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Evaluation of the geography component of K-12 teacher education in Santa Clara County, California

Marcia Murray Holstrom
San Jose State University

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Holstrom, Marcia Murray, M.A.

San Jose State University, 1994

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EVALUATION OF THE GEOGRAPHY COMPONENT OF
K-12 TEACHER EDUCATION IN SANTA CLARA COUNTY,
CALIFORNIA

A Thesis

Presented to

The Faculty of the Department of Geography & Environmental Studies
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by

Marcia Murray Holstrom

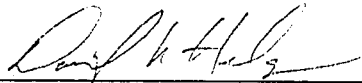
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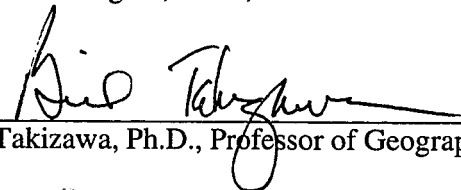
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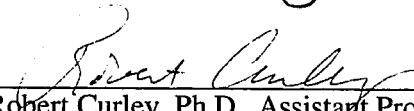
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ABSTRACT

EVALUATION OF THE GEOGRAPHY COMPONENT OF K-12 TEACHER EDUCATION IN SANTA CLARA COUNTY, CALIFORNIA

by Marcia Murray Holstrom

The teacher education process in the United States is inextricably linked to the kind of geography instruction presented to students in the kindergarten through 12th grade (K-12) classroom. Because of apparent systemic geographic illiteracy, there is a need to investigate each part of the system. This thesis describes recent developments that suggest a need for research in teacher education in geography, provides background information on the status of K-12 geography education, and reports on a survey of current teachers in Santa Clara County, California. Additionally, this thesis presents an overview of the teacher education program at San Jose State University, and its geography component, makes recommendations for improving the quality of geography instruction provided to current and future teachers, and suggests further research needed for the continued improvement of teacher education in geography.

To two very special dads
who worked hard and loved their families

Harold Oscar Murray
November 15, 1910 - February 22, 1963

and

Harold Edward Holstrom, Senior
March 8, 1918 - July 23, 1993

and to the women who loved them

Glenna Pierce Murray Foran

and

Mary McClanahan Holstrom.

And to my children

Amanda, Harry, Calvin, Pierce, and Amelia

and to my husband

Pete

who works hard, and loves his family.

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CHAPTER 1

INTRODUCTION

Education is a life-long process that is never *completed*, but one that is enhanced through various life experiences. Those experiences include, of course, incidences of formal and informal opportunities for education. The teacher education process is no exception. Teacher education begins at birth and continues throughout life. Formal education for teachers cannot be expected to present a *complete* education, providing teachers with all they will need to know to help their students through their part of the process of education. However, just as those teachers have a responsibility to enrich their students with appropriate formal education opportunities, teacher educators in all areas have that same responsibility. If there is an apparent problem at some point in that process, then those educators involved need to research and address that problem.

The geographic illiteracy of Americans and school-age children in particular has been well documented (Gallup, 1988; Gardner, 1983; Griffin & Fredrich, 1976; Gritzner, 1981; Helgren, 1983; Hill, 1981; Kirsch, 1993; Novack, 1992; Shabad, 1982; Solorzano, 1985; Warren, 1994). The spotlight on geographic illiteracy may partially be a result of the acceleration of global economic interaction, the infusion of a variety of cultures into the United States, and a reluctance of many Americans to make an effort to understand places and people that are distant from those that are familiar. According to the *International Gallup Survey* on geography, only about one-third of Americans think it is “absolutely necessary” to know “something about geography” in order to be a “well-rounded person” (1988, p. 7). That appears to be a rather weak endorsement of the need for some kind of geographic knowledge. That same survey showed that over 50% of American adults do not know the population of the United States, cannot identify more than one country in South America on a map, do not know that the time in Paris is later

than the time in New York, and fewer than half can identify Ohio or Michigan on an outline map of the *United States*.

Studies like the *Gallup Survey* usually focus on place name identification, the most primitive form of geographic knowledge. Geographic illiteracy becomes magnified when realizing that these studies don't begin to explore geographic knowledge as outlined by geographic educationists in the Five Themes of geography (Natoli, 1984). In order to define a geographically literate person, those Five Themes, as discussed below, could be used as a base for such a definition. A geographically literate person should be able to describe the characteristics of a feature on the earth's surface and its surrounding region using the geographic concepts in the Five Themes to conjure up a comprehensive picture of that feature. The characteristics described could be derived from the use of various geographic tools including maps, atlases, aerial photographs, census data, satellite images, and Geographic Information Systems (GIS).

The accumulation of geographic knowledge is part of the life-long learning process, but a key component of that process is the formal education of children and their teachers. This thesis evaluates the teacher education process in geography for the kindergarten through 12th grade (K-12) classroom, with specific emphasis on the geographic education received by present and future teachers in Santa Clara County, California. A definition of geography is given for the purpose of this evaluation. Three recent developments are discussed that seem to call for additional research in teacher education in geography, and previous research concerning the teaching of geography is presented. Past and present teacher education programs are evaluated through the results of a survey of current teachers and a study of the teacher education program at San Jose State University. Suggestions are made for future teacher education opportunities in K-12 geography.

Defining Geography for K-12 Education

No doubt most people could assign their own definition to geography, but because this thesis is concerned with geography in the K-12 classroom, the definition of geography used here is that of K-12 geographic education professionals. The *Five Themes* of geography were established as an organizational methodology for pedagogical strategies in K-12 classrooms by a combined committee of K-12, university level, and professional geographic educators (Natoli, 1984). They were designed to be used as guidelines when determining the scope of geography and are as follows.

Location: Position on the Earth's Surface

Location is divided into two categories: absolute and relative. Absolute location is most often determined by some kind of numerical designation from a grid such as latitude and longitude or street address. For example, the absolute location of San Jose State University is One Washington Square, San Jose, California, and is at about 37°20' North Latitude and 121°52' West Longitude. Relative location is the relation between one location and another. The relative location of San Jose State University near the center of Silicon Valley has affected the nature of the university because of the needs generated by the high-tech industry. The business and engineering programs specifically are able to benefit from the convenience of having high-tech resources nearby, just as the oenology program at the University of California at Davis can benefit from its location near the Napa Valley, one of the most well known wine producing areas in the world.

Place: Physical and Human Characteristics

In studying the phenomenon of a sense of place, geographers look for distinctive factors that make that place unique. For example, San Jose State University is sited in an urban environment, surrounded by an area of historical homes interspersed with high-density student housing, and urban commercial businesses. The buildings on the campus range from historic Tower Hall to a new, state-of-the-art ice hockey rink, while the vegetation ranges from bamboo to redwoods, with considerable variety in between. Human characteristics immediately evident include a diverse student body composed of people of many different sizes, shapes, colors, and ages. These readily visible characteristics help distinguish the geographic identity of San Jose State University.

Relations Within Places: Humans and Environment

This theme is largely self-explanatory. However, once again using San Jose State University, an example of this theme is evident in looking at the landscape covered with buildings. The effect those buildings had on this place after they were built included interesting geographic phenomena like changes in the amount of wind, shade, and re-radiated heat. Replacing trees and grass with buildings changes the nature of a place in a variety of ways. Human modification of the landscape has varying results, some of which may be less than beneficial in terms of the environmental ideal. The *greening* of the campus through functional and ornamental horticulture is an example of an attempt to minimize the possible negative effects of large areas of concrete, bricks, steel, and glass. Having thousands of students and their cars on campus produces a completely different environment than that with no humans.

Movement: Humans Interacting on the Earth

This theme is often described using examples of global communication, economic interdependence and the diffusion of innovations, as well as the transportation of goods from sources to markets. The Internet E-mail system at San Jose State University links students and faculty to information resources all over the planet, while the bookstore carries merchandise that may be produced in Silicon Valley or in Sri Lanka. All of those links require geographic knowledge of spatial interaction. That spatial interaction can be as simple as a commute for a San Jose State University student from 10 minutes away by bicycle, or as complicated as a commute from two hours away by vanpool, bus, and light rail. Geography helps explain the various factors involved in transporting people, goods, and services from one point on the planet to another.

Region

This theme may be the most distinctively geographic, and, indeed, has traditionally been a key organizational method for the study of geography. To study the entire planet at one time is an overwhelming task. To divide our world into regions, or areas that are more or less homogenous or linked in some distinctive way, makes the task more manageable. Hergesheimer and Hobbs (1989) described the study of regions as an intermediate step between acquiring knowledge of local places and understanding the entire planet (p. 9). To return once again to San Jose State University for a convenient example: it is located in the *Bay Area* that is a region distinguished from other regions by many factors including cost of living, level of education of its residents, climate, and number of earthquake faults. Those factors are a mixture of cultural and physical features that combine to make the Bay Area a somewhat homogenous region. Using only a single phenomenon, the central valley of California is a homogenous region by virtue of its agricultural productivity.

The Current Need to Examine the Teaching of K-12 Geography

The teaching of children in the United States is continuously studied, analyzed, evaluated, dissected, and put back together in what someone--or anyone--believes is a better way. Suggestions for *better* methods of teaching and innovative kinds of curriculum seem to come from every student and practitioner of education. Our children's academic test results are compared to each other's, to those from around the world, and to those from back in time and to those results expected in the future. When the subject of educating children is examined through its component parts a myriad of research can be found on subjects from autism to zaniness. There is a plethora of publications ranging from the *Harvard Educational Review* to newsletters from the local school districts. There is even a service for education research papers that don't become *officially* published: ERIC (Educational Research Information Service) has tens of thousands of academic research papers available on microfiche, or on a hard copy with just a toll free telephone call and a credit card. It seems that almost everyone involved with educating children has an opinion on how best to do that.

Even with extensive research data available on education, there has been little published on the teaching of geography and particularly on the geographic content of teacher education programs. Also, there have been three recent developments that generate a current need to study the kind and amount of geographic education that teachers have received and are able to present to their students. These developments are proposed national standards, a national assessment program, and state assessment tests. Following is an examination of these three recent developments.

National Standards

In September 1989, a task force of governors and educators met at the University of Virginia in Charlottesville to determine the direction of education in the United States, and to study the need for nationwide standards and goals. A key consideration for those attending was the failure of high school graduates in this country to score well on existing achievement tests when compared to students from other countries (Gallup, 1988; Kirsch, 1993).

The result of that conference has now been signed into law. According to the June 1994, *Community Update* newsletter from the U.S. Department of Education, the *Goals 2000: Educate America Act* specifically mandates the following goals.

By the year 2000:

- All children in America will start school ready to learn.
- The high school graduation rate will increase to at least 90 percent.
- All students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our Nation's modern economy.
- United States students will be first in the world in mathematics and science achievement.
- Every adult American will be literate and will possess the knowledge and skills necessary to compete in the global economy and exercise the rights and responsibilities of citizenship.
- Every school in the United States will be free of drugs, violence, and the unauthorized presence of firearms and alcohol, and will offer a disciplined environment conducive to learning.

- The Nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next Century.
- Every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children. (p. 1)

These goals may be a bit ambiguous and perhaps somewhat ambitious. Nonetheless, Congress has allocated about \$2.6 billion with this legislation. The Goals specifically include teacher education programs. Funds will be available to state and local education agencies and other professional education organizations that show a willingness and ability to institute cooperative programs designed to achieve those national standards. Standards have already been written in several of the core subjects including geography; those geography standards are in the review process, and are scheduled to be published in Fall, 1994. A preliminary summary of those standards can be found in Appendix A, *Geography for Life: The National Geography Standards*.

The current teaching of geography may or may not be sufficient to satisfy those standards, which means that geography teaching and its results need to be examined in the context of those standards.

National Assessment of Educational Progress (NAEP)--the Nation's Report Card

NAEP, also known as the *Nation's Report Card*, was congressionally mandated in 1969 to compile information on the knowledge of students in the United States in various subjects including geography, reading, mathematics, writing, science and history.

Located within the U. S. Department of Education, the National Center for Educational Statistics was further mandated in 1988 by Congress to administer nationwide assessment tests including one in geography specifically in 1994 (Betts, 1993). The framework for

those tests has been published. The Executive Summary and Introduction for that framework can be found in Appendix B. The framework includes what some might consider advanced competency requirements for students at the 4th, 8th, and 12th grade levels. For example, a geographically informed senior in high school should know “the basic physical structure of the planet, several basic types of map projections,” and have an ability to interpret “geographic data in charts, tables, cartograms, and graphs.” These seniors are supposed to have a “comprehensive understanding of spatial relationships ... including climate regions ... vegetation zones ... (and should be able to) describe geography’s analytical concepts using case studies” (Betts, 1993). These are requirements for the *basic* test questions. All of these concepts are described in *World Geography Today* (Helgren & Sager, 1995), a geography textbook designed for use at the high school level. However, a geography textbook is generally not available in schools that do not teach geography as a separate subject. Geography is not required as a separate subject in most high schools in California. Without some kind of geography instruction, many students will have difficulty achieving these competency requirements. Because of that anticipated difficulty, these nationwide assessments present another reason for a current examination of the teaching of geography.

Achievement Tests

In response to suggestions for improving the assessment testing process in California schools, California Learning Assessment Systems (CLAS) tests were developed and now replace the California Assessment of Progress (CAP) tests. The CLAS tests were designed to reflect students’ thinking skills, their ability to execute or respond to open-ended problems or tasks and to enhanced multiple choice questions, and their ability to analyze test problems and explain their solutions in writing. These tests are being administered to students at the 4th, 8th, and 10th grade levels.

The CLAS tests have a definite geography component because of the geography content in the *California History-Social Science Framework* (California State Department of Education, 1988), which is the source for CLAS test questions. For example, students in 4th grade could be asked to locate on a California map the source of water for certain areas of California, or locate on a U.S. map historically significant places or regions. They could also be asked to write a short essay describing the land forms and climate likely to be encountered by travelers on the Oregon Trail.

In addition to the national standards, NAEP tests, and CLAS tests as described above, in 1992 the National Council for the Social Studies published their own list of *Standards for the Preparation of Social Studies Teachers* (Appendix C). Those standards provide yet another reason to examine the teaching of K-12 geography.

CHAPTER 2

STATUS OF K-12 GEOGRAPHY EDUCATION

Why Teach Geography?

A deep interest in geography seems fundamental to the human spirit. Indeed, geography has been called the *Mother of all Science*, and academic disciplines from anthropology to zoology have their roots in geographic principles. The use of geographic information has been with us since the beginning of human time. The ancient Greek philosopher, Erastosthenes, gave us the actual word *geography* more than 2000 years ago. With a term for it, scholars were able to pigeonhole the study of the location and characteristics of the features of our planet within a specific academic discipline. The parameters of that pigeonhole varied, and still do, depending on the source. Halford Mackinder, writing in the *Proceedings of the Royal Geographic Society* in 1887 said:

One of the greatest of all gaps lies between the natural sciences and the study of humanity. It is the duty of the geographer to build one bridge over the abyss which in the opinion of many is upsetting the equilibrium of our culture. (p. 145)

Mary E. Rowe, former principal of the Wichita (Kansas) Training School writing for the *Bulletin of the American Bureau of Geography* in 1900 elegantly stated:

We live in a beautiful world--one marvelously fitted to supply our wants and to provide us with the enjoyments of life--and it seems fitting, if we would be worthy denizens of such a home, that we should know something about it; what it looks like; what is its size; what resources it contains, and what kind of people inhabit it. To know these things we must study geography. (p. 209)

The definitions of the breadth and depth of geography may vary, but the need to study geography continues. Many more recent writings have focused on the need to teach geography, emphasizing the *shrinking* world, the global economy, and the interdependency of the planet's residents. For the International Geographical Congress in Washington, DC, in 1990, the organizers felt compelled to emphasize, "The Earth is our only suitable habitat. Geography's task is to discover and capture its horizons in order to understand how people live and work and utilize their resources. This understanding is more urgently required than ever before ..." (de Souza). In a 1992 letter to the author, Lamar Alexander, then U.S. Secretary of Education wrote:

The teaching of geography becomes increasingly important as we enter a global marketplace. In the future, Americans will no longer have the luxury of remaining ignorant about the rest of the world, because people from other nations will be their trading partners as well as their competitors. (personal communication, June 3, 1992)

Currently roaming the American educational landscape are many more examples extolling the virtues of geographic education. The bibliography in this thesis provides the reader with sources for more of those examples.

Why Teach Teachers Geography?

Learning Geography

The subjects taught best by teachers are those with which they are most familiar and most comfortable. If teachers are not taught sufficient and appropriate geography, sufficient and appropriate geography will not reach the classroom. Various studies cited elsewhere in this thesis have reinforced that what actually reaches the student in the classroom is almost completely controlled by what the teacher knows and knows well, and is most comfortable in passing along to the students. For example, Hill and LaPrairie (1989) pointed out that, "Teachers play the major role in determining what is actually taught in the social-studies classroom, and ... the major factor in determining what they teach is their subject-matter interest and preparation" (p. 8). In an extensive study of students in teacher education programs in Indiana, Drummond (1986) found, "Teachers tend to emphasize subject matter in which they feel most competent" (p. 12). In a paper presented by Thornton to the Annual Meeting of the American Educational Research Association (1989), he pointed out that the role of the teacher includes acting as "gatekeeper for curriculum and instruction in social studies ... the teacher (is) the central reality in the determination of classroom curriculum ... attempts to circumvent teachers through 'teacher proof' curriculum and prescriptive models of instruction are doomed to failure" (p. 9). If teachers do not know geography, geography will not reach the classroom.

Understanding Geography

The kind of geography being taught to current and future teachers is critical in determining what reaches the classroom. If those teachers are presented with road maps of Illinois, and told that geography means finding the best way to travel from Chicago to

St. Louis, that is probably how they will teach geography to their students. If teachers learn that geography means memorizing state capitals, and the names of the Canadian provinces, that is the kind of geography that will reach the classroom. In *History of the Public School System in California* (Swett, 1876) Carr wrote: “You do not wish to make of (the student) a Geographical Gazetteer.” The “competent instructor” will observe in geography the opportunity to learn of the “extraordinary natural curiosities found upon the earth ... the kind of people that live in any land ... and the grand features of countries” (p. 132). James (1971) pointed out:

To be useful, geography as well as history, must be taught by *adequately trained* (italics added) teachers. When it is so taught, along with history, it can provide the kind of perspective in terms of place and period that can give new meaning to the confused events and circumstances of modern life. (p. 345)

Spetz (1988) observed that teachers who have not been appropriately instructed in geography convey to their students a dislike for the subject based on the belief that geography is merely “rote memorization of forgettable names of countless places, cities, products, and physical features. This is not ... the geography that will be taught by well-trained, enthusiastic teachers” (p. 57). James (1971) was even more descriptive:

To make an inventory of the things that occur together in an area, without any concept to show why such knowledge is important, is like making a list of the contents of a trash can A part of the problem is related to the fact that far too often, geography is taught in the U.S. by untrained teachers. (p. 351)

Unfortunately, “Geography, as presented in ... classrooms, often seems to consist of sundry facts about the world and vaguely associated skills” (Thornton & Wenger, 1989, p. 7-8). In receiving a geographic education, teachers “should learn about geography’s relationship to other disciplines by asking the basic questions of where and why there”

(Spetz, 1988, p. 53). The *kind* of geography received by the teacher is critical in the pedagogical manifestation of geography in the K-12 classroom.

Accumulating Geographic Knowledge

Because teachers at all levels depend on students having an accumulation of certain knowledge before reaching subsequent levels, it is important to have a consistent program of geography instruction for all teachers. Elementary teachers must have the knowledge necessary to lay the groundwork for more advanced geographic concepts introduced at the high school level (Spetz, 1988). However, if teachers are not comfortable with geography, they will probably not provide their students with the geographic information needed for more advanced study. Citing Eslinger and Superka from a 1982 study, Dowd (1990) said: "Perhaps the low priority given to geography is caused by the fact that many elementary teachers believe they are less prepared to teach this subject than math and reading" (p. 68). This lack of preparation is probably due to inadequate geography in teacher education programs.

Teachers' lack of knowledge perpetuates a cycle of ignorance. The ignorance follows the student throughout his academic career, possibly back into the classroom as a teacher, if that is the career chosen. Beardsley (1982) revealed the lack of geographic instruction in teachers' colleges between World War I and World War II resulting in a large segment of the teacher population having little or no geographic instruction, and transferring that lack into their classrooms for future generations. Fitzhugh (1992) confirmed that, "Teachers need geographic preparation before they begin teaching and continued district support through in-service activities while pursuing their careers" (abstract). An Australian study described by Marsden (1984) concluded that, "Teachers need to have a firm grounding in the discipline of geography before they can learn and develop strategies and programs for teaching or learning" (p. 73). Also, "There appears

to be little dispute that, in general, social studies curriculum is textbook-based and instruction is teacher-dominated” (Thornton, 1989, p. 7). Geographic illiteracy in teachers engenders geographic illiteracy in children, and thus in future teachers, and thus in future students, perpetuating a cycle of ignorance.

Additional Incentives for Teaching Geography to Teachers

In addition to the most important incentive of ultimately educating children by educating teachers, there is an additional financial incentive attached to recent government legislation. The *Goals 2000: Educate America Act* of 1994 calls for creation of a national panel that would oversee development of performance standards for students in geography and the other core subjects. Those performance standards are linked to about \$2.6 billion in financial opportunities for educators who promote the achievement of those standards at the state and local levels. That money is available for those who are willing and able to teach teachers in such a way as to further the national education goals outlined in the legislation. In addition to the psychological income generated by enriching people’s lives through education, it is nice to know there is a monetary reward in this case for those who help teachers learn geography.

Additional incentives include those inspired by state legislation. In California, the *Hughes-Hart Educational Reform Bill* of 1983 provided funds that led to the development of *Model Curriculum Standards*, statewide curriculum guidelines that are to be reviewed every three years by local school districts in an attempt to bring about more standardization in statewide education. The call for more geography in those standards was explained by some current K-12 teachers as a need for place name recognition, e.g., the capital of the Confederacy, reflecting their view of geography as simple place name identification. The movement statewide in curriculum standards is of an integrative nature. Teachers need to be presented with the opportunity to learn about the potential

integrative advantages of thoughtful and effective use of geography because, “It is the teacher who actually determines the curriculum students are taught” (Fitzhugh, 1992). As can be seen by these statewide efforts, there is a precedent for some support at the state level for geographic education. This support should be cultivated and solicited whenever possible to help teacher education efforts in geography.

Who is Teaching Geography?

Fault for less than adequate geography education cannot be laid upon the doorstep of any one element of the education process. Disinterested academic geographers, uninformed administrators, and poorly educated teachers are all responsible. “Students cannot be held accountable for that which they have not been taught; and teachers cannot teach that which they themselves have never learned” (Boehm, Brierley, & Sharma, 1994, p. 23). In 1916 when the National Education Association’s Commission on Social Studies directed that social aspects of geography be integrated with other social sciences, academic geographers all but abandoned K-12 teachers and their students. At this step, academic geographers generally identified themselves with science and refused to cooperate. This resulted in K-12 geography being defined by everyone but geographers, and as the social science curriculum unfolded over the next 50 years or so, geography was subsumed so effectively as to become almost unrecognizable as an autonomous discipline. There were a few geographers who did not abandon K-12 education. Welton (1914) appeared to lay some groundwork for even supporting geography’s integration into the social science movement when he wrote:

The fundamental conception in education is to train pupils to enter with interest and intelligence into the activities of life. Hence we should not seek to make of our pupils little geographers, little historians and little *litterateurs*. We should teach geography, history and literature to train men and citizens Nor should we be over-particular if the geographer tells us that what we propose to teach is not geography but a "hodge-podge" of geography, history, politics, economics, military strategy and the like. We take no account of the scholastic pedantry of names and subjects; what matters is to give our pupils an outlook, a sense of proportion, an aroused curiosity of the world around them and this is not history, or geography, or economics, or politics, but something whose texture contains them all. (p. 293)

However, there is some indication that the discipline of geography as defined by this thesis all but disappeared from the K-12 curriculum and the classroom as a result of the social studies/social science curriculum combination process. As a result, fewer and fewer teachers received instruction in geography, and were thus unable to provide adequate instruction in geography to students. According to the 1988 Gallup study on geographic literacy, there has been "no improvement in geography literacy in 40 years," and, in fact, geographic literacy "actually declined in that period of time" (p. 46). K-12 teachers completing their education during this period were not exposed to geography as a discipline unless they enrolled in post-secondary geography classes. That, however, was uncommon, as is shown in survey results reported in Chapter 3. It is possible, therefore, that geographic illiteracy may very likely be attributable to "the limited geographic knowledge of elementary teachers" (Schneider, 1976, p. 326). In a 1984 study in Canada, Marsden reported that elementary education teachers have a "generalist" approach, and "most often come to education with a background or degree in English or psychology" (p. 29). In Indiana's teacher education programs from 1982-1985, 38% of the graduates in Elementary (1-6) Education in the social sciences had the option of taking a geography course. For 11%, a geography course was required, but for 51% a

geography course wasn't even available--this despite what Drummond (1986) describes as a strong geography component in the K-6 social studies curriculum.

In the survey completed for this thesis (Chapter 3) 56% of the respondents had completed no college level geography class and only 12% of respondents had completed more than one geography class at the undergraduate or graduate level. In a 1984 nationwide sample of *social studies* teachers, 26% had no undergraduate course in geography, 55% had only 1-3 undergraduate courses in geography, and 65% had no graduate level courses in geography (Farrell & Cirrincione, 1989). Marsden (1984) points out, "It appears to be possible to teach elementary social studies without a single geography course" (p. 136). Also in Marsden's report, a teacher education student in Great Britain, "argued strongly that it was unsatisfactory to expect new teachers to teach subjects in which they are not personally competent" (p. 41). Research indicates there is a large contingent of the teacher population that has had little or no formal coursework in geography, and, therefore, cannot be expected to teach geography to their students.

Geography as a subset of social science taught by teachers who have received inadequate instruction in geography becomes even more insignificant. According to Thornton, in a 1990 report, scheduling of social studies curriculum is intentionally done during less productive and more frequently interrupted times because educators feel students need to be fresh and alert for the *major* subjects of math, reading and language arts. Only 12% of instructional time in elementary schools is spent on social studies. According to Canadian geographer Dennis Milburn, the teachers of social studies apparently look upon geography as a small component part of the social studies curriculum (Marsden, 1984). Apparently, even though geography is an integral component of the social studies, it may be insignificant simply by virtue of being a small part of a small subject area.

In addition to the lack of instruction in geography, there is some evidence to indicate that those entering the teaching profession generally are not necessarily from the upper levels of academic qualifications. Since teaching has traditionally been an occupation pursued by women (over two-thirds of K-12 teachers are female), this may be a phenomenon of the last 30 or so years since the beginning of the “feminist” movement and may be exacerbated by the fact that overall there has been considerably more effort and money invested in “getting women access to what has traditionally been men’s work than there (has been) in upgrading the quality of that which has traditionally been women’s work” such as teaching (Lanier & Little, 1986, p. 559). As women have turned to professional careers with more attractive financial compensation, traditionally low income teaching may have become less and less desirable as a profession, and as a result has attracted more and more teacher candidates who are in the lower percentages in academic standing.

Examples of those teaching geography include teachers who participated in a study that used the map skills section of the Iowa Test of Basic Skills for 6th graders. Results showed 34.4% of elementary education educators scored *below* the 6th grade level (Giannangelo & Frazee, 1977). Other test results as reported by Wayne L. Herman, Jr., Department of Curriculum and Instruction, College of Education, University of Maryland (1985), showed that 66% of Elementary Education majors could not locate Japan on a map, and fully 90% could not locate Vietnam. A University of South Dakota (Wood, 1988) survey of 158 Elementary Education majors revealed the following: “... for the location of ten water bodies, the mean correct response rate was 63%. Of the locations of 33 countries, the mean response was 41% correct, while for the 33 cities a mean correct response rate of 33% was achieved by the students.” That study also indicated, “there is no significant difference between those students who have had a

geography class in high school and those who have not” (p. 10), reinforcing the possibility of a cycle of ignorance in geographic education.

Who is Teaching Teachers Geography?

Only limited hope for improving teachers’ geographic competency can be found in *in-service* programs as they generally have been conducted. (In-service programs are offered to current teachers who are already working in the classroom. Teachers attend these programs to expand their knowledge of the subject matter being discussed, and/or to fulfill obligations to local school districts and state licensing agencies for post-graduate education. Those obligations vary widely, and will not be discussed in this report.) Those who present in-service opportunities in geographic education are well aware that for a variety of reasons few teachers take advantage of those opportunities. Additionally, little comfort can be found in McKinney’s 1988 report that said even though there has been some research indicating that teachers learn on the job, geography skills do not seem to improve significantly in that way.

Nonetheless, in-service opportunities in geography have expanded dramatically in recent years. In 1988 Gilbert Grosvenor, President of the National Geographic Society, announced the formation of an education foundation to support a nationwide network of geographic alliances (Elliott, 1988). The goal was an *Alliance* in each of the 50 states. These Alliances were to be made up of those interested in geographic education including, but not limited to, teachers at all levels, administrators, curriculum development experts, and academic geographers.

The California Geographic Alliance, founded in 1983 at UCLA, was the model for the National Geographic Society’s alliance effort. By 1986, California had two

separate Alliances in place: one in the northern part of the state, headquartered at the California State University in Chico, and the other in southern California at UCLA. These two organizations were established as separate units, but continue to cooperate on various educational opportunities in geographic education that might appeal to a statewide audience of K-12 teachers. The California Geographic Alliance-South has focused on establishing a network of mentor teachers who were taught by academic geographers in various workshops, and were then supported in their education efforts at the district or local level. The California Geographic Alliance-North has focused on two-week-long summer institutes for K-12 teachers, designed to instruct Teacher Consultants (TCs) for geographic education efforts. The TCs are then asked to return to their own schools and school districts to present geography in-service programs. However, an overwhelming majority of teachers has not been able or willing to attend these institutes, and even though there are still 30 or so who do receive comprehensive geography instruction every summer, that leaves a large number who remain without that instruction. The in-service follow-up on the local level by the TCs is controlled by local schools and school districts, and, therefore, is probably inconsistent in length and content, because of varying priorities at those levels.

An even more inconsistent program for geography education is at the pre-service level. (For the purpose of this thesis, pre-service is defined as that time of formal education before completing the requirements necessary to teach in a permanent classroom situation.) This thesis is not intended to evaluate the competency of those who teach in education programs at the university level. However, because this report is evaluating the geography education of teachers, some information and evaluation is necessary concerning those who teach teachers. To be a competent instructor the teacher must have competent instruction in the discipline.

The GENIP (Geographic Education National Implementation Project) committee formed by several professional geographic organizations recommends three courses in geography for the pre-service teacher. Those courses are: (a) physical geography, (b) cultural geography, and (c) world regional. GENIP suggests that ideally these courses be taught by someone with no less than a Master's degree in geography, and that the courses satisfy some kind of general education requirement for the convenience of students with already crowded schedules. Two of these courses (physical geography and world regional) are listed in the choices for general education courses at San Jose State University. This means they satisfy basic requirements mandated by the university generally outside the student's major. However, neither class specifically addresses the geography components of the *California History-Social Science Framework*, nor national or state assessment requirements, the knowledge of which is necessary for future teachers. "Pre-service teacher education is (an) obvious place where change can occur" (Thornton, 1990, p. 527). There is some indication that the pre-service teacher often does not receive specific content area instruction directly applicable to the classroom curriculum that teacher will be using. Limited evidence of this can be found in Chapter 4 in the description of the academic content of teacher education programs at San Jose State University.

Even though according to some participants the Alliance has had a modestly successful program recently at Fresno State University and limited workshops at other universities, the pre-service area has been a difficult one in which to add geography education programs. The problem is apparently *campus politics*. All university departments can be very egocentric, and Colleges of Education and Colleges of Social Science are no different. In the university community, those connected with teacher education are sometimes viewed as less than academically excellent. According to various studies reported by Lanier and Little (1986), "The literature suggests that finding

and keeping academically strong and committed teachers of teaching is possibly even more problematic than finding and keeping qualified students of teaching” (p. 528).

Lanier and Little further point out:

Although a number of academically talented persons pursue careers in teaching and teacher education, they remain proportionally underrepresented. Many teachers and teacher educators come from home and family backgrounds whose academic roots are often shallow and which are therefore not likely to engender strong and ingrained intellectual propensity. Persons with low measures of academic talent are allowed to dominate the field. As a result, teacher education tends to be easy and nonintellectual. Studies of the curriculum of initial and continuing teacher education show it to be fragmented and shallow. (p. 555-556)

Additionally, according to a study reported by Marsden (1984), geographers in the field, “could not possibly be much of a geographer or (they) would not involve (themselves) in teacher education” (p. 141). Even if this is only partially true, it could be having a significantly negative effect on geographic education.

In addition to the historical problems in teacher education, “mitigating against change are a host of entrenched interests reluctant to give ground in an already crowded program” (Drummond, 1993, p. 3). Geography is just one more subject of many that teachers are supposed to know about when they go into the classroom. Every teacher educator has priorities, and apparently, in many cases, geography is not a priority. However, just as teachers and students cannot be expected to know that which they have not been taught, teacher educators must be given the same consideration. To add what could be considered sufficient geography into the schedules of future teachers would be difficult if not impossible. The requirements for teacher certification are complicated and inconsistent. Specific examples can be found in a study of the teacher education program at San Jose State University reported in Chapter 4. However, “Mayo reported that

certification requirements for secondary teachers were the ‘gloomiest aspect of geography’s status in the United States,’ and certification requirements largely determine training requirements” (Hill & LaPrairie, 1989, p. 8). Inconsistencies in certification and education programs in the United States are found in example after example:

- “Less than 44% of teachers are required to complete (any geography) course work in order to be certified” (Fitzhugh, 1992, p. 1).
- “Only three states specifically require a geography course in the general education component of a teacher’s program” (Marsden, 1984, p. 136).
- “Only five states require geography for certification of K-5 teachers, and only two-thirds require that persons intending to teach social studies have even a single course in geography” (Drummond, 1993, p. 1).
- Arkansas has no geography requirements for teachers studying social science, but Arkansas State Teachers College requires two semester-long courses. At Wisconsin State College in Oshkosh the geography faculty supervises the student teachers in geography, but two other colleges in Wisconsin said there was no geography taught in high schools in Wisconsin. In Oklahoma and in the city of Chicago there was a shortage of geography teachers. Apparently there is not a definite pattern of geography requirements for future teachers even within individual states. (Swain, 1963)
- The Council of Chief State School Officers (1988) completed a study in which 64% said *no* to: “Is geography a specific requirement for certification for individuals preparing to teach?”
- “A survey of the role of geography within teacher training institutions in Indiana indicates that it is possible, even probable, that a majority of elementary teachers and secondary social studies teachers have little exposure to geography” (Drummond, 1986, p. 2).
- “One fourth of secondary social science education graduates in Indiana (1982-1985) completed a program that offers no geography courses. Only 12% were required to take any geography course” (Drummond, 1986, p. 2).

- In a 1984 survey of 10,370 full time high school teachers, geography was the subject in which teachers had the least preparation for teaching it. “A standard deviation of 8.0 courses for those teaching geography as their primary responsibility ... suggests that some geography teachers have taken as many as 17 courses while others are teaching geography with one or no courses as preparation” (Rutter, 1986, p. 253).

For all those who teach geography to teachers, Boehm et al. (1994) summarized the problems as follows:

- 1) University academics afford a low priority to teacher education.
- 2) Geographic education people are looked down upon in the academic arena.
- 3) University faculty can't/don't/won't communicate with K-12 teachers.

These may represent an oversimplification of a complicated issue. The first is probably too general; the second needs further investigation, i.e., looked down upon by whom-- other geographers, or communication studies professors, or academic vice presidents? The third presumes that university faculty, who are, by nature, specialists, have anything useful or interesting to say to K-12 educators, who are, by nature, generalists. Through just these three points we can begin to see that these are complicated issues that need future exploration. In an attempt to begin to understand the problems involved, and to provide more background information before making suggestions for possible solutions, this study investigated the geography education background of current teachers in Santa Clara County, California, and the geography content of the teacher education program at San Jose State University. The results of those investigations are reported in the following two chapters.

CHAPTER 3
A SURVEY OF CURRENT TEACHERS IN SANTA CLARA COUNTY,
CALIFORNIA

The intent of this survey was to obtain information on the geography education received by teachers in Santa Clara County, California. The survey was designed to reveal personal and professional interest in geography, and obtain some information on classroom application of geography and related materials. To conduct meaningful research on the scope and sequence of the geography actually used by teachers, personal interviews and classroom observation of teachers in many different kinds of classroom situations throughout the United States would be perhaps the ideal approach. However, with limited resources, a survey of this kind can provide some interesting data. The survey questionnaire reviewed in this chapter was completed by a sample of teachers of kindergarten through 12th grade in Santa Clara County. The survey focused on the background, personal and professional interests, and professional education of K-12 teachers. The survey also asked specific questions about the classroom use of some geographic education materials, and asked respondents for their opinions on the practical application of geography.

Following is a report on the design and distribution of that teacher survey and a description of the data collected from surveys completed by 212 teachers in Santa Clara County in 1993 and 1994. A copy of the actual survey instrument can be found in Appendix D.

Survey Construction and Design

The survey was constructed over a period of four months in consultation with post-secondary educators, geographers and several K-12 classroom teachers. Those consultants were chosen because of their willingness to help, their personal affiliation with the researcher, or on the recommendation of geography faculty at San Jose State University. The classroom teachers were either geography teachers or had an active interest in the discipline. The consultants did not participate in completion of the survey data. These consultations were intended to eliminate survey questions that would be difficult, ambiguous, or offensive, and reveal questions that would probably not be answered by respondents for whatever reason. This process also helped determine the mechanical details of the survey that would make it more user-friendly, and encourage a high response rate.

Factors involved in the design of the survey were the arrangement of the survey, length, method of return, composition and design of a cover letter, and the content and wording of the actual questions. Following is an explanation of that design.

Arrangement of the Survey

So respondents could answer the questions as quickly and easily as possible, the survey was made in a booklet format, copied onto 11" x 17" paper, and folded in half so the cover letter was on the front and questions to be answered were on the two pages on the *inside*. This format was one that could be easily distributed and handled, with respondents simply opening the survey to fill it out, with no need to flip or turn multiple pages. On the back in the middle was the return address. Once the survey was completed, all the respondent needed to do was fold the survey in the style of a regular letter, place a stamp on the outside where the return address had already been printed, and drop the

survey in the mail. Return postage was affixed to the surveys sent to teachers on the mailing lists, as described later.

Cover letter

For the cover letter, it was decided to use letterhead from the Center for Geographic Education, Department of Geography & Environmental Studies, San Jose State University. The mission of the Center for Geographic Education is K-12 geographic education, so it was considered a legitimate function of the Center to be involved in research of this type. It was anticipated that this detail in the format would elicit a larger response than could be obtained by an individual with no formal affiliation indicated.

A critical component of the survey was an explanation of its purpose, so the first paragraph of the cover letter included the statement: "It is the mission of the Center (for Geographic Education) to make geography understandable and usable. This research will help us do that" (Appendix D). The second paragraph of the cover letter included instructions on how to return the completed survey and indicated an assurance of anonymity.

Survey Questions

Questions for the survey were constructed to fall into one of several categories: (a) education background, (b) personal interest in geography, (c) professional interest and instruction in geography, (d) classroom use of geography and related materials, and (e) the practical application of geography.

Education Background

All the questions in this category were included to identify the sample and allow comparison with data available for the general teacher population, at the national, state and county levels. These questions included inquiries on length of time teaching and the distinction between elementary and secondary levels of teaching.

Question 1: What class(es) and/or grade level are you currently teaching?

Question 2: How many years have you been a teacher?

These questions were followed by no specific answer choices, but rather a blank line. This allowed the respondent to specify subject, subject area, grade level, or any combination of those three, as the respondent felt appropriate.

Question 3: In what state (or country) did you graduate from high school?

Again, the respondent was given a blank line on which to enter an answer. Speculation was there might be some correlation between where the respondent graduated from high school, and subsequent level of interest in geography.

Question 4: What was your undergraduate major in college?

This was another question that allowed the respondent complete freedom in answering, with no qualifying factors. It was anticipated there could be a possible correlation between data from this question and other questions in the survey, particularly with those questions related to classroom use of geography. Also, because there has been some speculation that it is possible to teach social studies or social science classes in California without ever having taken a post-secondary geography course, this question was included in an attempt to obtain some data in that area.

Question 5: From what university did you receive your teacher preparation?

This question was included for comparing the sample to the population, and for possible correlation with other parts of the survey.

Personal Interest in Geography

Teachers often use classroom materials and information gleaned from their own experiences. If they have a personal interest in geography, they will probably demonstrate that interest in the classroom. In order to determine some level of personal interest that would perhaps transfer into classroom instruction, the following questions were included. According to Uhlman (1980), "A geographer is a professional traveler, both actual and armchair" (p. 6). These questions involved an interest or actual experience in travel.

Question 6: Do you subscribe to National Geographic Magazine?

Those interested in *armchair travel* would probably subscribe to this publication. Respondents were given a choice of *yes* or *no* for an answer. Because this magazine is widely known, and generally accepted as oriented toward a *geographically* interested reader, this question was included to reveal some personal interest in geography.

Question 7: Have you traveled by car outside a major city in a country other than the United States? If yes, where?

Respondents were given a choice of *yes* or *no*, then a blank space in which to enter the destinations, in the case of a *yes* answer. The qualifier phrase *traveled by car outside a major city* was added to this question to elicit answers of places visited more extensively than changing planes at the airport or flying from one city to another without visiting any other part of the country. It was believed that this qualifier would make the question less ambiguous and less general and would produce more interesting results. A question that

simply asked where the respondent had traveled could be more difficult to answer, and answers could be more difficult to correlate. Also, it was presumed that an interest in geography would indicate travel to places that were not necessarily simply tourist attractions.

Question 8: What states have you visited in this country?

This question was followed by a blank space, and no qualifying phrase was included. This left entirely up to the respondent the method and depth of the answer. This question was included to further reveal the travel experience of the sample audience.

Question 9: When you read or hear the name of a place with which you are unfamiliar, do you look it up in an atlas?

Respondents were asked to circle one of four choices: no, occasionally, often, always. Because of the time and effort involved in looking up a place in an atlas, this question was included to reveal a personal interest in geography related to place identification. The question was kept as straightforward as possible in order not to offend the respondent, or make the respondent feel the question was too complicated to answer. Therefore, it did not include any qualifying factors such as what kind of atlas, or what kind of information would the respondent look for if using the atlas.

Question 10: Please circle any of the following places you have visited:

Grand Canyon, Death Valley, Mono Lake, Badlands, Trinity Alps, Crater Lake, Grand Tetons, Mt. St. Helen's

Because these particular places are well outside large urban areas, and take some time and planning to reach, it was believed that respondents visiting more than one or two of these places would be displaying an interest in discerning the differences between

physical landscapes. They are all dramatic examples of physical geography features, as opposed to *Australia* or *San Francisco* or *Lake Tahoe*, all mixtures of significant physical geography features as well as human and cultural geography features. The particular places used had a West Coast focus, but could easily be changed if the survey were to be administered in another part of the country. Other possibilities could include Stone Mountain, Boundary Waters State Park, or Lake Okeechobee, for example.

Professional Interest and Instruction in Geography

All of these questions were designed to reveal the respondent's specific interest and additional instruction in geography as reflected in university course work and post-collegiate learning opportunities.

Question 11: Have you taken any college level geography classes?

If yes, which one(s)?

A correlation between this question and Question 4 (undergraduate major) could possibly reveal the varying geography content of some major fields of study. This question was also intended to reveal the respondent's academic instruction in geography.

Question 12. Are you a member of the California Council for the Social Studies?

This question was followed by a simple choice of *yes* or *no*. Membership in this particular professional organization should suggest some level of interest in social studies enrichment opportunities for the professional educator. It was anticipated that answers to this question might reveal some level of explanation for answers to other questions involving classroom use of geography.

Question 13: To the best of your knowledge, are you on the mailing list of the California Geographic Alliance?

This question was followed by a simple choice of *yes* or *no*. Respondents who said *yes* had probably attended a workshop, seminar, or other in-service opportunity specifically in geography. Since the California Geographic Alliance is the primary source for this type of subject specific instruction in the area in which the survey was administered, *yes* responses could possibly be correlated with other answers involving the use of geography in the classroom.

Question 14: Have you ever attended a workshop or institute specifically for geography?

This question was followed by a choice of *yes* or *no*. Again, it was anticipated that the answer to this question could be correlated with classroom use of geography and professional interest in the discipline.

Classroom Use of Geography and Related Materials

One of the many factors in the teacher education process that affects the classroom use of geography by teachers is the perception of geography by all those involved in the education process. For example, if teachers are instructed that maps are geography, they will probably teach maps as geography rather than teach geography using maps. This group of questions was designed to reveal the perception of geography by respondents as demonstrated in the use of classroom materials and methods. These questions were also designed to reveal varied perceptions of geography by K-12 teachers, perhaps reflecting the inconsistent and varied perception of the discipline by administrators, curriculum specialists, and state education officials. In the Farrell and Cirrincione (1989) nationwide survey of social studies teachers, under geography skills they rated "finding places on a

map” (p. 108) at 4.32 overall on a scale of 1-5, not important to very important. These results indicate that teachers overwhelmingly associate map skills with geography, perhaps at the expense of other geographic skills. Map reading is important, of course, because in academic work as well as in practical application, people need to read maps. However, this is only appropriate as far as it goes, and, as pointed out earlier, the study of geography involves considerably more than the acquisition of map skills. These questions were designed to reveal how teachers perceive geography for use in the classroom.

Question 15. By checking the most appropriate column, please rate the following subject areas according to how easily you feel they can be integrated with geography.

This question included the following choices, giving the respondent four categories for each subject area.

	Very Easily	Could be done with thought	Maybe	Only with Difficulty
History	_____	_____	_____	_____
Mathematics	_____	_____	_____	_____
English/Language Arts	_____	_____	_____	_____
Foreign Language	_____	_____	_____	_____
Environmental Studies	_____	_____	_____	_____
Economics	_____	_____	_____	_____
Art and Music	_____	_____	_____	_____
Science	_____	_____	_____	_____
Multicultural Studies	_____	_____	_____	_____

The integrative nature of geography is often overlooked by inadequately or inappropriately informed educators. Even those this kind of question could also indicate the respondent's level of comfort with any or all of these subjects, this question was included to provide further information about how teachers may perceive of the integrative nature of geography.

Question 16: Approximately how often do you refer to a wall map in your classroom?

This question was followed by a blank line, allowing the respondent to answer the question exactly as considered appropriate in each case.

Question 17: Do you have individual atlases available to your students in the classroom? If so, about how often do you use them?

The qualifying question about how often atlases are used was added to detect if the materials were being used, not just occupying shelf space. The indication of the amount of use was left up to the respondent by supplying a blank line at the end of the frequency question.

Question 18. Do you use taped "geography" TV specials in your classroom? What was the title or subject of the last one you showed?

The answer to this question was anticipated to show the respondent's impression of what a *geography* TV special would be. The request for title or subject also allowed some measure of elimination of the easy response of *yes*. Answers to this question could further indicate the inconsistency in the perception of geography by teachers.

Question 19. Do you require your students to identify places on a blank map, either on tests or in homework?

This question was followed by the choices of *no, occasionally, regularly*. Since there is obviously a direct relationship between maps and geography this question was asked simply to learn how much geography instruction is in the classroom through the use of maps.

Question 20. Do you use articles from a daily newspaper as instructional materials in the classroom?

It was thought that a *yes* response to this question with a *no* response to Question 19 might suggest a respondent's naiveté on the connection between the daily news and the subject of geography. It was also included to indicate a kind of classroom teaching technique that could possibly be linked with geography if the respondent were so inclined.

Question 21. Are you familiar with the "five themes" of geographic education (Location, Place, Human-Environment Interaction, Movement, and Region)?

This part of the question was followed by a choice of *yes* or *no*.

If yes, do you use them in instructional planning?

This part of the question was followed by a choice of *no*, *occasionally*, *regularly*.

The Five Themes of geographic education as described in Chapter 1 are covered extensively in geography textbooks less than 10 years old, but they are also used constantly in workshops, seminars, and other in-service programs conducted by geographic education professionals. The answer to this question was a key one leading to information about the level of geographic education awareness by the respondent.

The Practical Application of Geography

Question 22. In your opinion, what is the most practical, everyday application of geographic knowledge?

This question was designed to allow the respondent complete freedom in answering, with no choices given and followed by a blank space. The answer to this question should reveal something about the respondent's impression of the day-to-day usefulness of a knowledge of geography.

Question 23. In your opinion, why should an American citizen understand geography?

The qualifier *American citizen* was included to distinguish this question from Question 22, and to elicit a broader response, perhaps indicating the usefulness of geographic principles in a wider scope. It was also followed by a blank space, allowing the respondent complete freedom in answering.

Questions Not Included

Conspicuous, perhaps, by their absence, are questions regarding age, gender, marital status, ethnicity, or sexual orientation. The question asking for length of time teaching was felt to be sufficient for data correlation involving when teacher respondents received their formal teacher education. Concerning the other questions not included, Santa Clara County and California teachers are 81% EuroAmericans and about 70% female, and San Jose Unified School District teachers are 73% female and 81% EuroAmericans (California Basic Educational Data System, 1992-93). San Jose Unified School District is the largest school district in Santa Clara County, and was anticipated to have the highest number of teachers responding to the survey by a significant percentage. Also, inclusion of this type of question might have given the respondents a misleading impression of the information being used from the survey. The survey was not intended to reveal data correlating gender, ethnicity, or sexual or religious orientation with background or interest in geography. That area of research has been left to those more interested in collecting and correlating that type of data.

Distribution of Survey

A large amount of time and travel would have been necessary to contact a sufficient number of school administrators to obtain permission to distribute the survey to enough teachers to obtain a larger sample. An additional anticipated difficulty was the perceived reluctance of administrators to ask their teachers to take the time to respond to this kind of survey, or any survey, or to allow the distribution of the survey on the school campus.

Two alternative methods of distribution were used: through mailing lists and at a meeting of elementary school principals in the San Jose Unified School District. Surveys were coded by distribution method and/or mailing list so the return rate could be calculated, and possible additional data correlation could be made according to the source of the completed surveys.

Mailing Lists

Because some general mailing lists were available, the initial group of surveys was sent through the mail to teachers on those mailing lists. The following is a description of those mailing lists and the return rates.

California Geographic Alliance-North

This mailing list included those who had probably attended a summer institute (as described in Chapter 2) or some other specifically geographic education function at some point in the past 10 years. According to the Alliance source who supplied the list, it had not been updated in several years, and, indeed, some respondents from this list gave a *no* answer to Question 13 in which they were specifically asked if they were on this mailing list. Before mailing, the list was reviewed and those who were not sent a survey included

all university level people and people known personally by the researcher. Because of these various factors, this list was believed to be a legitimate source for gathering survey data, and would not necessarily include only those who were up-to-date on geographic education.

Number of surveys mailed from this list: 109

Number returned completed: 28 or a 26% return rate

Center for Economics Education, San Jose State University

This list was of those who had probably attended a seminar or workshop on Economics at San Jose State University, or who had simply requested they be on the mailing list for the Center for Economics Education. Because economics teachers are in the social studies departments, and generally do not teach economics exclusively, this was believed to be an appropriate mailing list for the survey. This mailing list was an important source for obtaining responses from high school level teachers. All the respondents were at that level.

Number of surveys mailed from this list: 30

Number returned completed: 12 or a 40% return rate

Mentor Teachers from Alum Rock Union Elementary School District

Even though mentor teachers are perceived to be at a higher professional level than teachers who are not mentors, it was believed that responses from these teachers would be valuable in the investigation of geographic education. If these teachers indicated some level of ignorance of geography, then it was assumed that non-mentor level teachers would have even less knowledge of geography.

Number of surveys mailed from this list: 38

Number returned completed: 22 or a 58% return rate

Principals' Meeting

This second method of distribution was the more widespread and random. Surveys were distributed to 27 elementary school principals in the San Jose Unified School District. A packet of surveys was given to each principal attending a meeting of those administrators. Packets were distributed at that meeting by a person who is one of those principals. Each packet contained surveys for the teachers at each school, and a 9" x 12" self-addressed stamped envelope for the return of the completed surveys to the Center for Geographic Education at San Jose State University. It was suggested to the principals that surveys be distributed at a staff meeting, completed at that time, returned to the principal during the meeting, and placed in the envelope for mailing. However, respondents were given a choice on the cover letter of either returning the survey to the principal, or mailing it directly to maintain anonymity.

This method of distribution resulted in some unanticipated returns. Though the return envelope had sufficient postage for the return of all the surveys given to each principal, envelopes were returned with varying numbers of surveys at varying degrees of completion. For example, one envelope was received with only one completed survey enclosed. Another returned envelope contained a few completed surveys and about a dozen more blank ones. A few surveys were returned individually using the optional method of folding, stamping and mailing the survey like a letter.

Number of surveys distributed by this method: approximately 650

Number of surveys returned completed: 148 or a 23% return rate

Survey Results

Following is a report on the data collected from completed surveys. These data are reported in various formats as deemed appropriate for each question. If possible, results are compared to research data previously compiled. In some cases, however, there was not significant data available for those comparisons, as indicated in the analysis of the appropriate question.

Education Background

Question 1: What class(es) and/or grade level are you currently teaching?

Table 1

Distribution of Teachers by Grade Level

Level	U.S.		California		Santa Clara County		Holstrom Survey	
	Total	%	Total	%	Total	%	Total	%
Elementary	1,319,629	59%	120,636	75%	5,600	73%	182	86%
Secondary	916,073	41%	40,498	25%	2,056	27%	30	14%
Total	2,235,702		161,133		7,656		212	

The data for this table were extrapolated from statistics available from the Santa Clara County Office of Education, Center for Educational Planning (1992), the California Department of Education (1991), and the U.S. Department of Education (1993), and from survey results. As can be seen in the table, the survey had more elementary level respondents than are present in the county, state, and national teacher populations. However, the 30 respondents at the secondary level represent almost 10% of the total number of social studies teachers in Santa Clara County. The answers to the inquiry about class(es) taught were used in separating elementary from secondary, when grade level was

not indicated, or was unclear. These answers were also used in correlation with data from later questions, so are not reported at this time.

Question 2: How many years have you been a teacher?

Table 2
Length of Time Teaching

Number of Years Teaching	Percent of Teachers by Years Teaching			
	U.S.	California	Santa Clara County	Holstrom Survey
1-3	10.0	12.9	N/A	9.0
4-5	5.7	7.2		3.8
6-10	12.1	11.7		12.5
11-15	14.2	13.5		9.6
16-20	19.2	17.2		15.9
>20	38.8	37.5		49.0

Level	Average Number of Years Teaching			
	U.S.	California	Santa Clara County	Holstrom Survey
Elementary	14.5	N/A	N/A	17.8
Secondary	16.7	N/A	N/A	23.0
Overall		15	17	

The data for this table were extrapolated from statistics available from the Santa Clara County Office of Education Center for Educational Planning (1992), the California Department of Education (1991), and the U.S. Department of Education (1993), and from survey results. In both data tables, survey respondents are shown to have slightly longer teaching careers than those in the other categories.

Question 3. In what state (or country) did you graduate from high school?

Table 3

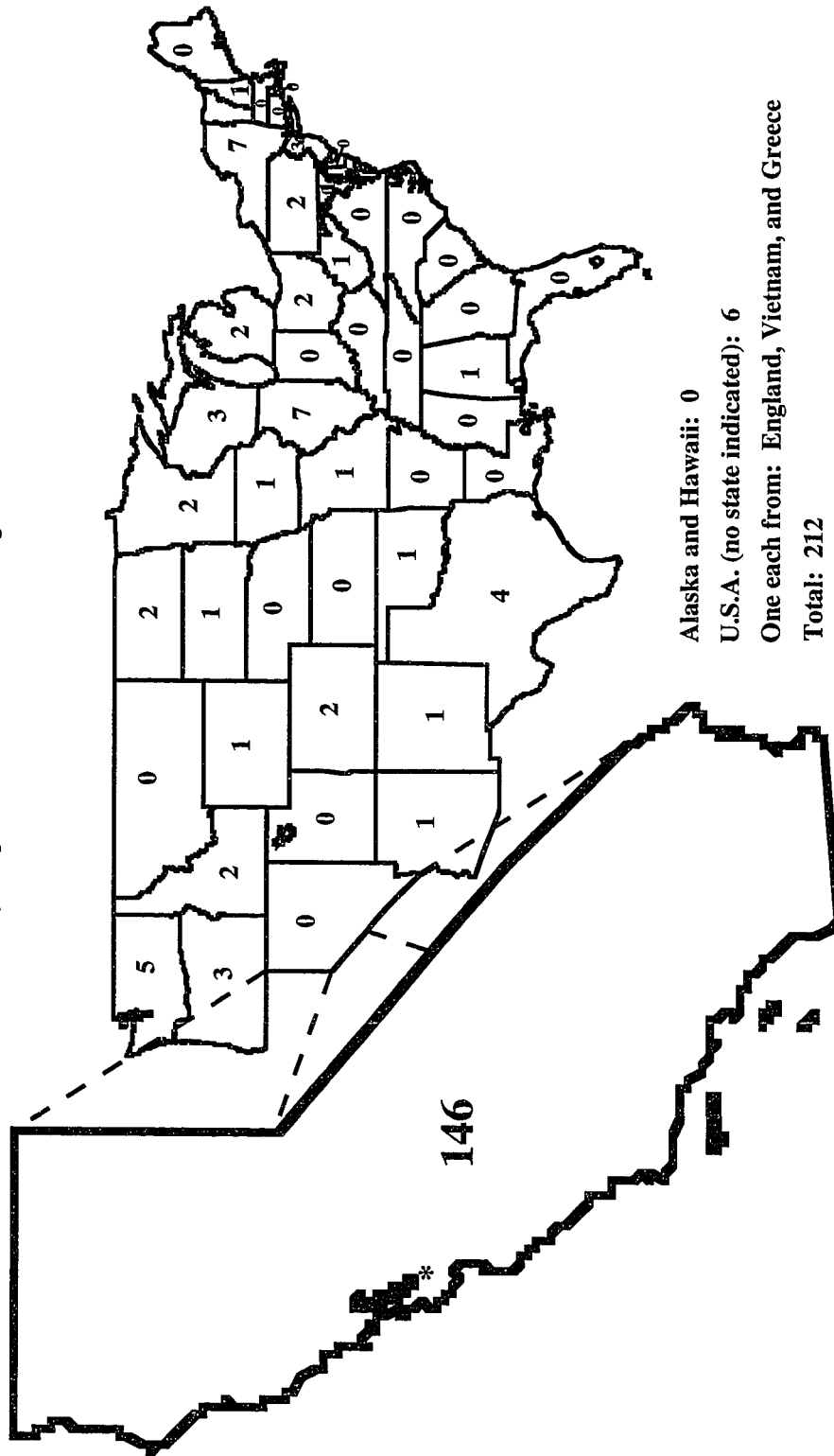
Where Survey Respondents Graduated From High School

State, Region or Country	#	% of Total
Country other than U.S.	3	1.4%
U.S. (no state given)	6	2.8%
Other U.S.		
California	146	68.9%
Northwest	10	4.7%
Southwest	6	2.8%
Rocky Mountain States	3	1.4%
Plains	4	1.9%
Midwest	21	9.9%
South	1	.5%
East/Northeast	12	5.7%

A more graphic representation of the results of this question can be found in the map illustration on the following page. Almost 70% of the survey respondents graduated from high school in California, and considering the average length of time teaching is about 20 years, teachers responding to this survey have apparently stayed in the same state--California--for what might be considered a long time, spending their teaching career in the same state in which they graduated from high school.

Because a large percentage of the survey respondents had graduated from high school in California, no data analysis is presented based on the state in which the respondent graduated from high school. However, with a wider sample, this kind of analysis might prove interesting because different states have different requirements for K-12 geography instruction.

Where Survey Respondents Graduated From High School



Map Outline: AtlasPro, Strategic Mapping, Inc., 1991
 Additional graphics by M. Holstrom

Question 4: What was your undergraduate major in college?

Responses:	Number	% of Total
Declined to state	5	2.3
Social Science (unspecified)	28	13.2
History	19	9.0
Liberal Studies	14	6.6
Psychology	12	5.7
Sociology	9	4.2
Anthropology	2	<1
Geography	1	<1
Political Science	1	<1
Education	52	24.5
Speech Pathology/Communication	3	1.4
Humanities (unspecified)	1	<1
English	16	7.5
Other Language (French or Spanish)	8	3.8
English Literature	4	1.9
Spanish Literature	1	<1
Philosophy	1	<1
Art/Music	12	5.7
Science (unspecified)	1	<1
Behavioral Science	2	<1
Natural Science	2	<1
Life Science	1	<1
Physical Science	1	<1
Pre Med	1	<1
Business/Economics	6	2.8
Physical Education	6	2.8
Home Economics	3	1.4

The results of this question show there were no math majors and very few science majors who responded to this survey. Social science, education and humanities dominate the field of K-12 teaching according to these results. The undergraduate majors of just the secondary educators responding were: 30% Social Science, 40% History and the rest scattered throughout the disciplines. The survey did not ask where the respondent completed the undergraduate field of study. This could be an informative addition to future data collection.

Question 5: From what university did you receive your teacher preparation?

Responses:

	Number	% of Total
San Jose State University	111	52.4%
Other California State Universities	24	11.3%
University of California (various)	15	7.1%
Other California Colleges or Universities	14	6.6%
Out of State Colleges or Universities	47	22.2%
Declined to state	1	.5%

Survey respondents were overwhelmingly from California, with over half receiving their teacher education within ten miles of where they are currently teaching. San Jose State University is one of the largest teacher education institutions in California (*Statistical Abstract*, 1990), so these results were not particularly surprising.

Personal Interest In Geography

Question 6: Do you subscribe to National Geographic Magazine?

Responses:

	Number	% of Total
No	98	46.2%
Yes	94	44.3%
Did for many years but not currently	17	8.0%
Declined to state	3	1.4%

If a subscription to this publication indicates a personal interest in the discipline of geography, then respondents to this questionnaire apparently have that interest. National Geographic Society would undoubtedly be delighted to have this kind of subscription percentage in the population at large.

Question 7: Have you traveled by car outside a major city in a country other than the United States?

Responses:

	Number	% of Total
No	53	25.0%
Yes	158	74.5%
Declined to state	1	.5%

The results of this question indicate that almost three-fourths of survey respondents have traveled outside the United States. Even though many of those destinations may have been as near as Canada or Mexico, as listed below, it is

important to note that respondents still appear to be interested in foreign travel. It is also interesting that results of this question show very few respondents unwilling to provide an answer.

Question 7 (continued)

<i>If yes, where?</i>	Number
"Hawaii"	1
Declined to state where	10
Mexico only	10
Canada only	20
Canada and Mexico only	16
All others including:	101
Europe	
Africa	
China	
South America	
Russia	
Scandinavia	

Perhaps demonstrating an interest in gaining a sense of place or geographic interest in exploration through travel, apparently respondents have traveled in a variety of places. The most interesting response was the one placing Hawaii in a country other than the United States.

Question 8: What states have you visited in this country?

Answers to this question were in a variety of forms. Some respondents named all the states they had visited, and in some cases that was a significant number. Some answered with a number, e.g., 9 or *all 50*. Some answers listed areas or regions such as the *northeast*, the *east coast*, or *the South*. Because of the methods used by the respondents to answer this question, a meaningful compilation of these answers was not possible. In future surveys it might be advisable to list the states by zip code

abbreviation, and ask respondents to circle the abbreviation for ones they have visited, or enclose a map and allow respondents to mark the actual states on the map. There were 11 respondents who chose not to answer this question. Of the remaining responses, 12 listed fewer than 4 states, and 189 indicated 4 or more. Of the 11 respondents who were counted as not answering, a few apparently confused this question with Question 7, in that Question 8 did not specify *United States*, but rather said, *this country*. Thus, if one of the answers to Question 7 was *Canada*, the answer to Question 8 included some Canadian provinces. This problem could be eliminated in future surveys by changing *this country* to *the United States*.

Results indicate again that respondents to this survey were what could be considered well traveled and had visited a variety of destinations in the United States.

Question 9: When you read or hear the name of a place with which you are unfamiliar, do you look it up in an atlas?

Responses:

	Number	% of Total
No	8	3.8%
Occasionally	72	34.0%
Often	97	45.8%
Always	32	15.1%
Declined to state	3	1.4%

Answers to this question demonstrate an interest in knowing where places are located. Taking the time to consult an atlas may indicate a further interest in basic geographic information.

One interesting response indicated never having encountered the problem of reading or hearing the name of a place with which the respondent was unfamiliar! If that were the case for more Americans, geographic illiteracy would be an unknown term, or it would perhaps indicate that Americans don't read anything very interesting or intellectually challenging.

Question 10: Please circle any of the following places you have visited.

Grand Canyon	Death Valley	Mono Lake	Badlands
Trinity Alps	Crater Lake	Grand Tetons	Mt. St. Helen's

Answers to this question are illustrated in Table 4.

Table 4
Physical Geography Features Visited by Respondents

Place	Number	% of Total
Grand Canyon	122	57.5%
Death Valley	106	50.0%
Mono Lake	80	37.7%
Badlands	65	30.7%
Trinity Alps	49	23.1%
Crater Lake	117	55.2%
Grand Tetons	97	45.8%
Mt. St. Helen's	83	39.2%
Declined to State	34	16.0%

Table 5

Number of Travel Destinations of Respondents

How many in each category in Table 4 have traveled by car outside a major city in a country other than the U.S.? (From Question 7)

Number of places (above) visited	Of those who have visited the number of places on the left, how many have traveled by car outside a major city in another country?	Number of respondents who have	% of Total
0		16	47.1%
1		19	76.0%
2		19	65.5%
3		14	63.6%
4		25	80.6%
5		24	85.7%
6		11	91.7%
7		21	100.0%
8		10	100.0%

As indicated earlier in the discussion of the reason for this question, traveling by car outside a major city may demonstrate an interest in exploration inherent in an awareness of geography. As can be seen by the results above, the respondents who travel in the United States also travel in other countries. Almost half of the respondents had visited more than three of the destinations in the United States that could be considered significant physical geography phenomenon. Of those half, almost all of them have traveled by car outside a major city in another country. Respondents to this survey appear to be well traveled, and also interested in destinations that are not necessarily popular tourist attractions.

Professional Interest and Training In Geography

Question 11: Have you taken any college level geography classes?

Responses:

NO = 118 or 56% of total sample

Classes currently being taught by *No* respondents:

7th and 8th Grade History
9th Grade World Studies
9th Grade World Geography
High School Level History

Undergraduate Major of *No* respondents:

Education (18)
History (6)
Liberal Studies (4)
Social Science (6)

If yes, which one(s)?

YES = 93 or 44% of total sample

<u>Classes taken include:</u>	<u>Number of Respondents</u>	<u>% of Yes Answers</u>	<u>% of Total Respondents</u>
Various <i>Introductory</i> courses	30	32.3%	14.2%
More specific or advanced courses	30	32.3%	14.2%
Didn't remember the name of the class	17	18.3%	8.0%
Declined to state	15	17.2%	7.1%
<i>Geology</i> [sic]	1	1.1%	.5%

Answers to this question demonstrate the wide variety of requirements needed to teach subjects that would seem to require at least a passing knowledge of the location and nature of places. These results reaffirm the inconsistency in geographic education requirements discussed elsewhere in this report. Further illustration of the

results of this question can be seen in Table 6. Table 6 illustrates that a high percentage of those whose undergraduate major was social science and who were San Jose State University teacher candidates completed geography classes in their undergraduate education. Those whose undergraduate major was social science represent 41.5% of the total sample, as mentioned previously. From Table 6, it appears that those teaching longer have had a higher number of college level geography classes than those teaching 10 years or less. This may be due to changes in the teacher education requirements in the past 10 to 15 years, eliminating a geography requirement in some cases. This particular historical component was not investigated for this report, but should be part of future studies.

Table 6

College Level Geography Classes Taken By Respondents

Category of Respondent	Have You Taken Any College Level Geography Classes?	
	Yes	No
Those whose undergraduate major was some field of social science, all universities included (sample size: 84)	58%	42%
Those whose undergraduate major was Social Science and attended San Jose State University (sample size: 20)	80%	20%
Those whose undergraduate major was not some field of social science. (sample size: 128)	32%	68%
Total Sample:		
Respondents by number of years teaching		
Number of Years	Sample Size	
1-3	20	25% 75%
4-5	8	25% 75%
6-10	26	27% 73%
11-15	20	60% 40%
16-20	29	38% 62%
>20	103	52% 48%
<i>Survey Total of Sample Size of 212</i>		44% 56%

Note: Difference in totals is due to respondent's failure to provide an answer for a question used in computing data for this table.

Question 12: Are you a member of the California Council on the Social Studies?

Responses:

Yes	28
No	184

Question 13: To the best of your knowledge, are you on the mailing list of the California Geographic Alliance?

Responses:

Yes	38
No	174

Answers to these two questions may indicate an interest or lack of interest in geographic education. Teachers who are aware of particular professional organizations from which they receive newsletters or other information are probably interested in that information. If they are not aware of being on a mailing list, they probably consider that mail as junk mail, and are not interested in its contents.

Question 14: Have you ever attended a workshop or institute specifically for geography?

Responses:

Yes	44
No	168

Even though 21% of respondents had attended a workshop or institute specifically for geography, there is some indication that this kind of instruction may have little or no positive effect on geography in the classroom. Research reported by Lanier and Little (1986) indicated that, "The relatively private, eclectic, and diffuse character of

continuing education thwarts attempts to understand its contribution to teachers' knowledge, competence and enthusiasm for teaching and makes program effects difficult to evaluate" (p. 548). Unfortunately, there is very little indication of more recent research on teacher education programs not directly connected with degree requirements. The effectiveness of these programs, specifically, should be investigated in a future study.

Further illustration of the results of this question can be seen in Table 7. Those whose major was social science may feel little need to attend an in-service opportunity in their own field, which may account for the overall lower percentage of social science majors attending workshops or institutes in geography. Additional discussion of those familiar with the Five Themes can be found illustrated in Tables 9 and 10.

Table 7

Participants In Geography In-Service Opportunities

Category of Respondent	Have You Ever Attended A Workshop or Institute Specifically For Geography?	
	Yes	No
Those who indicated they were familiar with the Five Themes of Geographic Education (sample size: 78)	41%	59%
By undergraduate major:		
Those whose undergraduate major was some field of social science, all universities included (sample size: 84)	20%	80%
Those whose undergraduate major was Social Science and attended San Jose State University (sample size: 20)	15%	85%
Those whose undergraduate major was not a field of Social Science (sample size: 128)	21%	79%
<i>Survey Total of Sample Size of 212</i>	21%	79%

Classroom Use of Geography and Related Materials

Question 15: By checking the most appropriate column, please rate the following subject areas according to how easily you feel they can be integrated with geography.

Table 8 illustrates the answers to this question.

Table 8

How easily can geography be integrated with various subjects?

Subjects	Very Easily		Could be done with thought		Maybe		Only with Difficulty*	
	#	%	#	%	#	%	#	%
History	205	97.16%	6	2.84%	0	0.00%	0	0.00%
Multicultural Studies	182	86.26%	20	9.48%	3	1.42%	6	2.84%
Environmental Studies	172	81.52%	33	15.64%	1	0.47%	5	2.37%
English/Language Arts	151	71.56%	55	26.07%	3	1.42%	2	0.95%
Foreign Language	151	71.56%	33	15.64%	13	6.16%	14	6.64%
Art and Music	127	60.19%	60	28.44%	18	8.53%	6	2.84%
Economics	123	58.29%	56	26.54%	15	7.11%	17	8.06%
Science	109	51.66%	78	36.97%	20	9.48%	4	1.90%
Mathematics	79	37.44%	99	46.92%	18	8.53%	15	7.11%

*When respondents failed to check an answer or indicated "N/A", it was counted as "only with difficulty". The percentage of answers in that category by subject are as follows:

History	0.0
Math	2.4
English/Language Arts	1.4
Foreign Language	5.2
Environmental Studies	2.4
Economics	4.7
Art and Music	1.9
Science	1.9
Multicultural Studies	2.8

It is apparent from these results that teachers responding to this survey think history and geography are closely linked, but that it would be more difficult to find a connection between math or science and geography. As can be seen in the column under *very easily*, an additional result shows that only about 37% of respondents indicated math and geography could be easily integrated, but over half thought geography could be easily integrated with economics. These results are interesting in that economics might normally be more closely aligned with math. However, that connection will have to be left for another study. There are many examples of math and economics in the study of geographic principles, including such simple ones as degrees of latitude and longitude, topographic lines, cartograms, the movement of goods from source to market, and the development of urban economies. Many of these respondents may be well aware of those principles, but do not readily associate them with the integration of math or economics and geography.

Question 16: Approximately how often do you refer to a wall map in your classroom?

Responses:

	Number	% of Total
"constantly" "always"	6	2.8%
Daily	66	31.1%
Several times weekly	42	19.8%
1-2 times a week	43	20.3%
"occasionally"	6	2.8%
1-3 times a month	16	7.5%
"when needed"	2	.9%
"little" "rarely"	6	2.8%
"never"	3	1.4%
Uses globe instead	6	2.8%
Has no map in classroom	7	3.3%
Declined to state	9	4.2%

Question 17: Do you have individual atlases available to your students in the classroom? If so, about how often do you use them?

Responses:

	Number	% of Total
Declined to state	3	1.4%
No	141	66.5%
Yes	68	32.1%

Frequency	Number of "Yes"
Daily	9
Several times weekly	6
1-2 times a week	10
"occasionally"	8
1-3 times a month	6
"as needed"	6
< once a month	9
Declined to state	14

These two questions demonstrate a fairly weak application of geography in the classroom, but if teachers are using wall maps and classroom atlases, it should be considered at least a step in the right direction. Encouraging in these results is that almost three-fourths of respondents to this survey refer to wall maps more than once a week, and more than half of them refer to wall maps at least once a day. However, in a personal observation shared with the researcher by an elementary education teacher, it was revealed that often those wall maps are pulled down to cover blackboard writing, perhaps a spelling test or some notes that will be used during the day. This study presumes that respondents did not mean that kind of use when answering Question 16.

The alarming results revealed in Question 17 are that well over half of the classrooms of respondents to this survey do not have a set of atlases available for their students. Of those who do have atlases available, results appear to indicate that those atlases are not used particularly often.

Question 18: Do you use taped "geography" TV specials in your classroom?

Responses:

	Number	% of Total
Declined to state	8	3.8%
No	162	76.4%
Yes	42	19.8%

What was the title or subject of the last one you showed?

	Number	% of "Yes"
Declined to state subject or title	16	38.1%

As indicated earlier in the explanation for this question, the survey asked respondents to name the geography special they had used. This was to eliminate an easy response of *yes* that may or may not have revealed geography use in the classroom. This request for a title was also to reveal what respondents thought was a *geography special*. As illustrated in the following results, respondents apparently felt that *geography specials* cover a very wide range of subjects and interest areas. The National Geographic Society has a tradition of producing specials on a wide variety of topics that some might not consider geography. However, the problem lies in the possible inability of the teacher to see the *geography* in the *special*. This may be a further indication of the inconsistency in the kind of geography teachers and their students are receiving.

Title or Subject as stated by respondents to Question 18 who chose to indicate one:

Canyon de Chelly & the Yukon
New Guinea
Jungle--National Geographic
National Geographic Mid Atlantic States
Mt. St. Helen's
Washington, D.C.
A National Geographic tape on Egypt
Maya--Aztec--Incas
Mexicans: In Their Own Eyes and Serengeti Plain
Civil War: The Fiery Trial
Early Natives Arrival to N. America
Gobi Desert
Maps/The First Step/Introduction
National Geographic
Rain forests (5)
1992--Japan
Turtles
National Geographic--Birds and Animal Habitats
Alaska
The Polar Bear
The Desert
The Eagle

Question 19: Do you require your students to identify places on a blank map, either on tests or in homework?

Responses:

	Number	% of Total
No	75	35.4%
Occasionally	92	43.4%
Regularly	41	19.3%
Declined to state	4	1.9%

Question 20: Do you use articles from a daily newspaper as instructional materials in the classroom?

Responses:

	Number	% of Total
No	52	24.5%
Occasionally	119	56.1%
Regularly	37	17.5%
Declined to state	4	1.9%

Materials used in the classroom may indicate the kind of instruction that is occurring. In Question 22 over half the respondents stated that the most practical application of geographic knowledge was either being aware of current events through news and newspapers or being able to locate places on a map and understand directions. However, in the results listed above to Questions 19 and 20, most of the respondents don't give map tests very often, and rarely use articles from newspapers as instructional materials. If these two uses are, in fact, what they feel is the practical application of geographic knowledge, it appears they are not requiring their students to develop that opportunity for geographic instruction.

Question 21: Are you familiar with the "five themes" of geographic education (Location, Place, Human-Environment Interaction, Movement, and Region)?

Responses:

	Number	% of Total
Yes	79	37.3%
No	132	62.3%
Declined to state	1	.5%

If yes, do you use them in instructional planning?

Responses:

	Number	% of Yes
No	9	11.4%
Occasionally	39	49.4%
Regularly	27	34.2%
Declined to state	4	5.1%

Since their introduction in 1984, the Five Themes of geographic education have been used constantly in workshops and seminars for K-12 teachers conducted by geographic education professionals. These results show that well over half of the respondents have little or no knowledge of those Five Themes. This is perhaps a further indication of less than effective results of teacher education programs currently available in geography. Results may also indicate that geography education efforts have fallen far short of what may be necessary to achieve national standards and begin to solve the problem of geographic illiteracy. Table 9 and Table 10 further illustrate the results of this question when compared to the results of other survey questions.

Table 9

Those Who Are Familiar With the Five Themes

Category of Respondent	Are You Familiar With the Five Themes of Geographic Education?	
	Yes	No
Those who indicated they had attended a workshop or institute specifically for geography. (sample size: 43)	77%	23%
Those whose undergraduate major was some field of social science, all universities included (sample size: 84)	45%	55%
Those whose undergraduate major was Social Science and attended San Jose State University (sample size: 20)	45%	55%
<i>Survey Total of Sample Size of 212</i>	37%	63%

Even though only 37% of the survey sample indicated a familiarity with the Five Themes, 77% of those who had attended a geography in-service event had acquired that familiarity. Of the 23% who were *not* familiar with the Five Themes, but who *had* attended a workshop or institute in geography, the average length of time teaching was 21 years. The Five Themes were introduced in 1984, which may have been after that respondent attended the in-service opportunity.

Table 10

The Five Themes In Geography In-Service

Number of Years Teaching	Are You Familiar With The Five Themes of Geographic Education?		Have You Ever Attended A Workshop or Institute Specifically For Geography?	
	Yes	No	Yes	No
1-3	37%	63%	16%	84%
4-5	0%	100%	13%	87%
6-10	27%	73%	15%	85%
11-15	50%	50%	30%	70%
16-20	38%	62%	19%	81%
>20	45%	55%	24%	76%
<i>Survey Total of Sample Size of 212</i>	37%	63%	21%	79%

In further exploring the connection between the Five Themes and attendance at a geography workshop or institute, Table 10 describes the results by number of years teaching. When considering the length of time teaching in the context of when undergraduate education was obtained, there seems to be slightly less instruction in the Five Themes in pre-service education than in in-service. As can be seen in Table 10, there is a slightly higher familiarity with the Five Themes for those who have been teaching more than ten years--which is about how long the Five Themes have been in circulation in geography education materials. These teachers must have received their Five Themes information through in-service opportunities or K-12 curriculum materials.

The Practical Application of Geography

Question 22: In your opinion, what is the most practical, everyday application of geographic knowledge?

Responses:

<u>Category of response or specific answer (" ")</u>	<u>Number</u>
Understand current events, news, newspapers	61
Read or understand maps, directions, or how to get from one place to another	50
Understand one's own surroundings	16
World or global awareness	14
Place name identification	13
Understand where "we" are in relation to others	7
Multicultural understanding	5
Travel	4
Should be integrated into all other subject areas	3
"Environmental" or "to save our planet"	3
Climate--which includes the following two quotes	4
"Knowledge of the influence of climate and geographic characteristic on culture and character" (Source: Psychology major, has been teaching 25 years)	
"An understanding of why our economy has developed around areas of natural resources and temperate climates." (Source: Social Science major, has been teaching 32 years)	
Historical events	1
"Social Studies"	1
"a mental image of the relative location of places"	1
"Geography is Destiny"	1
"Got me, but, what do I know, I was an econ major" (Source: 3rd grade teacher)	1
"basic knowledge for conversational purposes--at parties, classes, meeting new people, etc."	1
Declined to state	34

Note: If respondent gave answers in more than one category, all answers were counted.

Results indicate that well over half of respondents to this survey believe geography is directly related to reading maps or understanding current events. However, as indicated in the results for Questions 19 and 20, those beliefs do not necessarily transfer into classroom instruction methods and materials. Encouraging results from this question were that only 13 respondents indicated place name identification as the most practical, everyday application of geographic knowledge. Additional interesting results show that only 5 respondents link geography with multicultural understanding, in a practical, everyday situation. Santa Clara County classrooms have continued to become more and more culturally diverse with the influx of children from all over the world. Teachers must face this diversity on a daily basis, but this survey reveals that apparently teachers are not using geography instruction to make that connection to help understand that cultural diversity. However, in Question 23 there was a slight increase in the number of respondents making that connection, but on a more global scale.

Question 23: In your opinion, why should an American citizen understand geography?

Responses:

Category of response or specific answer (" ")	Number
World or global awareness	76
Multicultural understanding	46
Understand current events, news, newspapers	18
Environmental	18
To be a literate person	12
Place name identification	10
Understand history	5
Travel	5
Understand United States	5
Read or understand maps, directions, or how to get from one place to another	4
Understand one's own surroundings	3
Declined to state	23
"...they would be able to understand the 'Santa Ana' winds and not by (sic) property in all the 'wrong' places."	1
"puts places in perspective"	1
"Because the people in the rest of the world do so much better than we do, and we act and sound stupid with our lack of knowledge."	1
"...to understand ecological, environmental & economic conditions affected by the varying geographic regions"	1
"It enriches our lives and gives us a greater appreciation of our wonderful California!"	1
"So we'll stop looking so stupid and provincial. I once had an ATT rep not only ask my husband where Argentina was (the destination of all our international calls) but how to spell it because she couldn't find it in the r's!"	1
"geography affects how you dress, socialize, type of music you listen to, etc."	1
"It's the setting for life--would you read a novel with no setting?"	1
"Geography is a true integration of the different disciplines in the Social Sciences."	1
"to understand himself"	1
"Makes for a better player at Trivial Pursuits!"	1
"It is a thinking process that describes our own place in the world and the special places where others are & is descriptive of how we move in the world. We need to think!"	1

Note: If respondents gave answers in more than one category, all answers were counted.

The study of geography naturally leads to a more comprehensive understanding of other cultures by virtue of simply knowing more about where people live and why they live there. An increase in world or global awareness and multicultural understanding seemed to be important aspects of geographic education to these respondents.

An interesting result in both Questions 22 and 23 was the low number of people connecting environmental issues to geography. This may reflect some kind of schism between *environmental education* and *geographic education*, when, in fact, the two are hardly mutually exclusive. Most definitions of geography include *the study of the environment*, including the definition of geography found through the Five Themes, one of which is *Human-Environment Interaction*.

The results of these two questions reveal what may be the most interesting but alarming result of the survey. Respondents used almost no terminology commonly connected with geography by professional geographic educators, as outlined in the Five Themes, even though 37% said they were familiar with those themes. Most disconcerting may be that only one in 212 respondents used the word *region*. “Regional thinking is probably the best known geographic concept to the general public” (Hardwick, 1990, p. viii). Also, the regional concept in geography is one of the Five Themes. Not using particular terminology is not necessarily an accurate indicator of geographic illiteracy. However, it may be a further indicator of the lack of formal or comprehensive instruction in the discipline ideally leading to a better *understanding* of geography. These last two questions provided the only opportunities in the survey for respondents to discuss geography as they define it. The Five Themes were specifically mentioned in Question 21, which gave respondents an opportunity to use that terminology in their definition. Few chose to do so.

Summary of the Survey

The overall results of this survey reinforce the inconsistent geography education acquired by teachers in their formal education. Respondents indicated little familiarity with the Five Themes--63% said they were not familiar with them. Results show teachers received widely different geography instruction with 56% having taken *no* college level geography class, including some who are teaching social studies or social science subjects. However, a surprising 21% had attended a workshop or institute specifically for geography.

Teachers responding to this survey were those who were interested enough in geographic education to take time to complete the survey. Overall, they were well traveled, more experienced teachers who were able to express some opinion about geography and its usefulness or application. The average length of time teaching for respondents was over 20 years. However, even experienced, well-traveled teachers who were interested enough to complete the survey had a wide variety of thoughts on what geography actually is and how it can be applied in the classroom. Even though the Five Themes were specifically mentioned in the survey, teachers seemed to have difficulty incorporating those concepts into their description of the application of geographic knowledge as asked in the final two questions. Less than 20% said they used *taped geography specials* in their classrooms, and of those who said they do use them, almost 40% could not remember the title or subject of the last one they used. The titles and subjects given of the *geography specials* they have used in the classroom were revealing in their variety.

When asked about the ease of integrating geography into other subjects, almost 98% indicated that history and geography could *very easily* be integrated. However, less than 40% of the respondents could integrate geography with math,

about 50% with science, and 14 respondents felt it would be *very difficult* to integrate geography with foreign language.

According to the results of this survey, expanded in-service programs are needed for current teachers in order to elucidate the discipline, and begin to alleviate the problem of geographic illiteracy. Research should be conducted on the effectiveness of past programs. That kind of investigation should be incorporated into a separate study on the scope of in-service instruction.

Some surveying technique must be explored that would elicit responses from a wider variety of classroom teachers. Surveys need to be completed by those who have little or no interest in geography and are somewhat uncomfortable trying to complete survey information about geography. A few of these may have been completed in the distribution through the principals' meeting, but even that distribution was not wide enough. The overall response rate of this survey was 26%, which would likely decrease with an expanded effort to reach less interested respondents. However, if survey results are to be more indicative of the overall teacher population, that effort must be made.

Additional questions should include one on where respondents received their undergraduate education. This data could be correlated with data concerning university level geography instruction available for teachers.

This survey should be considered a pilot study designed to reveal possible areas of need for further research in teacher education in geography. An expanded study would be invaluable for gathering additional data that would more clearly define those areas of need.

CHAPTER 4
GEOGRAPHY IN TEACHER EDUCATION AT
SAN JOSE STATE UNIVERSITY

This chapter reports on the teacher education program in the College of Education at San Jose State University to provide a specific example of the geography content of a professional teacher education program. This program is very similar to that of most teacher education programs in the California State University system. Also, the teacher education program at San Jose State University is the oldest in the state, and one of the top three programs in the state in number of teacher graduates (*Statistical Abstract*, 1990). By virtue of its history and size, this report assumes that program has had a significant impact on the geography instruction received by teachers of K-12 students in California.

Overall requirements for teacher education programs in California are determined by the Commission on Teacher Credentialing (1992), an agency of the State of California which “certifies the competence of teachers and other professionals who serve in the public schools” (p. 1). However, because specific teacher education programs are established by each institution, and depend to varying degrees on the composition of the administration and faculty of each of those institutions, they are all a little different. Investigating teacher education programs is as complicated as the programs themselves, as pointed out by Lanier and Little (1986): “The definitional problem for researchers who seek to learn more about those who teach teachers is formidable, since teacher education is practically everyone’s, and yet no one’s, obvious responsibility or priority” (p. 529). According to Marsden (1984), “While the states approve programs for certification, non-governmental organizations” accredit universities and programs that prepare teachers. These organizations include the National Council for Accreditation of Teacher Education

(NCATE), which is a coalition of organizations interested in teaching education and which sets standards for program accreditation. “There is no single system for the preparation or certification of teachers in the United States” (p. 135). Because of the variety of teacher education programs and requirements, it can be difficult to pinpoint where geography content problems may exist in the United States. As a starting point, however, this chapter examines geography in teacher education at San Jose State University.

Following is a summary of the Single Subject and Multiple Subject Credential Programs, including the general requirements for entering those programs, a brief description of the six Diversified Major Waiver Programs, and a discussion of the geography content of those programs at San Jose State University.

Description of Programs

Teacher Education for the High School Level

The Single Subject Credential Program

The reason this program is called the Single Subject Credential Program is that those who successfully complete it receive a *credential* to teach in one of several subject areas. Currently, those subject areas in California are: agriculture, art, business, English, foreign language, health science, home economics, industrial and technology education, mathematics, music, physical education, science, and social science (Personal Communication, Commission on Teacher Credentialing, State of California, April 25, 1994). Because these subjects are usually taught separately at the high school level, those pursuing this credential normally plan to teach at that

level. An exception might be found at the seventh or eighth grade level where these subjects may also be taught separately on occasion.

To qualify to enter the Single Subject Credential Program at San Jose State University, the student must be certified *subject matter competent* in the subject area he wishes to teach. That subject matter competency must be certified by a faculty member in the appropriate department for that discipline (e.g., Social Science Department faculty, not College of Education faculty, must certify a social science credential candidate). To enter the program the student must also receive a passing score on the California Basic Educational Skills Test (CBEST), and have some experience working with children in a classroom setting.

The Single Subject Credential Program is a one-year program that usually follows a four-year Bachelor's Degree program, although a Bachelor's Degree is not technically a requirement for admission to the Single Subject Credential Program. This one year program includes classes in the sociological and psychological foundations of education, reading in the content area, evaluation and testing techniques, methods of teaching in specific subjects, and student teaching. After successful completion of the Single Subject Credential Program, a graduate is awarded a preliminary credential in a specific subject area that permits him to teach that subject in a single subject classroom. That credential expires in five years at which time the candidate must apply for a *Professional Clear Credential*. The candidate for a *Professional Clear Credential* must successfully complete a total of 30 semester units of upper division or graduate coursework, including the coursework completed for the preliminary credential. Included in those required 30 units are the following courses: Health Education for the Classroom Teacher, Mainstreaming for the Exceptional Pupil, and Cardiopulmonary Resuscitation (CPR). Computer competence must also be demonstrated.

Geography is not a required subject in high school in California, and there is not a credential available in geography. Instead, teacher candidates work toward a credential in social science, which allows them to teach any of the social science subjects. In California high schools these are usually history, economics, U.S. government, or world cultures. These are all subjects commonly taught in California high schools, and which would logically be taught by a person successfully completing the Single Subject Credential Program with a Social Science Credential.

Teacher Education for the Primary or Elementary Level

Diversified Major Waiver Programs

San Jose State University has six Diversified Major undergraduate Waiver Programs for students who want to teach in a multiple subject classroom. Multiple subjects are usually taught in primary (grades K-2) and elementary (grades 3-5) classrooms, and sometimes in *middle school*. (Middle school can be defined as encompassing those grades between elementary school and high school. The actual grade numbers vary from school district to school district, but are usually sixth, seventh, and eighth.) The Diversified Major courses of study available at San Jose State University are: creative arts, natural science, social science, child development, environmental studies, and liberal studies. Successful completion of one of these major programs *waives* the requirement for successful completion of the Multiple Subjects Assessment for Teachers (MSAT) section of the National Teachers' Examination (NTE), thus the term *waiver* program. It does not guarantee admission into the credential program, as explained below.

Multiple Subjects Credential Program

The Multiple Subjects Credential Program at San Jose State University is a post-graduate program for those who wish to receive a credential allowing them to teach students in several (multiple) subjects in the same classroom, usually at the primary and elementary levels, but also sometimes in middle school. To be accepted into the Multiple Subjects Credential Program, students must successfully complete a Diversified Major Program (as described above) or pass the NTE MSAT section. They must also pass the CBEST, which includes questions on math and language skills only. They must also satisfy a requirement for knowledge of the U.S. Constitution, have some classroom experience, and go through a personal interview process. Upon successful completion of the program, the teacher candidate receives a preliminary credential that expires in five years. The candidate for a *Professional Clear Credential* must successfully complete a total of 30 semester units of upper division or graduate coursework, including the coursework completed for the preliminary credential. Included in those 30 units is required coursework as follows: Health Education for the Classroom Teacher, Mainstreaming for the Exceptional Pupil, and CPR. Computer competence must also be demonstrated.

According to information obtained during a personal conversation with an employee in the Student Information and Credential Preparation Center in the College of Education, there are about 250 applicants for this program for Fall, 1994; 80 of those are from the Diversified Major programs at San Jose State University, which means there are over 150 applicants to the Multiple Subjects Credential Program who came from programs other than those at San Jose State University. Those programs were not investigated for this report, but should be included in any comprehensive study of the academic background of individual students who eventually become classroom teachers.

Geography Content of SJSU Teacher Education Programs

Single Subject Credential Program

As stated earlier, to be accepted into the Single Subject Credential Program at San Jose State University, a student must be certified subject matter competent in the subject area in which he wishes to obtain a credential. That subject matter competency is determined by the subject area advisor through a complicated set of requirements that may or may not include satisfactory results on the NTE, depending on what courses have been completed at the university level. It is possible, however, to be certified subject matter competent in social science without having taken a university level geography class. The amount of geography required in teacher education programs was explained in a study by Drummond (1986):

(The required amount of geography) often depends on the perceptions of the academic advisor. Many persons now in advisory positions in schools of education have been trained during the period since 1962 when geography ceased to be required; they may themselves have had little or no exposure to geography and thus have no particular bias toward the subject. (p. 12)

Since persons who received their academic instruction before 1962 would now be approaching or beyond retirement age, this report makes the assumption that most academic advisors at San Jose State University completed their university coursework after geography was no longer required as an autonomous subject in K-12. Specific data supporting this assumption were not gathered, but could be included in future studies focusing more on the geography background of teacher educators. This would be an interesting study, particularly in light of the following.

Once the student is in the credential program that student is presumed to have received sufficient content area instruction. The student, however, must complete a

methods class in social science, which may include classroom lessons in geography, history, economics, government, and maybe sociology and psychology. These methods classes are taught by either social science faculty members, or a high school or part time instructor who may or may not have any academic instruction in geography. The lack of instruction in geography for methods teachers contributes to the inconsistency of instruction in the discipline, probably resulting in inconsistent classroom use and instruction by those teachers who learn geography from those methods teachers. Referring to Fenton's 1966 study that observed, "most students learn to teach by imitating their teachers" Spetz said, "teacher trainers in geography must give attention not only to geography's message but also to the manner in which it is presented" (Spetz, 1988). With little or no instruction in the discipline, it is difficult to teach others appropriately.

Multiple Subjects Credential Program

In this program are education courses that focus on the psychological, sociological and multicultural foundations of education, bilingual strategies and methods, student teaching, and curriculum methods in various subject areas. The curriculum methods class in social studies is for 2 units (1 hour and 50 minutes a week for 15 weeks), which is 4 units *less* than the methods class required for reading/language arts for culturally diverse classrooms. The social studies curriculum methods classes are taught by multiple subjects credential program faculty, and include history, psychology, sociology, anthropology, economics, and geography. These methods classes must be of some concern to those interested in geographic education because, "The strength of the links between teacher education and classroom reality depends very largely on subject method tutors" (Hones, 1992, p. 51). Through an informal telephone poll, it was learned that none of the faculty

currently teaching the social studies curriculum seminars in the Multiple Subjects Credential Program at San Jose State University has received university-level instruction in geography.

The following table (Table 11) illustrates the actual academic units for the preparatory programs (Diversified Majors) that lead to earning a Multiple Subjects Credential at San Jose State University, and to teaching at the primary or elementary level. The information for Table 11 was taken directly from the appropriate departmental handout and the current (1992-94) San Jose State University catalog.

Table 11
Distribution of Academic Units
Diversified Major Waiver Programs
San Jose State University

DISTRIBUTION OF REQUIRED UNITS BY DIVERSIFIED MAJOR							
	General Education	Major	Minor	Multiple Subjects Preparation	Electives	P.E.	Total
Environmental Studies	45	33	15	21	5	5	124
Child Development	0	30	0-16	84	0-16	2	124
Natural Science	39	45-46	-	24	13-14	2	124
Social Science	0	45	-	63	14	2	124
Liberal Studies	0	112-115	-	-	4-10	2	124
Creative Arts	12 + 43	33	-	28	6	2	124

As illustrated in this table, the distribution of units varies widely from major to major, depending on the priorities established by each department. For example, the 5 units of human performance (P.E.) required for the environmental studies program includes the 2 units required by San Jose State University for all students and a 3 unit methods class in human performance. The distribution of the general education units in the creative arts program includes 43 units in a category called “supporting requirements” that may fulfill general education requirements, depending on how the student constructs the program. All students must satisfy the San Jose State University general education course requirements in effect at the time of their study, but those courses, in some cases, are also considered *Multiple Subjects Preparation* by the program, and therefore are not listed on this table under *General Education*.

Following are the actual geography courses required by each Diversified Major Waiver Program at San Jose State University. In some cases, students are given a choice of taking one of several courses, one or two of which may be in geography. Those are not listed, because the geography course is not a requirement.

Required Geography Courses

<i>Diversified Major</i>	<i>Geography Course Required</i>
Environmental Studies	World Regional
Child Development	None
Natural Science	None
Social Science	<i>One of the following:</i> World Regional Human Geography Urban Geography Political Geography Natural Resources The United States California Geography Geography of Europe Geography of East and Southeast Asia
Liberal Studies	None
Creative Arts	World Regional

As is true of most programs, it is possible to waive certain courses and substitute others as deemed appropriate by individual faculty advisors. This flexibility of requirements must be considered in examining the requirements for each program. The courses actually completed by each student could include several geography courses, or none at all. Further evidence of this variance in requirements can be seen in the results of the survey as reported in Chapter 3. The actual courses taken by teacher candidates at San Jose State University could only be determined by an analysis of individual transcripts, which was not possible for this study.

Summary

The geography instruction received by San Jose State University teacher candidates is inconsistent at best, and non-existent at worst. This could be the result of a much too crowded academic calendar for those teacher candidates. However, it is more likely the result of a lack of interest in and understanding of the discipline of geography by all those involved in teacher education. The program must be examined and reevaluated if future teachers are going to be able to teach geography to their K-12 students. This becomes even more important when realizing that, "Most students' perceptions of geography are formed in our nation's pre-collegiate institutions" (Hill, 1981, p. 6). Our nation's pre-collegiate institutions are where those instructed in these teacher education programs will pass on their knowledge. However, once again, the blame for the lack of geographic education cannot be placed at the doorstep of any one group. Teachers of teachers cannot be responsible for teaching that which they have not been taught. Also, if geography is not considered a necessary part of the teacher education program by those who establish those programs, the pre-service teacher candidate will not receive geography instruction. All involved in the teacher education process are responsible for the geographic content of that process.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Conclusion

Geography instruction for K-12 teachers for most of this century has been sporadic and inconsistent, and apparently remains so, for a variety of reasons. Those reasons include: (a) crowded teacher education programs with varying priorities and little consistency in geography instruction, (b) a reluctance of academic geographers to participate in K-12 education, (c) few geography professionals in state and district level education administrative positions, and (d) inadequate in-service programs. The result of sporadic and inconsistent geography instruction for teachers is that same kind of geography instruction for students.

The need for reevaluation of geography education in the United States is highlighted by four recent developments. The first of these, geographic illiteracy, even on the most basic level, is not only common, but apparently getting worse. According to the *International Gallup Survey on Geography* (1988), the United States is the only country of the nine surveyed where the 18-24 year old age group did **worse** on geographic knowledge questions than the over 55 age group (p. 55). These *geographic knowledge* questions generally included only simple place-name identification and map skills. They did not include questions such as those included in proposed state and national assessment tests, and questions that may incorporate an understanding of geography as outlined in national standards. This leads to the other three developments calling for a reevaluation of geography education which are (a) the implementation of national standards, (b) National Assessment of Educational Progress testing, and (c) assessment testing at the state level.

Reevaluation of geography education is most important in the teacher education process. According to survey results reported in Chapter 3, current teachers are unclear about the nature of geography, and as represented by the teacher education programs outlined in Chapter 4, a large number of teacher candidates are not receiving the kind of instruction in geography needed to make the discipline any more clear for future teachers.

There is a need, and a precedent for the fulfillment of that need, for quality geography instruction for teachers. Beginning within the work of Johann Comenius (1592-1670) there have been, “suggestions for improving the teaching of geography.” Comenius was one of the first to advocate the study of geography wherein, “a child should get very early a good knowledge of natural things” (Kenamer, 1953, p. 72). However, the kind of instruction is critical. James (1971) observed:

In the hands of teachers not trained as geographers, location becomes the most deadly sort of “place geography.” In the hands of teachers trained to appreciate the significance of location and to understand the methods of imparting this significance to students, the geographical contribution to social studies, along with history, provides the solid framework on which important study programs can be erected. (p. 332)

Once again, the blame cannot be laid at the doorstep of any one group involved in educating teachers, but all those involved in the teacher education process must be held responsible for the problem of geographic illiteracy. It is important to remember that, “What teachers do not themselves understand will receive a low priority and therefore will not be taught” (Fitzhugh, 1992, p. 2). If geography instruction is not included in the teacher education process, it will not be included in the classroom curriculum by the teacher. However, the **kind** of geography instruction

is fundamental in determining the geography understood and used by teachers in the classroom.

Additional research needs to be done to determine the quality and quantity of geography that is actually in the classroom. If possible, additional case studies such as those done by Bein, Hickey, and Cohen (1994) could be expanded. Individual classroom observation should be done to determine what kind of geography teachers are teaching, and what perceptions students have of that geography. Also, an investigation is currently underway into the long term results of the summer institutes conducted by the California Geographic Alliance-North. That kind of research is important in determining the value of in-service efforts, and possible ways of expanding and improving them. Finally, further survey data should be gathered. There is a need to determine if there are a significant number of teachers with little or no interest in or knowledge of geography who are teaching those who will be attempting to pass geography assessment tests and achieve nationally mandated standards.

The attainment of geographic literacy for K-12 teachers and children can only be determined through positive results on assessment tests and some indication of the achievement of national standards in geography as outlined by geographic education professionals. This appears to be a monumental task in light of reports discussed earlier. However, there are many positive steps that can be taken in the right direction, and following are suggestions for some of those steps.

Recommendations

In-service: Geography for Current Teachers

With the National Geographic Alliance network already in place, the structure for offering in-service opportunities to current teachers is well established and should be actively supported by academic geographers, as well as those Teacher Consultants who have already completed the program. This program should be expanded to allow for regional and district programs that would offer more localized support groups for geographic education efforts. The state alliances would continue to sponsor large scale state-wide institutes, and distribute regular publications to keep current all those involved concerning trends and opportunities in geography for K-12 teachers. More localized efforts could include teacher-mentor help with geography lesson plans and suggestions, and regular district, school, or even department sharing sessions of geography teaching tips and tools--a monthly *brown-bag* lunch meeting, perhaps.

A semester-long geography class for current teachers could be offered, presumably on weekends or in the evenings. Incentive could come from credit offered toward fulfilling the *clear credential* requirements. This kind of program would help teachers by providing content information as well as giving them a professional career advancement opportunity.

There is significant support outside the geography community for these kinds of efforts. This support includes state funds to match those provided by the National Geographic Society, and a growing awareness among state education administrators of the need for geography instruction. In a survey of the Council of Chief State School Officers (1988) 70% agreed that the best way to improve classroom instruction of geography is through in-state geography workshops for teachers and state education administrative personnel, and 66% agreed that district level

workshops for teachers and administrative personnel should be supported. This support should be identified by academic geographers and cultivated by anyone interested in expanding geographic education.

Pre-service: Geography for Future Teachers

At least one *Geography for Teachers* class should be available to all future teachers. That class should incorporate instruction in the geography component of national standards, national and state assessment guidelines, and in the case of California, the *History-Social Science Framework*. The instructors should also offer general information on other geography materials available that are particularly relevant to K-12 geography, such as interactive computer programs like *Small Blue Planet* and *Cross-Country USA*, and include instruction on the application of the Five Themes to those materials.

These classes are already offered at many universities including CSU Chico and CSU Humboldt. There are publications available specifically for this kind of class including *The Role of Geography in Pre-Service Teacher Preparation* (Appendix E) and *Geography in the California Framework* (Hergesheimer & Hobbs, 1989). There is at least one textbook specifically written for a geography for teachers class (Hardwick & Holtgrieve, 1990), and there are teacher's editions of high school geography textbooks that would be invaluable in acquainting future teachers with K-12 classroom geography.

What limited amount of research done in pre-service geography education supports expanding and improving the pre-service instruction currently available. "Geographic education faces serious shortcomings based on its failure to create and maintain strategies for effective pre-service teacher education" (Boehm et al., 1994, p. 21). And, according to Phillips (1994): "Secondary teachers frequently have a history

bias that causes major geographic omissions and distortions when they integrate history and geography.” All of this is partially caused by pre-service instruction “trapped in a world where academic geographers do not communicate with social studies methods teachers and where geography methods classes are nearly extinct” (p. 12). Methods classes serve a different purpose--that of teaching *how* to teach various subjects. A geography for teachers class would teach geography in the context of the Five Themes, and would expand on geography content applicable to K-12 curriculum.

Professional geographic educators have the best interests of the discipline in mind as they write various materials. Recently published was a preliminary description of the national geography standards indicating *Six Essential Elements and Eighteen Content Standards*. (Appendix A) These six elements and eighteen standards are in addition to the *Five Themes of Geographic Education* (Natoli, 1984) which came after the *Four Traditions of Geography* described by Pattison in 1964. These materials cannot be presented to K-12 teachers without interpretation. Indeed, these materials cannot be presented to many academic geographers without some kind of interpretation. In response to national standards and assessment guidelines “university faculty must commit the time and effort to fashion appropriate geography education programs so that teachers are prepared to uplift the standards of their students” (Boehm et al., 1994, p. 23). Those teachers cannot raise the geography standards of their students without significant help from university faculty. In discussing the implementation of the national standards, Phillips (1994) said, “elementary teachers are often not comfortable teaching geography because of their weak background” (p. 12). This can be alleviated with quality pre-service geography content instruction.

Geography Education for Teacher Educators and
Education Instruction for Geographers

Here's a concept that thus far has been avoided by everyone, perhaps partially because, according to Marsden (1984): "To be actively engaged in geographical education may be detrimental to a career ... academics may refrain from participating in research or even speaking with professional educationists lest it hurt their professional advancement in their respective institutions" (p. 29). Perhaps an in-service for education *and* geography faculty would be a very positive step, at the very least for opening lines of communication, and for the optimum, helping everyone better understand geography *and* K-12 education. Without that understanding, there is probably little hope for what Spetz (1988) feels is necessary: "Prospective teachers must perceive the role of geography as a bridging discipline between the natural sciences and the social sciences while understanding its unique spatial viewpoint" (p. 53). And, according to Drummond (1993), teacher educators are certainly not at fault: "Most certification requirements now in effect within the various states were drawn up in the 1960's or 1970's, at a time when geography was generally subsumed within the social studies" (p. 3). A better understanding of basic geographic concepts could be conveyed through a teacher educator workshop conducted by geographic education professionals. This kind of workshop could also engender an invaluable interchange of ideas if approached with open minds and a willingness to learn by and from all involved.

Geographers' Participation in Professional Educator Meetings

To promote expanded understanding of quality geography instruction, professional geographers must expand their participation in meetings that are organized and conducted by leaders of various education factions. The need for this

is highlighted in research studies concerning the composition of state and local education agencies. According to a survey of the Council of Chief State School Officers (1988), 96% of state education agencies do not employ geography specialists. Discussing the implementation of the national standards in geography, Phillips (1994) from the Anchorage (Alaska) School District, brings up the following problems: local curriculum committees are weak in geography with an “inherent bias ... toward history, citizenship, and the social studies. “Weak educator backgrounds in geography provide for major problems ... even if strong geography standards are adopted.” And Marsden (1984) confirms once again that, “Teachers, as important decision-makers, are the determiners of success or failure in geographic education as the individuals who bring curriculum to American school children” (p. 134). However, if state and local agencies see no need to educate teachers in geography, it probably will not be done. According to Drummond (1993): “Pragmatically, geography educators must assume teacher candidates who emerge well-prepared in geography will reflect not state certification standards but the graduation requirements set by individual preparation programs and the guidance of educators aware of the growing role of geography in the nation’s schools” (p.3). The participation by those geographers interested in geographic education in meetings of professional educators will help to disseminate information about the nature and importance of geography. Also, professional educators might want to consider more participation in state, regional, and national meetings of professional geographers. The California Geographical Society is an organization that since its founding has attempted to involve geographers, professional educators, and any combination of those. Annual meetings have presented excellent opportunities for sharing K-12 geography education information.

Developing Usable Materials

There have been many geography education materials developed by sources varying from university-level professors of geography to kindergarten teachers. A recent doctoral dissertation in geographic education dismisses curriculum materials developed by classroom teachers as not worthy of consideration in research because teachers are inadequately instructed in geography (Dunn, 1993). John Fraser Hart, an icon of American geography, in a personal communication (30 March 1994) to the author said: “the key to communication is knowing your audience.” Perhaps teachers are inadequately instructed in geography, but they may be much more qualified to communicate with other teachers and with K-12 students than are doctoral candidates in geography.

Expanding the Alliance network to include more localized groups could lead to the development of more geography materials for the K-12 classroom by those who are closest to those classrooms. Teacher education in geography, according to Spetz (1988), “should provide a background in the essential skills necessary to use maps, globes, and other descriptive material and in the processes required to gather, record, and interpret geographic information from other means such as charts, graphs, and remotely sensed imagery” (p. 53). But, learning those skills and obtaining that background shouldn’t be complicated or difficult, and those who develop materials for that purpose should have the experience in using that kind of material. Thornton (1989) said, “The curriculum that ultimately counts is the operational curriculum, what happens in the classroom” (p. 7). Productive curriculum changes in geography cannot succeed without a thorough understanding of the teacher’s frame of reference.

The Center for Geographic Education

The Center for Geographic Education at San Jose State University was founded in 1992 to teach geography to teachers. Even though “there is little evidence of interaction between college and university geographers and the classroom teacher” (Salter, 1987, p. 211) the Center has been vigorously pursuing that interactive component, including all of the recommendations above. Center personnel have conducted workshops and seminars for in-service and pre-service teachers, have presented programs at national and state professional meetings for geographers and professional educators, and have helped local schools in various geography projects.

Sharing the blame for the problem of geographic illiteracy leads to sharing the responsibility for attempting to solve it. Center personnel have initiated discussions with faculty across campus and will continue to actively solicit suggestions and comments from education professionals concerning teacher education efforts in geography. This kind of communication is the key to overcoming what some geographic educators recently referred to as the *bête noir* of geographic education: “teacher training” (Boehm et al., 1994, p. 23). Couching K-12 teacher education in geography in more geographic terms, this researcher prefers to refer to teacher education as the asthenosphere of geographic education--the weak layer, constantly moving and changing, not necessarily with positive results for geography instruction in the K-12 classroom. However, continued support of programs like those conducted by the Center for Geographic Education will help to achieve positive results. The kind of efforts made by the Center at San Jose State University must be fully supported in other teacher education institutions, not only by academic geographers but by professional teacher educators, state and local education administrators and faculty throughout the university community involved in educating the future teachers of our pre-collegiate children.

ADDENDUM

In 1876 a teacher certification exam in California included the following questions:

1. State the causes of the dense fogs that prevail off the coast of Chili and Peru, Oregon and California.
2. How is it proved that the earth is an oblate-spheroid?
3. On a steamer trip from New Orleans to Pittsburgh, name the five largest cities you would pass, and the State in which each is situated.
4. Name the three leading countries in the production of each of the following: cotton, sugar, gold, iron, wool.

Is it less important almost 125 years later for teachers to know about the planet on which we live? Not according to educators and government leaders who write national standards, assessment tests, and state frameworks. However, in all majors, or any type of academic program, there is a certain amount of material to be covered. Priorities are allocated according to the desired results of the program. In teacher education programs, apparently geography has not been a priority in the material to be covered, and the results have been highly publicized by sources mentioned earlier in this report. We are a nation of people who do not know what time it is in Lillehammer, who think Africa is a *country* where black people kill other black people for some unknown reason, believe that South America is full of big snakes and burning trees, and who think the entire state of California is going to slide into the Pacific ocean during an earthquake. Teachers can only teach what they know. If they don't know geography, they can't teach it. It is the responsibility of all those involved in geographic education to intensify efforts to bring quality, comprehensive, and understandable geography to present and future K-12 teachers.

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APPENDIX A

*GEOGRAPHY FOR LIFE:
THE NATIONAL GEOGRAPHY STANDARDS*

GEOGRAPHY FOR LIFE;
THE NATIONAL GEOGRAPHY STANDARDS

Note: The eighteen standards in geography are concept statements that have been organized into clusters identified as the six essential elements.

The well-educated person views the world spatially. The outcome of *Geography for Life* is a geographically informed individual who sees meaning in the arrangement of phenomena in space and who therefore applies the spatial perspective in life situations.

FIRST ESSENTIAL ELEMENT - SEEING THE WORLD IN SPATIAL TERMS

STANDARD #1. KNOWS AND UNDERSTANDS HOW TO USE MAPS, GLOBES, AND OTHER GRAPHIC TOOLS AND TECHNOLOGIES TO ACQUIRE, PROCESS, AND REPORT INFORMATION FROM A SPATIAL PERSPECTIVE.

STANDARD #2. USES MENTAL MAPS OF EARTH TO PUT PEOPLE, PLACES, AND ENVIRONMENTS IN THEIR SPATIAL CONTEXT.

STANDARD #3. KNOWS AND UNDERSTANDS HOW TO ANALYZE THE SPATIAL ORGANIZATION OF EARTH'S SURFACE.

SECOND ESSENTIAL ELEMENT - PLACES AND REGIONS

STANDARD #4. KNOWS AND UNDERSTANDS THE PHYSICAL AND HUMAN CHARACTERISTICS OF PLACE.

STANDARD #5. KNOWS AND UNDERSTANDS THAT PEOPLE DEFINE REGIONS AND USE THEM TO INTERPRET EARTH'S CHANGING COMPLEXITY.

STANDARD #6. KNOWS AND UNDERSTANDS THAT CULTURE AND EXPERIENCE INFLUENCE PEOPLE'S PERCEPTIONS OF PLACES AND REGIONS.

THIRD ESSENTIAL ELEMENT - PHYSICAL SYSTEMS

STANDARD #7. KNOWS AND UNDERSTANDS THE PHYSICAL PROCESSES THAT SHAPE PATTERNS ON EARTH'S SURFACE.

STANDARD #8. KNOWS AND UNDERSTANDS THE CHARACTERISTICS AND DISTRIBUTION OF ECOSYSTEMS ON EARTH'S SURFACE.

FOURTH ESSENTIAL ELEMENT - HUMAN SYSTEMS

STANDARD #9. KNOWS AND UNDERSTANDS THE CHARACTERISTICS, DISTRIBUTION, AND MIGRATION OF HUMAN POPULATIONS ON EARTH'S SURFACE.

STANDARD #10. KNOWS AND UNDERSTANDS THE COMPLEXITY OF EARTH'S CULTURAL MOSAICS.

STANDARD #11. KNOWS AND UNDERSTANDS PATTERNS AND NETWORKS OF ECONOMIC INTERDEPENDENCE ON EARTH'S SURFACE.

STANDARD #12. KNOWS AND UNDERSTANDS THE PROCESSES, PATTERNS, AND FUNCTIONS OF HUMAN SETTLEMENT.

STANDARD #13. KNOWS AND UNDERSTANDS THE FORCES OF COOPERATION AND CONFLICT THAT SHAPE THE DIVISIONS OF EARTH'S SURFACE.

FIFTH ESSENTIAL ELEMENT - ENVIRONMENT AND SOCIETY

STANDARD #14. KNOWS AND UNDERSTANDS HOW EARTH'S PHYSICAL AND HUMAN SYSTEMS ARE CONNECTED AND INTERACT.

STANDARD #15. KNOWS AND UNDERSTANDS THE CONSEQUENCES OF THE INTERACTION BETWEEN HUMAN AND PHYSICAL SYSTEMS.

STANDARD #16. KNOWS AND UNDERSTANDS THE CHANGES IN THE MEANING, DISTRIBUTION, AND IMPORTANCE OF RESOURCES.

SIXTH ESSENTIAL ELEMENT - APPLYING GEOGRAPHY

STANDARD #17. KNOWS AND UNDERSTANDS HOW TO APPLY GEOGRAPHY TO INTERPRET THE PAST.

STANDARD #18. KNOWS AND UNDERSTANDS HOW TO APPLY GEOGRAPHY TO INTERPRET THE PRESENT AND PLAN FOR THE FUTURE.

For additional information about the national standards in geography, contact:
Geography Education Standards Project
1600 M Street, NW, Suite 2611
Washington, DC 20036
202-775-7832
202-429-5711

APPENDIX B

EXECUTIVE SUMMARY

INTRODUCTION

*GEOGRAPHY ASSESSMENT FRAMEWORK FOR THE
1994 NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS*

EXECUTIVE SUMMARY

The purpose of geography education is to foster the development of citizens who will actively seek and systematically apply the knowledge and skills of geography in life situations. Geography education must be responsive to the abilities and needs of students and to the societal and workplace requirements of the community, the nation, and the world. Through rigorous instruction and an adaptable K - 12 curriculum, geography education helps prepare students to cope with the complexities of contemporary life.

This framework is designed to assess the outcomes of students' education in geography in grades 4, 8, and 12 as part of the National Assessment of Educational Progress (NAEP). The document draws from the Five Themes of Geography, often used to organize instruction. It melds key physical science and social science aspects of geography into a cohesive and topical whole. It focuses on what geography students should know to be competent and productive 21st Century citizens, and uses three content areas for assessing the outcomes of geography education. These content areas are Space and Place, Environment and Society, and Spatial Dynamics and Connections. Space and Place, which encompasses geography's basic fundamentals, should be assessed by 40% of the questions at grades 4, 8, and 12. The other content areas, which are more sophisticated, should be assessed by 30% of questions each at all three grade levels.

NAEP will include questions to measure students' cognitive abilities at a basic Knowing level, a more complex Understanding level, and at an Applying level that covers a broad range of critical thinking skills.

In addition, the framework describes what students should know and be able to do using the NAEP achievement level criteria of Basic, Proficient, and Advanced at all three grade levels. Advanced achievement should equal the performance expected of top students in other industrialized nations.

This framework will be distributed to K-12 teachers, curriculum specialists, educational administrators, and policy makers at the state and local level well in advance of the 1994 NAEP Geography Assessment so that it may be used to focus student learning. In this era of education reform and with the inclusion of geography in the Nation's Education Goals for student achievement and citizenship, the framework provides an excellent insight into the breadth of geography and what geography students should know to be productive citizens in the 21st Century.

Those who were involved in the consensus process were acutely aware that the 1994 NAEP assessment will have a significant effect upon the teaching of geography in schools and upon policy regarding geography's role in the curriculum. To the extent that the 1994 NAEP assessment influences curriculum development, teacher training, and preparation of instructional support materials, student scores on subsequent assessments should rise.

INTRODUCTION

This document provides the framework to guide the development of the assessment instruments for the 1994 National Assessment of Educational Progress in Geography. This is the first of four documents designed to guide the geography assessment. The documents are: The Assessment Framework, Assessment Specifications, Student Background Variables and Educational Practices, and Student Achievement Data.

The National Assessment of Educational Progress

The National Assessment of Educational Progress (NAEP) will perform a three-grade assessment of the geographic knowledge and skills of students throughout the United States in 1994. Since 1969, NAEP, "the Nation's Report Card," has used a national sample to survey what students know and can do in specific subjects at ages 9, 13, and 17, and since the early 1980s, in grades 4, 8, and 12 as well.

NAEP assessments are viewed by policy makers as the most comprehensive measures of students' learning outcomes at critical junctures in their school experience. They are the only nationwide assessments currently in use that are designed to monitor American educational achievement. Congressionally authorized and federally funded, NAEP is charged with collecting and reporting educational achievement data in specific subjects: geography, reading, writing, mathematics, science, and U.S. history. It is also charged with monitoring trends in student achievement in these subjects over time.

Prior to 1990, NAEP reported data only on a national and regional basis. But in 1990, NAEP conducted a trial assessment in 8th grade mathematics on a state-by-state basis. The trial was repeated in 1992 with state-level assessments conducted in mathematics at grades 4 and 8, and in reading at grade 4. It is hoped that state-by-state reporting will continue as parents and policy makers, interested in raising student knowledge and skill levels, want reliable data on student achievement at the state level. Data that allow comparisons among states provide incentives for much-needed improvements in student performance.

In 1994, NAEP will assess geography learning at grades 4, 8, and 12 for the first time. The most reliable geography assessment in recent years was carried out by NAEP in 1988 and involved a sample of 3,000 high school seniors. While the test instrument used was technically of high quality and a representative sample of students was tested, the data obtained reflected on the knowledge of one segment of the school population.

The testing of students in geography at all three grade levels comes at a pivotal time in NAEP's history. Educators and policy makers see NAEP as playing a significant role in the new national examination process emerging from the deliberations on education reform among members of the National Education Goals Panel, which oversees progress toward achievement of the six National Education Goals. These goals, established by the nation's governors and the President in 1990, include geography as one of five core subjects in which all U.S. students are expected to demonstrate competency in challenging subject matter by the year 2000. This competency should equal the competency of students living in other industrialized nations around the globe. Thus the results of the 1994 NAEP assessment will provide significant baseline data on how well U.S. students are doing in geography at a mid-point in the goals process.

Framework Development

The 1994 NAEP Geography Framework was developed for the National Assessment Governing Board, the policy-making body established by Congress in 1988 to oversee the activities of the National Assessment of Educational Progress. The work was conducted through a contract awarded, in June of 1991, to the Council of Chief State School Officers in cooperation with the National Council for Geographic Education.

Through an intensive consensus process, a planning committee of teachers, curriculum coordinators, geographic educators, academic geographers, assessment experts, and lay people worked for eight months to draft the Geography Assessment Framework. This work was guided by a steering committee made up of members of

key education and policy organizations augmented by members from business and government.

The framework represents a comprehensive overview of the most essential outcomes of students' geography education at the prescribed grade levels as determined by the consensus committees and by the testimony of numerous witnesses at three public hearings. Designed to guide the development of assessment instruments, the framework cannot encompass everything that is taught in geography in all of the nation's classrooms much less everything that should be taught. Nevertheless, this broad and innovative framework attempts to capture the range of geography content and thinking skills that students should possess as they progress through school. The framework's content embraces the complex problems of modern life that students will inevitably encounter both inside and outside their classrooms. It should be viewed, therefore, as both a guide for assessment as well as a potential tool for crafting a relevant and contemporary geography curriculum as it reflects the discipline's involvement in the complexities of contemporary issues.

APPENDIX C

STANDARDS FOR THE PREPARATION OF SOCIAL STUDIES TEACHERS



Standards for the Preparation of Social Studies Teachers

Prepared by the Task Force for Revision of the Teacher Education Standards

Approved by NCSS Board of Directors, 1992

This revision of the National Council for the Social Studies "Standards for Preparation of Social Studies Teachers" has been undertaken following a decade of intense reform activity in teacher education, much of it generated by a series of widely heralded national reports. Although these reports and the resulting national debate provide directional signs for the nineties, it is too early to judge which paths will most often be taken and how far the profession will choose to move down those paths.

After careful attention to these directional signs for reform and to what has served the nation well in the past, the Council has revised its 1987 teacher preparation standards to harmonize current reform recommendations with the best traditions of social studies teacher preparation.

The revised standards are compatible with either four-year or extended teacher education programs, including those in which initial licensure is earned through graduate study. In revising the standards, the Council has identified several principles of high quality social studies teacher education programs. Colleges and universities that wish to have high quality programs should

- have high standards for admission and continuation in teacher education programs;
- offer programs of study that include a substantial and challenging foundation in general education;
- provide depth and breadth of preparation in the disciplines that make up the field of social studies (history, geography, economics, political science, sociology, anthropology, and psychology);
- provide for collaboration between education and arts and sciences faculties in program planning and delivery;
- provide a program of research-based professional studies closely integrated with a sequence of systematically planned and well-supervised field experiences;
- create partnerships with schools in providing programs and establishing appropriate mechanisms of accountability for their graduates' teaching performance; and
- aggressively recruit and support students representative of diverse populations.

The revised standards fulfill a major responsibility of National Council for the Social Studies to promote excellence in the preparation of beginning social studies teachers—that is, for initial teacher licensure. It is essential, however, that this task be viewed only as an important first step. With increased attention being given to upgrading the requirements

for initial licensure and improving professional opportunities within the teaching profession, the development of a social studies teacher has become a career-long process. The Council has also adopted advanced standards for the development of career professionals.

Purposes of the Standards

The revised standards are designed as a guide for professional planning, practice, and program evaluation. They identify critical attributes that should characterize social studies teachers at all levels and the programs that prepare them to teach. These standards should be a guide to (1) state education agencies in revising standards for licensing social studies teachers, (2) college and university teacher education faculty in establishing admission and retention standards and procedures, and in planning, developing, and refining programs of study, and (3) the National Council for the Accreditation of Teacher Education and other agencies in evaluating and accrediting teacher preparation programs.

The standards apply to programs designed to prepare (1) secondary social studies teachers, (2) secondary teachers specializing in history, economics, geography, or political science, (3) middle school teachers, (4) elementary teachers, and (5) early childhood teachers. The standards identify selection and continuation criteria and processes, program requirements, and institutional considerations.

I. Selection and Continuation

Institutions that recommend licensing of social studies teachers should establish, publish, and maintain a clearly defined process for selective admission to and continuation in teacher education programs. Specifically, institutions should (1) establish generally understood criteria for admission to the college or division of education, the teacher education program, the social studies teacher preparation program, student teaching, and other checkpoints as appropriate to the institution, (2) involve social studies education and teacher education faculty in the selection and continuation process, (3) maintain or increase the rigor of criteria as students progress through the program, and (4) be prepared to demonstrate that mean candidate performance on measures of institutional criteria is above the institutional average.

Institutions may place varying degrees of importance on criteria for admission and continuation, but the institution should state clearly and communicate to students and potential

employers the weighting of criteria.

Although each institution should determine specific criteria for selecting and continuing teacher education candidates, every program should include the following types of criteria: (1) measures of academic ability; (2) breadth, depth, and quality of preparation in liberal arts and sciences, social studies or a social studies discipline, and professional education; (3) effective interpersonal or human relations skills; (4) excellent communication skills (reading, writing, and speaking); (5) calculating, mapping, and graphing skills; (6) critical thinking, problem-solving skills; (7) ethical conduct; (8) classroom management skills; and (9) multicultural and community experiences.

During the first half of the 1980s, most states and many teacher preparation institutions adopted written tests and set cutoff scores to measure specific knowledge or skills, either as a basis for admission to programs or for licensure upon completion of the program. Where a test score is used as a criterion, the test should demonstrably be a highly reliable and valid indicator of what is measured. Test scores should always be used in conjunction with other measures—never as the only measure.

In the design and implementation of teacher education programs, the selection and continuation process should include effective safeguards against bias related to age, culture, ethnicity, gender, race, social-economic status, and handicapping conditions. Furthermore, institutions should be able to document the special initiatives they use to attract representatives of diverse populations into teacher education.

II. Program Requirements

Programs that lead to licensure to teach social studies or a social studies discipline should provide intellectually stimulating and academically well-balanced experiences for prospective teachers. The programs should include the following: (1) general studies; (2) social studies; and (3) professional education. The elements described below under these three components need not be organized as specific courses, but should be incorporated into the total program.

A. General Education

Candidates for teacher licensure should have had quality instruction that includes current and research-based knowledge and analytical skills in all of the following: (1) humanities (for example, fine arts, foreign languages, and literature); (2) social sciences with specific and separate attention to behavioral sciences (anthropology, psychology, and sociology); (3) oral and written communications; (4) natural sciences; (5) mathematics and computer sciences; and (6) global, multicultural, and gender perspectives. Candidates recommended to become social studies teachers at any level should have completed a minimum of one-third of their total four-year or extended-preparation program in general studies.

B. Social Studies

Candidates for initial licensure as social studies teachers or single-discipline history, economics, political science, or geography teachers should have gained substantial understanding of the information, concepts, theories, analytical approaches, and differing value perspectives, including global and multicultural perspectives, important to teaching social studies. Problem solving, critical thinking, and application skills should be stressed. Courses included in programs of

study as part of the social studies component and those social studies courses taken as part of the general studies component should be planned as a logical whole. The proportion of the course work in the social studies component called for in these standards includes work taken as part of general studies.

Programs of study for licensure of comprehensive social studies teachers (grades 7–12) should include the study of each of the following: U.S. history, world history (including Western and non-Western civilization), political science (including U.S. government), economics, world geography (cultural, physical, and economic, with emphasis upon interrelationships), and the behavioral sciences (anthropology, psychology, and sociology). In partial fulfillment of this standard, interdisciplinary social studies courses may be used. To assure substantial study beyond introductory survey courses, all programs should require an area of concentration in one of the social studies of not less than eighteen semester hours. Course work in social studies should encompass not less than 40 percent of the total four-year or extended-preparation program.

Institutions that allow, encourage, or require preparation for licensure by discipline (history, geography, political science, or economics) should require a program of study in that discipline that is not less demanding than what is required of a B.A. or B.S. degree major in that discipline at that institution, but in no instance should this component encompass less than 30 percent of a four-year or extended-preparation program. All other standards apply to single-discipline licensure in history, geography, political science, and economics, except those described in the previous paragraph. All single-discipline preparation must include study in U.S. history and government, geography, economics, and non-Western civilization.

Programs of study leading to licensure of social studies teachers in middle schools or departmentalized elementary schools should include, but not be limited to, the study of U.S. history and government, geography (cultural, physical, and economic, with emphasis upon interrelationships), world history, and economics. Interdisciplinary social studies courses may be used to meet this standard. Course work in social studies should constitute not less than 30 percent of a four-year or extended-preparation program.

Programs leading to licensure as self-contained classroom teachers at the elementary level should include, but not be limited to, the study of U.S. history and government, world geography (cultural, economic, and physical, with emphasis upon interrelationships), world history, and economics. This course work should constitute not less than 15 percent of a four-year or extended-preparation program.

Those preparing for licensure as early childhood teachers should also have completed course work in social studies amounting to at least 15 percent of their four-year or extended-preparation program of study. Programs of study for early childhood teachers should include the study of U.S. and world history, physical and cultural geography, and other social and behavioral sciences. Interdisciplinary social studies courses may be used to meet this standard.

C. Professional Education

Candidates for initial licensure as social studies teachers at all levels should have quality instruction in each of the following areas of professional study: (1) social and philosophical foundations of education including the purposes and nature of schools; (2) human growth and development and the psychol-

ogy of learning; (3) students with exceptionalities; (4) multicultural perspectives; (5) use of technology in instruction; (6) general teaching strategies including planning and evaluation; (7) the teaching of communication skills in the content area including reading, writing, and speaking; and (8) social studies methodology at the level for which licensure is sought.

Courses in social studies methods are required at all levels of licensure and should prepare prospective teachers to select, integrate, and translate knowledge and methodology from social studies disciplines in ways appropriate to students at the school level they will teach, and give attention to the goals unique to the social studies and to those shared with other parts of the school curriculum. Students should also be able to teach social studies using a variety of instructional approaches and in various types of settings. Over the course of the program, clinical experiences should provide opportunities for observing various aspects of school settings that include a range of instructional and administrative elements. They should also provide opportunities for contact with students of varying cultural, socioeconomic, racial, and ethnic backgrounds, and those with special learning needs and learning styles. All teacher candidates should have early systematic clinical experiences prior to student teaching. A full-time student teaching experience should be scheduled for a minimum of fifteen weeks in the subject(s) and grade level(s) for which the candidate is seeking licensure.

A licensed cooperating teacher in a state or regionally accredited elementary or secondary school should directly supervise the student teaching experience. University or college personnel with successful experience and advanced training in the teaching of social studies or teaching of a social studies discipline should closely supervise the student teaching experience. Supervisors of early childhood and elementary student teachers should have successful experience and advanced preparation at the level they supervise.

Candidates recommended for initial licensure as early childhood teachers or elementary classroom teachers and those individuals whose specialization is social studies in departmentalized elementary schools and middle schools should have successfully completed a minimum of 30 percent of a four-year or extended-preparation program in the professional areas listed above.

Those recommended for initial licensure as secondary social studies teachers or teachers of a single social studies discipline should have completed at least 20 percent of a four-year or extended-preparation program in the previously listed professional areas, including student teaching. Realizing that completing a college teacher preparation program is only a first step in becoming a teacher, NCSS anticipates that all first-year teachers will have access to a one- or two-year program of induction that includes assistance of a mentor teacher and a college specialist in social studies education.

III. Institutional Considerations

This section includes standards relating to the following: (1) recommendations for licensure; (2) qualifications of the

faculty; and (3) locus of control.

A. Recommendations for Licensure

A candidate seeking licensure in social studies or a single discipline within the social studies should be recommended for licensure only after the faculty of that institution are satisfied that the candidate has met all criteria established by the institution and is fully prepared to be inducted into the teaching profession. Each institution should have a mechanism that systematically assures that faculty review and approve the candidate. Institutions should also maintain a due process procedure for students who are denied licensure.

B. Faculty Qualifications

The faculty of all components of a teacher preparation program should be recognized for excellence in their fields of specialization and as teachers. Staff responsible for the teacher education program should have successful elementary or secondary teaching experience in public or private schools as well as continuing and close relationships with elementary and secondary schools. All faculty should be teaching and involved in scholarly and professional activities in their specialties, and those who are full-time, tenure track faculty should hold a doctoral degree with an emphasis or major in social studies education or an academic discipline within the social studies field. The faculty should also meet or exceed the standards of all appropriate accrediting agencies and associations.

C. Locus of Control of Teacher Education

Responsibility for managing teacher education programs should rest with the dean of a college of education, the director of a school of education, or the chair of a department of education. Regardless of that individual's position, it is critical that he or she establish and maintain close collaboration with the dean and faculty of other colleges and departments (for example, Arts and Sciences) to strengthen teacher education programs.

Whoever is responsible for recommending teacher candidates for licensure should oversee admissions and continuation criteria and processes, program design, course requirements, course approval, faculty selection and assignment, and program evaluation. The faculty should, in turn, be responsible for developing, maintaining, and delivering quality programs.

Task Force for Revision of the Teacher Education Standards

Wayne Dumas, Chair, University of Missouri-Columbia, Columbia, Missouri
Joseph D. Baca, Department of Education, Santa Fe, New Mexico
Linda Biemer, SUNY-Binghamton, Binghamton, New York
Charles B. Myers, Peabody College, Vanderbilt University, Nashville, Tennessee
Michael Fuller, Miami University, Oxford, Ohio
Tom Weible, University of Maryland-College Park, College Park, Maryland
Angene Wilson, University of Kentucky, Lexington, Kentucky

APPENDIX D

SURVEY FOR K-12 CLASSROOM TEACHERS

CENTER FOR GEOGRAPHIC EDUCATION

*408-924-5497
FAX: 408-924-5477*

(Cover Letter - Front Page)

May 25, 1993

Dear Colleague:

As Associate Director of the Center for Geographic Education at San José State University I am doing research on the use of geography in the K-12 classroom. It is the mission of the Center to make geography understandable and useable. This research will help us do that.

Please take a few minutes to complete the survey on the following pages. When you are finished, re-fold the survey, staple or tape it closed and drop it in the mail. It is already stamped and ready to go. Please be assured that this is an anonymous survey, not a test. I realize your time is valuable and limited, and I sincerely appreciate your help.

If you have any questions, please do not hesitate to contact me at 408-924-5497.

Thanks again.

Marcia M. Holstrom

SURVEY FOR K-12 CLASSROOM TEACHERS

1. What class(es) and/or grade level are you currently teaching?

2. How many years have you been a teacher? _____
3. In what state (or country) did you graduate from high school? _____
4. What was your undergraduate major in college? _____
5. From what university did you receive your teacher preparation? _____
6. Do you subscribe to National Geographic Magazine? yes no
7. Have you traveled by car outside a major city in a country
other than the United States? yes no
If yes, where?
8. What states have you visited in this country?
9. When you read or hear the name of a place with which you are unfamiliar, do you
look it up in an atlas? (*please circle one*)

no	occasionally	often	always
----	--------------	-------	--------
10. Please circle any of the following places you have visited:

Grand Canyon	Death Valley	Mono Lake	Badlands
Trinity Alps	Crater Lake	Grand Tetons	Mt. St. Helens
11. Have you taken any college level geography classes? yes no
If yes, which one(s)? _____
12. Are you a member of the California Council on the Social Studies? yes no
13. To the best of your knowledge, are you on the mailing list of the California
Geographic Alliance? yes no
14. Have you ever attended a workshop or institute
specifically for geography? yes no

15. By checking the most appropriate column, please rate the following subject areas according to how easily you feel they can be integrated with geography.

	Very Easily	Could be done with thought	Maybe	Only with Difficulty
History	_____	_____	_____	_____
Mathematics	_____	_____	_____	_____
English/Language Arts	_____	_____	_____	_____
Foreign Language	_____	_____	_____	_____
Environmental Studies	_____	_____	_____	_____
Economics	_____	_____	_____	_____
Art and Music	_____	_____	_____	_____
Science	_____	_____	_____	_____
Multicultural Studies	_____	_____	_____	_____

16. Approximately how often do you refer to a wall map in your classroom?

17. Do you have individual atlases available to your students in the classroom? yes no
If so, about how often do you use them?

18. Do you use taped "geography" TV specials in your classroom? yes no
What was the title or subject of the last one you showed?
19. Do you require your students to identify places on a blank map, either on tests or in homework?
no occasionally regularly
20. Do you use articles from a daily newspaper as instructional materials in the classroom?
no occasionally regularly
21. Are you familiar with the "five themes" of geographic education (Location, Place, Human-Environment Interaction, Movement, and Region)? yes no
If yes, do you use them in instructional planning? no occasionally regularly
22. In your opinion, what is the most practical, everyday application of geographic knowledge? (*actual survey had large space for answer after 22 and 23*)
23. In your opinion, why should an American citizen understand geography?

(Back Page)

THANK YOU!!

MARCIA HOLSTROM
GEOGRAPHY
SAN JOSE STATE UNIVERSITY
SAN JOSE, CA 95192-0116

APPENDIX E

*THE ROLE OF GEOGRAPHY IN
PRE-SERVICE TEACHER PREPARATION:
GEOGRAPHY IN THE SOCIAL STUDIES*

**The Role of Geography in
Pre-Service Teacher Preparation:
Geography in the Social Studies**

A Position Paper
of the
**National Council
for
Geographic Education**

*A Supplement to Journal of Geography
Volume 91, No. 2 - March-April 1992
Approved by the NCGE Executive Board
St. Paul, Minnesota, October, 1991*

**THE ROLE OF GEOGRAPHY IN
PRE-SERVICE TEACHER
PREPARATION:
GEOGRAPHY IN THE SOCIAL
STUDIES¹**

**A Position Paper
of the
National Council for Geographic
Education**

(May be reproduced without permission.)

ABSTRACT

The National Council for Geographic Education has prepared this document to assist educators who wish to strengthen the geography component of pre-service teacher preparation. It includes NCGE standards for the role of geography in pre-service preparation. Its recommendations address geography as a pre-service preparation component for (1) all teachers, (2) social studies teachers, (3) teachers with a discipline-specific license within the social studies (i.e. history, geography, economics), (4) elementary and early childhood teachers in self-contained classrooms, and (5) the geography component of social studies methods courses.

**MINIMUM STANDARDS FOR TEACHER
PREPARATION IN GEOGRAPHY**

The National Council for Geographic Education standards for minimum levels of preparation in geography are based on existing geography curriculum content in the social studies. The standards fall into four categories: 1) geography as a general education requirement for all teachers; 2) geography for social studies teachers, including those with a discipline-specific license (i.e. geography, history, economics); 3) geography for elementary and early childhood teachers in self-contained classrooms; and 4) geography within social studies methods courses.

1. Geography in General Education

All teachers should possess the skills and concepts that enable them to see the earth and its peoples as interrelated and interdependent.

**a. Mapping and Graphing as Basic
Communication Skills**

Proficiency in mapping and graphing should be included among those basic communication skills (others: reading, writing, speaking, calculating) that are required of all who would be teachers of any subject, at any level. Skills in mapping and graphing are life skills, used far beyond the confines of a social studies or geography class. For geography, mapping is also an essential content vehicle: only on maps can the spatial distribution of phenomena be accurately portrayed.

b. Physical Geography or Earth Science

All students who teach should have as a part of their general education a course that deals with the processes, distribution patterns, and implications for humans of such phenomena as earth/sun relationships, plate tectonics, landforms and drainage patterns, oceans, weather and climate, natural vegetation, and soils. Such a course should identify the geographical dimensions of ecosystems, serve as a foundation for environmental studies, and provide teachers with essential basic knowledge of the earth's physical characteristics.

**c. Human/Environment Relationships: An
Introductory Human Geography Course**

This basic introductory course will stress the importance of human/environment relationships to a global society. A variety of titles and approaches could satisfy this requirement, but the course will have a physical as well as a human dimension. It will focus on the world distribution of natural and human phenomena as they interrelate and give character to places. Within this introductory course, students should be taught to make field observations and record, map, and analyze data that show the varied and complex relationships between humans and their environment. Like all other geography courses, it will develop and employ mapping and graphing skills and address contemporary environmental, global/cross-cultural, and gender issues.

2. Geography in the Preparation of Social Studies Teachers

All who would teach social studies, at any level, should have as firm a foundation in geography as in history, for history and geography are widely acknowledged as the two supporting pillars of the social studies. Understanding the distinct core and methodology of geography requires a separate rather than an interdisciplinary approach, although the relationships between geography, history, and the other social studies are properly a concern of required social studies methods courses. Specific recommendations for geography differ, depending on the type of license sought.

a. For A Comprehensive 7-12 Social Studies License:

Persons with a comprehensive license in the social studies will most probably teach those subjects with significant state mandates: United States and world history, global studies, economics, and government. It is imperative that teachers of these subjects understand geography. The following program of preparation in geography is recommended:

General Studies in Geography

- *Physical Geography or Earth Science*
- *Human/Environment Relationships: An Introductory Human Geography Course*

Specialized Studies in Geography

- *World Regional Geography*
- *One other regional or topical geography course*

b. For Licensure By Discipline

The NCGE strongly endorses the NCSS position that states:

"Institutions that allow, encourage, or require preparation for licensure by discipline (for example, history, geography, economics) should require a program of studies in that discipline that is no less demanding than what is required of a B.A. or B.S. degree major in that discipline at that institution."

The NCGE recommends that discipline-specific standards be developed by each teacher-training institution. The following is suggested for Geography:

1) Standards for Licensure in Geography:

A major in geography leading to licensure should include a balanced program of studies in physical and human geography, topical and regional courses, mapping and other geographic techniques, and geographic thought. We strongly suggest that the geography major who will teach in middle or secondary schools have significant course work beyond the introductory or survey courses in history and other social sciences.

2) Geography Components of Other Discipline-Specific Licensure

For licensure in history and other social science disciplines, teacher candidates should have a strong background in geography, and preferably a minor concentration. The following minimal preparation standards in geography are recommended:

a) History*General Studies in Geography*

- *Physical Geography or Earth Science*
- *Human/Environment Relationships: An Introductory Human Geography Course*
- *One other regional or topical geography course*

Specialized Studies in Geography

- *World Regional Geography*
- *Geography of North America*
- *One other regional or topical geography course*

b) Other Social Sciences (anthropology, economics, political science, psychology, sociology)*General Studies in Geography*

- *Physical Geography or Earth Science*
- *Human/Environment Relationships: An Introductory Human Geography Course*

Specialized Studies in Geography

- *World Regional Geography*
- *One or more additional geography courses appropriate to the discipline (i.e., economic geography, urban geography, population geography, political geography)*

2. Geography in the Preparation of Social Studies Teachers, Continued

c. For Middle School or Departmentalized Elementary School Licensure:

Because of the primary importance of both geography and history in the social studies curriculum of grades 5-8 (or 9, in a junior high school setting), preparation of social studies teachers for pupils in this age group should be strong in both United States studies and global studies, with emphasis on history and geography. A middle school licensure in the social studies should include no less preparation than that required for a secondary license. Preparation in geography should include the following as a minimum:

General Studies in Geography

- *Physical Geography or Earth Science*
- *Human/Environment Relationships: An Introductory Human Geography Course*

Specialized Studies in Geography

- *World Regional Geography*
- *Geography of North America*
- *One other regional or topical geography course*

3. Geography for Teachers of Young Children, in Self-Contained Classrooms

In the early elementary and pre-school years, geography has a special function. Where the early elementary curriculum is based on the expanding-environments concept, children proceed outward from an examination of their immediate environment, their home and school, to awareness of the wider world of which they are a part. Geography is at the core of this concept. In the California curriculum and that of other states where needed knowledge of the wider world is integrated with children's knowledge of their immediate environment, geography is again central to understanding. Teachers in self-contained classrooms, where disciplines can be most readily integrated, have an opportunity to relate geography to all learning.

a. For Elementary Licensure, Self-contained Classroom

The early elementary years are a critical time in the development of spatial awareness in the young. Childrens life-long enthusiasms for maps and globes, for understanding the land around them, and for curiosity about other places and other peoples can

be traced to their introduction to geography in the primary grades. Teachers need not be experts in geography, but they need to be comfortable with its basic concepts, so that they can integrate geography into social studies, science, language arts, music, and all other areas of the elementary curriculum. The following minimum preparation in geography is recommended:

General Studies in Geography

- *Physical Geography or Earth Science*
- *Human/Environment Relationships: An Introductory Human Geography Course*

Specialized Studies in Geography

- *World Regional Geography*
- *State and Local History and Geography (an interdisciplinary course or two separate courses)*

b. For Kindergarten And Early Childhood Licensure

Teachers of very young children have a special opportunity to introduce geographic skills and understandings at an early age. This can happen only if the teacher has systematic academic preparation in, and is comfortable with, basic understandings in geography. Minimum preparation should include the following:

General Studies in Geography

- *Physical Geography or Earth Science*
- *Human/Environment Relationships: An Introductory Human Geography Course*

4. Geography in Instructional Methods Courses

Instructional methods courses are essential, but they should not be substitutes for discipline-specific courses in fulfilling requirements for licensure. In some cases a specific instructional methods course in geography is offered, and the entire course content is devoted to classroom methods for teaching geography. More common, however, are courses offering instructional methods in social studies. A course in social studies methods should demonstrate how the geographic viewpoint expresses itself in history and the other social sciences. It should prepare teachers to integrate geography in ways appropriate to the grade levels and subjects they will teach. For all levels it should emphasize the application of geographic skills and techniques — including maps, globes, charts, graphs, and recorded field observations and analysis — in the social studies classroom.

RATIONALE FOR RECOMMENDATIONS

THE GEOGRAPHY GAP IN TEACHER PREPARATION

Students now enrolled in teacher preparation programs are not receiving adequate instruction to carry out the increased emphasis on geography in the nation's schools. A recent assessment by the Council of Chief State School Officers found that only five of the states require geography for certification of elementary teachers K-5, and only two-thirds require that persons intending to teach social studies have even a single course in geography. Although geography is widely taught as part of history courses, only six of the states presently require geography for certification in the teaching of history.² Further, a recent survey in one state of 30 institutions with teacher preparation programs found that 51 percent of the state's candidates for elementary certification, and 88 percent of those seeking social studies licensure, graduate from programs where geography is not required.³

Certification requirements change slowly, as indicated in the following passage from *Geography and the States: A Report on the 1988 Survey of Commissioners and Superintendents of Education*:

"The system is intentionally conservative, and meant to keep certification requirements from changing as a result of public caprice. Rather, changes come to the list of requirements only when it can be proven they will improve the calibre of classroom instruction, or meet an acknowledged need in the system. Anyone who seeks to change certification requirements must be prepared to marshal a conclusive argument substantiated by overwhelming documentation."⁴

Conclusive arguments notwithstanding, the NCGE is pessimistic that the geography gap in teacher education will be plugged by rapid or timely changes in certification requirements at the state level. Pragmatically, we must assume that at least for the short term, teacher candidates who emerge well-prepared in geography will reflect not state certification standards but the graduation requirements set by individual preparation programs and the guidance of educators aware of the growing role of geography in the nation's schools.

GEOGRAPHY IN THE SCHOOLS: AN INCREASING PRESENCE

We can expect that the place of geography within the curriculum will be increasingly strong as the present decade progresses. A poll of leading state school officers indicates that almost all expect to see an increased emphasis on geography in their states.⁵

Momentum for geography in education has been building ever since the 1984 joint publication by the National Council for Geographic Education and the Association of American Geographers of *Guidelines for Geographic Education*, which introduced the now widely-accepted Five Themes as a framework for teaching and learning geography.⁶ Subsequently, the founding of the Geography Education National Implementation Project (GENIP), and the publication by GENIP of specific suggestions for implementing the Five Themes in K-6 and 7-12 classrooms, fostered widespread dissemination of the Five Themes among educators.⁷ Assessments such as the 1988 Gallup Poll (which compared the geographic knowledge of Americans with that of citizens of eight other countries) have called attention to glaring deficiencies in Americans' knowledge of geography, particularly among young adults.⁸

The National Geographic Society (NGS) has given impetus to geography in the schools through the nation-wide Geography Alliance Program (offering in-service and summer institute opportunities to teachers); the local, state, and national Geography Bee contests for students in grades 4-8; and the sponsorship of an annual Geography Awareness Week, with nationwide dissemination of teaching materials. In addition, a number of corporations have sponsored education programs and competitions that have increased the visibility of geography.

Competency in geography is one of the goals of AMERICA 2000, the joint federal-state program referred to at the beginning of this document:

"Working closely with the governors, we will define new World Class Standards for schools, teachers, and students in the five core subjects: math and science, English, history and geography..."
President George Bush.⁹

A national consensus is evolving on grade-by-grade geography content objectives, and in 1994 the National Assessment for Educational Progress will assess, for the first time, students' knowledge of geography in grades four, eight, and twelve. Results of the 1994 geography assessment, based on national content consensus, are expected to provide a baseline for periodic voluntary national assessment in these grades.¹⁰

Secretary of Education Lamar Alexander recently echoed the preface from the Guidelines for Geographic Education when he indicated the imperatives for strengthening the training of teachers in geography:

"If we are going to compete in a global marketplace, a geographically literate work force is more crucial than ever before. Geography's focus on the physical, cultural, and economic characteristics of other peoples and places offers insights into the international arena. We simply need to know far more about other peoples and places than we now know."

Secretary Alexander went on to address professional geographers:

"College or university geographers can initiate new working relationships with colleagues who are preparing our future teachers, to help strengthen the content and relevance of the geography being offered in education courses."¹¹

GEOGRAPHY IN THE SOCIAL STUDIES CURRICULUM

Geography is found throughout the social studies curriculum. It appears both as independent courses and as a subject integrated with other social studies. Elementary and middle school teachers treat geography within the block of time devoted to the social studies. One recent study found that in elementary and middle school social studies programs, geography occupies more time than any of the other social sciences, followed closely by history.¹² From the eighth grade through high school, geography as an integrated subject is most often taught within history courses, although it also appears in courses dealing with political science and international relations. At present, economics courses devote surprisingly little time to geography, despite the importance of geographical concepts in raw materials acquisition, industrial location, product distribution and international trade.¹³

Geography as a separate course, with content recognized as "geography" rather than "social studies," is generally offered in the middle school, junior high, or early high school years (grades 6-10), where it appears in various guises, sometimes as "Eastern Hemisphere" or "Western Hemisphere," sometimes as "World Geography," sometimes as "World Cultures," and sometimes simply as "Geography." Almost two thirds of a sample group of 3,000 high school seniors in some 300 public and private high schools reported in 1988 that they had taken a geography course sometime between grades 9 and 12. Thirty percent, the largest segment, reported taking World Geography in grade 9.¹⁴ At least ten states currently require geography for graduation from high school.¹⁵

THE CONTENT OF GEOGRAPHY

The widely-accepted Five Themes of Geography — Location, Place, Human/Environment Interaction, Movement, and Region — outline a logical framework for teaching and learning geography that incorporates the basic concepts of the discipline. The Five Themes now appear in most elementary and middle school social studies textbooks, and junior high and high school geography and history texts. They are widely used by curriculum writers. They have been adopted by the National Geographic Society Alliance program and form the basis for most of the country's in-service geography workshops and institutes.

The Five Themes of Geography are broadly applicable: they help students to discern spatial patterns and understand relationships within their local environment, but they also help them to view the earth as a whole, to see how distribution patterns reflect a combination of human and natural factors, to understand how these factors interact to produce a constantly changing environment, to understand how the dynamics of movement — the spread of people, goods, and ideas — subjects all places to change, and to discern the likenesses and differences that set areas apart as regions. The structure of the Five Themes is a teaching and learning tool at every level, from pre-school through college.¹⁶

The Five Themes are equally effective whether geography concepts are integrated within other social science disciplines or are taught in separate geography courses. Teacher education programs in geography in the 1990s need not center around the Five Themes, nor need they be organized using their framework. But they cannot afford to ignore the Five Themes.

Implicit and explicit in the powerful analytical approach of the Five Themes are the tools and skills — maps, globes, charts, graphs, photographs, and field observation and analysis — that are important content features of geography. Leading school officers in most states agree that skill in using the tools of geography must be introduced early and applied with increasing sophistication, systematically reinforced, year after year.¹⁷ Thus, the pre-service preparation of those who will teach geography must incorporate such essential content as maps and globes, charts, graphs and photographs, and field experience, as well as factual subject matter.

Specific content considerations for geography at each grade level vary from state to state. Three documents will assist the certification specialist in this regard:

- 1) Guidelines for Geographic Education, referred to earlier, presents a sequence of geographic concepts and suggested learning outcomes at K-2, 3-4, 5-6, and 7-12 levels¹⁸. Essential supplements to the Guidelines are K-6 Geography and 7-12 Geography.

2) Geography and the States: A Report on the 1988 Survey of Commissioners and Superintendents of Education, documents replies of 80 percent of the nation's chief state school officers to specific questions concerning the role of geography in their jurisdiction;¹⁹

3) The forthcoming (1992) report of the National Association of Educational Progress Consensus Project, undertaken by the National Council for Geographic Education, working with the Council of Chief State School Officers.²⁰

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1. Elements of geography appear in both the social studies and the science strands of the curriculum, but the present NCGE recommendations deal solely with preparation for geography as taught within the social studies. Recommendations for geography within science education are now being drawn up and will follow in a separate position paper. This position paper is an outgrowth of geography-in-certification studies initiated in 1985 by the Geographic National Implementation Project (see Dennis Speitz, "The Preparation of Geography Teachers," Chapter 5 in Strengthening Geography in the Social Studies: NCSS Bulletin No. 81, Salvatore J. Natoli, Editor, [Washington, D.C.: National Council for the Social Studies, 1988], 51-58) and subsequently carried forward by a committee of the National Council for Geographic Education. NCGE Certification Committee members included Bruce Bechtol, California State University, Chico; Dorothy Drummond, Indiana State University; Michael Libbee, Central Michigan University; Ruth Shirey, Indiana University of Pennsylvania; Dennis Speitz, University of Louisville, and Nancy Winter, Clark University.

In 1990, the NCGE submitted its recommendations for teacher certification standards in geography to the National Council for the Social Studies, as requested by the NCSS Committee for Revision of Standards for the Preparation of Social Studies Teachers. The NCSS Standards are currently in process of revision. NCSS Standards form the basis for social studies accreditation standards adopted by the National Council for Accreditation of Teacher Education (NCATE). The NCSS represents the various social science disciplines on the board of NCATE. This Position Paper indicates in full the NCGE recommendations.

2. Duncan MacDonald and Fred Czarra, Geography and the States: Report on the 1988 Survey of Commissioners and Superintendents of Education (Washington D.C.: Council of Chief State School Officers, 1988), 32.

3. D. W. Drummond, The Geography Gap in Teacher Training in Indiana. Paper read before the Indiana Academy of Social Science, October, 1986. Available as an ERIC document, 1989.

4. MacDonald and Czarra, 17.

5. Eighty-four percent of state commissioners and superintendents of education report that in the next five years geography will play a greater role in their curriculum than it has in the past, as cited by Duncan MacDonald and Fred Czarra, 31.

6. Joint Committee on Geographic Education of the National Council for Geographic Education and the Association of American Geographers, Guidelines for Geographic Education: Elementary and Secondary Schools (Washington, D.C. and Macomb, Illinois: Association of American Geographers and National Council for Geographic Education, 1984). This publication can be obtained from the National Council for Geographic Education, Indiana University of Pennsylvania, Indiana, PA 15705-1087 or the Association of American Geographers, 1710 Sixteenth Street NW, Washington, D.C. 20009. The Five Themes of Geography, and their relevance to teacher education, are discussed on page 6 of the present document.

7. The Geography Education National Implementation Project joins representatives from the four national professional geographical organizations — the National Council for Geographic Education, the Association of American Geographers, the National Geographic Society, and the American Geographical Society — in efforts to increase geography in education. GENIP has published K-6 Geography: Themes, Key Ideas, and Learning Opportunities (1987) and Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities (1989). These publications are available from the National Council for Geographic Education.

8. Gallup Organization, Geography: An International Gallup Survey (Princeton, N.J.: The Gallup Organization, 1988).

9. Remarks by the President at the Presentation of the National Education Strategy in America 2000: An Education Strategy Sourcebook (Washington D.C.: United States Department of Education), April, 1991), 1. This document sets forth intended methods for carrying out this objective: "Through the National Education Goals Panel, and working with interested parties throughout the nation, the president and the governors will develop a timetable for establishing national standards in these five subjects...[and]...a system of voluntary examinations will be developed and made available for all fourth, eighth, and twelfth grade students in the five core subjects." White House Fact Sheet, April 18, 1991, *Ibid.*, 47.

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10. Susan Munroe. "Assessing Geographic Knowledge." Update (Washington D.C. National Geographic Society Geography Education Program, Fall, 1991), 6.
 11. Lamar Alexander. "New Strides for Geography in Education." Update (Washington D.C. National Geographic Society Geography Education Program, Fall, 1991), 2.
 12. Wayne L. Herman, Jr. "Development in Scope and Sequence: A Survey of School Districts." Social Education, 53, No.5 (September, 1988): 385-388.
 13. MacDonald and Czarra. 8. In this survey, Superintendents and Commissioners of Education in the various states generally felt that geography as a separate course is best taught in either the junior high/middle school or elementary school classroom, and that geography skills should be mastered in the earlier years, then practiced in various high school social studies courses. The survey was taken before the probability of future national testing in geography, to be administered at the 12th as well as the 8th and 4th grades, became apparent.
 14. Russell Allen et al. The Geography Learning of High School Seniors (Princeton, N.J.: The National Assessment of Education Progress, Princeton, 1990), 48, 51.
 15. MacDonald and Czarra, 25.
 16. Specific suggestions for implementing the Five Themes are contained in two publications of the Geographic Education National Implementation Project (GENIP): K-6 Geography: Themes, Key Ideas and Learning Opportunities (1987) and Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities (1989). These publications are distributed by the National Council for Geographic Education.
 17. MacDonald and Czarra, 9.
 18. See Note Number 6, above.
 19. MacDonald and Czarra. Geography and the States
 20. National Council for Geographic Education and Council of Chief State School Officers, forthcoming report, 1992. This report will detail consensus on grade-by-grade geography content objectives and will emphasize the kinds of knowledge students would be expected to demonstrate in a scheduled 1994 NAEP national geography assessment in grades 4, 8, and 12.
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