Council, 2001). However, as is clear through our students' test scores and research interviews, that should not be the end of it. Nevertheless, many teachers are satisfied with apparent student understanding. At the time of instruction, students may share a head nod, use the right buzz words, definitions, and formulas at the appropriate time which leads the teacher to believe that they understand the lesson being taught. When the quizzes and test are delivered, one round of correct answers is deemed enough evidence to show competence of the subject matter (Wiggins & McTighe, 2000). This is not the case with long term understanding.

Covering fewer concepts more deeply and allowing for in-depth inquiry activities will help students to make better sense and meaning of the information (Zemelman, Daniels, & Hyde, 2005). Developing curricula that gives educators ways to teach to standards in ways that give students more meaningful opportunities for learning can only improve the overall learning experience of these students. An individual's cognitive development involves the gradual acquisition of strategies for remembering, understanding, and solving problems.

The most effective way to teach geography is to make it engaging and interesting for the class. To do this, one must work with the students' personal interests and prior knowledge. According to Deci (1995), motivation requires

understanding and confidence. By focusing on their interests, they will be more motivated, willing to participate, and more confident in doing so. Research has shown that by focusing instructional time in a way that is motivating through collaboration, authentic audience, and real life connections, students will be more successful with their learning process and retain information longer (Wilber, 2010). Zemelman, Daniels, & Hyde, (2005) discusses the principles for the best practice of teaching. They describe how a good baseline for learning begins with a student-based approach. With the idea of promoting engagement and motivation, teachers can develop lessons around student questions, using authentic experiences.

In the study of geography, teachers can then take the information they've uncovered about their students and add authenticity and real time learning through geospatial technology, current interests and authentic audience. This chapter will show that the majority of state adopted social studies textbooks used in California do not provide sufficient opportunities for collaborative learning, use of an authentic audience, or project-based learning. The social studies textbooks reviewed are *Houghton Mifflin: Oh California* (Houghton Mifflin, 1998), *Harcourt Social Studies Textbook: Grade 4 Reflections, California: A Changing State* (Harcourt, 2007), *Evan-Moor Geography Units* (Moor, 1999), and *Route 21-The Partnership for 21st Century Skills* (P21, 2009).

Textbooks, Standards, and Assessments

Published by the California Department of Education, The California standards in social studies are made up of 3 parts: *The History-Social Science Framework, History-Social Science Content Standards, and the Social Science portion of the California Standards Test* (California Department of Education, 2009). The standards for social studies are broad and cover a lot of ground. They are sequential and chronological in nature, building from one year to the next. Although there are some components of geography woven into the earlier grade levels, according to the History and Social Studies Standards for California, geography isn't even listed in the Table of Contents until 5th grade. Surprisingly, standards for the use of technology within the study of social studies are also not addressed. This is a problem that is unique to California as they are one of the last states in the nation to adhere to technology standards when developing textbook curricula (Key Curriculum Press, 2006). To add technology components and standards is costly both to the publishing companies and even more to the school districts who purchase the textbooks. It is not until 8th grade that a student is tested at the state level. The test covers materials from 6th-8th grade and the questions are mostly focused on factual recall. Geography is minimally covered on this test. Principle #5 of the 17 principles states 'a richer broader curriculum is needed for the early grades (K-3). (California History/Social Studies Frameworks, 2009)

Public school districts spend millions of dollars on textbooks. When carefully looking into what model the publishing companies are using to create their geography curricula, it is apparent the lessons are based on the California State Standards rather than the National Geography Standards mentioned earlier. Although uncertain whether teachers are specifically following the National Geography Standards, it is more likely that they are using the textbook curricula and district assessments to guide their instruction. As the majority of textbooks come from the publishing companies of *Harcourt, Evan-Moor, Houghton Mifflin and McGraw-Hill*, this chapter will look carefully at two of the adopted social studies textbooks. It will note that they do not provide opportunities for on line research, ample motivation collaboration project based learning, or use of an authentic audience. This chapter will also look at *Route 21-The Partnership for 21st Century Skills*, an alternative curricular program that does embrace these constructs of learning and are operating on the premise of 21st century learning.

Harcourt Social Studies Textbook. *Harcourt Social Studies Textbook: Reflections, California: A Changing State* is a popular choice among public elementary schools in California. It is primarily teacher centered in instruction with a pacing guide, suggested leveled learning, and supported English language learner (ELL) components. Looking specifically at how a fourth grade textbook focuses on geography, it is noted that geographic concepts are quick and easy to access. The

pictures and supplemental readings are inviting visually. The maps used in the textbook are researched and prepared by www.mapquest.com and the supplemental readers are written and designed by Time For Kids.

The Five Themes of Geography are easily accessed in the Introduction and offers an over view of how to read maps. The textbook clearly covers the 4th grade state standards for social studies. The first geography project from Unit 1 has the students make a California Atlas. They need to research the state's regions and early groups who lived there (Porter, 2007). Although comprehensive in its' content, because the text covers so much ground with each chapter looking at historical analysis and interpretation, critical research, spatial thinking development and multiple perspectives, this is a perfect example of breadth vs. depth. Harcourt is able to cover so much material in a superficial way without the consideration of how technology can be accessed to support learning, ways to support student motivation, opportunities for collaboration, or use of an authentic audience.

Technology. While there are plenty of opportunities for the students to write and draw for their assignments, there is minimal reference to the use of internet research. In fact, there are only a few pages that has any reference to the internet. The text simply explains that the internet is a form of a technology resource and walks you through how to plan a search if you are to research a topic (Porter, 2007). Throughout the textbook, there is not one project or assignment that requires any use of the internet which, in this day and age, should be a priority with learning.

Motivation. The Harcourt textbook series is a popular choice in the California school systems. Its social studies curriculum is centered on teacher directed instruction allowing little to no choice left to the students. The pacing guide gives the teachers the power to choose which parts of the curriculum they will use as well as how to differentiate instruction for varies student abilities. When it comes to the students having the option to choose what they want to learn, with whom they want to learn, and how they want to learn, the Harcourt curriculum falls short. Its curriculum does not provide any suggestions or resources for the teacher to facilitate this type of learning. Providing choice to students is another way to motivate students (Deci, 1996; Zemelman, Daniels, & Hyde, 2005). Without the support of student choice and ownership of the learning process, motivation decreases.

Collaboration. As this curriculum is teacher centered in philosophy none of the daily and weekly activities, or units are meant for students to work in small groups or develop a project. The lessons are set up for a traditional whole class instruction followed by textbook reading and workbook supplementation. There is a summary section at the end of each unit that offers a variety of tasks the students to work on. Although the summary sections offer suggestions for small unit projects, they do not encourage these to be worked on in a collaborative fashion. It is left up to the individual teacher to make that kind of modification.

Authentic Audience. As previously described, the Harcourt Social Studies textbook lacks deep and meaningful ways to guide students in ways to become more

active learners. Without including supplemental support from technology or group projects, it automatically cuts out the potential to engage an audience in the learning process. Using an audience of your peers and or faculty members on site is one way to bring in an authentic audience. Having that audience to share all of one's hard work is an opportunity to show case one's knowledge. With blogging, podcasts, and webinars, students are also able to find a virtual audience to share their learning experiences with. This is the path that classroom and the outside world are on and large textbook companies like Harcourt should be on board.

Evan-Moor Geography Units. Since 1979, Evan-Moor Educational Publishers has provided teachers and educators with practical, creative, and engaging Pre K-6+ educational materials to support and enrich the curriculum. Based on the five National Geography Standards, the curriculum gives a comprehensive and sequential learning guide to mastering geography skills and to becoming geographically literate (Moor, 1999). The program offers vivid map illustrations and transparencies, daily activities, worksheets, and plenty of independent time for students to use hands-on learning with a variety of maps and globes. The Evan Moor geography units are easy to follow for parents as well. The lessons are student centered and independent in philosophy and less teacher directed. The program also offers teachers e-pages which gives them the opportunities to pull specific activities for the needs of their students.

Technology. Upon further research I found that although the teacher has internet access to this curriculum, there is no place for the students to extend their learning online. It is important that in today's climate, the curriculum offer online extensions of learning, especially when it comes to geography. There are so many ways to incorporate the use of the internet into a geography unit and the fact that most publishing companies are not incorporating this component into their curricula is unfortunate.

Motivation. While the activities Evan-Moor presents are generally clear, they lack a sense of relevancy to the individual student. There is no opportunity for the learner to bring their own experience and voice to each lesson. This program seems like it would be more motivating to primary students as there are colorful map representations and reproducible that the younger students can color and explore with. When you begin to get into the upper elementary grades, the content of the lessons don't seem to be engaging enough to hold a students' interest.

Collaboration. Evan Moor does offer ample opportunities for individual students to build up to an end of the week project based on their daily activities. Each assignment's objective are clear and easy to follow. This curriculum is a preferred one for students who are home schooled or on an individual learning plan. While any of the assignments are designed to promote conceptual understanding of geography, such as how to read and use maps, without the use of collaboration and extra support with one's peers, students are unable to make ample personal growth and deeper

understanding of the topics being covered. The “aha” moments of learning development are lost. The way the lessons and assignments are set up, there simply isn’t enough, if any, opportunity to share in a collaborative way with others.

Authentic Audience. Again, because of the more independent nature of this program, students are more isolated in their learning. Although visually pleasing and engaging, especially to the primary students, the geography lessons and activities do not support or consider how beneficial the use of an authentic audience is. Evan-Moor publishing never addresses fellow classmates or school faculty, on-line pen pals, or interactive blogs as options for learning.

Route 21-The Partnership for 21st Century Skills. Curriculum and instruction have the opportunity to bring real world situations into the classroom for students to explore and solve (Bransford, Brown, & Cocking 2000). Geography is an ideal area of study to do just that. Sixteen U.S. states are proactive in evolving and changing the educational course of the study of geography. Unfortunately California is not one of them. The progressive states are advocates for 21st Century readiness for every student -- focusing on critical thinking and problem solving, communication, collaboration, and creativity and innovation. The goal of the program is to combine core academics, or the three ‘Rs’ (reading, writing and arithmetic), with life skills, the four ‘Cs’ (critical thinking, communication, collaboration and creativity). Although progressive in its mission and content, this program is not aligned specifically to state

and grade level standards. This point of contention would make this a difficult sell to public schools around the country. Figure 3 is Route 21's visual of these 21st century interconnected processes.

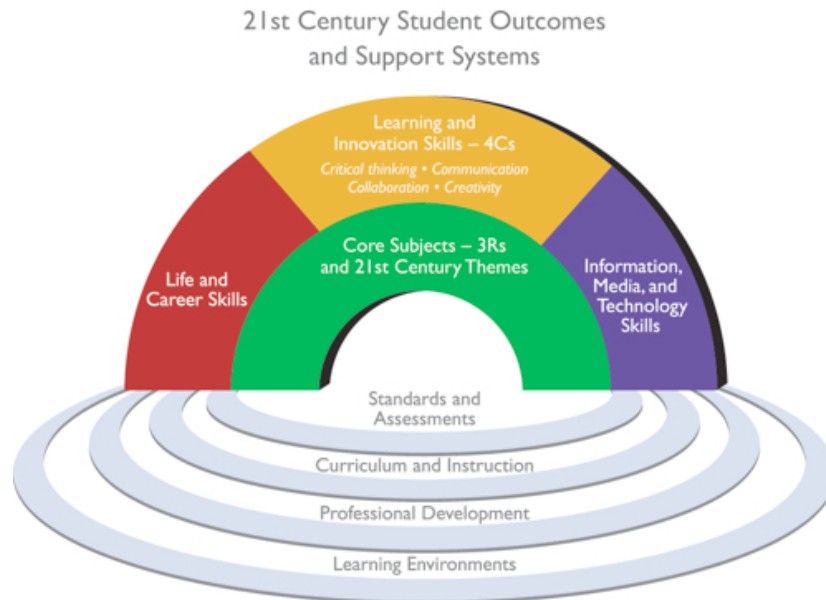


Figure 3: 21st Century Student Outcomes and Support Systems

The graphic represents both 21st century skills *student outcomes*; as represented by the arches of the rainbow and 21st century skills *support systems*; as represented by the pools at the bottom (Nagal, 2009).

Technology. Route 21-The Partnership for 21st Century Skills, or P21, is a learning based program whose ultimate goal is for each student to be able to survive and succeed in our modern and technologically driven world. The Partnership for 21st Century Skills has collaborated with the National Science Teachers Association, (NSTA) and the National Council for Geographic Education (NCGE) to design strategies to incorporate modern skills into the K-12 classroom. The map takes the 18 Geographic Standards and 6 essential elements to provide teachers and students with

engaging geographic inquiry. Together, they have created a framework for not just geography, but life and career skills too. Their objectives revolve around interdisciplinary themes along with a sample student outcome.

Each component of this framework is illustrated through 4th, 8th, and 12th grade projects and activities which align with the 4th, 8th, and 12th grade NAEP assessment. Lead organizers such as National Geographic, International Society for Technology Education (ISTE), National Educational Technology Standards (NETS-T) and Performance Indicators for Teachers (PIT) have specific standards for how teachers will design, implement, engage and assess and improve student learning. With the National Council of Teachers of Social Studies (NCSS) also on board and collaborating for this push, this methodology of learning is beginning to gain speed. Table 3 and Table 4 share the essential tools, skills and strategies that these organizations established for 21st century success in and out of the classroom.

Table 3: P21 Century’s Seven Strategies to Guide the States to Success (Project 21st Century Learning, 2009).

Seven Strategies To Success
High-profile leadership
Broad consensus and a shared vision
Ongoing professional development in 21st century skills
Standards and curriculum aligned with 21st century skills
21st century assessments
An effective communications strategy
An aggressive implementation strategy

Table 4: Project 21st Century Standards

Skills	Outcome
Information, Media and Technology Literacy	Accessing and evaluating information critically, effectively and efficiently
Learning and Innovation	Uses information accurately and creatively for the issues or problems at hand
Life and Career (Flexibility and Adaptability)	Adapt to varied skills and responsibilities
Life and Career (Initiative and Self Direction)	Monitors one's own understanding and learning needs
Life and Career (Productivity and Accountability)	Sets and meets high standards and goals for delivering quality work on time
Social and Cross Cultural	Works appropriately and collectively with others leveraging the collective intelligences of the group and acknowledging cross cultural differences if applicable

Motivation. What is more motivating to a student than collaborating on a project of personal interest, studying relevant current events, using technology to support research and presenting findings to a real and virtual authentic audience? This program has all of these elements to enrich and support a child's motivation and curiosity.

Collaboration. Because P21's mission is for students to be successful in the real world, communication, collaboration and project-based learning are large essential components of its curricula. As a stated primary goal, P21's framework specifically addresses these important life skills as a way for students to become more proficient academically and socially.

Authentic Audience. Authentic audience is a big draw to Route 21's curricula. Their projects are geared towards creating presentations to a variety of audiences. Although it is not explicit with standards, rubrics, and other typical grading formats, any teacher or school that is using this program will be able to take the activities and opportunities presented and extend them towards a wider audience. These curricula are not for educators who are used to following a standard pacing plan or to teacher directed learning. This is certainly an out of the box type of learning, but is finding success on a different level than solely with standards based instruction.

Final Thoughts

Even though there is clear evidence that schools are failing to make sufficient progress in areas of science and social studies, public school districts and educators in California are still bound to these textbooks, such as Harcourt and Evan-Moor, and are expected to use them for their instruction. Many public schools and social studies educators have been conservative forces in American education, making it difficult to modify a strongly established curriculum and commonly accepted instructional strategies.

Because this world is rapidly advancing, the schools needs to move more in the direction of global education supported by technology; but, unfortunately, any movement is very slow. Although the textbooks cover content standards and offer great visuals imagery they are not supporting cooperative collaborative learning, use of an authentic audience, or project based learning. It has been proven that project-

based learning can enhance student motivation and understanding of geography by deepening the student's personal interest and having her take responsibility for her learning. Unfortunately, opportunities for geography teachers to insert alternative, creative, and relevant material are reduced because they are denied an active role in curriculum planning (Winter, 2009).

Chapter V -- Welcome To *Traveltopia*

Introduction

I developed this geography curriculum to address students' struggles with learning and their failing to retain concepts of geography, specifically with coding and decoding map skills. During my ten years of teaching, spanning four different elementary school grade levels, I noticed that these challenges come from two sources: The first is that teachers aren't giving enough attention to the subject of social studies, specifically geography. The reasons for this are a) administrators aren't allocating sufficient time to teach the subject and b) teachers themselves aren't educated enough in the subject. Another reason that students are struggling with geography is there is an overall lack of motivation and interest from the students to learn about the subject when taught directly from the textbooks.

Countless times I have seen firsthand how, although students are taught mapping skills such as spatial thinking out of the state adopted textbooks, they are not retaining the information. Most of the lessons are taught through a few textbooks pages followed by a workbook practice page. These books cover a lot of content in a shallow format. Students typically do the work independently and take a quiz at the end of each chapter or test at the end of each unit to check their comprehension. There are no group projects in these textbooks for students to collaborate on. Because the content of the lessons have no direct connection to the students' lives, they repeatedly become bored or uninterested in the work. Since the teaching out of the textbooks is

mainly teacher-centered rather than student choice, collaboration and authentic audience, so much of the learning is shallow and meaningless. It is no surprise that the students' academic performance is mediocre. Much of the lack of motivation is a byproduct of mediocre instruction from poor curriculum planning and pacing from the larger textbook companies. Hoang (2007) claims that motivation can affect students' abilities to enhance conceptual understanding. This can directly affect a student's ability to be successful in the classroom both academically and socially. To help students become more successful and excited about geography, I have created the curriculum *Traveltopia*.

Goals of *Traveltopia*

Traveltopia is a collaborative project-based learning curriculum aimed to address the learning and development of spatial thinking skills through the coding and decoding of maps. It also seeks to develop teamwork skills in and out of the classroom. To accomplish these goals, *Traveltopia* focuses on the constructs, or theories, of motivation, peer collaboration, and the use of an authentic audience that can enhance and advance skills for students. I organized this curriculum with these goals in mind:

- Students will become more proficient with their map skills through developed coding and decoding map reading skills which will improve their spatial awareness.
- Student motivation and team building skills will improve through a peer collaborative project created for an authentic audience.

- Students will improve their understanding of how geography operates in their everyday lives.

Each of these goals will influence the other. As students develop more proficiency with their spatial awareness and mapping skills, they become more motivated to participate with their team on the collaborative project. Eventually they are able to apply these social and academic skills to their everyday lives.

In order for students to become more comfortable and confident with mapping and vocabulary, the class participates in activities that increase their comprehension. Because motivation and self confidence are factors that contribute to one's success and behavior, motivation will be encouraged and supported throughout the structure of the activities. The lessons are primarily student-based with the teacher primarily playing a facilitator role. The instructional format of teaching and learning is a mixture of direct whole class instruction, teacher modeling, small group activities, and individual work. The focus of learning is stimulated by the collaboration of teams composed of five to six students with sub groups of two to three within each team. *Traveltopia* is divided into four phases with each phase addressing the three goals just noted. As will be discussed later in this section, each phase will contain activities that build on the previous ones with a culminating research project to end the unit.

Through observations in the classroom and research on the topic, I looked carefully at the areas of map reading and spatial thinking skills. There is sufficient lack of attention in these areas which should be more effectively addressed in social studies and geography textbooks (Salter, Hobbs, & Salter, 1998). While creating and

developing this curriculum, my focus has been to address students' struggles, not only with these important life skills in mind, but also with the intent of developing their abilities to work within a group. Throughout this geography unit, students will also develop their research skills by using outside sources such as the internet, hand held tape recorders, atlases, magazines, and brochures. *Traveltopia* not only requires students to interpret and analyze information, but also to apply that information to their personal lives in meaningful ways outside the classroom.

The curriculum I developed has the students working together to plan a one week vacation for a member of the staff at their school site. Each group of students interviews a "client," researches their destination, creates an itinerary, and produces a poster illustrating the overall vacation. The groups are composed of five to six students. For each phase, students work in sub groups of two to three as well as with the whole group.

Throughout the duration of the geography unit, students are responsible for their own individual jobs, for small group jobs, and for the whole group project. The writing portion is an informational piece of writing that comes from the research of the vacation destination, while the visual portion is represented on a poster board. There are specific requirements for the written and visual reports. The students use three different types of maps to illustrate their findings. This chapter gives a brief over view about my educational observations, goals, constructs, and curricular activities.

Classroom Climate

In today's classroom, there is a strong emphasis on teaching to the test. Teachers are expected to cover a wide range of standards and lessons for each subject, mainly language arts and mathematics, in a short time. Simply exposing students to these standards is not an effective to promote student learning. Depth of learning is largely ignored due to pressures for teachers to cover each of the contents and standards in a short time (Wiggins & McTighe, 2005). In order for the average student to learn new ideas, there needs to be a sufficient amount of time spent on the subject. When teachers teach directly from the text and eventually to the test, there is a tendency to use a method of teaching through rote memory skills to cover grade level content and administrative expectations.

Another pattern that has arisen in the classroom that is a direct result of teaching to the test is that there is not enough emphasis on student choice in the learning process. If students have the opportunity to make choices and decisions about their learning process, they would take more pride and ownership of their own responsibilities (Deci, 1996).

My experience has been that due to the pressures of testing and covering other subjects, geography is widely overlooked. When it comes to covering geography in the social studies textbooks, larger publishing companies spread their geography activities through the course of the school year. With students exposed repeatedly to the key grade level standards of fourth grade geography, *Traveltopia* addresses the

needs for a more in depth approach to learning geography, particularly with coding and decoding maps, giving them the opportunity to study these important concepts in one unit of study. As the teacher helps to develop higher level thinking skills, it is my belief that here lies the perfect opportunity to teach and learn in an authentic, hands-on environment. Through their team research and final project, the students will experience these opportunities when using the *Traveltopia* curriculum. Working with a “client” of their choosing and presenting their end product to their audience, the groups take more ownership and pride in their work which makes their experience that much more authentic and meaningful.

Finally, students will develop research skills that will give them the foundation they need to be successful in and out of the classroom (Warschauer, 1997). Through its four phases of learning, *Traveltopia* provides students with a structured model to carry out a research project using a variety of research tools. The quality of each team’s final research project will rely on the depth of their research. Their research skills will be finely tuned through writing activities as well as visual aids.

***Traveltopia* and Theories of Learning**

Spatial Awareness. Whether it’s through using websites such as www.googlemaps.com, global positioning systems (GPS), or simply being able to read and use maps, applications of geography are used daily in real life. In order for students to comprehend the meaning of a map, they need to be able to understand and recognize symbols, comprehend that these symbols refer to real, three dimensional

counterparts (e.g. cities), and project the spatial arrangement of these symbols on a map (Byrnes, 2001). *Traveltopia* uses these skills to scaffold into each of its four phases.

Motivation. Strategies to increase motivation are embedded throughout my curriculum. You will find them through individual and group choice, research tools (e.g. internet, tape recorders, real life “clients”), as well as engaging activities based on authentic inquiry. The ideally safe and conflict free environment is something that does not come easily. The teacher must develop a community within the classroom that fosters a certain level of peer trust in order for the students to feel safe in taking new academic risks. Deci (1996) states that giving people choice can intrinsically motivate them, and the more motivated people are, the more engaged they are to complete their work. This tone was set by having the groups choose who they would interview and create their vacation for. Because the groups are larger (five to six) I learned from the pre-implementation that the activities would be more efficient and successful if the groups were divided into subgroups. Each phase has two activities in which the students can choose to work in their subgroup of two to three. Providing engaging activities based on real life inquiry is a motivational force.

Peer Collaboration. *Traveltopia* includes many elements of collaboration, such as clear expectations for partner and group work, a project-based project, teacher modeling of collaboration, and student choice. Through peer collaboration, students have support from each other as they engage in learning. Students work within their

zone of proximal development (ZPD), first within their own personal understanding, then with a group. The pupils will ideally push their own learning limits through peer communication and independent thinking (Vygotsky, 1978). Working in a group setting is an important life skill. To work with a student's ZPD, it is important to vary the groupings in a heterogeneous fashion. Table 5 shares some ways to form cooperative learning groups. Any educator using this curriculum should consider the following suggestions for how to develop the small groups.

Table 5: A list of suggestions for forming collaborative peer groups.

Do	Don't
Create small groups of 3-5 students.	Do not create groups that are larger than 5 students.
Mix students of low, middle and high abilities in the same group.	Avoid grouping students with same academic abilities.
Mix students of low, middle and high levels of confidence in the same group.	Do not create groups where students share similar levels of social skills.
Try to make sure each person has one buddy in their group.	Do not make groups that are full of close friends.

Overview of *Traveltopia*

Before beginning the unit, it is necessary for the students to become familiar, but not expert, with what maps are, how to use them and how to make them. They need to have an overall idea of what the study of geography means, a familiarity with various types of maps (e.g. road maps, time zone maps, land and resource maps), as

well as some knowledge of relevant vocabulary terms (e.g. compass rose, map legend, map scale). By prepping the class beforehand with these components, students will be more prepared to take on *Traveltopia* with more confidence and expertise. The Appendix offers some specific ways to prepare students before getting started with the unit. The following specific California History-Social Studies Standards were the focus of this curriculum:

1. Demonstrate an understanding of the physical and human geographic features that define places and regions in California (California Department of Education, 1998, Standard 4.1)
2. Explain and use the coordinate grid system of latitude and longitude to determine the absolute locations of places in California and on Earth. (California History-Social Studies Standard 4.11)
3. Use maps, charts, and pictures to describe how communities in California vary in land use vegetation, wildlife, climate, population density, architecture, services, and transportation (California History-Social Studies Standard 4.15).

This curriculum was also based on the 21st Century Skills Map designed in cooperation with the National Council for Geographic Education (NCGE). This partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects. The specific components that I pulled from this map were from the category of Geography and 21st Century Skills mentioned in Chapter IV. These three correspond to the National Geographic Content Standards (1994) with an updated edition that was released at the end of 2010 (www.ncge.org).

Traveltopia is a geography unit for fourth graders that guides them through a collaborative project. Students are responsible for planning a one week vacation for a school staff member of their choice. They will create an itinerary as well as a present a visual component illustrating the details of their client’s dream vacation. *Traveltopia* is a unit that, depending on the teacher’s timeline, can be completed if used a few days a week for six weeks. *Traveltopia* is organized into four phases. Table 6 shows how the constructs and activities are incorporated into each phase of the *Traveltopia* Model:

Table 6: General features and activities of the *Traveltopia* Model.

Phase	Construct	Activity
I- Interviews/Internet	Motivation Peer collaboration Authentic audience	Brainstorming/Creating Interview Questions; Interview; From Voice to Text; On-line Research and Sharing of Information
II-Plan/Research	Motivation Peer collaboration Spatial thinking	Itinerary and Map Creation; Division of Labor
III- Rough Draft	Motivation Peer collaboration Spatial thinking	Planning the Visual layout portion of the final project; Drafting the Written portion of the final project
IV-Final Copy/Presentation	Motivation Collaboration Spatial thinking Authentic audience	Final Draft; Presentation Plan and Practice; Final Presentation

Each phase will incorporate independent work, small and whole group activities, and finally, whole class discussions with teacher guided directions. There will be a division of labor so that students will have an opportunity to work closely

with the other members of their team as well as the individual choice of tasks. At the beginning of each phase, students receive their own packet. Each packet contains an introduction and outline of the current phase, various activities, and evaluation forms e.g. surveys, reflective writing prompts.

Phase One-Interviews and Internet Research. In Phase One, the students begin by coming up with a team name. They are each given their Phase One packet, an individual folder for their independent work, and a large team envelope to for their collaborative work. Once they have agreed upon which staff member on campus they want for their “client,” an agreeable time is set up for the interview. If available, each team will have a hand-held tape recorder to use during their interviews. Chances are that some other faculty member will have one to lend.

Before the actual interviews, the teams will use the *Interview Questions Sheet* (See Appendix) to put their interview ideas. At this point, the whole class should convene and share the different questions and thoughts that their team came up with. Facilitated by the teacher, the class should then agree on the best ten to twelve questions to use in their interview. Since there are five to six students per team, that would give everyone the opportunity to come up with two questions. For the sake of organization and clarity, the teacher or, ideally, one student per team, may type up the final questions and make copies for the interviewers to use.

I suggest that the class conduct a practice interview with either the homeroom teacher or another staff member as the model client to help the students with their

delivery, the practice of taking turns, or what to do if any mishaps may occur (like a tape recorder breaking down). This is also the time to teach the class how to use the hand-held tape recorders and, depending on the teams, whether the adult being interviewed should be in charge of the recorder.

For their first collaborative challenge, the small groups decide who will be in charge of interviewing their subject and who will be working on the internet research. Depending on the dynamic of the class, the teacher may want to assign these roles, however, this is a great opportunity for the groups to discuss their individual roles together as a team. Teachers should use their best judgment in how to approach the assignment of jobs. Since the unit is divided into four phases, each student is able to have two chances to choose their “jobs”. For example, if they didn’t get their first choice for Phase One, they would have first choice for Phase Two.

While the interviewing groups are conducting their interviews, it’s useful to use the time with the internet group. The teacher can print out some information from each group’s online research and show them how to find the key or most interesting points to share with their other team mates. *The Resource Recording Sheet* from the Appendix is useful for keeping track of where they are getting their information. Travel teams then work together to decide how best to divide the research to be most effective and efficient in their team’s study and presentation of the region chosen by the client. Once the interview and early research is complete, each team will come

together to share their new found information. The students listen to the interview and transfer the information from *Voice to Text* (See Appendix).

Phase Two-Planning and Research. Next, students are given the Phase Two Packets which they will keep in their individual folders. It is during this time that the team members must work together to come up with a specific plan for their client's itinerary. It is suggested that the whole class meets for ten to fifteen minutes to discuss what types of information students have found. Depending on the classroom and school resources, along with the teacher's schedule, the students should spend another few periods working on researching and collecting information about the travel destination, more specifically looking for what their client wants. Also, it is crucial at this time to discuss good strategies and the rules for team meetings. The *Pass the Popsicle* communication form that is in the Appendix helps scaffold the students into speaking and listening appropriately. After the whole class meeting, the groups break off and spend fifteen to twenty minutes sharing and listening to each other's ideas. This is also the phase in which they need to agree on three different types of maps to use for their visual portion of the project. There is a page in the packet where each student must choose and illustrate one type of map of the travel destination.

During this phase, the groups are encouraged to work out a plan for the division of labor. This is important as it will set the tone for Phases Three and Four. As some students will have more access to the internet and other resources outside of

the classroom, the groups should agree on who can contribute what towards the research. The teacher can use supplemental resources such as atlases, travel books, and brochures through the school or public libraries, travel agencies, or other teachers' materials.

Phase Three-Written and Visual Rough Drafts. Once each group, and the teacher, agree that they have collected sufficient information to move forward with the rough drafts for the project, students will move into Phase Three. It may be that the groups will not be ready at the same time. The teacher should use his/her best judgment whether to keep the groups moving along the same time line or accommodate the needs of the individual groups. Using the guidelines for the Phase Three packet, students will take this time to plan both the written and visual presentation portions of the final project. Each team will again need to have a meeting to communicate and divide up portions of the work within their group. The two main jobs will be a) creating the visual poster and b) the written portion. It is important to let the whole class know that, at some point, they will each be able to work on both portions of the final project. As some students are more artistic and visual while others enjoy more of the writing and research, the hope is that each student will become more motivated to work in a medium they feel comfortable in. They can then teach and share with the other students in their group what they've done.

Phase Four-Final Copy and Presentation. Once the visual and written rough drafts have been approved by the teacher, the group can then move forward and use

the rubric, expectations, and guidelines in the packet for Phase Four. The teams will use a final poster board and type out the final written piece of the project. They will use this time to decide who will say what during the presentation. They will have time in class to practice their delivery. During the presentations, the audience, including the client, will take notes about the vacation destination as well as evaluate each team's performance through guided questions, reflective writing, and various surveys. Once the groups give their presentations, there will be a final round of post-assessments (see Appendix) to see how far they've come since the pre-assessment.

Assessment and Evaluation of *Traveltopia*

Assessment of this curriculum is based on the depth of information students gather and how well they translate and present their information to the rest of the class. Students are not only assessing themselves and their group, but how the other groups perform as well. Cooperative group work is an essential component of this curriculum. The level at which students collaborate and work together to build knowledge is vital to their individual success. Using the goals and subgoals described earlier in this chapter, various assessments are used to measure a student's progress toward achieving the goals of the curriculum. Throughout the unit, observations, interactions, and surveys are conducted in a variety of ways to ensure a well-rounded use of evaluation tools.

Chapter VI -- Implementation and Revisions

The Setting

During the school year of 2010-2011, I visited a fourth grade class at Garibaldi Elementary, one of seventeen elementary schools in the Avalon School District. I have worked within the Avalon School District for the past ten years so I am familiar with this district's policies, standards, and budget woes. There were a few reasons why I chose to work with this particular fourth grade class from Garibaldi Elementary. First, I had worked as a first and second grade teacher there for the past five years and was familiar with the staff, student body, and families. Second, one-third of these thirty-two fourth grade students were in my second grade class two years ago. I was particularly interested to find out what they had retained of the geography I had taught them two years before.

Another reason for choosing to work with a fourth grade class, is that it is the first of three grades, fourth, eighth, and twelfth, that are nationally assessed by the National Assessment of Educational Progress (NAEP). The NAEP conducted a Geography Consensus Project to determine and assess the fundamentals of geography that should be taught by outlining the areas to be tested on the 1994 and 2001 national tests (Council of Chief State School Officers, 2000). The next assessment will be conducted this year, 2011, so I was particularly interested in how this specific group of fourth graders would do with an in-depth geography unit. During this implementation, I was not teaching full time at Garibaldi Elementary.

The majority of the schools in the Avalon District, such as Garibaldi, are on the Title I plan and have large English Language Learner (ELL) populations. Title I funds aim to bridge the gap between low-income students and other students. The U.S. Department of Education provides supplemental funding to local school districts to meet the needs of at-risk and low income students. In 2006 and 2007 Garibaldi earned the distinction of an exemplary Title I school in the state of California. 61% of the families qualified for free and reduced lunch. The student body population of Garibaldi was 730, which includes pre-school up to fifth grade. Schools in the Avalon District are widely diverse in ethnicity and demographics. The school sites are spread out between the beach, the inland valley, and some, like Garibaldi, are on a military base. To give the reader a better idea of what the diversity of enrollment looks like, Table 7 shares percentages as divided by ethnicity.

Table 7: Enrollment at Garibaldi Elementary (Ethnicity)

Ethnicity	Percentage
Caucasian	55%
Hispanic	35%
African American	6%
Pacific Islander	4%

The morale at this school is high and the camaraderie among the staff is strong. Both staff and students proudly wear T-shirts with the school logo, are actively involved in school spirit days. There is a strong Parent-Teacher Organization (PTO).

Classroom Meetings and the Second Step programs are used and supported in each classroom. Both the meetings and the program are interventions used to improve classroom and school wide community and conflict management. Because Garibaldi Elementary is located on a military base, the funds provided to the school come from the state, district, and federal levels. There are support groups provided for the students as well as the families dealing with a family member who is, has been, or will be deployed overseas.

Garibaldi Elementary is recognized as a high performing school. For the past six years, (2004-2010) the Academic Performance Index (API) scores have been consistently in the top three out of seventeen elementary schools in the district. API measures the academic performance and growth of schools on a variety of academic measures, specifically through standardized testing (California Department of Education 2007). In 2010 the school's score was 853, higher than the state average of 800. Eighty percent of the parents have some amount of college, while 24% of the parents have a college degree. Because the majority of these students are in military families, they have traveled more than the average child and, by the fourth grade, have been to an average of two to three elementary schools.

Garibaldi Elementary is in dire need of a facelift. It was built in the 1950s and, other than some new trailers that have been brought in, remains in its original condition. The core classrooms have an ancient heating system with no air conditioning. The carpets are dingy and in need of replacement. The teachers are

constantly frustrated with the lack of structural upkeep on campus. They have been promised renovations for years, but the projects keep getting pushed back. The way to open the windows is with the long broom-like poles with a hook on the end to unlatch the window locks high above. The classroom I visited had three or four different fans. When it is hot and the fans are all going at once, it's loud and windy. This classroom is equipped with three working computers, four if you count the teacher's, as well as a computer lab the students visit one time a week for 30 minutes.

Although the school is rundown and the student body transient, there is a really nice sense of community among the staff and families. Many of the teachers who work there have been there for 20 years or more. There is a strong sense of comfort and stability within the working staff. Year after year some teachers, like myself, find themselves moving around the district to different school sites due to layoffs. Conversely, because there is a constant turnover of students, mainly due to the military families moving so often, the faculty and student body have a built-in sense of empathy and resiliency to the constant change that is a part of the routine at this school site. One of the benefits with working with a military population is that their personal experiences give them a more developed sense of geography than the average students. Not only do they themselves move from base to base, but their family members are deployed all over the world so they have a more keen sense of location and spatial awareness.

In the past, I have always organized my classroom in a way that is a mix of traditional and nontraditional teaching and learning methods. Traditional refers to whole class instruction, using the textbooks and pacing guides provided by the district. Some nontraditional strategies I use are small group rotations for centers, setting up desks in group clusters or a wide horseshoe instead of rows, and having an open space where we can sit for meeting, which can take place at anytime. The purpose is to build a sense of trust, improve listening and speaking skills, and develop an overall sense of classroom community. I have found that the physical layout of a classroom facilitates the kind of personality a classroom can take on. With that said, I have spent spend the majority of my years in teaching in primary grades. The class sizes are much smaller and more manageable. It is easier to organize and facilitate small group work in a smaller class as there are smaller bodies and fewer desks to take up space.

I was not able to set up the physical layout of this fourth grade classroom the way that I would have liked, as it was not my classroom to rearrange. As I only visited the class two times a week for the afternoon, it was not feasible to make these changes without disrupting the class. I felt too, that I needed to show respect to their home teacher, Mr. Chapman, by not making too many changes. Also, because the upper grades in the Avalon District have a larger ratio of students to teachers than the primary, the space was just not available.

Student Background

This particular group of fourth graders was made of 32 students with varying academic abilities. As supplied by the principal, the district analysis of the school demographics also shows the various classifications of each class. Something to take note of is the correlation between the percentage of students on a behavior plan and the number of students who have had a parent deployed in the last twelve months. As was confirmed by Mr. Chapman, eight of the nine students on behavior plans also had a parent who was deployed. Table 8 shows student gender and Table 9 shows student learning classification.

Table 8 Classroom Enrollment by Gender

Gender	Total Students	Population
Boys	17	53%
Girls	15	47%
Total	32	100%

Table 9: Classroom Enrollment by Learning Ability

Learning Roster	Total Students	Population
Regular Education	14	44%
E.L.L. (English Language Learners)	3	9%
I.E.P. (Individual Education Plan)	8	25%
G.A.T.E. (Gifted & Talented Education)	7	22%
Behavior Plans	9	28%
Students whose parent has been deployed in the last 12 months	19	59%

When considering the wide range of students, individual learning disabilities, various behavior issues, and home life dynamics, I knew that careful monitoring and consideration of group placement was critical. Because I have worked at this school on and off for the last ten years, I have seen many instances of how dramatically the students are affected by the deployment of a parent. A typical deployment will usually last seven months. The deployments have been most often at or around Iraq and Afghanistan. Many of these soldiers, both fathers and mothers, have had up to five or six deployments. They leave for seven months, come back for five months, and then are given orders to leave again. The families are left to cope at an understandably very stressful time.

Many of the military students in this fourth grade class and throughout the school are involved in therapy both on and off campus. Because this school site is on a military base, it has the unique opportunity to receive district and federal funds. A large portion of the federal funds are used for counseling and after school programs such as Big Brothers & Big Sisters. Although there are many interventions in place at the school site, the trauma of an absent parent and strained home relationships overflow into the classroom. As was supplied by the Avalon School District, the divorce rate on this base statistically much higher than the general state of California. Here is a case description of one particular student who comes from a military family and is going through a divorce. His name, along with any others have been changed for anonymity. His story is not uncommon with these students of military families:

Vignette #1

Dylan is a student who is both GATE identified and on a behavior plan. His dad has been deployed 4 times since 2006 and his parents are currently going through a divorce. Two years ago he was in my 2nd grade class. Back then, his mom was on the Parent Teacher Organization (PTO) and very active in our classroom. Dylan was always very organized, helpful, and independent. He would constantly read, write, and draw comics and was fascinated with coming up with his own inventions. I had him on an independent contract where he would go to work on his project once finished with his classwork. Dylan was always very even tempered and a leader in the class.

Two years later, a lot has changed. Dylan's dad has been deployed 4 times since 2006 and his parents are currently going through a divorce. He is now on a behavior plan for getting into altercations with other students on the playground and being argumentative in class. He is still high achieving scoring well above grade level in all subjects and state-wide testing. His current teacher, Mr. Chapman, filled me in on the daily problems that have been going on in the classroom this year. First off, he has become very inconsistent with bringing in his homework. His desk is constantly a mess and he complains that he can't find anything. His appearance is disheveled and he is often seen distracting other students during instruction time. When asked to help out in the classroom with various tasks, he is still happy to do so as it seems he'd rather be doing anything other than his own work. His mom is no longer actively involved in the school, but she still tries to either drop him off or pick him up from school. It saddened me to see how much his demeanor had changed since I taught him two years ago. This type of story is not uncommon with these students of military families.

Analysis of Curriculum

Traveltopia was implemented from January of 2011 to April of 2011. During these months, I visited the class a weekly total of 195 minutes, for 24 sessions. The entire time was devoted to the curriculum. I came to the class with the intention of immersing the students in encoding and decoding maps through a current and relevant

locale. The overarching goals of this curriculum was to improve students' understanding of geographic vocabulary (e.g. map legend, map scale), and to acquire spatial thinking skills both in the classroom and in their everyday lives. The project outline stemmed from the California State Standards for social studies in the fourth grade along with the 21st Century Skills Road Map. Ideally, by planning a trip for someone using maps and identifying physical and human geographical characteristics, in other areas of the world, the students will be able to transfer their knowledge back to these identifying these characteristics of California.

Teaching and Learning Before Implementation

I came in to the classroom as a guest teacher with the intention of visiting two times a week. Because of my knowledge of the school site dynamics, staff and student body from previous years teaching there, I was not a foreign face to most, and my presence on campus was already familiar. The homeroom teacher, Mr. Chapman, and I worked out a schedule for when I would visit and implement my curriculum. I would meet with his class Wednesdays for roughly 75 minutes and Fridays for 120 minutes. Mr. Chapman informed me that he had taught very little geography in his classroom since the beginning of the school year. Like so many teachers' experience, the pressures of standardized testing, theme testing, pacing plans and Professional Learning Committees (PLC) centered on language arts and mathematics were the eminent priorities and driving forces in Mr. Chapman's everyday teaching practice. This left very little time for teaching subjects such as social studies, science, and art.

From the outset, I could see that I would face many challenges that a full time classroom teacher would not typically encounter. For example, I was not familiar with students' names, educational strengths and challenges, individual outside services (e.g. Resource, Music, Read 180), and family dynamics. I had to rely heavily on Mr. Chapman to provide me with general information about the class as a whole as well as individual student issues that I needed to be aware of. From the beginning, I knew I wanted to have the class of 32 work on a peer collaborative project.

I asked Mr. Chapman to help me set up working groups of five to six that were heterogeneous and, with consideration to various individual factors, as conflict free as possible. We did our best to make sure that everyone had a good friend in his group, which was divided evenly by gender and ability levels.

Although Mr. Chapman's classroom was not set up for small group learning, the desks were aligned with the students facing each other in two long rows. Two students sat next to each other at a longer table. This showed me that the students had the ability to easily engage in dialogue. In addition, four individual desks were set apart from the long rows to accommodate those students who needed to be in their own island, so to speak. These were classroom modifications made for them as part of their behavior plans. Because the class was so large, there were pockets of rug area for students to sit or work, but no room at all for any kind of wide open space for the whole class to work. There were three working computers, one teacher's desk/table and one horseshoe table. The walls of the classroom gave the environment a cheerful

feeling. There was a lot of student artwork, motivating photos and sayings. One that caught my eye was a poster displaying the word T.E.A.M.-Together Everyone Achieves More.

Before implementing my curriculum, I had served as a substitute teacher for this class many times during the first half of the school year. Before coming in as a guest geography teacher, Mr. Davis, the principal, and I met to discuss the classroom's overall daily schedule, structure and procedures. I was informed that because of the larger class size, multiple behavior issues, and limited time, the class was generally taught in a traditional manner. This means that typically the teacher follows the school pacing plan, does most of the lecturing to the whole class, and then assigns various daily lessons. However, there were some opportunities for collaborative learning. For example, Mr. Chapman would occasionally have the students work in small groups or have small discussions pertaining to the lesson being taught. Unfortunately, because of the constant assessments and rigorous administrative expectations, it was hard for him to cover all of the curricular materials in a timely manner; he didn't have enough time to branch out into a collaborative learning extension. He expressed that ideally he would like to teach in a more collaborative and project based fashion, but felt too much pressure to cover core materials and standards.

He continued to explain that although he did most of the lecturing along with whole group discussion, followed by assignments out the textbooks and workbooks, the students were given some choice in the order in which they completed their

assignments. They were also allowed and encouraged to work with their neighbors at their seats. To best deal with the issues of space and pressures of required assessments, Mr. Chapman believed that the way he set up his classroom and conducted his daily lessons was the most efficient given the circumstances.

Because the class is not strictly traditional, I felt I could introduce the ideas and activities of peer collaboration and small group activities without their being too foreign. I knew that it would be tricky to come in mid year only 2 times a week and expect the class to jump right into a new style and arrangement of teaching and learning. Little did I know how tough the transition would be. From the beginning, I felt that it was necessary to rearrange the desks and tables to accommodate groups of five to six. I wanted them to be clustered in a way where they were all facing each other which could facilitate group discussion and work. That in itself was a challenge. The kids would get really hyped up at the idea of rearranging the furniture. Imagine how a class of 32 fourth graders would act having to rearrange a classroom twice a week. This act in itself took on more of a life than I had hoped and took away from focusing on the content of the activities I had them working on. I decided that the best way to deal with these circumstances was to keep the classroom arrangement as it already was but to have the clusters of groups move themselves to different corners of the classroom when I was teaching.

Before I started the actual implementation, I engaged the class in a variety of pre-implementation activities to assess their prior knowledge of geography, more

specifically mapping skills. I also wanted to see how the dynamics of small group collaboration would work so I could make any adjustments before the implementation, if necessary. Chapter VII will describe in more detail the experiences and activities from the pre-implementation phase. It was from there that I had a more accurate vision where we were starting and how I would to begin building on prior knowledge and classroom experience.

Diagnostic Assessments-Checking and Building Prior Knowledge

I began the diagnostic assessments by looking carefully at what the students already knew about geography. We began with a small writing prompt asking them: *What is Social Studies and What is Geography?* As it would be for any adult, it was very hard for the students to put their thoughts down. My intention with this writing prompt was to get some idea of how they thought about the subject. From there I gave them two separate assessments, one on geographic vocabulary and the other on map variations. I used the fourth grade Social Studies standards and textbook chapters (Reflections, 2002) to guide these pre-assessments.

After the diagnostic assessments were given and the heterogeneous groups of five to six formed, we began the *Map Jigsaw* activity. In the fourth grade, the California State and Avalon District Standards states that students must know how to read, distinguish, and compare these different types of maps: elevation, population, historical, time zone, road, and land and resource (California History and Social Studies Standards and Frameworks). Using the textbook and workbook, each group

was responsible for becoming an expert in one particular map. Following guidelines created by the teacher, students were to answer particular questions about their map and then create their own map to present to the class.

Considering that this was the first trial team activity, the groups ran into quite a few road blocks that I hadn't anticipated. Initially some students took on the leadership and delegator roles, while others were more passive. Some students were down right uncooperative with each other or were more interested in what other groups were working on. Many of them complained about not being heard within their group or others not doing their jobs. Finally, there were a few students who just had a very hard time working with other students and were much more comfortable and used to working by themselves. I realized that there were a few factors that may have contributed to this disconnect.

First, introducing a new style of teaching can be jarring for any student. It takes time and trust to adjust to a new type of environment and a new teacher. Many students are simply resistant at first and need more time than others to make the transition. Second, because so many of these students come from a military background, they may be used to change, like a new school or new house, but have experienced these changes in a more isolated fashion. I was asking them to place faith and trust into their team, many of whom they were not that familiar with. I realized that this was a harder transition for them than I had anticipated.

Because there seemed to be so many group challenges, at the end of *Map Jigsaw Part I*, I had each of the students do some reflective writing about what was working in their group, what wasn't working, and any ideas that they had for how to improve the quality of their teamwork. We then shared out some general responses and ideas, careful not to name names, which ended up being a great help for the class and especially for me. I found that the students' responses corresponded to my own notes and observations. They all agreed that some ways to improve the work dynamics and settle small conflicts would be to have team votes, use the hand game rock, paper, scissors, and to divide the groups into smaller groups to share responsibilities. The fact that they came up with these ideas on their own and agreed collectively seemed to bring the class together a bit more as well as a shared pride and ownership for navigating their way through solving some of their problems.

Map Jigsaw Part II seemed to work out a little bit better and was a bit smoother run of a small group activity. Teams were calmer with each other, more cooperative, and considerably more on task. Some of those challenges however still persisted. It was interesting that one group in particular that had a positive experience for Part I, really ran into some road blocks in Part II. Conversely, one group that was the most challenged during Part I made a complete turnaround in Part II.

Supporting a Collaborative Learning Environment

It was at this point that I decided I needed to step back from the implementation of the academic curriculum and spend some time team building. My goal was to

develop more comfort, trust, and respect within the groups with the bigger goal for them to be able to work most effectively in a collaborative setting. One afternoon, about two weeks into my visits, I devoted the entire afternoon to these activities that attempted to promote solidarity and camaraderie within each of the groups. These suggested team-building activities can be found in the Appendix.

When it came to the relay races, I had each group decide and vote on the relay they would contribute to the team competition (e.g. leap frog, log roll, running backwards, skipping). That went over really well as they all huddled up and came up with a plan. They had to decide who would do which leg of the race and how they would position themselves. The relay races seemed to be a very positive and fun experience for all. The groups cheered each other on, gave each other high fives, and laughed a lot. It was a really great ice breaker and good way to build up on the ideas of problem solving, motivation, and peer collaboration. Incidentally, they didn't seem to care much who won.

After the race, the teams all got together and did a few rounds of the human knot. They had to work collectively to untangle themselves without letting go of each other hands. I saw each student in each group really focused on working together to be successful, but also really relaxed and simply enjoying the process and having fun. I was so happy that I stopped what I was doing with the geography lessons, and got back to some of the fundamental skills of teamwork; collaboration and motivation. I

had a few more Team Builder Activities up my sleeve just in case the groups needed more reinforcement

Reflective Writing

We ended the diagnostic implementation with a PowerPoint presentation *What is Geography?* (see Appendix). I thought that this would be a great way to tie in the initial writing prompt I had given them as well as for them to get another visual perspective on the study of geography. We had a great whole group discussion about the PowerPoint and the different components of geography. I was happy to find that 95% of the students were engaged in the presentation and discussion.

I then gave the students another reflective writing prompt but with more guidelines. Writing norms needed to be set for the class for the future reflective writing portion of the data collection. I explained to them that the periodic writing prompts they would have would be used explicitly for feedback for me to use as a way to gauge their opinions about how the project was going as well as noting their academic progression. I let them know that their spelling was not relevant to how I looked at their writing pieces, and that they would not be specifically graded for content. I wanted it to be clear that these writing prompts would be looked at more as their journal entries than as scored tests. I also let them know that they would be looked at as complete or incomplete based on factors that we would collectively decide as a whole class.

After the students wrote their responses, they then sat with their groups and had the option to share what they wrote. I didn't want to force them to each speak, knowing that some wouldn't want to. After the small group share, we turned into a whole class discussion as students then had the opportunity to share their prompts. Collectively we decided what would be considered at complete or incomplete writing reflection and the components that made them such. Table 10 shows the criteria that the class came up with for a complete compared to incomplete reflective writing piece. In thinking through the subject of geography and the tools of mapping. The question is, will focusing on peer collaboration and motivation through using an authentic audience enhance and support their aptitude in spatial thinking skills?

Table 10: General Criteria for Writing Reflection

Complete	Incomplete
complete sentences	sentences are fragmented
at least one paragraph	response is less than one paragraph
answers each part of the writing prompt	does not answer each part of the writing prompt

Modifications

I realized during the pre-implementation phase that groups of five to six was a bit large for optimum collaboration and cohesion. I decided that the teams should stay intact but that they would be in subgroups throughout the phases of their projects. As you see in the sample schedule, there were times when the teams were divided into two smaller groups of two to three where they worked on a portion of each phase. At the

end of each class, they came together to share their information within their group.

We also constantly checked in as a whole class to see how each team's progress was

coming along as well as clarified any questions, concerns, or issues that came up.

Table 11: Implementation Timeline: This Table exemplifies my implementation 2x a week. The sessions will be longer so a typical teacher could break it down into shorter sessions more days a week depending on their schedules.

Week(s)	Day 1 (90 minutes)	Day 2 (120 minutes)
1 and 2	<i>Phase 1-The interview</i> *Introduce Interview Guidelines *Brainstorming and Creating Interview Questions (small groups) *Discussion of resources (whole group)	<i>Phase 1-The Interview</i> *1/2 team does interview *1/2 team online research *break-whole class check in *From Voice to Text *Whole team shares their information and plans ideas for Phase 2
3 and 4	<i>Phase 2-The Research Plan</i> *Introduce Research Plan Guidelines *Solving the Problem: Small groups plan who will research what part of the vacation destination*break	<i>Phase 2-The Research Plan</i> *Division of Labor *Research vacation destination, (on line, books, brochures) break-whole class check in *Whole team shares information
5 and 6	<i>Phase 2- he Research Plan</i> Division of Labor: *Research vacation destination, (on line, books, brochures) *break-whole class check in*Whole team shares information	<i>Phase 2-The Research Plan</i> *Division of Labor Research vacation destination, (on line, books, brochures) break-whole class check in *Whole team shares information *Break *Begin discussion and planning of <i>Phase 3-Written and Visual Rough Draft</i>
7 and 8	<i>Phase 3-Written and Visual Rough Draft</i> *Introduce Rough Draft Guidelines *Planning the Visual-Planning the Written Team will decide their vision for how they will divide up the work *1/2 class works on first phase of visual -1/2 class works on first phase of written	<i>Phase 3-Written/Visual Rough Draft</i> *Depending on team decision, groups will rotate to finish rough draft or switch for Phase 4 Final Draft
9 and 10	<i>Phase 3-Written and Visual Rough Draft</i> *groups will continue to finish their rough drafts, some will be ready for Revisions and Final Draft	<i>Phase 3-Revisions and Final Draft</i> *students will decide how they will divide and conquer the final visual and written pieces
11 and 12	<i>Phase 4-Presentation Plan and Practice</i> *Introduce Presentation *Students plan and practice	<i>Phase 4-Presentation Practice</i> *Students continue practicing presentation
13	<i>Phase 4- Final Presentation</i> *Groups will present/evaluate	<i>Phase 4-Final Presentation</i> *Continue with presentations
14	<i>Phase 4-Final Evaluations</i> *Self and Team Survey *Writing Prompt	<i>Overall unit may bleed into another time slot</i>

Phase 1: The Interview and the Internet. I gave the students a handout explaining the overview of *Traveltopia* as well as the specific criteria for Phase 1. The room buzzed with excitement and the class was energized about being responsible for creating a one-week vacation for a school staff member of their choice. They seemed immediately engaged and motivated by the overall ideas of the project. I could hear the students sharing out who they would want to interview, who they were interested in teaming up with, and how much fun this was going to be. I explicitly explained to the class that they were to work in the same groups of five to six from the diagnostic, or preliminary activity phase. There was a mixed response to this statement. I knew that each group had had some challenges in our earlier activities and so some students were resistant to staying in the same group. Mr. Chapman and I tried our best to make sure that each group was heterogeneous as well as trying to best match personality types. For example, we mixed the groups by various academic abilities and separated students on behavior plans. Because the groups are fairly large (five to six) it was hard to avoid all the challenges that come with the territory. This was the main reason why I knew I had to go with two groups of two to three as well as some independent work to maintain more balance and equity of responsibilities.

The students then came up with their team names: The Fire Gliders, The Travelers, Team Chaos, Team Hotwire, The Ghostriders, and The Vacationers. This was a lot of fun for them. I could tell that this was a positive step in the direction of collaboration and motivation because when the groups chose their names they were all

huddled up and excited. One team however had a tough time agreeing on a team name. It became an issue for them because they were divided three to two on what their team name would be. As a whole class, we discussed what this group should do and agreed that it had to be a majority rules decision.

Once the groups came up with a team name and had collectively agreed who they would interview, they then had to solve the problem of who would be in charge of the interview and who would be in charge of the internet research at school. It is important to note that although giving students this type of choice supports motivation and collaboration it is necessary to manage their mode of decision making to minimize conflict. One point that I made clear to the class was that if they didn't get their first activity choice for Phase One, then they would get first choice for Phase Two. This is an example of structuring the options of choice rather than letting it be a free-for-all.

When the teams agreed upon whom they wanted to use as their "client," they then came up with appropriate interview questions to ask them. The clients were: Principal Davis, Mr. Chapman, Mark the custodian. Ms. Cathy the noon duty supervisor, Mrs. Treshnell, and Mrs. Lindsey, both third grade teachers. I sent out an email to these faculty members to let them know what we were doing and to make sure that they would be able to participate. In the future, I would probably bring up this project at a staff meeting not only so that the entire faculty would be aware of the project, but also to find out who would be willing to participate.

After the whole class shared their ideas, I used the *Interviewing Questions Template* (see Appendix) and took the top ten questions the students had agreed upon. Then the groups broke into smaller groups of two or three. Students in charge of the interview were shown how to use a hand held tape recorder and practiced their interview questions with each other. Meanwhile, the group in charge of the internet research began to look for information to help plan the trip. They used the *Atlas and Online Research Recording Sheet* to keep track of their information. Websites such as: www.googleearth.com and www.mapsoftheworld.com were provided for them. Throughout the unit of study, all students were given the *Homework Recording Sheet*, found in the Appendix, and encouraged to look for more information at home such as travel brochures, maps, and specific books on the topic to bring in and share with their group.

Before each of the interviewer groups took this time to meet and greet their new clients, the whole group interviewed Mr. Chapman for practice. Although not planned by us, it was fortunate that he was chosen by one group to be their client. In the future, I would certainly have myself or the homeroom teacher be one team's "client" for the whole class practice run. This turned out to be a valuable activity. The class noted that, during an interview, it was important to sound enthusiastic, speak clearly, take turns, and most importantly, listen. During this model interview, the tape recorder batteries actually died. Although this was not planned, it was a good thing it happened because, in reality, technology can fail us so we need to have a backup plan.

The class realized how important it was for the interviewers to also take notes during the interview and to be very active listeners. The students also realized that it was acceptable to ask the interviewee to repeat their answers for clarification.

Later each subgroup went to their client with their handheld tape recorder, interview questions, and the *Client's Response Form*. During this time, the Internet team continued their online research and recording. After the interviews were completed, the two groups merged and shared their findings. This was the first time they used their *Pass the Popsicle Table*, found in the assessment section of the Appendix, to keep tallies on who was sharing. The idea being that each student's voice matters, and to track who may be sharing too much or too little.

Each member of the team had the Top Ten Questions form for their own notes. While the team listened to the interview on the tape recorder, they were very focused and interested. Their bodies were leaning in, there was minimal talking, and a lot of note taking. I noticed that the energy and motivation was high. They all seemed to feel very proud of what they were sharing with their group as well as excited to get going with the planning of the trip. The six destinations that were decided on by the six faculty members were: Two for Hawaii, two for Alaska, one for Australia, and one for Bermuda.

Their clients also had to fill out the *Client Evaluation Form* about how the interview went, along with any suggestions or comments they had for their travel agents. Overall, the feedback they received from their clients was positive and

constructive. As we wrapped up Phase One, the students completed their individual surveys and reflective writing about how they felt overall about their collaborative project.

Phase 2: The Plan and the Research. On the first day of this phase, we had use of the computer lab. The students were seated so that the research “experts” could help the interviewers with the newly discovered websites. I initially had the whole class go onto www.googleearth.com. We started by looking up our school site and getting used to some of the features that Google Earth has to offer. From there, we collectively looked at Hawaii on www.wikipedia.com. Although not the best and most accurate site for obtaining information, it is a great place to visit when looking for general information. Wikipedia will also direct you to other web sites on the topic of interest for looking at areas of geography such as history, culture, and fun facts about the destination.

While in the computer lab, I had the students sit next to at least one member of their team. We were all able to go to Wikipedia and type in Hawaii at the same time. By looking at Hawaii together as a whole class, we navigated through the website together. We looked at the different types of maps the site offered, significant symbols of Hawaii, the summary of facts about Hawaii and how to print certain pages. The class then spent another 5 minutes looking through the page and click on other websites listed. The class was really excited about the information they were finding and demonstrated their engagement in this activity by on task chatter like, “Whoa,

check this out!” “This is so cool!” There was peer help and dialogue too with the students showing each other different sites they’d found, photos, interactive maps, and ways to maneuver their mouse to other relevant information.

Once the majority of the students seemed to be fairly comfortable with their online navigation, I made the mistake of giving them about eight minutes to use either site to look up another destination of their choice. While many students searched their home address or where their family members were deployed (Afghanistan, Japan), a few students found some other picture and places that were not the most appropriate for a school setting. The saying “give an inch, take a mile” comes to mind. It was then that I realized I should have established more boundaries and guidelines for this exploration time. In hindsight, I would not let my class use Wikipedia to do research unless it was strictly monitored with step by step instructions from me. It is important for teachers to be very cognizant of how their students are using the internet. Even though school sites have filters on their systems, it is not enough security to let the students have that kind of freedom.

When we came back to the class, I passed out the Phase Two packet and we went over it together. Because of the direction some of the students took when exploring these websites, I emphasized that their time at home on the computer should be monitored by an adult. I also put that suggestion in the *Parent Letter*. At this time, each group was to solidify the specifics of their client’s week long itinerary, choose

three different maps of the vacation destination, as well as continue looking for more information on the topic of travel.

During my next few visits, and following the guidelines of the Phase 2 packet, the groups planned how to divide and conquer this research portion of the project. The class was typically divided into 15 minutes of teacher instruction, 30 minutes of independent research time, 15 minutes of small group discussion, and then ended with a 20-30 minute class discussion. The instruction time was used to go over the assignment, expectations, clarifications, and review of class rules. The research time was meant for the students to work independently or with a friend or two. I was interested to see how they would divide up the work, like who wanted to work alone, pair up or triple up. The one rule that was enforced was that if students were using the computer for their research, they would have to share the computer with someone from their team. Fortunately, Mr. Chapman was in the classroom so he helped me monitor the computers to make sure the kids stayed on track.

Students spent their time using different tools for the research of their vacation destination. Mr. Chapman picked up a variety of reference books from the library, such as atlases, maps, and other informational books about the 4 locations: Hawaii, Australia, Alaska, and Bermuda. Because the classroom had only 4 working computers with one printer, and the computer lab was not always available for weekly use, either because of testing, teachers switching times, or technical difficulties, I made a point to bring in printed copies of travel information that I found outside of the

classroom. In other classrooms other forms of technology may be more accessible.

What is exciting is that now school districts are beginning to supply their students with their own iPads and Smart Phones which bring technology to the finger tips of each students at any time. The Avalon School District is not yet exploring that innovation.

At this point, 24% of the students in the class preferred to work alone. I observed that each one of these students were fully engaged and on task with their portion of the assignment. 51% of the class paired up and 25% of the class tripled up. During this time, I circulated around the classroom, answering questions, helping students located information, and generally monitoring how they were doing. I also spent my time carefully observing the class and taking field notes. I noted that there were some students who had a really difficult time staying on task and focused during this more independent research time. At any given time, there was between 12 to 18% of the class was not on task. These students were either talking about things not related to the project, distracting other students, or running off to the bathroom. There were many instances when personal conflicts came up, especially when students felt like some were doing more work than others or when they could not agree on how to approach the assignments.

I had not anticipated this many challenges, so some of this research time was being spent on ways to use conflict-resolution strategies. A few times during Phase 2, we would come together as a whole class and discuss ways to deal with personal conflicts. Reminding students about their “client” and that they would be presenting

in front of their peers seemed to bring the focus back a little bit. Also, it helped to remind them that there would be a variety of evaluations too and that their effort in collaboration would also determine a portion of their grade. The great majority of these personal conflicts involved a student who was on a behavior plan. Most of these students on behavior plans have modification during their academic learning time. They may be more physically isolated sitting by themselves, or have a structured home to school daily communication documenting their school work. It is easy to see that a different style of learning, such as the one I had implemented, would be a big change and, for some, harder to adjust to.

The small group discussions was time spent having each student report back to their group to discuss any new information that they had found and plug into their packet. Finally, we would wrap up each session with a whole class discussion to go over findings, issues that may have come up, and more clarifications of questions. What I wasn't expecting to spend as much time focusing on was the amount of personal and team conflicts that had arisen. Many of the students were unhappy with their teammates which was obvious from my observations, their surveys, and writing reflections. In hindsight, I would have spent even more time not just working on team building games and strategies, but also ways to deal with conflict and resolutions. This was not anticipated. What was also not anticipated was the number of students who took their own time out of the classroom to do further research. They would come to school with new information they found online, other books, maps, and

brochures they got on their own, and even their own research reports! Chapter VII will look at these statistics more closely.

Phase 3: Written and Visual Rough Draft. Using the outlines and guidelines that are now included in the Appendix, students were given the third packet for their project. Although some of the groups weren't finished with their research, others were, and I made the decision to go ahead and begin Phase 3. At this stage, teachers should use their best judgment about when to move forward. This phase was used for the groups to take the information that they had researched, planned, and drawn out, and then plugged in to create their written and visual rough draft. I was surprised to find that many of the students had fallen into their own comfort zone of where they had established their role within their groups. For example, some students were much more interested in working on creating the three different types of maps required for their project, while others were much more interested in working on the written portion, for example, fun facts, itinerary, history and culture.

The one resource for which students needed constant monitoring was the use of the computers. Again, because there were only four in the classroom, use, time, and availability were a constant challenge. It was also during this phase that Mr. Chapman's computer lab time switched to Thursdays, which conflicted with my schedule as I was not there on that day. We had worked out an arrangement that he would use half of his class computer lab time to make sure students who needed more time for research were able to do so. I also let the class know that they could come in

during their lunch time on the two days a week I was there to get extra help, use the classroom computers, or continue their independent work. I was happy to find that 28% of these students did come in during their lunch break at least one time.

We continued using the format of teacher instruction, independent work, small group discussion, and then whole class discussion for the remainder of Phase 3. I noticed that the same types of conflicts were happening but the tone seemed to shift within each group. It was as if each team had their own time when they hit road blocks and had personality challenges. For example, The Firegliders and Team Chaos had trouble with how to work together in Phase 2. I spent extra time with these two teams and conferenced with them as a group and some individually. Once the problems were recognized and aired out, they seemed to move past it and worked much more effectively and collaboratively during Phase 3.

Once each group felt that they were finished with their rough draft for their visual and written portion of the project, they had to present to me all of their work for a final inspection. We used the check off list from the packet together and made a group decision whether they were indeed ready for their final based on the checklist. Groups also needed to turn in their plan for who was responsible for each part of the final revisions. Again, it became clear that the students who had worked on the visuals wanted to stick with that and those who focused on the written stayed with that. Finally they completed their Phase 3 evaluation and writing prompt. I decided that I would also conduct small group interviews with the teams that finished Phase 3 first

and last to find out what was going on with them and their process. I then provided each group with a large 3-fold poster board along with the specific information needed to successfully complete Phase 4.

Phase 4: Final Draft, Presentation, Evaluation. Although I gave the class a general timeline for project *Traveltopia*, I knew that inevitably the groups would work at different speeds. As we entered Phase 4-The Final Phase, three out of the six groups were on target, while the other half were still finishing up Phase 3. It was at this time that Mr. Chapman and I discussed giving the groups that weren't finished with Phase 3 extra time in class to catch up. He agreed that they needed that extra time and made sure they got it when I wasn't there.

As each group phased into their final drafts, they were given their final Phase 4 packet and spent their class time rewriting or typing up their written portions, adding final details to their maps, and practicing for their presentation. I felt fortunate to be able to have another teacher in the classroom to help with the monitoring of each group. Working with six different groups at six different stages of their project in one classroom can be challenging to say the least. Because there were two teachers present, we were able to use some of the tables outside of the classroom for groups to work at. This freed up more space and helped keep the overall noise level down. Although possible with good time management and multi-tasking skills, the idea of supporting differentiated instruction with a class of 30 or more is very challenging to do on your own. As included in the Appendix for differentiation, I would certainly

enlist the help of parent volunteers, student teachers, or other faculty members to help facilitate this project, especially when the groups begin moving into different phases.

With the extra time given to the other three groups who were a bit behind, we were all ready to move on to the final presentation right on schedule. I sent out an email to the six “clients” to coordinate times for them to come and hear about their dream vacation. The objective for this presentation was not only for the teams to sell their itinerary to their client and audience, but to also showcase their geographical knowledge of their destination through their written, visual, and oral skills.

Each team was given 15 minutes for their overall presentation; ten minutes for their oral followed by five minutes for questions and answers. Once the presentations were completed everyone was responsible for their own evaluation of the teams’ performance. Using self and peer surveys, audience and teacher evaluations, I calculated a score of the students’ individual and team performances.

Conclusion

At the unit project’s end, I gave students the unit assessments and evaluations (see Appendix); the results are summarized in detail in the following chapter. I found that overall the goals of *Traveltopia* were met, some more successfully than others. My preliminary observations suggest that the majority of these students were actively engaged and motivated working on their collaborative project. By the end of the unit, they seemed to have a good grasp of geographic concepts, vocabulary, and the steps needed to complete a research project. Determining whether each student increased

their conceptual knowledge of spatial awareness is a much more intricate analytical process. During the implementation phase, I used a variety of evaluation methods. Chapter VII will carefully look at each of these methods, the collection of data and the in depth analysis of the results.

Chapter VII -- Evaluation and Assessment

Curricular Goals

The overall goals of *Traveltopia* were (1) to improve students' understanding of geographic vocabulary (map key and map scale), and (2) to acquire spatial thinking skills both in the classroom and in their everyday lives. These goals were further developed through the ability to encode and decode of maps. The idea of working on a collaborative project and using an authentic audience would improve these skills. I assessed the students' understanding of geographic vocabulary as well as their encoding and decoding skills using the fourth grade California State Standards for History and Social Studies. I used multiple measures to evaluate the effectiveness and success of the curriculum.

The data I collected included a diagnostic assessment, pre and post assessments, small group and whole class interviews, surveys, writing prompts, teacher observations and field notes, and a final culminating project based on a four-point rubric. With this data, I was able to perceive patterns that showed how effectively the curriculum met the established goals. This chapter will begin with data collections strategies, then present and analyze findings, concluding with a summary and discussion. Table 12 shows how each tool was applied towards meeting each of these constructs (motivation, collaboration, and authentic audience) and curricular goals (spatial thinking skills).

Table 12: Assessment Tools for Goals and Constructs

Evidence of Goals & Constructs	Diagnostic Assessment	Pre & Post Assessment	Student Surveys	Writing Prompt	Teacher Observation & Field Notes	Student Interview	Final
map encoding and decoding (spatial thinking skills)	X	X	X	X	X	X	X
motivation				X	X	X	X
collaborative learning			X	X	X	X	X
authentic audience			X		X	X	X

Data Collection Strategies

Diagnostic Assessment. Before beginning *Traveltopia*, I administered a diagnostic assessment to determine the students' base-line, misconceptions and relevant skill sets the students already had. This assessment was based on the California Social Studies Standards for fourth grade and "Map Variations" (see Appendix) for identifying and comparing a variety of maps. The students were asked to draw six different types of maps and provide a short explanation of each without looking in their textbooks. My goal was to pinpoint how the students encoded and presented these maps in a visual and written format. From there I could begin to design the first stages of instruction.

Pre and Post Quiz. Also at the beginning and end of the curriculum, I also gave the students a multiple choice quiz on their knowledge of relevant geographic vocabulary (e.g. legend, compass). Like the diagnostic assessment, the pre quiz gave me an idea of the students' ability to read maps. The pre and post assessments were used as the primary sources of data to measure changes in this area of geographical conceptual understanding. The post quiz also gave me a more accurate measure for how the students progressed from the beginning to the end of the geography unit. This tool was also helpful in creating effective heterogeneous groups for the upcoming collaborative project. The assessments are in the Appendix.

Student Surveys. At the end of each phase, I gave students the opportunity to express their opinions about the geography unit through a series of surveys. Because the students' voices and choices were big components of my project, their thoughts, comments, questions and suggestions were important to the curriculum. The surveys were used to help me understand the involvement of the students, guide the development the curriculum, and restructure sections when necessary. The surveys were designed to find out how the students felt about their experience at each point, for example: did they feel that they were doing their share; were their teammates on task; were they enjoying themselves or having challenges? The students were asked to rate each statement on a four point scale from Strongly Agree to Strongly Disagree. There was also a place for them to add their own comments. I looked at how their ratings for each question changed over the course of the project.

Writing Prompts. Throughout the duration of *Traveltopia*, I used a writing prompt at the end of each of the four phases to get a look at how each student was doing and feeling about the progress of their group project. These prompts helped me make some changes along the way in order for the students to have a more positive and effective experience. I used these prompts to gauge the students' levels of motivation and collaborative progress. I categorized their responses as positive, neutral, or negative comments. I also looked at their various suggestions of how to improve each phase taking their comments into consideration when modifying the unit to better meet their needs. Table 13 shares some examples of the students' comments.

Table 13: Some examples of student comments from the writing prompts.

Examples of Student Comments
"I feel like it would be more helpful if we could spend more time talking as a whole class about our projects instead of so much time working in small groups." Jimmy
"I love the time we are spending doing research on the computer. I don't have a computer at home, so this is very helpful and fun for me." Mariah
"I don't feel like some people on my team are doing their part which makes me frustrated. What can I do?" Dylan

Teacher Observation and Field Notes. At the end of each class meeting, I was sure to take copious notes about the day's activities, general class observations, as well as using the Teacher Observation Form to keep track of how each group was doing. Each time I met with the class I focused on a different group. Since I would meet with the class twice a week for three

months, I was able to observe each of the six groups carefully three times.

Although I gathered information from other forms of data collection, the field notes allowed me to devise a qualitative analysis of experiences with the curriculum. As I took notes, I focused on student comments, motivation, interaction with each other, and their academic development throughout the study.

Question	Yes	No	Comments/Observations
Are the students engaged in the activity and on task? (motivation)			
Is each member of the group contributing in some way to the project? (speaking, reading, writing, research...etc) (collaboration)			
Is the team working cooperatively? If so, how? If not, how?			
Interview Questions	Yes	No	Comments/Observations
Can students tell me clearly what they are working on and WHY? Do they all seem to be on the same page?			
Does it seem that the students are learning something new? How can you tell?			
Does this group need extra support or guidance? In which areas?			

Figure 4: Teacher's Observation Checklist

Student Interviews. The first task for the groups was to have them agree on a team name. I noticed that the “Fire Gliders” took the initiative to take turns sharing their ideas and listening to each other. As they were a group of five and were split between two names, they easily decided that the best way to choose was through a democratic vote with Fire Gliders being the winner. All of this took place in ten minutes time. On the other hand, Team “Chaos” immediately showed difficulty with group decision making as they could not agree on a team name. The members either spoke over each other, didn’t listen, or simply didn’t seem to care. After 20 minutes of bantering and bickering, I decided to bring their name choosing back to the whole group so we could all help them solve their problem. The class determined that they should be called “Chaos” because they seemed so chaotic about choosing their name.

At the end of the unit, I also conducted a group interview with class. Later in this chapter I will analyze the questions and recorded responses from that interview. A few of the questions were the same as those from the surveys and writing prompts questions. I wanted these questions to bring out the most thoughtful responses as well as to bring some clarifying ideas to our discussions. I noticed that when the students asked clarifying questions about their assignments and work progress, that there was a higher level of motivation from those students.

Final Project. The final project was a group effort combining written, visual, and oral components which were show cased on a trifold poster board. The written portion consisted of a week-long itinerary, specific geographic vocabulary (e.g.

longitude, latitude and map scale), background information on the destination (e.g. history and culture), as well as a list of interesting “fun facts.” The visual component consisted of using at least three different types of maps to represent the travel destination, longitude and latitude coordinates, a map key, a compass rose, photos, and other images representing the client’s desired location. Each student was responsible for a portion of the final project and the group had a specific checklist to follow. Before the students presented their final projects, they were given their Team Project Check List and Rubric (see Appendix). Like each rubric in the assessment section, the check list the teams used was based on a four point scale. This check list was similar to the one the client and teacher used after the final presentation.

The culminating project was the result of each group’s efforts. The project aligned with the educational goal and three constructs of my curriculum. The goal of enhanced spatial thinking through map encoding and decoding was evident in the maps used to illustrate the travel destination and the proper use of time and travel in the itinerary. The construct of motivation was promoted by the students’ ability to have opportunities of choice and voice throughout the project. Collaboration was addressed through four phases of cooperative learning followed by a final collaborative project. Finally, the construct of authentic audience was met by using a client of their choosing and their final presentation.

Once the final work was completed, it was up to the group to practice and to present their poster to the class, teacher, and client. Four evaluation tools were used to

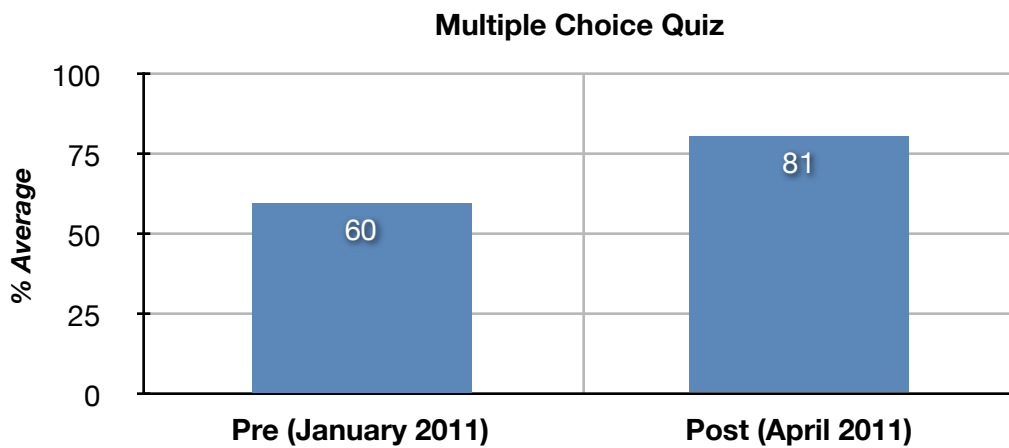
grade the final project: (1) **Students** evaluated themselves and their teammates with a questionnaire; (2) the student body **audience** evaluated the presenting team with essentially the same questionnaire but written from the observer's point of view rather than that of the participant; (3) the **client** and (4) the **teacher** each used the same four-point rubric. This multiple grading system permitted me to compare how the students graded themselves and each other, as well as how two or more adults grades compared using the same rubric. I believed that this grading system would give wider range and perspectives to each of the presentations and a truer interpretation of the final project. There would also be more grading material to average out a more accurate grade point average equally based on four different points of view.

Organization and Analysis of Findings

The data was examined in multiple ways to evaluate the success of *Traveltopia*. First, I looked at the surveys and writing prompts followed by the interviews. After looking through student responses, I evaluated them looking for various degrees of understanding. Then I evaluated the pre and post assessments, student projects, and presentations. I finally read through my own field notes and observations. Class patterns were determined by coding through tallies and categorizing how the students met the constructs of motivation, collaboration, and authentic audience. I then combined the tallies to determine class patterns. Based on the class patterns and compiled data, I noted patterns that appeared. I have displayed these patterns in a variety of graphs, figures and tables.

Pre and Post Assessments. The two assessments given at the beginning and end of the unit were used to measure how well students could encode and decode maps. One assessment looked at students' prior knowledge by having them explain and illustrate six types of maps. The other assessment was a ten multiple choice quiz used to measure what students knew about how to use maps. Rounding to the nearest percentage, Graph 2 shows how the students' multiple choice scores went from a 59.7% to a 81.3 % from their pre assessment to their post assessment:

Graph 2: Results of Pre and Post Assessment

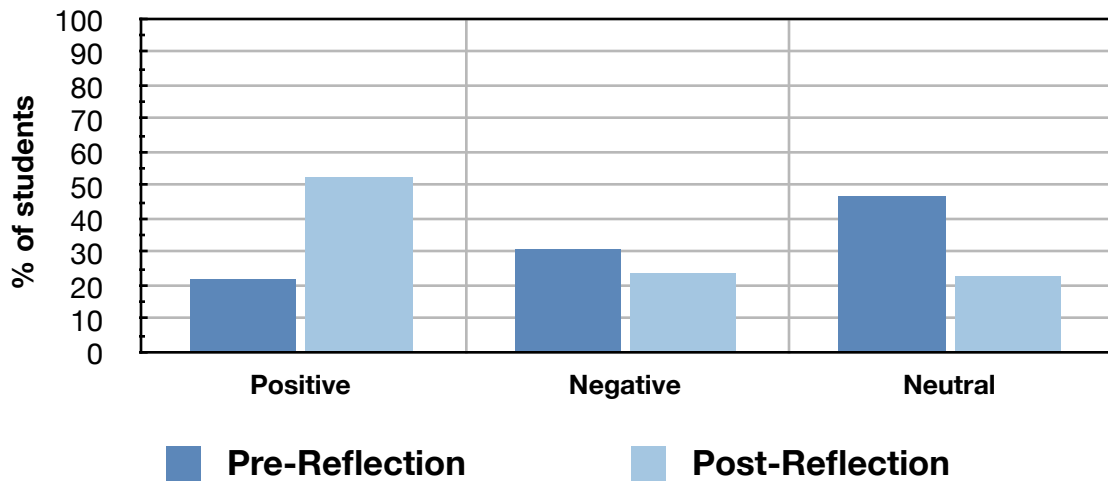


Surveys and Writing Prompts. The surveys and writing prompts were designed to find out how the students felt about their experience: Were they were doing their share? Were their teammates on task? Were they enjoying themselves? Were they having challenges? The students were asked to rate each question that

ranged from Strongly Agree-Agree-Disagree-to Strongly Disagree. They also had a place to add their own comments. After reviewing the initial data, I decided it would be easier for the audience reading my work to view these results as two categories and so reduced them to Agree and Disagree.

When I analyzed the student's responses to the surveys and writing prompts I noticed patterns emerging with similar responses to each of the questions. Because the surveys and prompts were primarily based on the students' feelings and opinions about how their project was going, I put their responses into categories of positive, neutral, and negative. I also analyzed how their ratings for each question changed over the course of the project.

After dividing the students responses into categories of positive, neutral and negative, I then compared the information on a pre and post implementation comparison chart, giving positive comments a plus sign, neutral comments an asterisk, and the negative comments a minus sign. This strategy was especially helpful when observing changes over time. Graph 3 represent their pre and post responses.

Graph 3: Student Survey and Writing Prompt Responses

Student Interviews. At the end of the unit, on May 6, 2011, I interviewed the whole class. I asked them five questions and recorded their responses. I was particularly interested in how they perceived the collaborative piece of the unit worked or didn't work for them. Here are some examples of positive and negative comments from Team "Fire Gliders" and Team "Chaos" to compare and their perceptions of *Traveltopia*:

Question #1: Do you feel like you learned more about geography by me teaching or you learning from each other and working as a team?

Student Response:

"I liked working with my group better because we got to do different things on our own like doing research on the internet which I really liked."-Savannah, Team Fire Gliders

"I found that sometimes the people in our group wouldn't tell us what they were doing which made the teamwork more difficult and I felt more distracted."-Ava, Team Chaos

Question #2: Thinking about each phase of the project, which part of the process do you feel helped you learn the most about the vacation destination you were studying about and why?

Student Response:

“I thought Phase 1, Interview and Internet, was the most important part of the project because without our interview and internet research, we wouldn’t have been able to complete the project.”-Carson, Team Fire Gliders

“I liked Phase II the most because that was when I got to do my individual work and I prefer to work alone.”-Aaliyah, Team Chaos

Question #3: Did you like having choices about the activities you would work on within each phase or would you have preferred for me to assign the work to you?

Student Response:

“I liked being able to share information with my teammates. I learned a lot from them and was proud to share what I had done.”-Max, Team Fire Gliders

“I felt like I was more excited about having choices with this project. I wasn’t as bored as usual. I really don’t like being told what to do. When you’re doing something you don’t really like, you kind of get bored and don’t try your best”-Aaliyah, Team Chaos

Question #4: When you ran into a conflict or problem within your team, how did you and your team solve your problems?

Student Response:

“Getting through this project was sorta like getting a piece of hay inside a needlestack. It was very hard. We didn’t know how to solve our problems.”-Blake, Team Chaos

“We solved our problems by making sure that people would get first choice for the next phase if they didn’t get their first choice the first time.”-Savannah, Team Fire Gliders

Question #5: If you had to do this project again, would you do it the same or differently?

Student Response:

“ I would do it differently. I didn’t like having groups. I would rather just do this project on my own.”-Blake, Team Chaos

“ I wouldn’t change anything. Even though it was hard, I thought our team did really well with the process and were able to work through our conflicts.”-Cameron, Team Fire Gliders

When looking carefully at the two teams' overall comments, I found there to be some consistent patterns. From the start, Team “Fire Gliders” were able to set the tone for their group by cooperatively deciding on a team name. It was obvious that their ability to effectively communicate, cooperate, and participate made their collaborative experience positive and enjoyable. Team “Chaos” on the other hand, seemed plagued with constant challenges and arguments.

Field Notes and Observations. Although the *Teacher Observation Form* helped me focus as facilitator, I found it difficult to take consistent and detailed notes. What I did find myself doing was jotting down interesting comments from the students and then sharing these comments as conversation starters during whole class discussion. Because this project was such a collaborative piece of work, many of my observations focused on their collaborative approach. I ended up creating a table to date and note instances when students instigated peer collaboration in their groups: I

found there to be quite a few comments that were useful to help us clarify topics of confusion. After leading a few of these types of clarifying discussion, I also encouraged the students to engage in this type of dialogue as a whole class and in small groups. Table 14 lists some of these types of comments, followed by a clarifying question, then ending with a more accurate and detailed response:

Table 14: Some examples of clarifying questions and comments.

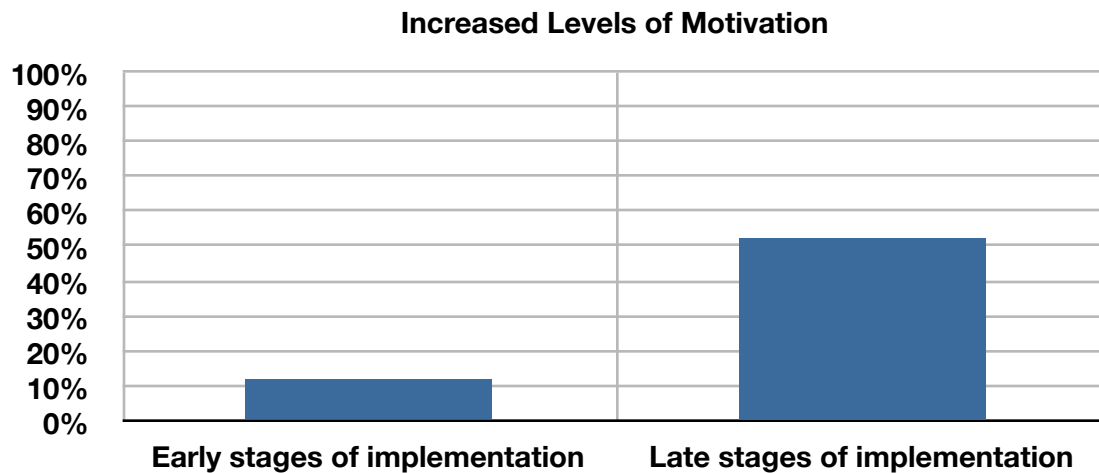
Comment	Clarifying Question	Detailed Response
"I don't really understand what I am supposed to do."	"Can you be more specific?"	"When I am drawing out a land and resource map, I'm not really sure which symbols I should use for my map key."
"I am having trouble talking with my group."	"Can you share an example?"	"I feel like when I am talking to my team, some people are interrupting and not letting me finish."
"I really like working with my team."	"What is it that you like about working with your team?"	"I like how we are all doing our part to make our project great!"

Finding I: Students' motivation and active engagement increased over time.

The number of students who spent extra time on their project increased over time. Eventually more students volunteered to work on their projects at home. More of them also came into the class on their lunch break to receive extra help. The percentage of those spending extra time on their projects increased from 12% during the early phase of implementation to 53% at the later stage of implementation. Graph

4 indicates the increase in participation levels from students outside of assigned classroom time:

Graph 4: Increased Motivation Levels - Percentage of students who worked on their project at home and/or during their lunch break.



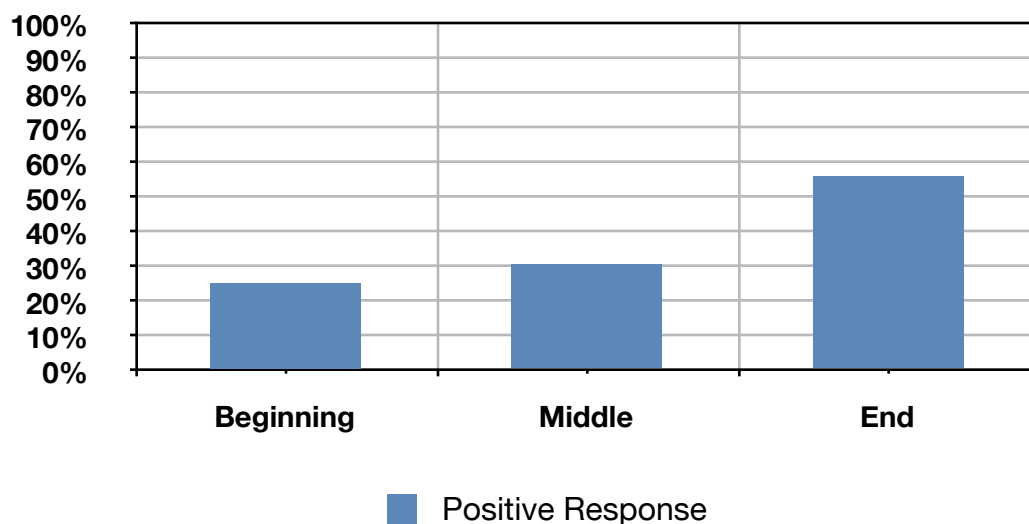
According to Stipek (2002), defining tasks for specific, short-term goals can assist students to associate effort with success. Noting the purposes of specific tasks when introducing them to students is also beneficial. I believe that setting up the curriculum in phases followed by consistent forms of data analysis such as surveys, interviews, and writing prompts, allowed the students many opportunities to make clarifications, voice concerns, and share ideas with each other. This may have led to a growing trend of more students going above and beyond what was required of them in the classroom. I found that when some of the 12% who had spent extra time on the project, not only were proud and excited to share their work, but it seemed to trigger an excitement with the other students as well. I agree with Brophy (1986) that it is

essential for students to view their fellow classmates as agents motivating them to learn in addition to the teacher.

Finding II: Although students' positive feelings about collaboration increased over time, almost half of the class would still have preferred to work alone.

When looking carefully at my data (field notes, students surveys, writing prompts, and interviews) about how students felt about collaborating with their teammates on a unit project, I was happy to see that the percentage of positive responses steadily increased over time. Their positive feelings of collaboration started at 25%, rose to 30% midway through the project, and culminated at 55% at the end. Graph 5 gives a visual representation of these numbers:

Graph 5: Percentage of students who responded positively to working on a collaborative project.



My notes and interviews also indicated that as students felt more comfortable and safe working with their team mates, not only did these students enjoy working

collaboratively, but the quality of their work improved. Before beginning their assigned activities, some teams, like the Fire Gliders, began to initiate clarifying types of conversations and were more aware of being active listeners. There seemed to be a level of equity, respect and understanding within these teams while they were worked. There was minimal talking over each other and a general sense of engagement with the assignments. I noted that these students often complimented each other on their ideas or work and repeated back points of conversation for clarification. Figure 5 shares a portion of a recorded conversation among the Fire Gliders had while deciding who would work on which part of Phase 1 involving the interview and internet:

Student Dialogue (Cooperative Planning)
<i>Max-</i> Let's decide who wants to be on the interview and who wants to work on the internet. Since there's five of us we need to make a group of two and three.
<i>Savannah-</i> Ok, I'll take notes.
<i>Carson-</i> I'll do either one, doesn't matter to me.
<i>Cameron-</i> I would like to be on the internet, I don't have one at home.
<i>Max-</i> Sounds good, I can do the interview.
<i>Savannah and Maria-</i> I want to do the interview too! It seems like fun.
<i>Carson-</i> Ok, I'll work with Cameron on the internet while you three are interviewing Mr. Chapman.

Figure 5: Student Dialogue; A cooperative conversation in the beginning phase of collaboration between Team Fire Gliders.

Other individuals and teams really struggled with the cooperation needed for the project. There was a lot of talking over each other, lack of listening, and an overall negative tone. There were quite a few times that students came up to me to complain about people on their team not doing their part or even being nice to each other. The

surveys and writing prompts continued to verify students' frustration and lack of cooperation with each other. While many of these students gradually changed their feelings about collaboration over time, unfortunately, the attitudes of some of these students never changed. Again, in the end, almost half of the class (45%) would still have preferred to work alone. Figure 6 exemplifies the type of uncooperative conversation that Team "Chaos" had at the beginning of the implementation. As for their feelings towards working collaboratively, the tone was set early on, and didn't really change throughout the curriculum.

Student Dialogue (Uncooperative Planning)
<p><i>Ava-</i> I want to interview Mrs. Dillon.</p> <p><i>Marcos-</i> So do I.</p> <p><i>Aaliyah-</i> I do too!</p> <p><i>Tyler-</i> I really don't care, I just want to do the project on my own. It will be way easier.</p> <p><i>Blake-</i> I don't even want to interview Mrs. Dillon. I wanted to interview Mr. Blackwell. This is so unfair!</p> <p><i>Aaliyah-</i> Why don't the girls do the interview and the boys do the internet.</p> <p><i>Blake-</i> That's not fair, it's like the girls are ruling our team then.</p> <p><i>Tyler-</i> Oh my god, seriously?</p> <p><i>Marcos-</i> This is not going to be fun.</p>

Figure 6: Student Dialogue; An uncooperative conversation in the beginning phase of collaboration between Team Chaos.

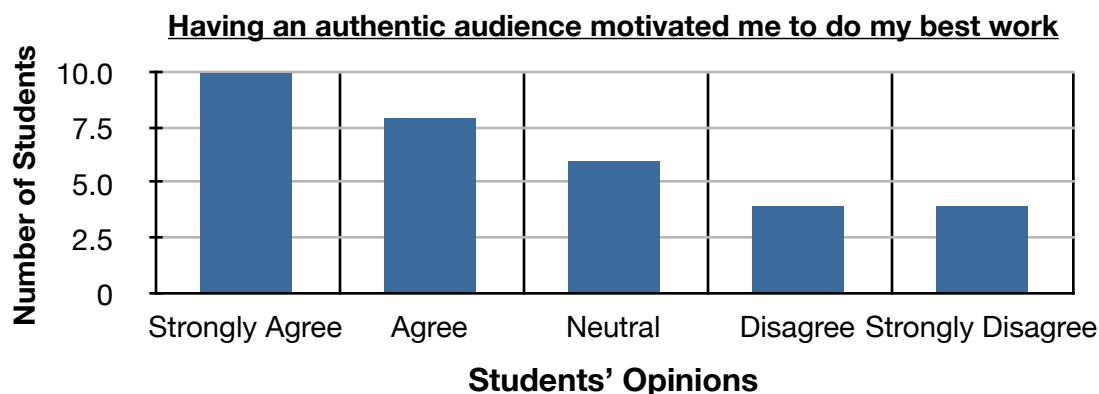
Because the overwhelming majority of students at this school are from military families, there may be some connection to the way these students are brought up at home and their tendencies to prefer working on school assignments on their own.

Military kids are used to moving from base to base, often times during the middle of the school year. By the time they become familiar with a school site's rules, routines, faculty and students they are often transferred to another site. Of the 45% of the students who preferred to work alone, 87% of them were from a military background. However, this is an area that is beyond the scope of this study..

Finding III: Students' surveys show that students felt having an authentic audience motivated them to put forth their best work.

When students do not feel connected to lessons being taught, they often times see their assignments as meaningless and therefore have no motivation to do their best. When these students had to present their knowledge to an audience other than their teacher, they put forth more effort and felt more motivated to do their best. Whether it's in the classroom, on a blog, or through letter writing, knowing who your audience is, is an important motivating tool (Wentzel & Wigfield, 1998). In a typical classroom setting, students write papers, instructors read and grade those papers, and then the papers go in the physical or virtual recycle bin. What's motivating about that? When you have an audience that you can share your knowledge with and teach them something, you are put into an "expert" role and can show off your skills. What is so important about this finding is that, despite whether these teams liked or disliked the collaborative project, the majority of them felt like having an audience was beneficial. Graph 6 shares in detail how the class felt.

Graph 6: Student opinions about working with an authentic audience.



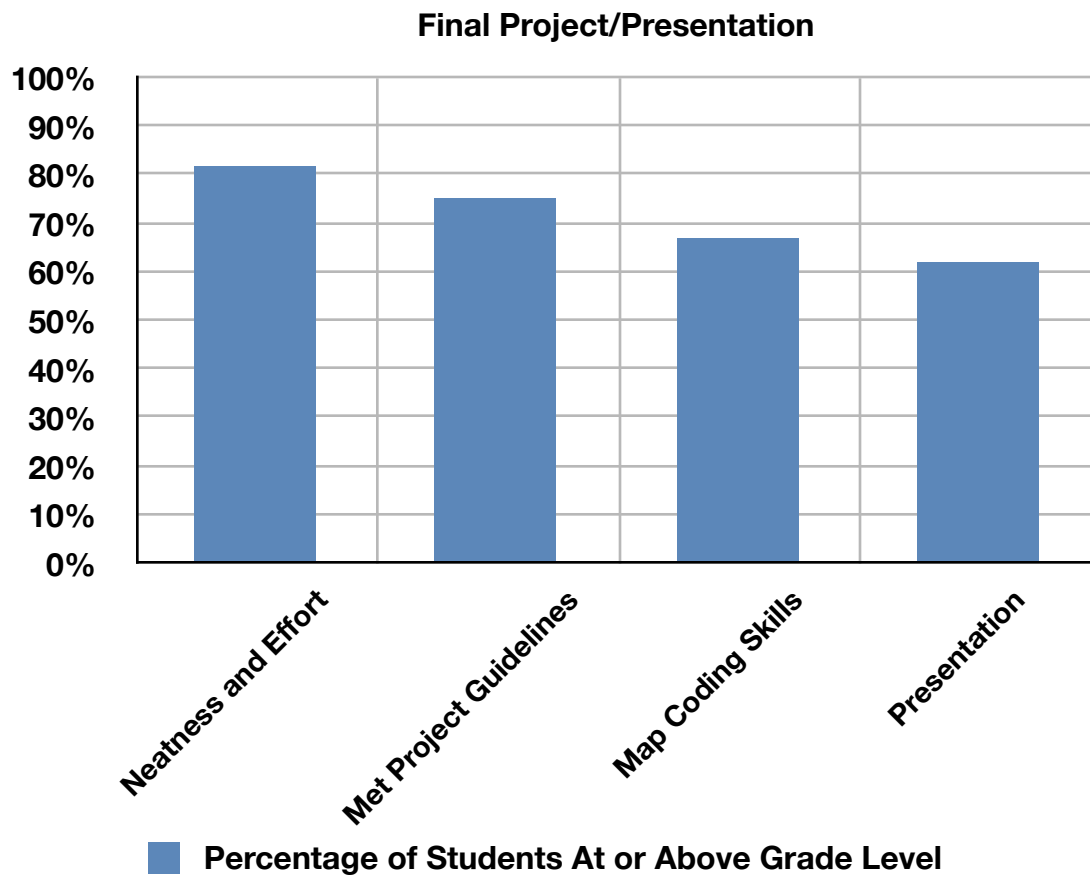
It is important to note, that although external motivations, like an authentic audience, are motivating to the group, it does not necessarily lead to enhanced deeper conceptual learning. If we want our students to engage in deep learning, we need find ways to connect that learning with their internal motivations. Having an authentic audience was a motivating forces for many of the students in this class. However, for many in this particular class, working independently was more motivating than working in a group. Transferring the motivation from external to internal is a challenge, but the idea of an authentic audience opens up a different set of approaches to foster intrinsic motivation in the learning process.

Finding IV: Although students produced high-quality work that showed a great deal of effort, motivation, and conceptual understanding with their projects, their presentations did not reflect the same high-quality work

When evaluating the groups' projects, I used a four-point rubric. The scores ranged from: 1 (far below grade level, incomplete) to 4 (above grade level, exceeds

expectations). Students in elementary schools are typically used to this grading format system so I wanted to be consistent. The rubric contained two categories to be graded, written and visual. Within each category were a number of more specific requirements (see Appendix). Once both categories were graded, the scores were then factored in with the final self/peer evaluations and the presentation rubric. Graph 6 represents the four areas of the project that was the focus of the individual grade.

Graph 7: “At or Above Grade Level” - This Graph represents the percentage of students whose final work was at or exceeded grade level expectations.



I also gave each student both a group and an individual grade. These scores varied quite a bit as some students did more of the work than others. When grading each group's project and presentation, I looked carefully at four categories: neatness and effort, meeting project guidelines, correct use of map encoding and decoding skills, and oral presentation. Part of the presentation required each student to share what portion of the project they worked on and an explanation of their piece. At the end of the presentation there was a question and answer segment which was further evidence as to which students put forth more effort and had a deeper understanding of their group's final piece. The students then filled out a self and team evaluation. The authentic audience, fellow classmates, their "client", Mr. Chapman and myself also filled out individual and team evaluations. Each evaluation form is found in Phase IV of the Appendix. I then took each evaluation to format a final grade:

Comments for Team Hotwire

TEAM:

POSITIVE	CONSTRUCTIVE
I liked working with my team because we mostly all got along.	I think I would have understood the assignments better if I had done it by myself.
I really enjoyed this project.	It felt like some of us did more work than others.
I appreciated how some of my team mates helped me out with my part when I didn't understand.	At the beginning I felt scared.

PEERS:

POSITIVE	CONSTRUCTIVE
I liked the fun facts, the background information and the way you guys answered the questions.	They needed to speak slower and louder.
When I'm 18, I hope my father and I can go to Alaska.	Some people spoke more than others. It didn't seem even.
You guys did an outstanding job!	Why is Alaska called The Last Frontier?

CLIENT AND TEACHER:

POSITIVE	CONSTRUCTIVE
You clearly knew your geographic concepts	You never mentioned any of the resources that you used.
You all had good eye contact with your audience during your presentation.	It's important to make sure that everyone does an equal amount of sharing and speaking.
Your presentation gave your audience a lot of things to think about and further questions to ask.	Be sure to practice taking turns before you get up to speak, including the question and answer part.

Final Score-Team

- Written 3.2
- Visual 3.4
- Presentation 3.1 Overall: 3.2

Individual: "Mike" 3.5

Mike, it is clear that you did your research and were prepared for your presentation. Your outside work and extra effort really paid off.

Great job!!!

Finding V: There were inconsistencies with the final measurement of students' spatial thinking skills.

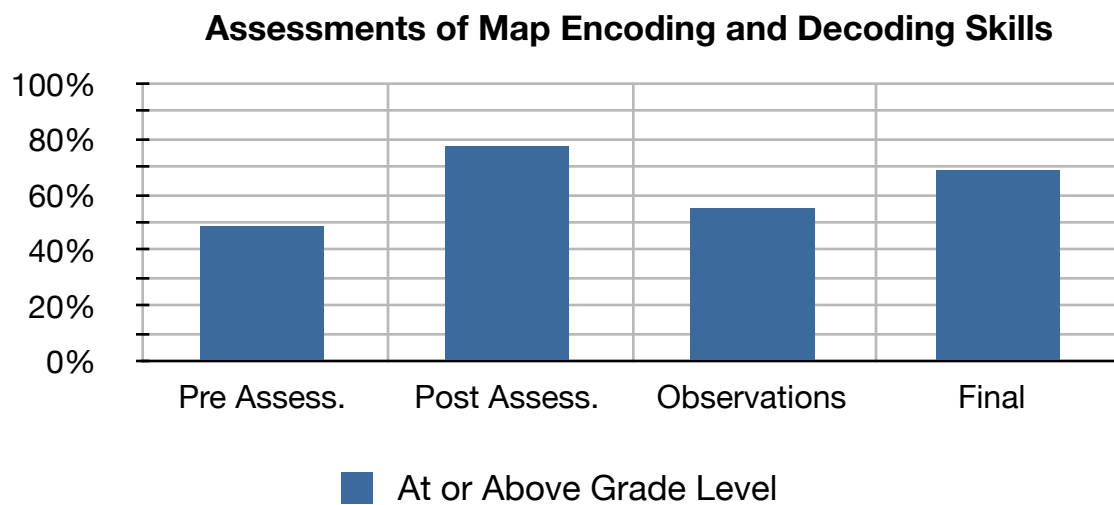
According to Bloom (1956), application is one of the highest thinking skills. Students in the fourth grade are only nine and ten years old and are less cognitively developed than older students with higher level thinking skills. Thus, the developmental levels of the students may be explain why these students did not perform as well in spatial awareness. Piaget (2002) also states that students who are ages seven through eleven are in the “concrete operational stage” and not able to think as abstractly as when they are older in the “formal operational stage.”

I was aware of these studies and therefore assumed some of the students would struggle with the higher level thinking skill of spatial awareness. My specific academic focus for this project was to enhance students' spatial awareness through the encoding and decoding of different types of maps. To measure and report on their growth in this area, I used three different forms of data: the multiple choice pre and post assessment, weekly observations and interviews, and their culminating project and presentation. It was important to use a variety of data collection materials to get the truest results for each student.

On the pre assessment, 42% scored an 80% or higher. On the post assessment, 78% scored an 80% or higher. Because this ten question multiple choice answer assessment is not enough information to gauge the students' full understanding of how to read (encode and decode) maps, I went to my field notes, observations and final project assessment to compare those results to the post assessment. These forms of

data gave a more detailed and accurate analysis of whether the students ability to read maps improved over time. Graph 8 shows the percentages of students' comprehension of reading maps through the post assessment, field notes and observations, and the final presentation.

Graph 8: Map Encoding and Decoding Skills-The percentage of students who scored at or above grade level in map reading skills as measured by a pre and post assessment, field notes, observations, and the final project/presentation.



When going over these scores, I felt the truest measures of student spatial thinking skills were in the observations and final project analysis. Using these four measures of assessment, I found that it was challenging to grade because the forms of data weren't consistent. For example, it was clear when grading ten question multiple choice quiz what score the students receive. I was pleased to see that the class's scores improved from the pre to the post assessment. However, with the observations and final presentation, the measures were more subjective on whether each student not only made academic gains, but whether these gains warrant an "at or above grade

level" result. When going over these scores, I felt the truest measures of spatial thinking skill swere in the observations and final project analysis.

If I had to do it again, I would make sure that these assessments were easier to tabulate and more user friendly for other teachers. Like Howard Gardner, I too believe that student intelligence cannot be measured by one assessment, such as an IQ Test. Unlike Piaget, Gardner believes that at any given time children are at different stages of development including spatial awareness maturation (Gardner, 1999). This is why Vygotsky's zone of proximal development can be so effective in a small group setting.

Summary and Discussion

I had anticipated that some of the students would continue to have a difficult time working in a collaborative project, but did not expect that their military upbringing would have been such a big factor. Some of these kids had difficulty making friends, solving problems, and often seemed miserable when asked to work with other kids. For them, the classroom environment was not a safe and positive place, so their motivation might have been weakened as well (Stipek, 2002). This may have reduced their desire to do their best work and for some, the ability to complete their share of the project.

I knew it would be hard for some of these students to manage their choices of whom to work with, what to research, and when to work on the research project, which also might have hindered their motivation to complete the project (Deci, 1995). I had already seen during the diagnostic phase that these students were frequently off-

task as I observed them playing around with each other, bothering others, or just sitting at their desks. Given the choices they had to make, they seemed challenged to manage their time effectively. These students did not seem to know how or where to begin their research, even though I was modeling each of the activities and scaffolding the lessons throughout whole class and during small group time.

Getting this group project going was initially very challenging. Many individuals were not very interested in the idea of working together in a small group setting. As a result, the motivation levels, overall, were very low at the beginning. I had to go back and work on team-building skills to help the kids develop a sense of safety and trust within their group. In addition to the team-building exercises that fostered group cohesiveness, it would have been valuable to spend more time on collaboration skills such as practicing conflict-resolution, “I” messages, and active listening. Although most of the students’ attitudes changed for the positive toward group work and their motivation grew, not all students were on board. There was one student in particular who dropped out of the project all together. I could see that in his group there was constant friction between him and his teammates. There was complaining that he wasn’t doing his share of the work and that frustrated the other students. My observations also noted a lack of engagement and motivation with this student. He seemed uninterested in working as part of the team as well as doing any of his own independent work. His homeroom teacher stated that he is a very shy student and it takes a lot to get him to be responsive to most school activities. Mr.

Chapman also mentioned that there were some issues going on at home and that he had tried numerous times to speak and meet with the parents to discuss the student's progress in school. Some of the students in his group had dominating personalities and, at times, were unfairly critical of this student and complained more than necessary about him. It is no surprise that this kind of pressure and attack could lead towards an even less motivated participant.

I had hoped that using self and peer evaluations, Passing the Popsicle Stick tally charts, and reflective writing would have helped the class notice patterns of challenges and successes that would allow them to make notable adjustments within their collaborative project. By setting up clear expectations as their leader as well as their setting up their own expectations, I believed that the majority of the class saw this experience as positive and worthwhile. Although the class was essentially divided on their feeling of motivation and collaboration, I do think that the majority did have a worthwhile experience.

When creating this curriculum, it was important for me to build in student choice and voice into the unit. Along with that one particular student, there were seven others who had a really difficult time managing their responsibilities and choices. Their approach to the work on this project was consistent with their other academic performances. Generally, most of these students simply complained about the group work. While some of this group would rather be told what to do and do the work by themselves, others seemed at a total loss in which direction to take, and what

to do first. Even though I modeled and scaffolded each lesson and task carefully, these eight students seemed challenged with their workload and time management. They often seemed not to know where to begin with their research and spent class time arguing within their groups, wandering around the class, bothering other students, or sitting at their desks completely uninterested. In other words, they were constantly off task. It is important to also note that six out of these eight students were also on a behavior plan. As Deci notes, giving students choice, but too much choice can become overwhelming and challenging to manage. This can lead to decreased motivation (Deci, 1995). It may have been valuable to have some independent activities set up outside of the group that wouldn't have been deemed as a bad thing, but as a way to enhance an individual's motivation.

After analyzing observations and field notes, writing prompts, interviews, students' behaviors and work samples, there was plenty of evidence to suggest that over half of the class were motivated and engaged during the *Traveltopia* curriculum. One support for this claim is that 17 out of the 32 students participating went above and beyond the required assignments. These students were so interested in this project that they did extra research at home, wrote reports about the travel destination, checked out more resources from the library, came into the classroom during their lunch breaks and even visited travel agencies on their own time. Because you never know what kind of resources or home support each student has, I was careful not to assign required homework for this project. I knew that some students would inevitably

take on more interest and responsibilities, but I didn't anticipate that over half of the class would be that motivated.

At different points throughout the project, my field notes and observations noted how quite a few students commented on how much they enjoyed *Traveltopia*. These behaviors and observations suggest that they were motivated researchers and enjoyed completing their research and poster project. In addition, the data indicated that the majority of the students not only completed the project but met the expectations for the three components of the final project (visual, written, and oral presentation). Although the majority of students met the requirements of their assignments, it does not necessarily mean that they were motivated to work collaboratively as was evident from Findings 1 and 2. Collaboration skills without motivation may lead to indifference, while motivation skills without collaboration may lead to frustration. I believe further research and evidence could be done in the area of what specifically motivated each student throughout the curriculum.

As shown in the data analysis for *Traveltopia*, the curriculum improved students' problem solving, motivation, and collaboration skills. The data shows that the class grew to accept and eventually enjoy this process of learning. Deci notes that everyone has a desire to be *autonomous* and a desire to be *competent*. Autonomy is satisfied in a project such as this because people are sharing in the participation. The competency condition is satisfied when people contribute something they find worthwhile. Having students answer surveys, writing prompts, and participate in group discussions also

helped them to develop more of a classroom community which boosts social motivation.

The results also show that by using Vygotsky's zone of proximal development model and developing heterogeneous working groups, students were able to teach and learn from each other rather than strictly from their own teacher.

Inviting other faculty members into their assignment was a motivational force that pushed many of them to want to do their best. The students developed ways to divide and conquer the work as well as tackle new geographic terminology and concepts. This helped them develop a more thoughtful process for problem solving. Finally, working through this process as a team to create and present a final project was beneficial overall to the class. Because their pre and post tests scores didn't show as much change as I had hope for, the results do lead me to believe that if they had more consistent exposure throughout the school year, their geographic learning would have been more substantial. Overall, it was encouraging to see the positive changes in these students and their curiosity for learning about geography. I hope that their appreciation of geography will continue to be fostered in their future interests in and out of the classroom.

Chapter VIII -- Summary and Conclusion

I began this project with the desire to open up the subject of geography to students. I had found through my own experience and research that social studies, and geography in particular were not being taught enough in the classroom and widely overlooked in favor of other subjects such as math and language arts. Due to my own personal interest, I felt very strongly that geography is an area of study that needs to have more attention if we are to go beyond the classroom and bridge the gaps of national and international relations. Too many Americans have a very narrow understanding of basic geographical concepts which is not helping us move forward toward a more 21st century way of living and towards a global community of change.

After reading through the current curricula that most California public schools use, I saw that there was a large deficit in how geography, and more specifically mapping skills through spatial thinking, was being taught. I wanted to create a classroom environment that was more student centered, with student learning coming from their own questions and interests. I also felt it was also important to develop a unit of study that had a collaborative project based theme which would encourage the students to problem solve and motivate them to work through the challenges of team work and the assignments. I created an environment in which students were exposed to a much more democratic and collaborative classroom experience than is the norm. I devised methods of teaching and assessing that would provide quantifiable evidence to show whether this pedagogy leads to meaningful learning. I discovered that by

focusing on motivation, collaboration, and problem solving, I created a classroom environment that empowered the students. While at times challenging and confusing, this methodology can be done in a manner that is relevant and rewarding.

Throughout my curriculum development and implementation, I learned not only invaluable information about my students, but about my own teaching style as well. During the process, I realized how many personal expectations and assumptions about the students that I held. I walked in assuming that, while the class may not have had much, if any, experience with a collaboration project, nevertheless they would be equipped with the social skills needed to work cooperatively together in a group. Particularly at the beginning, I found that each one of the groups was challenged with simply working as a team. There was a lack of trust and confidence in each other that I had not anticipated. If I had to do it again, I would have started with the team builder activities before moving into the academic assignments for the unit.

Next, although I knew and expected that the students would naturally take on different roles within the group (e.g. leadership, artistic, passive) I assumed that by planning the curriculum with these roles in mind, each student would have felt supported and interested on some level to participate in the activities. Unfortunately, whether it was from social pressures within the group, lack of support at home, or what seemed to be a simple disinterest altogether, eight of the 32 students, or 25% minimally participated.

Implications for Further Research

The most important thing I have learned from this project is that in order for students to be successful when learning how to apply geographic vocabulary and develop spatial thinking skills, there needs to be a variety of ways for them to be exposed to the information as well as have multiple vehicles of hands on work. For example, having access to the internet to use sites such as www.googleearth.com is very useful and applicable to our day and age of technology as well as access to great information. I believe there should be more test group research conducted in the field of technology and developed spatial thinking skills. The effect of differences in online exposure and levels of spatial thinking skill development on overall retention could be explored further.

Finding ways to motivate students is a challenge. Because I worked with a predominately military population, the notion of using collaboration to enhance motivation did not go as well as I had hoped. Many students seemed more motivated by the idea of working alone. The use of an authentic audience had a greater impact on the majority of student learning. Having an actual “client” to interview, plan, and present for definitely motivated the students to try their best. Because the groups were able to choose who their client would be, it boosted their level of self-interest in the creation of the final project. They also knew that they would have an audience of their peers with whom to share their findings and that, for most, was quite motivating.

Overall, *Traveltopia* was successful in making geography, specifically map reading, relevant to the students' everyday lives. Using a real life experience, such as planning a vacation to a desired destination helped to create a more authentic experience. I found that I developed some personal insights as to my role as teacher/facilitator/researcher. Wearing all of these hats was challenging at times, but rewarding overall. I feel like playing the role of the observer in the classroom as well as objectively analyzing the data gave me a professional perspective on teaching that I had never experienced before. The discoveries that I made during this process has helped me to become a more experienced problem solver and critical thinker.

By focusing on motivation, collaboration, and authentic audience, I learned that although it works for some, these practices are not always effective in a classroom setting. I now have a better understanding of the key principles for creating and building a curriculum, particularly in the area of spatially thinking and geography. When implementing *Traveltopia*, or any other curriculum for that matter, I will have a clearer understanding of what can be improved and how to make adjustments to better meet the needs of my students

Appendix



*Welcome to
Traveltopia!*



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Overview of *Traveltopia*

What is *Traveltopia*?

Traveltopia is a project-based, student-based geography curriculum designed to motivate students through collaboration, authentic audience and online research. Using personal interviews, a variety of maps and itineraries, students work in small groups to plan a dream vacation for a school faculty member of their choice.

Constructs of Learning

- Motivation
- Collaboration
- Authentic Audience

Goals

- Students will be motivated to learn about geography through the use of an authentic audience.
- Student will develop their spatial thinking skills through a collaborative project.
- Students will gain a deeper understanding of how to encode and decode a variety of maps.
- Students will improve their research skills through the internet.
- Students will be able to transfer these skills and apply them to their own lives.

Setting

- Fourth grade classroom. Curriculum can be modified to work with 3rd-5th grade.
- Timeline: Roughly 6-8 weeks or 210 minutes a week.
- Teacher facilitates small group collaborative activities with a final culminating project.
- Other school faculty members play a large role.

California History and Social Studies Standards

4.1 Students demonstrate an understanding of the physical and human geographic features that define places and regions in California.

1. Explain and use the coordinate grid system of latitude and longitude to determine the absolute locations of places in California and on Earth.
2. Distinguish between the North and South Poles; the equator and the prime meridian; the tropics; and the hemispheres, using coordinates to plot locations.
3. Identify the state capital and describe the various regions of California, including how their characteristics and physical environments (e.g., water, landforms, vegetation, climate) affect human activity.
4. Identify the locations of the Pacific Ocean, rivers, valleys, and mountain passes and explain their effects on the growth of towns.
5. Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.

For the Teacher

Traveltopia is a fun project-based curriculum that builds geographical understanding through enhanced coding and decoding map skills. The idea is that, by planning a dream vacation for a faculty member at your school site, students will not only develop a deeper conceptual understanding of these mapping skills, but will also become more motivated by working collaboratively and with an authentic audience. Although this curriculum was specifically developed for geographical exploration in a fourth grade class, it can be adapted to any types of informational writing projects in an upper elementary classroom.

Due to time constraints and pressures to cover subjects such as language arts and mathematics, teaching social studies and geography can be a challenge. One of the benefits for teaching through a project-based curriculum is, instead of covering one standard at a time, it allows you to cover multiple standards of learning into one unit. Another advantage to project-based and collaborative learning is that students learn the real life everyday skills of how to effectively work with others.

Traveltopia scaffolds students into developing productive research skills, communication skills, and spatial thinking skills. The ultimate goal for this unit of study is for the students to make sense of how geography skills such as map encoding and decoding can be used in their everyday lives. *Traveltopia* helps students build on all of these important skills to be successful in and out of the classroom.

Because of the collaborative nature of this curriculum, teachers should be prepared to take on the roll of a facilitator and be ok with social activity in the classroom. I have added tips for how teachers can keep their class on task and motivated to work in a collaborative fashion. If this student-centered model of learning is something new for you, congratulations for stepping out of your comfort zone and trying something different!

I have organized *Traveltopia* into five sections: Building Prior Knowledge and Collaboration Skills, Interview and Internet Research, Travel Brochure, Presentation, and Evaluations, Assessments and Rubrics. Depending on how you plan your time around this unit, it can be done anywhere from 6 weeks straight or spread out over a few months time. Although *Traveltopia* can be challenging to facilitate and potential road blocks may come up, the rewards that the students will gain at the end of the process makes it all worth it. My hope is that your students will appreciate the experience as much as mine did. Enjoy the journey of making geography come to life in your classroom!

Tips for Teachers

Traveltopia is a project-based learning curriculum that motivates students through peer collaboration and authentic audience. Students are actively engaged in a group project that will guide and deepen their understanding of geographical concepts, specifically spatial thinking skills through the coding and decoding of maps. To facilitate this unit of study, you as the teacher should create an environment to foster this model of learning. Here are some tips on how to do that:

- **Environment**-The way that you set up this physical layout of your classroom can help facilitate collaborative learning in a more productive way. Because your class will be working in groups, try to set up the classroom with pods or clusters of desks that are set up in a small group fashion.
- **Organization**-Organization is key when working on an elaborated project such as this. Make sure that each student has their own folder to keep track of their work as well as a larger manilla envelope for the team to share.
- **Resources and Technology**-Have your resources in place before you start this unit. Make sure the computers in your classroom are ready to go, computer lab times are lined up, you have collected a variety of other resources that will get the students started like atlases and globes.
- **Classroom Community**-If you haven't already, give your class time during the week to check in and see how everyone is doing. Whether its academic or personally related, it is important to develop an environment where the students feel safe enough to express themselves as well as become active and objective listeners.
- **Team Building Activities**-Prior to beginning a collaborative project-based unit, give your class the opportunity to keep developing their team building skills and trust with each other. This will serve you all in the long run.
- **Faculty and Parent Support**-From the beginning, let your faculty and parents know about your upcoming project. Among other things, they will be able to offer you extra support like relevant resources, classroom materials and their time.

Letter of Consent

Project Title: *Traveltopia*
Subject: Geography

Geography, and Social Studies as a whole, is a subject that is often overlooked or breezed over in lieu of Language Arts and Mathematics. Geography is a very important subject not only to become familiar with in the school setting, but also as it is applicable to our real lives. I would like to take this great opportunity to work with your student in developing these skills in what I hope will be a rewarding and motivating way.

I am requesting your permission to allow your child to participate in a project-based geography unit at _____ Elementary School. For the next few months, I will be collecting data, such as student surveys, peer and self evaluations, writing samples, workbook pages, and teacher observations in hopes of gaining insights into how project based learning can benefit student personal achievement in the areas of motivation, collaboration, and problem solving. My project's potential benefits not only the students but will also improve my own teaching practice as well as other teachers. Before agreeing to have your child participate in this project, it is important that you read through this letter with the understanding of my intent. You, as the parent/guardian, have the right for your student to not participate at any time or you may feel more comfortable with them participating, but may not want me to use their data.

All information gathered from the project will remain confidential. Your child's identity as a participant will not be disclosed as the use of their data will be primarily statistically based. I will also be taking pictures of the students' work and process but images will only be used with your consent on this form.

Your signature below indicates that you agree for your child to participate in this unit of study. Please keep a copy for yourself for your records. If you have any questions concerning the project please feel free to contact me.

Thank you so much for your consideration and support!

Sincerely,

Student Name: _____

Parent Signature: _____

Diagnostic Assessment: Map Variations; Encoding and Decoding

Time:

50 min-20 min discussion/30 minute assessment

Materials:

Text book, Written Assessment

Focus:

Prior Knowledge/Memory Recall

Objective:

Assessment to see what students come into class knowing about map variations and how to encode and decode maps. Assessment will be a written explanation of what these type of maps are used for.

Activity:

1. Teacher will have these 6 map phrases written on the board: Elevation, population, historical, time zone, road, land use and products. Discussion will center around the meaning of the words without a visual. Class will look for base words or similar types of words (e.g. elevation-elevate, elevator) and derive meaning. Ways to represent each map will be brainstormed.
1. The teacher will pass out a paper with each map variation written down along with a few blank lines for students to write down what they know or want to know about each type of map. Teacher will emphasize that this is not a test, just a way to find out what they know and are interested in learning about maps. Teacher will collect pre assessment, students can share out their ideas, and/or questions.

Evidence:

Teacher's notes, observations, written assessment

Name: _____

Date: _____

Directions: To the best of your knowledge, write down as much as you know or want to know about each type of map. You may draw a picture as a visual to go with your explanation.

1. Elevation Map: _____

Elevation Map

2. Population Map: _____

Population Map

3. Historical Map: _____

Historical Map

4. Time Zone Map: _____

Time Zone Map

5. Road Map: _____

Road Map

6. Land Use and Product Map: _____

Land Use & Product Map

Pre and Post Assessment (Multiple Choice)

Name: _____

Date: _____

1. A legend is a feature that can be found on a map. What purpose does a legend serve?

- A. To find which direction to drive
- B. To show how long a trip will take
- C. The biggest road in the area

2. Why would you use a compass on a map?

- A. To find the biggest lake
- B. To find how many cities are in a state
- C. To determine the length of a trip
- D. To decide which direction to drive

3. Which feature helps you measure the distance between two places?

- A. Map Scale
- B. Index
- C. Map Legend
- D. Compass

4. Which road trip would you be able to drive in roughly 6 hours?

- A. San Francisco, CA. to New York, New York
- B. San Francisco, CA. to Los Angeles, California
- C. San Francisco, CA. to Chicago, Illinois
- D. San Francisco, CA. to Dallas, Texas

5. Maggie is driving to Utah and needs to find out how long the drive will be. What should she use?

- A. Compass
- B. Scale
- C. Legend
- D. Key

6. What information can be found on www.googleearth.com?

- A. 3-D views of mountain ranges
- B. satellite imagery
- C. images of natural disasters
- D. All of the above

7. What does the star (*) symbol on a map represent?

- A. A National Monument
- B. A City
- C. The State Capital
- D. A River

8. What mountain range has the highest elevation?

- A. Mount Whitney
- B. Mount Everest
- C. Mount St. Helens
- D. Mount Rushmore**

9. What type of map would you use to find out what products come from specific regions, states, or countries?

- A. Time Zone
- B. Population
- C. Land and Resource
- D. Historical

10. What are lines of longitude?

- A. Measures distance east to west
- B. Measures distance north to south
- C. Measures distant around the earth

Answer Key

1. C 2. D 3. A 4. B 5. B 6. C 7. C
8. B 9. C 10. A

Map Reading Review

Time: 30 minutes Materials: textbook, binder paper

Focus: Prior Knowledge, Collaboration

Objective:

Using their textbooks and small group discussions, students will become an 'expert' in one type of map and then be responsible for explaining the details of their map to a small group.

Standard	Vocabulary
4.1.5: Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation	map title, map legend, insert map, locator, map scale, compass rose, cardinal directions, intermediate directions

Implementation:

1. Using the maps from your school adopted textbook, teacher will begin by discussing how to read maps. Teacher will review the mentioned vocabulary words whole group and ask questions e.g.

- * What do the different colors on the map represent?
- * Using the map legend, what is the capital of _____ ?
- * Which states border _____ ?
- * Using the map scale, about how big is _____ ?

2. Students will then have to come up with 3 facts and 3 questions of their own using these introductory pages.

3. Students will then pair up, trade papers and answer their partner's 3 questions. Teacher will collect papers.

What is Geography? Power Point and Writing Prompt

1. Show power point to the class.
2. Students Think-Pair-Share what they know, learned, want to learn (KWL Chart)
3. Students follow journal prompt for individual writing

Journal Prompt:

At this point, what do you know about Geography? Be as specific as you can. What did you like about the slide show? What excites you the most about Geography? What was confusing to you? What areas of Geography would you like to explore further?

 <p>What is Geography?</p>	<p>PHYSICAL GEOGRAPHY</p> <p>Imagine a world without humans.</p> <p>What would it be like?</p> <p>Think of as many things as you can.</p>	<p>HUMAN GEOGRAPHY</p> <p>Humans have an enormous effect on earth.</p> <p>What are our main activities?</p> <p>How many can you think of?</p>
<p>What is Geography?</p> <ul style="list-style-type: none"> • Write the heading What is Geography? • List 5 things you think Geography is about • Share these with a partner • Decide between you on a top 5 <p>• You will then share some of them with the class</p>	<p>PHYSICAL GEOGRAPHY</p> <p>A world without humans would still have life, it would still change shape, natural forces would still work, like ...</p> <ul style="list-style-type: none"> > Volcanoes, earthquakes, tsunamis, storms, floods > Rivers, oceans, glaciers > Soil, water, air > Plants, animals, vegetation 	<p>HUMAN GEOGRAPHY</p> <p>Our main activities are:</p> <ul style="list-style-type: none"> > Settlements and Building > Transport > Different types of work > Farming > Creating energy
<p>Copy out this short paragraph</p> <p>Geography is the study of the Earth's landscapes, peoples, places and environments. It is, quite simply, about the world in which we live.</p>	<p>A WORLD WITHOUT HUMANS</p>   	<p>HUMAN ACTIVITIES</p> 
<p>There are 3 Types of</p> <pre> graph TD HUMAN --> PHYSICAL HUMAN --> ENVIRONMENTAL PHYSICAL --- GEOGRAPHY ENVIRONMENTAL --- GEOGRAPHY </pre>	<p>HUMAN GEOGRAPHY</p> <p>Humans have an enormous effect on earth.</p> <p>What are our main activities?</p> <p>How many can you think of?</p>	<p>ENVIRONMENTAL GEOGRAPHY</p> <p>Earth is a precious, delicate place - all activities have an effect on the environment in good ways and bad.</p> <p>How many can you think of for each?</p> <ul style="list-style-type: none"> > Bad - > Good -

Team Builder Activities

Team-building activities help establish a positive community atmosphere in your classroom. When your students get to know you and each other in a fun and supportive environment you are able to establish a the kind of rapport that will enable you to have a trusting relationship with them throughout the year.

HUMAN KNOT

1. Students stand in a circle in groups of 5-6.
2. Everyone puts their hands in the middle of the circle and grabs the hand of a person that is not standing next to them.
3. Step by step, students need to communicate on how to untangle their hands without letting go.
4. Eventually the group should end up in a circle holding hands.

Skills: Ensemble, Communication, Collaboration

RELAY RACE

1. Students are in groups of 4-6 (depending on size of class).
2. Teacher will facilitate a rotation of relay races (e.g. running, skipping, hopping, log rolling, leap frogging, crawling).
3. Students are encouraged to be supportive and cheer on their team mates.

Skills: Motivation, Communication, Team Work

KOOSH BALL

1. Everyone stands in a circle. One person starts by throwing the koosh ball to another person.
2. Continue passing the ball around so that everyone gets the ball once. The ball should end up with the person who started it.
3. Remember the order and then the time how fast the group can get the ball through everyone.
4. See if the group can beat their fastest time!

Skills: Concentration and Team Work

Welcome to Traveltopia!

The purpose of the unit of study is to help you not only learn more about geography, but to also learn to work with a team; solving problems together, developing plans together, and ultimately creating a final project together that you will all be proud of.

What you and your team will be working together on is creating an amazing 1 week vacation for a member of the staff here at _____ Elementary. The teamwork begins by deciding who you would like to be your "client" for this project. There are many factors involved in planning the ultimate vacation and you will need to use your geography and research skills to make the trip a success. This unit of study will be broken down into 5 Phases:

- Phase I: The Interview/The Internet
- Phase 2: The Plan/Research
- Phase 3: Written and Visual Rough Draft
- Phase 4: Final Draft/ Presentation

During each of these Phases, you will be working with your team of 5-6 as well in sub-groups of 2-3. To have a successful and positive experience, you will have to work cooperatively, take care of your responsibilities, and be honest about the process. There will be times when you and your team will come to some challenges, so communicating with each other is critical.

Your final project will be a combination of a written and visual piece that will show your client, your teacher, and classmates what the ultimate vacation will look like. Throughout each phase, you will be graded by your team, your teacher, and yourself.

Have fun and HAPPY TRAVELS!



~~~~Phase 1~~~~  
*Interviews and Internet*



## Creating Interview Questions

When you are interviewing someone, it is important to ask the right kinds of questions to get the best answers. For this interview, your team will choose a member of the staff at \_\_\_\_\_ for the purpose of creating an ideal one week vacation for them. Think about the maps we have been studying this far and how they can help us come up with some useful questions to ask our “client”. Use the Brainstorm Interview Activity sheet to help you and team come up with some important ideas to address at your interview. Your interview time will be limited so you want to make sure that you ask the right questions. You and your team will use a tape recorder and your questions to during your interview. You will be able to go back and replay your conversation to make sure you don’t leave any important information out.

Things you want to consider when planning a fabulous trip for some one else:

- How they like to travel (plane, train, boat...)
- What type of climate they prefer (snow, sun, rain, dry)
- What types of activities they enjoy (skiing, sailing, sightseeing, eating)
- What are some things they would like to avoid (crowded cities, high altitude)
- What they will need to pack
- How far away their destination is will determine how much time they have for actual vacation.
- How many people are traveling?
- What time of year they want to travel

Other Questions/Ideas:

---



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## Creating Interview Questions

**Materials:** Final Project Copy, Creating Interview Questions, Brain Storm Activity Sheet

**Time:** 45 minutes

**Construct:** Peer Collaboration, Problem Solving through brain storming interview questions, Motivation through prior knowledge and excitement about project and personal travel experience

**Goal/Objective:** For students to use collaborate and use problem solving skills using maps to create interview questions for their client.

1st: Teacher will go over and explain the final project.

2nd: Class will discuss ideas and questions for interview relating to what they've studied and know about maps so far as well as their own travel experience.

3rd: Students will get into their working groups, decide/vote who will be the subject of their interview and "client". If they can't decide or agree, the teacher will decide for them.

4th: Group will create a list of 10-12 questions to ask their client. Groups will decide who will ask and be responsible for 2 questions.

### **Evaluation:**

- Teacher is looking for cooperation within groups
- If the students are able to make connections to the maps they've been learning about. Evident through class discussion, brainstorming and 10 Interview Questions Activity Sheets

## Interview Questions Worksheet

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_



**(Suggested) Interview Questions**

1. Where would you like to go on your one week vacation?

---

2. What type of lodging/accommodations are you interested in? (hotel, camping, cruise).

---

3. Would you like to stay in one place/area the whole time?

---

4. What time of year would you like to travel?

---

5. What types of activities would you enjoy on your trip?

---

6. How many people will you be traveling with? Any kids?

---

7. Is there anything that you would like to avoid on this trip? (high altitude, crowded cities...)

---

8. Will you be renting a car? What kind would you like?

---

9. Any other information you would like to give us to help us plan your trip?

---

---

10. Do you have any other comments or questions

---

---

### Atlas and Online Research Recording Sheet

Use this paper to keep track of the names of the websites you used, key words in your search, and any useful information you found on these sites. Also, keep track of any page numbers and important information or key words you discover in any type of atlas.

| Website/Atlas Title                                                | Key Words | Notes |
|--------------------------------------------------------------------|-----------|-------|
| <a href="http://www.googleearth.com">www.googleearth.com</a>       |           |       |
| <a href="http://www.mapsoftheworld.com">www.mapsoftheworld.com</a> |           |       |
|                                                                    |           |       |
|                                                                    |           |       |
|                                                                    |           |       |
|                                                                    |           |       |

## Homework Assignment

Name: \_\_\_\_\_

Date: \_\_\_\_\_

During these next few weeks, see what kind of information that you can find regarding your client's vacation destination. Record the materials that you find and where you found them. Be prepared to bring in and share these materials with your team as they will be of great use towards your final written and visual project. Some suggestions are: brochures, fliers, travel agencies, internet research, atlases, interviewing...

| Material | Where I found it/Resource |
|----------|---------------------------|
|          |                           |
|          |                           |
|          |                           |
|          |                           |

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Itinerary for \_\_\_\_\_  
*client's name and destination*

Day 1: (Travel Day) \_\_\_\_\_

\_\_\_\_\_

Day 2: (Activity) \_\_\_\_\_

\_\_\_\_\_

Day 3: (Activity) \_\_\_\_\_

\_\_\_\_\_

Day 4: (Activity) \_\_\_\_\_

\_\_\_\_\_

Day 5: (Activity) \_\_\_\_\_

\_\_\_\_\_

Day 6 : (Activity) \_\_\_\_\_

\_\_\_\_\_

Day 7 (Travel Day) \_\_\_\_\_

\_\_\_\_\_



## Self and Peer Evaluation for Phase 1

Name (Optional): \_\_\_\_\_ Date: \_\_\_\_\_

1. On a scale from 1-10, 1 being terrible and 10 being the best, how would you rate the overall experience of this phase of the team project? Explain.

---

---

2. Did you get your 1st, 2nd, or 3rd choice for who your client is?

---

3. Do you feel like you and your team divided up the work equally? Please explain.

---

---

4. What part of working on this section went really well for your team?

---

---

5. What areas do you feel that your team needs to work on for the next phase of your project?

---

---

## The Interview-Evaluation/Feedback

Client's Name: \_\_\_\_\_

Interviewers' Names:

\_\_\_\_\_

Client's Response Sheet-Please circle one and write a comment for each.

1. Each member group of the group was on task and cooperative during the interview.

strongly agree   agree   disagree   strongly disagree   not at all

Comment:

\_\_\_\_\_  
\_\_\_\_\_

2. I felt that the questions they asked me were appropriate and informative?

strongly agree   agree   disagree   strongly disagree   not at all

Comment:

\_\_\_\_\_  
\_\_\_\_\_

3. I feel confident that my travel agents will create a fantastic vacation for me.

strongly agree   agree   disagree   strongly disagree   not at all

Comment:

\_\_\_\_\_  
\_\_\_\_\_

4. Other questions, comments, suggestions:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Interview Team Evaluation

1. Who did you interview? \_\_\_\_\_

2. Did you complete your job/responsibility as one of the interviewers?

strongly agree    agree    disagree    strongly disagree    don't know

Comment:

---



---

3. Did the other members of Group 1 complete their jobs/responsibilities?

strongly agree    agree    disagree    strongly disagree    don't know

Comment:

---



---

4. Did you and your team ask all of the questions from your list of interview questions?

yes                      no                      I don't know

Comment:

---



---

5. Do you feel like you have a good idea about what type of trip you will help plan for your client?

strongly agree    agree    disagree    strongly disagree    don't know

Comment:

---



---



## Online and Atlas Research Evaluation

1. Did you feel that you were on task and motivated during this part of the project?

strongly agree    agree    disagree    strongly disagree    don't know

**Comment:**

---

---

2. Do you feel like other members of Group 2 were also on task and motivated?

strongly agree    agree    disagree    strongly disagree    don't know

**Comment:**

---

---

3. Did you find any useful information to help your whole team plan a trip for you client?

strongly agree    agree    disagree    strongly disagree    don't know

**Comment:**

---

---

4. Did other members of Group 2 find any useful information to help your whole team plan a trip for your client?

strongly agree    agree    disagree    strongly disagree    don't know

**Comment:**

---

---

**Team \_\_\_\_\_'s Update Phase 1**  
**The Interview**

What have **you** done so far to contribute to the success of your group? What has been your favorite part of this project so far?

How is **your team** doing overall? What information does your team have plenty of and what does your team need to find more about?

What's next? What is your team's plan to move forward with finishing research and planning the trip?

~~~~~

Team _____'s Update Phase 1
The Internet

1. What have you contributed to the success of your group this week?
2. What helpful websites did you find to help with the group project?
3. What's next? What is your team's plan to move forward with finishing research and planning the trip?

Phase 1: Self Evaluation

1. I am feeling really good about my work on our project so far.

strongly agree agree disagree strongly disagree don't know

2. I feel like my team mates are doing a great job.

strongly agree agree disagree strongly disagree don't know

3. I am doing extra work towards making our project as good as can be.

strongly agree agree disagree strongly disagree don't know

4. I am very excited about working with my group to put this project together.

strongly agree agree disagree strongly disagree don't know

What type of research have you done so far for Phase 1?

What have you learned so far about your client's destination at this point?

How is your team doing? What is working well? Are there any problems?

~~~Phase 2~~~



*Planning and Research*

\_\_\_\_\_ 's  
Trip To

-----

\_\_\_\_\_  
date

**Planned and prepared by:  
(members of the team)**

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

**\*You will need to create a map for each drawing which must include a map scale and map key for each.**

## HOW YOU GET THERE

You will be traveling by:

Car

Plane

Train

Boat

Other \_\_\_\_\_

Draw a picture below showing the different modes of transportation your client will be traveling in. Include the environment of travel (freeways-mountains-oceans-dirt roads).

### YOU WILL BE STAYING AT:

NAME OF LODGING

DATES

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Draw a picture(s) below showing where your client will be staying. There may be a few places.**

**ON YOUR TRIP, THE WEATHER SHOULD BE:**

|              |               |              |
|--------------|---------------|--------------|
| <b>Sunny</b> | <b>Cloudy</b> | <b>Rainy</b> |
| <b>Windy</b> | <b>Foggy</b>  | <b>Snowy</b> |
|              | <b>COLD</b>   | <b>HOT</b>   |

**Draw a picture below showing the potential weather during your client's vacation.**

**What types of activities will your client be enjoying during their vacation?**

---

---

---

**What types of food or products will they be eating or buying as a tourist on their vacation?**

---

---

---

**What types of items will they need to pack for their trip?**

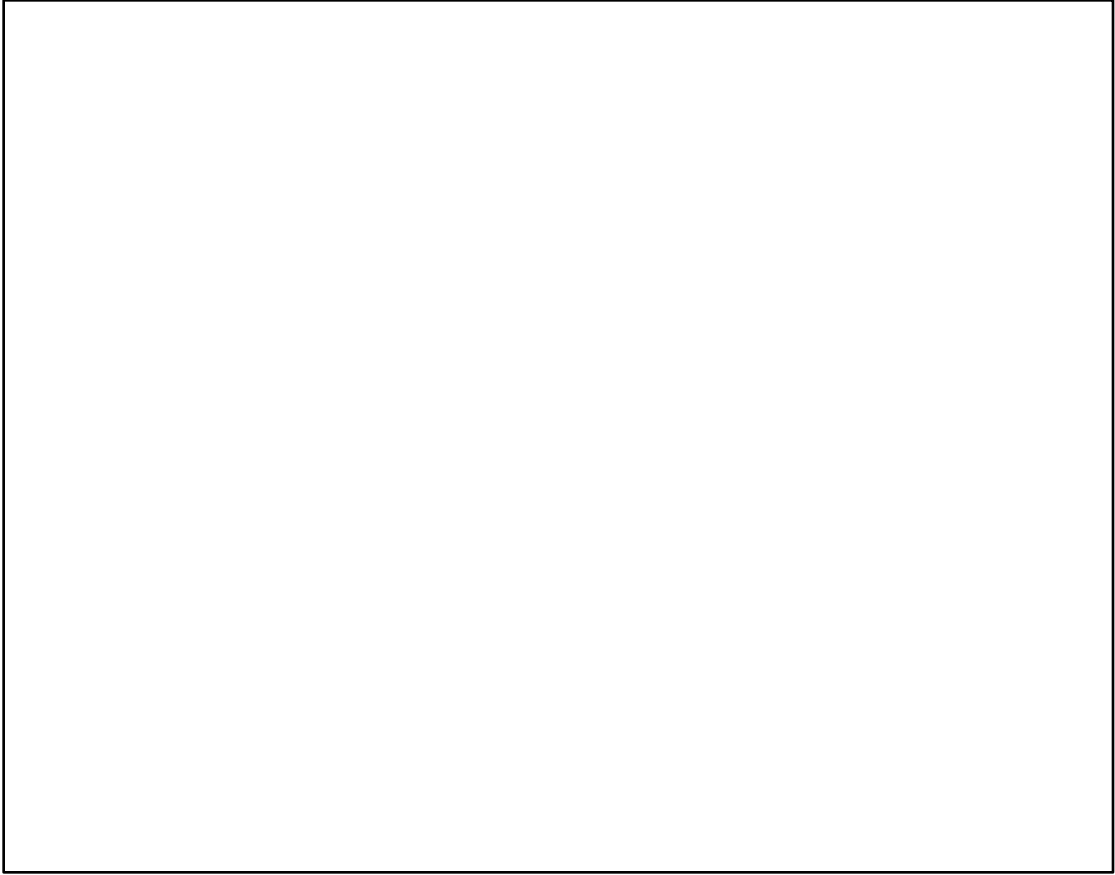
---

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---

**Using your resources, on the following page, illustrate one type of map to use in your final project. Make sure that you include a map key and a map scale. Write down three facts about your map that will help with your project.**





1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

**Problem Solving-Important Questions for Planning Your Trip**

1. Where is the destination your client will be traveling to? \_\_\_\_\_
2. How many miles is it from San Diego? \_\_\_\_\_
3. What will your map scale represent for initial travel? (for example, 1 inch = 100 miles). Please draw and label.



map scale

4. Which 3 maps will your team use as part of your visual presentation? Use team - cooperation strategies to decide. Be sure to use your textbooks to write down any vocabulary words that your audience will need to know in order to better understand your project.

| Map Type-Page Number | Vocabulary Words |
|----------------------|------------------|
|                      |                  |
|                      |                  |
|                      |                  |

5. What types of activities is your team thinking about planning for your client?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_

**Team \_\_\_\_\_'s Update Phase 2**  
**The Plan/Research**

What have you done this week to contribute to the success of your group?

What has been your favorite part of this project so far and WHY?

How is your team doing overall? What is going well for your team? Any problems/ issues?

If yes, would you be comfortable having a discussion with your group about these problems/issues?

What's next? What is your team's plan to move forward to complete your project?

## Phase 2: Evaluation

**Team Name:** \_\_\_\_\_

**1. Overall, how has Phase 2 worked out for you? What have you accomplished? What else do you need feel that you need to do?**

---

---

---

---

**2. Which three maps has your teamed agreed on using for the final presentation? How did you decide on these three? Why did you choose these maps? What are some of the vocabulary words that you will be using to explain your map selections?**

---

---

---

**3. During these last few weeks, where did you find you information? Where else have other members of your team found information? What are the resources?**

---

---

---

## Phase 2: Teacher Questionnaire

How many have completed Phase 2? \_\_\_\_\_

How many teams have their 3 maps decided? \_\_\_\_\_

How many feel good about how the project is going? \_\_\_\_\_

How many feel poorly about how the project is going? \_\_\_\_\_

How many are undecided? \_\_\_\_\_

How many are doing extra work outside of the class? \_\_\_\_\_

Other comments/observations:

---

---

---



*~~Phase Three~~*

*Rough Drafts  
Written and Visual*



## **Selling Your Vacation**

Once your team has researched extensively and feels confident in the information you have collected, it is time to create your Itinerary and plan a Presentation about your vacation destination. Your team will be responsible for using all of the materials you have collected and decide on how to set up and design the Written and Visual portions of your project.

You will begin by sketching a rough draft/outline of your visual on construction paper using the attached guidelines. You must receive approval from the teacher before moving forward. For your final draft, your team will use a 3-fold poster board. Your team may add to this poster board however you choose: typed/handwritten descriptions, printed/hand-drawn pictures, copied/drawn maps, etc. Remember, your audience (classmates, teachers, clients) will be looking for an informative, neat, and creative product that clearly shows them the one week dream vacation that you have planned. It is important to take your time and work together as a team!

After your team has completed the Rough Drafts, it will be time to plan your Presentation. You will decide who will say what during the Presentation and will practice until you feel ready.

## Expectations

To convince your client to go on your proposed trip, your final project (3-Fold Poster and Presentation) should meet the following requirements:

### Written and Visual

- ORGANIZED
- NEAT
- INFORMATIVE (it should CLEARLY answer your research questions!)
- CREATIVE

### Presentation

- REHEARSED (it should be planned and practiced)
- ORGANIZED (each of you should be able to clearly explain your portion of the project)
- INFORMATIVE (you are teaching your audience something new)
- Each of you should be prepared to discuss the details of your map selection
- INTERESTING (what are some fun facts about your destination?)

In order to meet these requirements, each team member is expected to work cooperatively and to play a significant role during each phase of the project. The quality of your final project and presentation is determined by how your team cooperatively plans, organizes and researches the travel destination.

**HAVE FUN!!!**





Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Travel Destination Information**  
(Phase 3-Written Portion)

Background Information-3 Facts about each

**History**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Culture**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Geography**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Places to go see: Landmarks and Activities**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Fun Facts**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Other Interesting Information**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

~~Phase IV~~

*Final Project:*

- ◆ *Guidelines*
- ◆ *Rubrics*
- *Evaluations*

**MAP SKILLS**



## Final Project

For this final group project, you and your teammates have chosen one member of the \_\_\_\_\_ staff to have planned their ideal vacation. Some resources that you have used for this project are: \_\_\_\_\_

---

Your group project will include a visual and a written portion and will be displayed on one large 3-fold poster board. In order for the project to be considered complete, each person on the team will be responsible for a piece of the final project. Please use the individual and team check list to help you determine whether you and your teammates have truly completed your share of the responsibilities:

~~~~~

Final Individual Check List

Itinerary for _____

1. I clearly have the ____ days of the vacation planned. _____

2. I have stated what hotel the client is staying in. _____

3. I have used proper instead of basic nouns to explain when explaining different daily activities. (e.g. Waikiki Beach instead of beach; Mauna Loa Volcano instead of volcano) _____

4. I names all the restaurants I mentioned in the itinerary. _____

5. My typing or handwriting is easy to read. (Ask your teammates to answer this) _____

Final Check List

(Place a check mark next to each statement as you complete your project.)

Photos:

1. I have collected at least 3-5 photographs or pictures. _____
2. Each of my photos or pictures have a caption. _____
3. Each caption explains what the photo represents. _____
4. My typing or handwriting is easy to read-(Ask your teammates to answer this) _____

Maps:

1. We have at least 3 different types of maps. _____
2. Each map is labeled with a title. _____
3. Each map has a map scale and a compass rose. _____
4. If necessary, we have used a map scale. _____
5. We have used longitude and latitude to explain where our destination is. _____
6. Our map displays are neat and easy to follow. _____

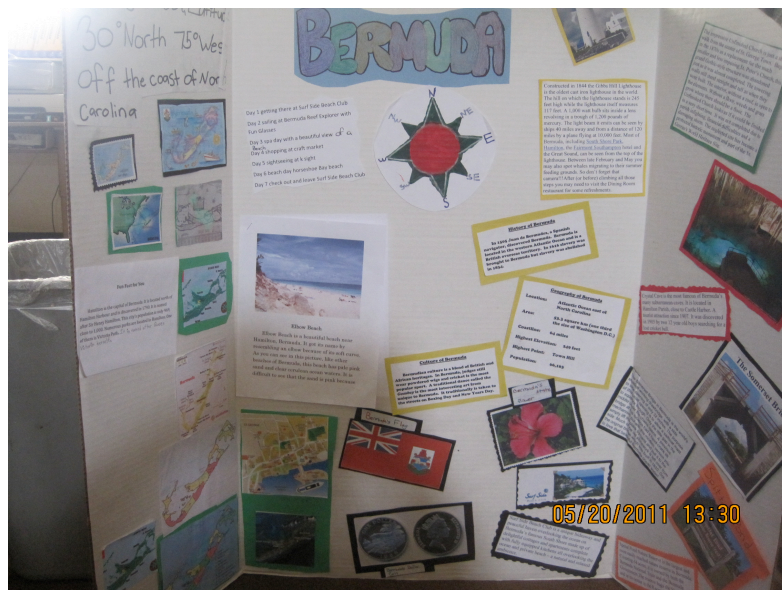
Places to See/Extra Info/Fun Facts:

1. Any places to see mentioned has a photo or picture to go with it. _____
2. Any extra information or fun facts should be relevant and add detail to the travel destination. _____
3. My typing or handwriting is easy to read. _____
(Ask your teammates to answer this)

Background Info-Destination:

1. I have written at least 3 facts about the history. _____
2. I have written at least 3 facts about the culture. _____
3. I have written at least 3 facts about the geography. _____
4. My typing or handwriting is easy to read. _____
(Ask your teammates to answer this)

Examples of Final Posters



Evaluations, Assessments and Rubric for *Traveltopia*

The strategy for grading the *Traveltopia* unit is multi-faceted to match the different components of the curriculum. The students are assessed as individuals and as part of a group. In this section you will find pre and post assessments, individual, peer, client and teacher evaluations, and rubrics to determine the students' final grade:

- Diagnostic Assessment

- Pre and Post Assessment

- Reflective Writing Prompts

- Updates (Phase 2, 3 and 4)

- Teacher's Class Observation and Individual Interviews

- Final Presentation
 - Team Project Rubric and Check List
 - Final Presentation-Self Evaluation
 - Final Presentation-Group Evaluation
 - Final Presentation-Teacher's Score Sheet
 - Post Presentation-Final Comments for Team

Reflective Writing Prompts

1. **Pre and Post Assessment:** What is Geography? What are maps used for? What types of maps are useful to you in your life outside of school and why?

2. **Map-Jigsaw:** For this two-part activity, the goals for working in small groups are sharing responsibilities, sharing ideas, problem solving, and create a product you can all be proud of.

Part 1: What is working in your group? What isn't working? What suggestions do you have for how to improve the quality of your teamwork?

Part 2: Did you find working with your team on Part 2 to be more of a challenge or more successful? What kind of changes, if any, did your group make to be more successful? What adjustments did you make as a team?

3. **Pre-Planning Ideas:** When thinking about planning a trip for a customer/client, what types of ideas do you need to have in mind? How can using different types of maps help with your planning and decision making about building the ideal vacation?

4. **Pass the Popsicle Stick:** How did passing the popsicle stick go with your group? Do you feel like it was a good way to be fair and organized about giving each person a chance to speak? Did some people speak more than others? What would be some other ideas about how to make sure everyone's voice is heard during a team meeting? How do you motivate someone who might be too shy to speak to share their ideas?

Phase 2 Update: The Plan/Research

What have you done this week to contribute to the success of your group?

What has been your favorite part of this project so far and WHY?

How is your team doing overall? What is going well for your team?
Any problems/issues?

If yes, would you be comfortable having a discussion with your group about these problems/issues?

What's next? What is your team's plan to move forward to complete your project?

Phase 3 Update: Rough Draft to Final Product

What is your responsibility for this portion of the project?

How has your team been doing at this point in the project? Do you feel like there are any issues, problems, or concerns? Do you have any suggestions? If yes, could you be comfortable discussing them with your team?

What is your goal or timeline to have the rough draft finished?

What should members of your team do if some finish their job before others?

Phase 4 Update: Final Presentation

Tell me about the most interesting thing you have learned about planning a trip to

What type of research did you do to learn about this part of the project?

Overall, what has been your favorite part of this project so far and why?

How is your team doing overall? What is going well for your team? Any problems/issues?

Teacher's Class Observation and Individual Interviews

Team _____

Date: _____

Question	Yes	No	Comments/Observations
Are the students engaged in the activity and on task? (motivation)			
Is each member of the group contributing in some way to the project? (speaking, reading, writing, research...etc) (collaboration)			
Is the team working cooperatively? If so, how? If not, how?			
Interview Questions	Yes	No	Comments/Observations
Can students tell me clearly what they are working on and WHY? Do they all seem to be on the same page?			
Does it seem that the students are learning something new? How can you tell?			
Does this group need extra support or guidance? In which areas?			

Team Project Check List and Rubric

As you are collecting and organizing your data, this project check list is for your team to use to make sure that you are on track. The items on this checklist will be used as part of your grade for your final project/presentation.

Rubric

0 = Incomplete 1 = Below expectations 2 = Meets expectations 3 = Exceeds Expectations

Written Portion: (Informational)-Project Checklist

- A title and title page _____
- Background information about the travel destination (history, culture, geography) _____
- Places to go/see (landmarks, activities, etc) _____
- Important things to know/Interesting/Fun Facts _____
- Travel Information - A written schedule/itinerary _____
- Vocabulary from Textbook is accurately used _____

Visual Portion: (Informational)-Project Checklist

- Longitude and Latitude of the destination _____
- At least 3 maps to show/explain the travel destination _____
- Map Scales and Map Keys are accurately used and displayed _____
- Photos of the area _____
- A visual itinerary for the week's vacation _____
- Visual information is clear/accurate, organized, and makes sense _____
- Visual makes people want to visit _____
- TOTAL Points** _____

Final Self Evaluation

1. I feel like I did what was expected of me to make this project successful.

strongly agree agree disagree strongly disagree

Comment:

2. I liked working with my team.

strongly agree agree disagree strongly disagree

Comment:

3. I enjoyed learning about:
_____ (destination).

strongly agree agree disagree strongly disagree

Comment:

What have you learned about Geography from this experience?

Final Peer Evaluation

Team _____'s Presentation

1. Where did this team plan a trip to? _____

2. Did each person on the team share some portion of the presentation.

yes no I don't know

3. I could tell that this team rehearsed and practiced their presentation.

strongly agree agree disagree strongly disagree

4. This team used at least 3 maps as reference.

yes no I don't know

5. I think this team did an excellent job of clearly explaining and showing what the week long itinerary is and what each visual represents

strongly agree agree disagree strongly disagree

Post Presentation: Final Comments for Team

TEAM:

<i>POSITIVE</i>	<i>CONSTRUCTIVE</i>

PEERS:

<i>POSITIVE</i>	<i>CONSTRUCTIVE</i>

CLIENT AND TEACHER:

<i>POSITIVE</i>	<i>CONSTRUCTIVE</i>

Final Score:

Team _____

Individual: _____

References

- Bayer, A. S. (1990). *Collaborative-apprenticeship learning: Language and thinking across the curriculum, K-12*. Mountain View, CA: Mayfield Press.
- Bayer, A. S. (1996). Orchestrating a text mediational view of Vygotsky in a college classroom. *Mind, Culture, and Activity*, 3(3), 165-184.
- Bill Summary & Status 111th Congress (2009 - 2010) H.R.1240 Library of Congress.
- Boakaerts, M. (1997) Self-regulated learning: a new concept embraced by researchers, policy makers, educators, teachers, and students. *Learning and instruction*, 7(2), 151-86.
- Bransford, J. D, Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school*. Washington, D.C.: National Academy Press.
- Brophy, J. (1986). *On Motivating Students*. Occasional Paper No. 101. East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, October 1986. 73 pages. ED276 724.
- Byrnes, J. P. (2008). *Cognitive development and learning in instructional contexts*. Needham Heights, MA: Allyn & Bacon, Pearson Education, Inc.
- California Department of Education. (2009). *History–Social Science for California Public Schools Content Standards Kindergarten Through Grade Twelve*, Department of Education, Sacramento, California
- California Department of Education. (n.d.). NCLB program improvement school requirements. Retrieved November 23, 2008, from <http://www.cde.ca.gov/ta/ac/ti/nclbpireq.asp>.
- California Department of Education. (2007). Standardized testing and reporting results. Retrieved on November 23, 2008, from <http://star.cde.ca.gov/star2007/viewreport.asp>.
- California Department of Education. (2008). Standardized testing and reporting results. Retrieved on November 23, 2008, from <http://star.cde.ca.gov/star2008/viewreport.asp>.

- California Department of Education. (2008). Release test questions: History-social science. Retrieved on August 10, 2009, from <http://www.cde.ca.gov/ta/tg/sr/documents/rtqgr8history.pdf>.
- California Department of Education. (1998). *History-social studies content standards for California Public Schools*. Retrieved on March 1, 2009 from <http://www.cde.ca.gov/be/st/ss/documents/histsoscistnd.pdf>.
- California Council for the Social Studies. (n.d.). *About CCSS*. Retrieved on October 21, 2008 from <http://www.ccss.org/About%20CCSS.htm>.
- California's textbook adoption process: *Is it meeting our students' needs?* (n.d) Retrieved from <http://www.bsmarte.com/issues/textbookadoptionprocess.pdf> on November 16, 2010
- Cobb, G. (2006). *California's restrictive textbook adoption process keeps good books out of schools*. Emeryville, CA: Key Curriculum Press.
- Deci, E. (1996). *Why we do what we do: Understanding self-motivation*. New York: Penguins Books.
- Doering, A., & Veletsianos, G. (2007). An investigation of the use of real-time, authentic geospatial data in the K-12 classroom. *Journal of Geography*, 106, 217-225.
- Farrell, R. T., & Cirricione, J. M. (1989). The content of the geography curriculum-teachers perspective. *Social Education*, 53, 105-108.
- Forgione, P. (Ed.). (1999). *Teacher quality: A report on the preparation and qualifications of public school teachers*. U.S. Department of Education.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st century*. New York, NY: Basic Books.
- Greg, M., & Leinhardt, G. 1994. Mapping out geography: An example of epistemology and education. *Review of Educational Research* 64(2),311-361.

- Huitt, W., & Hummel, J. (2003). Piaget's theory of cognitive development. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved from <http://www.edpsycinteractive.org/topics/cogsys/piaget.html> on December 1, 2010
- Li, Weidong, Lee, A. M., & Solmon, M. A. (2005). Relationships among dispositional ability conceptions, intrinsic motivation, perceived competence, experience, persistence, and performance. *Journal of Teaching in Physical Education*, 24(1), 51-65.
- Liben, L.S., & Downs, R. M. (1993) Understanding person-space-map relations: Cartographic and developmental perspectives. *Developmental Psychology*, 94, 739-752.
- Liu, Y., Bui, E., Chang, C-H., & Lossman, H. (2010) PBL-GIS in secondary geography education: Does it result in higher order-learning outcomes? *Journal of Geography*, 109(4), 150-158
- Lloyd, R. (1989) Cognitive maps: encoding and decoding information. *Annals of the Association of American Geography* 79(1), p 101-124.
- Marchant, G. (2004). What is at stake with high stakes testing? A discussion of issues and research. *Ohio Journal of Science*, 104(20), 2-7.
- Meyer, J., Butterick, J., Olin, M., & Zack, G. (1999). GIS in the K-12 curriculum: A cautionary note. *Professional Geographer*, 51(4), 571-578.
- Millis, B. Lyman Jr., F. T. & Davidson, N. (1995). Cooperative structures for higher education classrooms. In H.C. Foyle (Ed.) *Interactive Learning in the higher education classroom: Cooperative, collaborative, and active learning strategies* (pp. 204-225). Washington DC: National Education Association.
- National Assessment of Educational Progress (2010). Retrieved from <http://nces.ed.gov/nationsreportcard/geography> on September 21, 2010
- Nagal, D (2009). Partnership Releases 21st Century Skills Map for Science and Geography. *The Journal*, June 30, 2009.

Nakata, Y. (2006). *Motivation and Experience in Foreign Language*. Learning Year of Publication: 2006 Oxford, Bern, Berlin, Bruxelles, Frankfurt am Main, New York, Wien, 2006. 316 pp. ISBN 978-3-03910-534-2 pb. International Academic Publishers.

National Council for the Social Studies. (n.d.). *About national council for the social studies*. Retrieved October 21, 2008, from <http://www.socialstudies.org/about>.

National Geographic Education Foundation. (2006). *Final Report: National Geographic-Roper Public Affairs 2006 Geographic Literacy Study*. Washington, DC: Author.

National Research Council (2001). Learning and thinking: what science tells us about teaching world geography. Retrieved from <http://books.nap.edu/html/howpeople1/notice.html> on October 5, 2010

National Research Council. (2006). *Learning to think spatially*. Washington, DC: National Academy Press.

Palmer-Maloney, J., & Bloom, E. (2010) The classroom as the field study for geographic education. *Geographical Review*, 91(4), 74-88.

Porter, P. (2007). *Reflections: California, a changing state*. Orlando, Fl. Harcourt School Publishers.

Reed, M., & Mitchell, B. (2001). Using informational technologies for collaborative learning in geography: A case study from Canada. *Journal of Geography in Higher Education*, 25(3), 321-339.

Reeder, E. (2002). *Measuring what counts: Memorization versus understanding, a discussion on the benefits of applied learning*. Retrieved from <http://www.edutopia.org/eeva-reeder> on December 2, 2010.

Roseberg, M. (2011) Geographic education revival, geographic illiteracy slowly fading in the united states. Retrieved from <http://geography.about.com/od/teachgeography/a/geoedrevival.htm> on March 2, 2011.

Salierno, C., Edelson, D., & Sherin, B. (2005). The development of student conceptions of the earth-sun relationship in an inquiry-based curriculum. *Journal of Geoscience Education*, 53(4), 422-431.

Salter, C. L., Hobbs, G., & Salter, C. S. (1998). *Key to the national geography standards: Geography for life: National geography standards 1994*. Indiana, PA: National Geographic Society

Smith, K. A., Johnson, D. W., & Johnson, R. T. (1992). Cooperative learning and positive change in higher education. In A. Goodsell, M. Mahler, V. Tinto, B.L. Smith & J. MacGregor (Eds.), *Collaborative Learning: a sourcebook for higher education* (pp. 34-36) University Park, MD: National Center on Postsecondary Teaching, Learning and Assessment.

Stipek, D. (2002). *Motivation to learn: From theory to practice*. Boston: Allyn & Bacon.

Tapscott, D. & Williams, A. (2010). Innovation: rethinking the future of higher education. *Educause Review Magazine*, 45(1), 16-29.

Teaching Geography Is Fundamental Legislation (February 26, 2009). Retrieved from <http://www.govtrack.us/congress/committee.xpd?id=HSED> on October 27, 2010.

Voltz, D. (2003). Personalized contextual instruction. *Preventing School Failure*, 47(3), 138-43. Retrieved from <http://www.ldanatl.org>.

Vygotsky, L. S. (1978). *Mind and society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Warschauer, M. (1997). A sociocultural approach to literacy and its significance for CALL. In K. Murphy-Judy & R. Sanders (Eds.), *Nexus: The convergence of research & teaching through new information technologies* (pp. 88-97). Durham: University of North Carolina

Wilber, D. J. (2010) *iWrite: Using blogs, wikis, and digital stories in the English classroom*. Portsmouth, NH : Heinemann.

Wentzel, K. R., & Wigfield, A. (1998). Academic and social motivational influences of students' academic performance. *Educational Psychology Review*, 10, 155-175.

West, B. (2003). Student aptitudes and the impact of GIS on thinking skills and motivation. *Journal of Geography*, 102(6), 267-274.

Wiggins, G., & McTighe, J. (2005). *Understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.

Winter, C. (2009). Geography and education I: The state of health of geography in schools. *Progress in Human Geography*, 33(5), 667-676.

Zeitler, M., Vasiliey, R., & Lin, O. (2002). Teaching young children basic concepts of geography: A literature-based approach. *Early Childhood Education Journal* 30(2), 81-86. doi:10.1023/A:102129290059

Zemelman, S., Daniels, H., & Hyde, A. (2005). *Best practice: Today's standard for teaching and learning in America's schools*. Portsmouth, NH: Heinemann.