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Geography education requirements in K-8 preservice teacher training at Southern Regional Education Board colleges and universities and development of a field-oriented model curriculum

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To the Graduate Council:

I am submitting herewith a dissertation written by Judith Clifton Mimbs entitled "Geography education requirements in K-8 preservice teacher training at Southern Regional Education Board colleges and universities and development of a field-oriented model curriculum." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Education.

Thomas N. Turner, Major Professor

We have read this dissertation and recommend its acceptance:

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Thomas N. Turner, Major Professor

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and recommend its acceptance:

Accepted for the Council:

Vice Provost
And Dean of Graduate Studies

GEOGRAPHY EDUCATION REQUIREMENTS IN K-8 PRESERVICE TEACHER TRAINING AT SOUTHERN REGIONAL EDUCATION BOARD COLLEGES AND UNIVERSITIES AND DEVELOPMENT OF A FIELD-ORIENTED MODEL CURRICULUM

A Dissertation

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Degree

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Judith Clifton Mimbs

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DEDICATION

This dissertation is dedicated to my daughter, Ava Isabella Clifton Mimbs. I hope I have set an example for her that through determination and diligence good things will follow, and have inspired her to achieve her goals.

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ABSTRACT

The purposes of this study were to (1) identify what geography courses and/or credit hours, if any, that colleges and universities within the Southern Regional Education Board require of their K-8 preservice teachers; (2) determine if these institutions utilize Geographic Alliances with regard to preservice teacher training, and if so how; (3) determine need for a field-oriented model curriculum for geography education; and (4) develop a field-oriented model curriculum for geographic education at the college/university level designed for preservice teachers.

Responses were received from 72 percent of the SREB institutions that were contacted. Findings reveal that no geography course was required for 32 percent of respondents and one to three hours of geography were required for 50 percent of the SREB institutions. A World Regional course was required for preservice educators at 37 percent of the SREB institutions. It was revealed that 80 percent of the SREB institutions responded that a geography course would best be taught within a Geography Department because the geography faculty was most qualified. Of the 138 SREB institutions that responded, 46 percent stated that their state Geographic Alliance was not utilized in K-8 preservice teacher training, and another 24 percent responded that they were unfamiliar with a Geographic Alliance or any Geographic Alliance activity at their institution.

There were 87 respondents (63 percent) that indicated an interest in a field-oriented geography model curriculum. To address this interest and need a model curriculum was developed that uses the six essential elements of the National Geography Standards, and a field-oriented activity. This model curriculum is included in Appendix G and is offered as six lesson plans of varying grade levels.

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CHAPTER I

INTRODUCTION

> "Geography is the study of places on Earth and their relationship with each other. Often the study of geography begins with one's home community and expands as a person gains greater experience. Thus, geography provides a conceptual link for children between home, school, and the world beyond. Geographers study how people interact with the environment and with each other from place to place and they classify Earth into regions in order to draw generalizations about the complex world in which we live. Because it deals with where and how people live, geography is rich in material that relates to international understanding, multicultural concerns, and environmental education" (National Council for Geography Education, 2001: 1).

In 1994 the American Geographical Society, the Association of American Geographers, the National Council for Geographic Education, and the National Geographic Society published their own geographic standards for educators. These standards have been fundamental in the training of inservice geography educators (Bednarz and Peterson, 1994: 31-36; Phillips, 1994). Although geography literacy has increased over the past decade or so, the need to better educate preservice geography educators has largely been ignored in the classroom and in training workshops (Petry, 1995: 487; Jumper, 1994: 81-87). In 1983 state Geographic Alliances were established by the National Geographic Society to encourage a more broadly based and much improved

program in geography (Marran, 1989: 487). Marran has claimed, "...the Alliances bring geography into the curriculum through annual inservice workshops and summer programs that involve hundreds of social studies teachers across the country." Geographic Alliances focus on inservice educators, rather than preservice teachers. Seldom is adequate attention given to the foundations of geography in preservice or inservice training. These foundations are field-observation and landscape interpretation. This lack of attention given to the geography educators of the future formed the basis of this dissertation. A college level field-oriented geography model curriculum for preservice educators has been developed to assist in alleviating this problem, but by no means is a comprehensive solution.

Background

In 1983, Professor David Helgren at the University of Miami discovered that over 50 percent of his students in geography classes, which included preservice educators, could not locate such places as Chicago, Kenya, Moscow or Iceland, and that almost 10 percent could not even locate Miami on a map. These findings made national headlines, and the lack of geographic knowledge suddenly became a hot topic of discussion among geographers.

Helgren's findings prompted others to administer similar tests, and from these it was found that the average U.S. citizen had little or no knowledge of critical places in the world. Research related to geographic knowledge resulted in the buzzwords, "geographic illiteracy" and prompted Gallup to state that:

> Americans' knowledge of world geography compares unfavorably with that of their counterparts forty years ago as well as their contemporaries in other industrialized nations. Geographic illiteracy is particularly acute among Americans 18 to 24 years old (Gallup and Gallup, 1988: A-18).

The National Geographic Society with the Gallup organization commissioned this poll from which it was found that nine out of ten people interviewed thought that knowledge of geography was "absolutely necessary" (37%) or "important" (53%). Even though these very people felt geography and knowledge of geography were important, three out of ten people surveyed could not determine direction or distance using a map.

Since the early 1980s and Helgren's study, the concern over geographic illiteracy has been voiced by educators and national leaders alike. Bill Honig, the California State Superintendent of Public Instruction in 1986, stated "Our students are more illiterate in geography than anything else" (Honig, 1986). This advocacy of reform did not stop at the state level. In his address to the United States Senate, Senator Edward Kennedy said the following in support of Geography Awareness Week:

> All of us in the Congress realize the vital importance of improving our educational system if we are to maintain our competitive position in the world economy. As part of that effort, we must ensure that young Americans have a clear understanding of what the world looks like and the way in which geography influences human well being (Kennedy, 1987: S-7780-7781).

In 1987 Senator Bill Bradley of New Jersey speaking in support of Geography Awareness Week stated the following:

> We depend on a well-informed populace to maintain the democratic ideals that have made this country great. When 95% of some of our brightest college students cannot locate Vietnam on a world map, we must sound the alarm. When 63% of the Americans participating in a nationwide survey by CBS and the Washington Post cannot name the two nations involved in the SALT talks, we are failing to educate our citizens to compete in an increasingly interdependent world. In 1980 a Presidential commission found that companies in the United States fare poorly against foreign competitors, in part because Americans are ignorant of things beyond their borders (Bradley,1987: S-7780).

The National Geographic Society (NGS) proved to be the strongest private supporter of the Geography Awareness Week bill. The president of NGS at the time, Gilbert Grosvenor, vocalized his support while stumping throughout the United States in support of the legislation. He stated, "To ignore geography is irresponsible. It is just as important to business and domestic policies as it is to military and foreign policy decisions" (Grosvenor, 1987). The National Geographic Society along with the National Council for Geographic Education, worked together to have geography included as one of the nation's five core subjects in the National Assessment of Educational Progress exams in 1994. During this same time the National Geography Standards were developed which laid the blueprint of what every student should know about geography once their K-12 education was completed.

Over the last twenty years the National Geographic Society has not only verbally supported geography education in the political arena, but also has done so financially with their sponsorship of Geographic Alliances throughout the United States. These state

Alliances have united educators, administrators, college and university instructors, and applied geographers to carry the foundations of geography to schools and educators throughout the nation. Alliances provide workshops for educators, publish newsletters, disseminate educational material, and sponsor special events such as statewide and national geography bees.

Geography educators and those committed to excellence in the teaching of geography intend for our students to be able to keep pace and fully participate as global citizens through the introduction of the standards, strong Alliance networks, and public support. However, it is often a neglected aspect of this "geography revolution" that preservice teachers, the very ones to carry the banner of geography education and reform, are some of the least prepared of our teaching corps. The need for a unified geography curriculum for preservice educators is generally lacking in their college educational tracts.

Alexander Murphy, former Vice President of the American Geographical Society, stated "... the challenges to the discipline (geography) are great. Only a small number of primary and secondary school teachers have enough training in geography to offer students an exciting introduction to the subject" (1998: 54). Often geography educators are not fully prepared to teach the subject matter. As a professor of geography, he went on to say, "Much of geography's power lies in the insights it sheds on the nature and meaning of the evolving spatial arrangements and landscapes that make up our world" (ibid). There is no uniform geography curriculum, regionally or nationally, for preservice K-8 educators.

A preservice geography curriculum for educators is needed that incorporates field experiences, field observations, and physical and cultural landscape interpretations, the very foundations of geography. An important component of the geography curriculum has always been fieldwork. Geographers use fieldwork to reinforce classroom lectures, discussions, and exercises. Fieldwork allows students an opportunity to hone geographic skills, and exposes them to the art of discovery, a key component to any scientific endeavor.

Pat Gober, a recent president of the Association of American Geographers, provides a more current view of the importance of geography fieldwork. She states in the "President's Column:"

> ...most geographers have a deep connection with place, one that has drawn us to the field, one that we communicate to students, and one that binds us together as an intellectual community. At its very heart is our interest in real places, how they look, feel, and work. Fieldwork is fundamental to the way many geographers understand the world (1997).

Carl Sauer in his definitive work, "The Education of a Geographer," discussed the role observation plays in a thorough knowledge of geography. Observation is best practiced in the field and in a non-traditional classroom setting (Sauer, 1956: 287-299 and Heffington, 1997: 73). This lack of emphasis on the foundation of geography and geography research has been a cause of alarm for they are simply tools to do geography, and not geography within themselves (Rundstrom and Kenzer, 1989). In my opinion, this

lack of field-oriented geography research carries over to the university or college level classroom, especially in those classes geared for the preservice K-8 educator.

The Goals 2000: Educate America Act, which became law in 1994 and was amended in 1996, represents a vast approach for "improving student learning through a long-term, broad-based effort to promote coherent and coordinated improvements in the system of education throughout the nation at the State and local levels" (Goals 2000: Educate America Act, Title III, Sec. 302). The inclusion of geography in the core subjects of the 1994 Goals 2000 Educate America Act has elevated the importance of geographic education in grades K-8. "There is now a widespread acceptance among the people of the United States that being literate in geography is essential if students are to leave school equipped to earn a decent living, enjoy the richness of life, and participate responsibly in local, national, and international affairs" (Geography for Life: National Geography Standards, 1994). In 1994 the American Geographical Society, the Association of American Geographers, the National Council for Geographic Education, and the National Geographic Society developed standards that address what every young American should know and be able to do in geography. This publication of the National Geography Standards in 1994 signaled the importance of a new era of geography.

In an article written for The Chronicle of Higher Education in 1998, Murphy stated the concern about the geography education of teachers, and captured the essence of the problem that is the central focus of this current research study:

> As Americans struggle to understand their place in a world characterized by instant global communications, shifting geo-political relationships, and growing evidence of environmental change, it is not surprising that the venerable discipline

> of geography is experiencing a renaissance in the United States. More elementary and secondary schools now require courses in geography, and the College Board is adding the subject to its Advanced Placement program. In higher education, students are enrolled in geography courses in unprecedented numbers. Between 1985-86 and 1994-95, the number of bachelor's degrees awarded in geography increased from 3,056 to 4,295. Not coincidentally, more businesses are looking for employees with expertise in geographical analysis, to help them analyze possible new markets or environmental issue (Murphy, 1998: 54).

Since the mid 1980s efforts to enhance the level of preparedness of geography educators has been undertaken by The National Geographic Society through its Geography Education Program and its nationwide Geographic Alliance network. This effort was intensified in the 1990s with the publication of Geography for Life: The National Geography Standards. This study examined what, if any, role the Geographic Alliance network plays in K-8 preservice teacher education.

It is imperative that a geography course must be carefully designed to provide the maximum geographic background, especially where only one course is required for teacher certification at the K-8 level. A field-oriented model curriculum for preservice educators is developed in this study. This model curriculum is a possible solution to better prepare preservice educators to teach geography in the K-8 classroom. The subject matter of this geography curriculum is divided into six essential elements: The World in Spatial Terms, Places and Regions, Physical Systems, Human Systems, Environment and Society, and The Uses of Geography. By incorporating field-oriented activities based on these six essential elements, preservice educators will have a better understanding of their

role in the local, regional, and global theater, and can empower their students in K-8 classrooms with a better knowledge of the world around them.

Statement of the Problem

Many teachers who are expected to teach geography are not receiving sufficient training in geographic content. To date there is no standardized geography content for the preservice education. In short, teachers cannot teach what they have not been taught. This researcher found no study that assessed geography requirements for preservice teachers, specifically no study was found relating to institutions in the southeast. Furthermore, no studies were found which addressed the nature of the content for such preparation for preservice teachers.

The principle concern of this study had to do with the extent and nature of preservice teachers in the southeast in the area of geography education, and the desire to develop a field-oriented model curriculum that addressed the National Geography Standards.

The general public, the business community, and the federal, state, and local governments have become aware of the significance of human and environment interaction in our ever-increasing role as citizens within this global society. The discipline of geography, which combines earth sciences with behavioral and social sciences, provides a unique challenge to teacher preparation. Colleges and universities that prepare teachers for a demanding and diverse career have the responsibility to educate competent, confident, and effective geography teachers for today and the future.

It was important to determine what geography is required for preservice K-8 educators within the Southern Regional Education Board, and if Geographic Alliances meet the needs of these future teachers. Most importantly, it is imperative that no matter what geography courses are required, preservice education students should be subjected to even a minimal amount of fieldwork experience to garner its importance to a geographic understanding of the world in which we live.

Purpose of the Study and Research Questions

This purposes of this study were to: (1) identify what geography courses and/or credit hours, if any, that colleges and universities within the Southern Regional Education Board require of their K-8 preservice teachers; (2) determine if these institutions utilize Geographic Alliances with regard to preservice teacher training, and if so how; (3) determine need for a field-oriented model curriculum for geography education; and (4) develop a field-oriented model curriculum for geographic education at the college/university level designed for preservice teachers.

Research questions investigated in this study were:

1. Of the Southern Regional Education Board colleges and universities surveyed, how many require geography courses or credit hours for K-8 teacher certification?
2. Of those Southern Regional Education Board colleges and universities surveyed requiring geography courses or credit hours for K-8 teacher certification, how many and what courses or credit hours are required?

3. Of those Southern Regional Education Board colleges and universities surveyed, what role, if any, does the Geographic Alliance play in geographic education for preservice educators?
4. Of those Southern Regional Education Board colleges and universities surveyed, is there a stated need for a field-oriented model geography curriculum for preservice educators?

Significance of the Study

The 1960s began a period of educational reform in this country. There was heavy federal funding, and the involvement of college and university academics with social science educators at the K-12 level resulted in curriculum development. To improve geographic education, professional geography, by way of the Association of American Geographers, sponsored the High School Geography Project (HSGP). The HSGP brought together K-12 educators and college/university education professors "to prepare an improved course in high school geography" (White, 1970). The HSGP course, "Geography in an Urban Age" was not widely adopted or accepted. The lack of teacher preparedness was largely blamed for this limited success.

Rutter's national survey of high school social studies educators found that of the average number of courses taken in the subject area they most frequently taught, geography had the lowest mean of 10 areas reported (Rutter, 1986). A follow-up survey of geography educators found that only six percent of them felt (most) qualified to teach geography, whereas over 60 percent felt qualified to teach world or American history

(Farmer, 1984). Lastly, a survey conducted in the late 1980s concluded that educators "strongly" support expanding geography's presence in the curriculum, but they were insufficiently prepared in the subject matter (Cirrincione and Farrell, 1988).

In addition to the lack of formal training in geography, many of these educators who teach geography may feel ill prepared simply because they have never "done" geography, specifically geographic fieldwork. Seldom at the undergraduate level is fieldwork incorporated into geography courses. In fact, in preservice teacher education, it is even more rare for fieldwork to be incorporated into the curriculum. For example, World Regional Geography courses often become memorization of countries, capital, and cultural and physical geographic features. Glynn states simply, "geography fieldwork is going out of the classroom and finding out facts for yourself" (1988:3).

Information about the physical and cultural characteristics of places is the foundation of geographic information. To answer geographic questions, the geographer must gather information from a variety of primary and secondary sources. Fieldwork is the most basic form of primary data. The Standards stated:

> Primary sources of information, especially the result of fieldwork performed by the students, are important in geographic inquiry. Fieldwork involves students conducting research in the community by distributing questionnaires, taking photographs, recording observations, interviewing citizens, and collecting samples. Fieldwork helps arouse the students' curiosity and makes the study of geography more enjoyable and relevant. It fosters active learning by enabling students to observe, ask questions, identify

problems, and hone their perceptions of physical features and human activities. Fieldwork connects students' school activities with the world in which they live (Geography for Life: The National Geography Standards).

It could be argued that little has changed in the past decade in terms of teacher preparedness concerning geography, geography education, and geography curriculum. This may be attributed to the failure of preservice education that largely ignores geography and its contribution and significance to well-educated and fully trained classroom teachers. This research effort focused on what geography courses K-8 preservice educators must take at four-year institutions within the region of the Southern Regional Education Board, and the role geographic education facilitators, specifically the Geographic Alliances, play within that region in the training of teachers and future geography educators. This is important to determine what kind of, if any, geography is required which will aid in determining field-oriented geography exercises for a field-oriented model curriculum. If Geographic Alliances are not involved in preservice education, might this be the more logical place to instill the love of geography and to hone geographic skills, rather than making it a part of the post-education process. If preservice educators were made aware of the relevance of geography in daily life through field experiences, it is possible that they may more readily incorporate them into their K-8 classrooms.

Assumptions

This study is based on the following assumptions:

- State Geographic Alliances could be involved in preservice geography education;
- The people responding to this survey were sufficiently knowledgeable to give accurate responses;
- The people responding to this survey would respond completely and honestly; and
- The survey contained appropriate questions to solicit sufficient information.

Limitations and Delimitations

The results of this study may have been influenced in part by the following limitations and delimitations:

- The study was limited by the fact that the responding individuals were either Deans or Directors of each college or university or their designees, and therefore of varying levels of knowledge relating to geography;
- The study was limited by the degree of willingness on the part of universities and colleges selected within the SREB to participate;
- The study was delimited to colleges and universities within the states that are members of the Southern Regional Education Board (SREB);
- The study was delimited to four-year education degree granting colleges and universities within the SREB; and
- The study was delimited to responses that could be obtained using a mailed survey instrument.

Definition of Terms

The following definitions aid in a better understanding of this research, and provide a working knowledge of terms used in geography education. Information for these definitions is gathered from referenced sources.

Absolute location is determined by the intersection of lines such as latitude and longitude, providing an exact point (Hardwick and Holtgrieve, 1996: 343).

Alliance See Geographic Alliance.

Cartography is the art of map making (Hardwick and Holtgrieve, 1996: 19).

Cultural diffusion is the engine of change as crops, languages, cultural patterns, and ideas are diffused from one place to another, often in the course of human migration (Jordan and Rowntree, 1986: 13-16).

Cultural Geography is the study of the ways in which humankind has adopted, adapted to, and modified the face of the earth with particular attention given to cultural patterns and their associated landscapes (Small and Witherick, 1986: 51).

Cultural landscape refers to the landscape modified by human transformation, reflecting the cultural patterns of the resident cultural at that time (Hardwick and Holtgrieve, 1996: 344).

Culture is the values, beliefs, aspirations, modes of behavior, social institutions, knowledge and skills that are transmitted and learned within a group of people (Hardwick and Holtgrieve, 1996: 344).

Economic Geography deals with the distribution of economic activities and

with the factors and processes affecting their spatial occurrence (Small and Witherick, 1986: 68).

Fieldwork is going out of the classroom and finding out facts for yourself (Glynn, 1988).

Five fundamental themes of geography are location, place, movement and regions. The geographic themes lend themselves to the study of almost any place. Taken together they utilize the advantages of both the topical and regional approaches to geographic thinking, while minimizing their limitations (Hardwick and Holtgrieve, 1996: 24). The themes were developed by the Joint Committee on Geographic Education within the Association of American Geographers and the National Council for Geographic Education. The fundamental themes were first introduced in the Guidelines for Geographic Education for Elementary and Secondary Schools. They are important because they are the core ideas and pedagogy of the discipline of geography translated into a language understandable to a broader public (Natoli, 1994).

1. **Location** refers to a position on earth's surface. Absolute and relative location are two ways of describing the positions of people and places on Earth's surface.

2. **Place** refers to physical and human characteristics. All places on Earth have distinctive tangible and intangible characteristics that give them meaning and character and distinguish them from other places. Geographers generally describe places by their physical or human characteristics.

3. **Human-Environment Interactions** refers to relationships within places. All places on Earth have advantages and disadvantages for human settlement. For

example, high population densities have developed on flood plains, where people could take advantage of fertile soils, water, resources, and opportunities for river transportation. By comparison, population densities are usually low in deserts. Yet flood plains are periodically subjected to severe damage, and some desert areas, such as Israel, have been modified to support large population concentrations.

4. Movement refers to mobility of people, goods, and ideas. Humans interacting on the face of the Earth, such as migration and cultural diffusion.

5. Regions refers to how they form and change. Regions are areas on the surface of the Earth that are defined by certain unifying characteristics.

Geographic literacy is the basic operating knowledge of geographic concepts and place location (Hardwick and Holtgrieve, 1996: 345).

Geographic Alliances refer to the teacher-led organizations committed to restoring geography to the school curriculum. Working with the National Geographic Society's Geography Education Program, the Alliances conduct professional development institutes and workshops, develop resource materials keyed to local curriculum, coordinate public awareness activities, and provide focus for individuals and institutions interested in restoring geography to the classroom. Each Alliance receives up to $50,000 a year from the National Geographic Foundation, and is required to secure matching funds from local public and private sources (Hardwick and Holtgrieve, 1996: 3).

Geographic Information Systems (GIS) refers to computer assisted geographic analysis and graphic representation of spatial data (Hardwick and Holtgrieve, 1996: 345).

Geography refers to the study of the spatial order and association of things. Also defined as the study of places, the study of relationships between people and environment, and the study of spatial organization (Small and Witherick, 1986: 89).

Goals 2000 promotes education reform in every State. The Goals 2000: Educate America Act became law in 1994 and supports State efforts to develop clear and rigorous standards for what every child should know and be able to do, and supports comprehensive State and district-wide planning and implementation of school improvement efforts focused on improving student achievement to those standards. (Goals 2000: Educate America Act, Title III, Sec. 302).

Historical Geography is concerned with the historical patterns of human settlement, migration, town building, and the human use of the earth. Blends geography and history as a perspective on human activity (Smith and Witherick, 1986: 102).

Map projection is a way to minimize distortion in one or more properties of a map, such as direction, distance, shape or area (Getis, Getis and Fellmann, 1988: G-9).

Map scale refers to the actual distance on the Earth that is represented by a given linear unit on a map (Getis, Getis and Fellmann, 1988: G-9).

Mental maps are located in an individual's mind, and are a series of locations, access routes, and physical and cultural characteristics of places and a sense of good or bad locales (Getis, Getis and Fellmann, 1988: G-9).

National Geography Standards The National Assessment of Education Progress, or NAEP Geography Consensus Project (1993), and Goals 2000 Educate America Act (1994) served as the bases for a national consensus for world-class standards in geography. Educators and parents, as well as members of business,

professional, and civic organizations, including the American Geographical Society, the Association of American Geographers, the National Council for Geographic Education, and the National Geographic Society have produced Geography for Life: National Geography Standards. The purpose of standards for geography is to bring all students up to internationally competitive levels to meet the demands of a new age and a different world. "For the United States to maintain leadership and prosper in the twenty-first century, the education system must be tailored to the needs of productive and responsible citizenship in the global economy" (Geography for Life: National Geography Standards, 1994). The six essential elements and 18 standards are as follows: (ibid).

I. The World in Spatial Terms

Geography studies the relationships between people, places, and environments by mapping information about them into a spatial context. The geographically informed person knows and understands:

1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
2. How to use mental maps to organize information about people, places, and environments in a spatial context.
3. How to analyze the spatial organization of people, places, and environments on Earth's surface.

II. Places and Regions

The identities and lives of individuals and peoples are rooted in particular places and in those human constructs called regions. The geographically informed person knows and understands:

4. The physical and human characteristics of places.
5. That people create regions to interpret Earth's complexity.
6. How culture and experience influence people's perceptions of places and regions.

III. Physical Systems

Physical processes shape Earth's surface and interact with plant and animal life to create, sustain, and modify the ecosystems. The geographically informed person knows and understands:

7. The physical processes that shape the patterns of Earth's surface.
8. The characteristics and spatial distribution of ecosystems on Earth's surface.

IV. Human Systems

People are central to geography in that human activities help shape Earth's surface, human settlements and structures are part of Earth's surface, and human beings compete for control of Earth's surface. The geographically informed person knows and understands:

9. The characteristics, distribution, and migration of human populations on Earth's surface.
10. The characteristics, distribution, and complexity of Earth's cultural mosaics.
11. The patterns and networks of economic interdependence on Earth's surface.

12. The processes, patterns, and functions of human settlement.

13. How the forces of cooperation and conflict among people influence the division and control of Earth's surface.

V. Environment and Society

The physical environment is modified by human activities, largely as a consequence of the ways in which human societies value and use Earth's natural resources, and human activities are also influenced by Earth's physical features and processes. The geographically informed person knows and understands:

14. How human actions modify the physical environment.

15. How physical systems affect human systems.

16. The changes that occur in the meaning, use, distribution, and importance of resources.

VI. The Uses of Geography

Knowledge of geography enables people to develop an understanding of the relationships between people, places, and environments over time – that is, of Earth as it was, is, and might be. The geographically informed person knows and understands:

17. How to apply geography to interpret the past and plan for the future.

18. How to apply geography to interpret the present and plan for the future.

Physical Geography is the sub-discipline in the field of geography most concerned with the climate, landforms, soils, and physiography of the earth's surface (Small and Witherick, 1986: 161).

Political Geography refers to the spatial analysis of political phenomena. Traditionally concerned with historical development of the state and geopolitics, today

has shifted to smaller scale political units exploring such issues as public policy and resource allocation (Smith and Witherick, 1986: 166).

Population Geography is the study of populations, particularly the spatial variations and their distribution, vital statistics, ethnic composition, rates of growth, and socioeconomic characteristics (Smith and Witherick, 1986: 167).

Region is a "human construct" that is often of considerable size and that has substantial internal unity or homogeneity and that differs in significant respect from adjoining areas. Regions can be classed as formal (homogeneous), functional, or vernacular. The *formal* region, also known as a uniform region, has a unitary quality that derives from a homogeneous characteristic. The United States of America is an example of a formal region. The *functional* region, also called the nodal region, is a coherent structure of areal units organized into a functioning system by lines of movement or influence that converge on a central node or trunk. A major example would be the trading territory served by a large city and bound together by the flow of people, goods, and information over an organized network of transportation and communication lines. *Vernacular* regions are areas that possess regional identify, such as "The Sun Belt," but share less objective criteria in the use of this regional name. *General* regions, such as the major world regions, are recognized on the basis of overall distinctiveness (Jordan and Rowntree, 1986: 6-13).

Relative location is a position on a map or on Earth's surface as compared with other positions (Hardwick and Holtgrieve, 1996: 346).

The Southern Regional Education Board (SREB) is the nations' first interstate compact for education. Created in 1948 by Southern states, SREB helps government and

education leaders work cooperatively to advance education and, in doing so, improve the social and economic life of the region. SREB assists state leaders by directing attention to key issues; collecting, compiling and analyzing comparable data; and conducting broad studies and initiating discussions that lead to recommendations for state and instructional long-range planning, actions, and policy proposals.

Member states of the SREB are: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

A board consisting of the governor of each member state and four other individuals from the state, including at least one state legislator and at least one educator, governs the SREB. The governor makes all appointments for four-year, staggered terms.

SREB is supported by appropriations from its member states and by funds from private companies, foundations, and state and federal agencies. SREB maintains regional education databases for higher and K-12 education and publishes about 40 reports and studies annually. Key publications include recent reports on vocational education, technology for colleges and schools, educational accountability, readiness for school, readiness for college, and remedial and developmental education (http://www.sreb.org).

Organization of the Study

The following is the organizational structure of this study:

Chapter I serves as an introduction consisting of background, statement of the problem, purpose of the study and research questions, and the significance of the study.

There is also a discussion of research assumptions, research limitations, and delimitations. Definitions of key terms are also provided in this chapter.

Chapter II provides a review of literature pertaining to geography education within the United States. The review covers geography education's early years and current years. The chapter is concluded with a review of literature related to field-oriented geography.

Chapter III describes the process of sample selection, the instrument used for data gathering, how the collection of data was accomplished, computerization of data, and statistical analysis of the data.

Chapter IV discusses the findings of this study, analyses and interpretation of study data, and a summary of the findings.

Chapter V summarizes the entire study including research and findings. Conclusions are drawn from the study and curriculum recommendations are presented for a field-oriented geography curriculum. This model curriculum is included in Appendix G.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purposes of this study were to identify what geography courses and/or credit hours, if any, that colleges and universities within the Southern Regional Education Board require of their K-8 preservice teachers; to determine if these institutions utilize Geographic Alliances with regard to preservice teacher training, and if so how; to determine the need for a field-oriented model curriculum for geography education; and, to develop a field-oriented model curriculum for geographic education at the college/university level designed for preservice teachers. This chapter presents a review of the literature related to the current study, with special focus upon fieldwork within the discipline of geography. Integration of field activities is significant to this study for purposes of a field-oriented model curriculum for geographic education at the college and/or university level for preservice educators.

This chapter provides an overview of the early years of geography education in the United States focusing on the 1800s to the present, with specific interest given for the last two decades. This is followed by a review of field-oriented geography and it's application to geography education. In this review the progression of geography is outlined from its early years as simple place location focused on rote memorization, to the present where geography integrates professional, private, and educational sectors to

train students to participate as global citizens in a global theater. A section is included that addresses the relevance between geography background of teachers and their effectiveness as teachers of geographers. This portion's literature review explores how future inservice educators are trained during preservice education. The chapter concludes with a review of literature pertaining to the significance of geography fieldwork.

U.S. Geography Education: The Early Years

Jedediah Morse first codified geography in 1784, and geography has been taught as a subject in some manner in American schools ever since (Morse, 1789). American geography education maintained a steady, if slow, course until the mid-1800s when Arnold Guyot placed a stronger emphasis on physical processes. Walters states that, "Guyot was convinced the Earth was a theater created for the enactment of human drama. History was shaped by and played out against the size, shape, and physical geography of continents" (Walters, 1987:159).

This emphasis on the study of the physical features of Earth and associated processes, coupled with human influences on the environment, became the primary focus of geography (and geography education) in the latter portion of the 19th century. The major advocate of geography education in this period was William Morris Davis of Harvard. He stressed the physical processes so much that this period is referred to as the "Physiographic Era" (Hardwick and Holtgrieve, 1990:18). Because of Davis's emphasis on physical processes in the public schools during this time, geography curriculum was couched in an Earth science component of general science courses.

By the early 1900s things began to change for geography, how it was taught, and where it was placed in American schools. Hardwick and Holtgrieve stated the following:

> ...by 1916, the newly created framework called 'Social Studies' began to lay claim to geography. Social Studies at this time included economics, civics, and history, as well as geography. Geographer Preston James, noted recorder of the history of geography, stated that a typical secondary school social studies program in 1916 included geography and history at the seventh grade level, American history in the eighth grade, commercial and vocational education in ninth grade, world history in tenth grade, American history again in eleventh grade, and problems of democracy in the final senior year of high school. At the same time, many universities and colleges in the United States were in the process of dropping geography education-oriented courses from their catalogs. In addition, numerous journal articles and other suggestions for teaching from this era centered on "geographic influences;" that is, physical geographic influences on events and people in various places in the world (1994: 18).

During the 1920s in American schools, geography was mostly interested in field-oriented lessons plans, mapping, and collection of new materials for teaching the subject. The 1930s saw an increased interest in geography viewed in a global perspective and country specific studies. Geography education stayed the course during the 1940s, but in the 1950s things learned during World War II were incorporated into the geography curriculum. Emphasis during the 1950s focused on geopolitics and world regional concepts.

With the age of space exploration in the late 1950s, American geography education took a back seat to the "harder" sciences. With recognized deficiencies in math and science, the United States turned its education goals to these subject matters. The social sciences, including geography, suffered. Instead of teaching individual disciplines, such as geography, the broader picture of community studies was emphasized. Many teachers had little exposure to geography and geography education, so it quickly became a study of capitals and states – all based on memorization. In today's university classroom, this dark period of geography is referred to as "the old geography" (Stoltman, 1997: 131-170).

The 1960s saw a rebirth for geography education. Pattison's definitive article, "The Four Traditions of Geography," (1964: 211-216) structured geography around four affiliated traditions. These are: the spatial tradition, the area studies tradition, the man-land (now referred to as human-land) tradition, and the earth science tradition. These traditions were used until recently at the K-12 level, and in colleges and universities, as a structure for geography curricula. Although successful, the four traditions were criticized for neglecting the temporal element of geography and geography's role in discovery.

This renewed interest in geography as a subject matter was followed-up with the High School Geography Project (HSGP), which was started in the 1960s and implemented in the 1970s. The HSGP was defined as:

> A course content improvement program in geography sponsored by the Association of American Geographers (AAG) and supported by the National Science Foundation. The project's goal is the development of new geography teaching materials at the tenth-grade level. Current work is concentrated on the

development of materials following a course outline on the settlement theme (AAG, 1974).

In 1961 educators and college and university professors who were interested in geography education began to collect data to determine what was needed for American students to have an adequate grasp of the world around them. By 1970 The High School Geography Project had completed a curriculum entitled, "Geography In the Urban Age." This curriculum document had six units: "Geography of Cities," "Manufacturing and Agriculture," "Cultural Geography," "Political Geography," "Habitat and Resources," and "Japan." The program was implemented in the early 1970s, and those involved felt the project was an overall success, but with limitations.

Geography education stayed the course with the HSGP through the 1970s until the 1980s when once again geography education took a step backwards. The beginnings of the decade saw a return to basics with curricula focused on math and reading, while geography, along with most of the social sciences, seemed to lose stature.

U.S. Geography Education: The Recent Years

Since the beginning of the 1980s professional geographers, including university professors, geographers from the private sector, and classroom geography teachers, have come closer in sharing their love of the discipline (Bednarz and Peterson, 1994). The first recognized push to join these professional geographers and classroom teachers together for the good of geography education was in 1983 when geography educators in the State of California, including those at the college and university level, and

administrators came together in a loose "alliance" to push social studies curriculum revisions in their State to include geography at a more visible level. Their efforts were successful and the first meaningful union of professional geographers and geography educators was forged.

The success of California and its alliance of geographers did not go unnoticed by the National Geographic Society (NGS). NGS saw the attention the California alliance was getting in the press and other media and seized this renewed interest in geography education to form the Geography Education Program in 1985. The mission of this program was to revitalize and support the teaching and learning of geography in America's K-12 classrooms. By 1985, with the guidance and support of NGS, there were 14 initial Geographic Alliances; 27 by 1988, and by 1993 every state had its own Alliance (Bockenhauer, 1993:121-124).

The fundamental role of Geographic Alliances, as they have been conceived in the National Geographic Society, is to bring together geography educators, no matter what level, school administrators, and students to increase geography awareness and implementation of geography in the curriculum (Salter, 1987). In order to achieve this, the Alliances provide support, materials, workshops for educators, and professional outreach activities. To date, however, the emphasis has been placed more on the inservice teacher, not the preservice teacher. It is my opinion that these grassroots efforts should be firmly focused on the preservice educator, to provide them with training in foundations, techniques, and applications of geography education (Nellis, 1994: 51-58; Marran, 1994: 23-30; Bednarz and Ludwig, 1995; and National Research Council, 1997: 138-160). This can be achieved through workshops, outreach programs, and/or

structured and applicable geography education curricula. These should be supplemented with field-oriented activities, with the hope that preservice educators will take this philosophy to their future classroom. These are the principles that lie at the foundation of geography (Murphey, 1982).

In 1984 the Joint Committee on Geographic Education of the Association of America Geographers and the National Council for Geographic Education produced Guidelines for Geography Education: Elementary and Secondary Schools (Joint Committee on Geographic Education, 1984). This document provided educators with the fundamentals of geography and how they may be incorporated into the K-12 geography education curriculum (Natoli, 1994: 13-22). The Five Fundamental Themes of Geography are: 1) Location: Position on Earth's Surface; 2) Place: Physical and Human Characteristics; 3) Relationship within Places: Humans and Environments (also known as Human-Land Relationships); 4) Movement: Humans Interacting on Earth; and 5) Regions: How They Form and Change. According to Hardwick and Holtgrieve, "The geographic themes lend themselves to the study of almost any place. Taken together they utilize the advantages of both the topical and regional approaches to geographic thinking, while minimizing their limitations" (1994: 24). The fundamental themes proved practical and popular among educators, and once again geography education had structure (Hill, 1989).

The next step in solidifying geography's integral role in the curriculum came in 1994. As part of President Clinton's GOALS 2000 Project, geography educators undertook developing geography standards. In 1994 Geography For Life: The National Geography Standards was published (NGS, 1994). The standards incorporated the

previous fundamental themes and additional foci. Eighteen standards were developed and they were clustered into six broader divisions. These are: The World in Spatial Terms; Places and Regions; Physical Systems; Human Systems; Environment and Society; and The Uses of Geography. The standards very clearly provided what a student should know about the world around them upon high school graduation, and what every geographically informed person should know. The standards have been widely accepted and hugely popular among educators, and are a good reflection of where geography education is today (Bettis, 1997: 252-272; Phillips, 1994: 31-36). Although the standards provide guidance, much remains to be done in the preservice classroom to fully educate future teachers of geography and social studies (Binko, 1989; Ludwig, 1995: 530-533).

Assessment of Geography Education

Davis and Bloom stated that, "Even the best teacher training program does not fully prepare new professionals for the daunting responsibilities that come with a full-time teaching position." "Many new teachers report that they receive little or no guidance in relation to what they are expected to teach and how they are expected to teach it."

A review of research on staff development and inservice training indicated that inservices are most likely to be effective when teachers are involved in both the planning and implementation of inservice activities (Cole & Ormrod, 1955: 427; Hopkins, 1986). Teachers are better at developing and training inservice teachers. However, this is not necessarily the case when it comes to preservice teacher education. In fact, Merryfield

and Remy suggested, "Teacher educators work with colleagues in other disciplines to identify academic coursework in the humanities, sciences, and social sciences so that preservice teachers have adequate foundational knowledge and inservice teachers have access to new, emerging knowledge in their fields." For example, preservice educators need to be given the opportunity to experience geography, taught by content specialists, geographers.

In 1994, the National Assessment of Educational Progress (NAEP) conducted national assessments in geography for grades four, eight, and twelve. The assessment found that U.S. students achieved geography proficiency levels of 22 percent in the fourth grade, 28 percent in the eighth grade, and 27 percent in the twelfth grade (Persky, et. al. 1996: xi). This low performance may possibly be attributed to lack of adequate and comprehensive geography training and education during the preservice educator's scholastic program. The study also found that nine percent of students in grade eight and two percent of students in grade four in the NAEP assessment reported they had a teacher with a major in geography. The NAEP project also found that students can learn to acquire information from primary and secondary sources, and to analyze, synthesize, and evaluate this geographic information, but few educators used "projects" to accomplish these tasks.

According to Boehm et. al,

> " ...geographic education faces serious shortcomings based on its failure to create and maintain strategies for effective preservice teacher education. It is axiomatic that if *all* we do is provide inservice training in geography for teachers then we institutionalize the continual need for

further inservice teacher training in geography! We must fashion effective preservice programs so that the geography teachers of tomorrow are competent, confident, and effective" (1994: 89-90).

Ruth Shirey, Executive Director of the National Council for Geographic Education, was contacted via email to gather literature pertaining to geography background of teachers and their effectiveness as teachers of geography. Shirey suggested a review of internet literature through the ERIC Clearinghouse for Social Studies (February 19, 2002). No specific document was found during this internet search that specifically pertained to geography teacher effectiveness. However, other documents were found that related to out-of-field teaching, and the problems encountered by educators who are teaching subjects for which they have little background knowledge and information.

Goodlad (1984) proposes that teacher training take the form of medical school training; students learn theory and put those theories into practice to see what does and does not work – and why. For the geographer, what better place to polish newly acquired geographic skills than in field-oriented geographic activities. These new geography educators will actually apply what they have learned, and do geography in the discipline's most basic primary source – the field.

Field-Oriented Education

It is believed by geography educators that field courses stimulate interest through direct observation of natural and human-influenced patterns, connections, and adaptations

(Tueth and Wikle 1999). One argument for field courses is that field experiences provide opportunities for viewing environmental relationships difficult to explain within a traditional classroom setting, and lead to improved long-term retention of basic and complex environmental concepts. "Fieldwork gives opportunities for learning which cannot be duplicated in the classroom. It greatly enhances students' understanding of geographical features and concepts, and allows students to develop specific as well as general skills" (HMI, 1992: 1).

Human beings have been learning in the natural environment for thousands of years. (Tueth and Wikle 1999). Early hunters and gathers found new ways to use natural surroundings to meet their needs. The refining of farming techniques as culture evolved, was essential in improving the standard of living of agricultural societies. Learning from personal outdoor experience was important throughout the development of culture.

Outdoor education was and is generally considered as science education related. Often geography is excluded. However, the foundations of geography lie in field observations, the most fundamental source of primary data. The diversity of geography allows it to be considered a social science and a physical science since it seeks to synthesize cultural and environmental data. Schools in the United States formally embraced outdoor education in the early 1900s. Methodologies for field instruction developed from these traditions over the decades that followed (Openshaw and Whittle 1993).

The research has suggested that field-oriented instruction is popular partly because its content cannot be reproduced in a traditional classroom setting. Thomas et al. (1977) and Foskett (1997), suggested that field-oriented study enhances the learning

process by bringing students into direct, first-hand contact with the object under investigation. The instructor's role focuses less on lecturing, and more as a facilitator to guide students in discovery, analysis, and interpretation. Also tied to field-oriented instruction is improved learning performance and heightened environmental consciousness (Orion and Hofstein 1991). Another benefit associated with field-oriented instruction, as noted by Kern and Carpenter (1984), is that students in field courses retain material in ways that did not occur in their indoor lab sections. Kern and Carpenter have further suggested that fieldwork has a role as a vehicle for integrating and illustrating theoretical concepts and is particularly effective in fostering student understanding of abstract topics and higher level concepts that can be easier to teach in the field than in the classroom. In many cases, students experience more enjoyment and interest in field courses than traditional lecture/classroom courses.

According to Beiersdorfer and Davis field-oriented courses provide an excellent venue for collaborative projects and students often engage in more creative discussions and produce more creative and higher quality work than traditional courses (Beiersdorfer and Davis 1994). Field-oriented courses may also improve teamwork skills such as leadership, task management, effective communication, and they may generate more enthusiasm and collaborative effort among team members.

Field-oriented instruction also improves students' understanding, performance, and retention of targeted concepts, according to research examining field courses. Mackenzie and White (1982) found that field-oriented instruction had a positive effect upon student's understanding and long-term retention.

Field-Oriented Geography Education

Carl Sauer, one of the better-known geographers of the twentieth century, wrote "The Education of a Geographer" where he simply stated what most geographers already knew – fieldwork is essential in geography. In this piece he discussed his belief that the knowledge of geography is gained by direct observation, and that the field or fieldwork is the best way to gather and understand this geographic knowledge (1956: 287-299). Heffington asserts, the art of field observation "is an acquired skill and can be honed every time students examine the world around them" (Heffington 1997: 73).

This field approach is especially true at the college and university level, specifically at upper division and graduate level geography courses where programs address field techniques and require students to do field-oriented projects (Rice and Bulman, 2001). For example, the course description for an upper division/graduate level Urban Geography class offered in the Department of Geography and Geology at Middle Tennessee State University states, "An introduction to the development of towns, cities, and associated urban areas. Environmental problems will also be examined. Classroom analysis of various theories of urban development and data collected by fieldwork." (MTSU Catalog 2001-2003: 242). Fieldwork and field generated data are essential to and for this course. However, seldom, if ever is fieldwork used in the lower level, introductory geography courses taken by preservice educators as seen in the description for MTSU's Introduction to Regional Geography course, the required course for education majors. It reads, "A non-technical examination of world regions and problems resulting from the geographic environment" (ibid: 241).

Rice and Bulman stated there is a gap between the rhetoric and reality and "providing K-12 classroom teachers with guidelines for integrating fieldwork into the K-12 curriculum"(2001: 2-3). Geographers who teach at the college and university level, often pay "lip service" to the role of fieldwork in a well-rounded geography course. So, if preservice educators are not exposed to field-oriented activities in their lower division geography course(s) they are not likely to integrate field-oriented geography activities in their K-12 classroom. This research intends to assess need, address this issue, and provide field-oriented elements that can easily be incorporated into the college geography course(s) taken by preservice educators. These elements are small, local, easy to implement, free or inexpensive, and can be taken from the college/university classroom to the K-8 classroom with little or no modification.

When geographers talk about field-oriented education, the field can be defined as any place "where supervised learning can take place via first-hand experience, outside the constraints of the four-walls classroom setting" (Lonergan and Anderson (1988: 64). This field-oriented geography based on this definition has a long history as a popular teaching strategy and tool (Boardman 1974, Marotz and Rundstrom 1986, McEwen 1996, Nordstrom 1979, and Rynne 1998). Based on the Geography for Life Standards and work by Catling (1995) and Rice and Bulman (2001), fieldwork can be logically and easily incorporated into the curriculum, whether it is K-12 driven or at the college/university level. Table 1 provides examples of field activities and how they address the National Geography Standards.

TABLE 1
EXAMPLES OF FIELDWORK ACTIVITIES THAT ADDRESS THE NATIONAL GEOGRAPHY STANDARDS

The World in Spatial Terms

- following directions
- sketch maps
- drawing mental maps
- analyzing different types of maps of a local area before, during, and after fieldwork

Human Systems

- where people live and why
- why people move from place to place
- kinds of trips people take
- uses humans make of buildings
- availability of goods and services

Places and Regions

- characteristics of places
- what humans do
- place changes
- comparing own locality with others

Environment and Society

- human's influence on the environment
- identifying places that can be polluted and how to protect them

Physical Systems

- identifying features of landscapes
- weather and seasons characteristics
- where water comes from and how it is used
- flooding, eroding, and creating land by water action

The Uses of Geography

- identifying different points of view that affect development and policies to manage resources
- identifying local problems
- a geographical dimension, and possible solutions

(Sources: Geography for Life, 1994, Catling 1995, and Rice and Bulman 2001)

With such a long and strong legacy within the discipline of geography, fieldwork should be made accessible and doable for those choosing the K-8 geography classroom. This research provides practical elements using the National Geography Standards that college and university instructors can incorporate into their introductory geography classes for preservice educators, and in turn can be just as easily used by beginning geography educators once they enter their K-8 classroom.

CHAPTER III

METHODOLOGY

Introduction

The purposes of this study were to identify what geography courses and/or credit hours, if any, that colleges and universities within the Southern Regional Education Board require of their K-8 preservice teachers; to determine if these institutions utilize Geographic Alliances with regard to preservice teacher training, and if so how; to determine the need for a field-oriented model curriculum for geographic education; and, develop a field-oriented model curriculum for geographic education at the college/university level designed for preservice teachers. The following is a presentation of this study's subjects, instrument development, data collection procedures, and description of the computer-assisted analysis of those data.

Study Population

Institutions from the member states of the Southern Regional Education Board (SREB) were chosen for this study. Institutions in those states were surveyed. The member states are all those contiguous states in the southern United States and therefore include: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas,

Virginia, and West Virginia. Figure 1 is a map of the United States with SREB states indicated by the darkened square. This figure is presented in Appendix A. Of the 818 total colleges and universities within the SREB, only those with baccalaureate programs were chosen for this study. Figure 2, Appendix B, provides a graph of the number of four-year institutions in SREB states compared to the total of all colleges and universities per SREB state. The numerical breakdown of the four-year institutions compared to the total colleges and universities per member state is presented in Table 2.

Four-year institutions, as categorized in the SREB State Data Exchange, are outlined in Table 3. The SREB system for categorizing postsecondary education institutions is designed for use in making statistical comparisons among states and is based on a number of factors relevant to determining resource requirements. Differences in institutional size (numbers of degrees), role (types of degrees), breadth of program offerings (number of program areas in which degrees are granted), and comprehensiveness (distribution of degrees across program areas) are the factors upon which institutions are classified. Other factors relevant to determining resource requirements such as cost differences among programs or externally funded research are not taken into account in the SREB State Data Exchange categories.

TABLE 2

NUMERICAL BREAKDOWN OF FOUR-YEAR INSTITUTIONS COMPARED TO THE TOTAL COLLEGES AND UNIVERSITIES PER MEMBER STATE IN THE SREB

Member State	Four-Year Institutions	Total Colleges and Universities
Alabama	16	48
Arkansas	9	43
Delaware	2	5
Florida	10	72
Georgia	17	68
Kentucky	8	37
Louisiana	13	65
Maryland	11	31
Mississippi	8	24
North Carolina	15	74
Oklahoma	12	68
South Carolina	11	33
Tennessee	9	51
Texas	34	107
Virginia	13	38
West Virginia	10	54
Total	198	818

TABLE 3

FOUR-YEAR INSTITUTIONS CATEGORIZED BY THE SREB STATE DATA EXCHANGE

Category	Definitions
Four-Year 1	Institutions awarding at least 100 doctoral degrees that are distributed among at least 10 CIP categories (2-digit classification) with no more than 50 percent in any one category.
Four-Year 2	Institutions awarding at least 30 doctoral degrees that are distributed among at least 5 CIP categories (2-digit classification).
Four-Year 3	Institutions awarding at least 100 master's, education specialist, and post-master's degrees distributed among at least 10 CIP categories (2-digit classification).
Four-Year 4	Institutions awarding at least 30 master's, education specialist, post-master's or doctoral degrees with master's, education specialist, and post-master's degrees distributed among at least 5 CIP categories (2-digit classification).
Four-Year 5	Institutions awarding at least 30 master's, education specialist, post-master's or doctoral degrees.
Four-Year 6	Institutions awarding less than 30 master's, education specialist, post-master's or doctoral degrees.

Procedures

The initial mailout for this survey was originally planned for September 2001, but was delayed due to the tragic events of September 11, 2001. On November 15, 2001 the deans or directors of the colleges of education of the selected 198 schools were mailed a personalized cover letter that was affiliated with the Department of Geography and Geology at Middle Tennessee State University (Appendix C) and survey instrument (Appendix D). The letter introduced and explained the questionnaire (Appendix D), which was enclosed. These individuals were requested to either fill out the survey to the best of their ability, or to forward it on to a qualified respondent. Each survey contained a different code number. This was done only to assist in follow-up procedures, if necessary. The code numbers were used to keep a record of returned surveys.

To avoid "heavy mail" dates, and "times when respondents are likely to be pre-occupied," a second letter (Appendix E) and survey (Appendix F) was sent on January 15, 2002 to those 115 institutions that did not respond to the first mailout by December 15, 2001 (Business Research Lab, 2002: 2).

Fifty-nine institutions did not respond to the second mailout. To increase the response rate, a random sample of 20 percent (12 institutions) of these institutions was selected and contacted by fax through Middle Tennessee State University. These institutions were faxed the cover letter (Appendix C) survey and questionnaire (Appendix D) on February 12, 2002. The faxed cover letter was the original letter with a changed due date of "as soon as possible." Of these 12 institutions, six responded (50 percent) by fax. For this study a minimum acceptable response rate of 66 percent related

to Morgan's projections of probable return was projected, or a total of 131 responses out of 198 institutions (Morgan, 1970). The total response rate for this study was 145 responses out of 198 institutions, or 73.2 percent. This exceeded Morgan's projects for minimal response rate by 7.2 percent (ibid).

Instrumentation

A five-item survey questionnaire was designed to obtain information from the selected SREB schools. The survey was kept short, in part, to encourage a better return rate. According to Leedy, the survey instrument should be "...as brief as possible...and as simple to read and respond to as possible" (1997:193). However, the five items on the survey were also deemed to be sufficient in order for the researcher to obtain the desired information.

The five-item survey instrument was field-tested in the Department of Geography and Geology at Middle Tennessee State University. The field test indicated that the researcher could obtain sufficient information to fulfill the purposes of the study. Therefore the survey instrument was determined to have a sufficient number of questions to garner the needed information without being burdensome to the respondents, and therefore more likely to be returned. The field test revealed that the instructions were clearly written, the questions asked were clearly stated and understandable, and the number of questions asked was appropriate. The respondents stated that answers did not require extensive research, but were based on readily available information and required short responses with minimal effort. A stamped self-addressed return envelope was

included to facilitate the response in the first and second mailouts. The third contact was accomplished by fax. The response rate is discussed for each of the three stages of the survey process, as well a cumulatively, in Chapter IV.

Based upon recommendations by Berdie, Anderson, and Niebuhr(1986) and Gall, et.al. (1996) this research questionnaire was kept as "short as possible," items were organized, "so that they were easy to read and complete," questionnaire items were clearly numbered, return contact was clearly stated, including the self-addressed envelope, instructions were brief and clear "in upper and lowercase," items were in a logical sequence, items requiring one to two-sentence responses were "near the end of the questionnaire," each item was stated "in as brief a form a possible," technical terms, jargon, or complex terms were avoided because "respondents may not understand," and lastly, biased or leading questions were avoided so that the respondent was not provided "hints as to the type of answer that is preferred, the tendency is for the respondent to give that response" (Leedy, 1997: 198-199).

Items within the survey questionnaire were selected to determine how programs in education within the SREB include geography in their curriculum. Special attention was given to brevity, therefore the questions are short and to the point, but still provide information once completed concerning the role of geography in K-8 preservice education, what classes in geography are required for K-89 preservice education majors, where geography should be taught for K-8 preservice educatiors, does the state Geographic Alliance participate in this educational process, and is a field-oriented geography course for preservice teachers of interest to educators and geographers at surveyed SREB schools.

Questions 1, 2, and 3 of the survey instrument were multiple-choice, with a minimal response selection of three, and a maximum response selection of five choices. A portion of Question 3 and Question 4 required the respondent to provide a one to two-sentence written response or less. Question 5 was simply a "yes" or "no" response. A working knowledge of geography and geography education based on field testing the survey instrument at Middle Tennessee State University indicated that five to ten minutes was required to complete all items on the survey questionnaire.

Although the researcher is involved in geography education, which may be perceived as bias, every effort was made, however, in the wording of the survey questions and the field test to negate any biases within the survey instrumentation. For example, questions were worded for either a multiple-choice answer; or for Question 5, "Would a field oriented geography curriculum for preservice teachers be useful at your institution?" the response could only be "yes" or "no."

Each survey received a number from 1 to 198. For the purposes of maintaining accurate records of responses and non-responses, the researcher together with the faculty member contact within the Department of Geography and Geology at Middle Tennessee State University, as well as departmental work study assistants, checked this coding system.

The survey instrument is in no way confined to institutions within the SREB. The same questions have the same applicability within any accreditation region within the United States. The SREB institutions were selected based on the researcher's geographic location.

The specific information requested by the questionnaire was:

1. the total number of credit hours in geography in the school's curriculum;
2. an identification of what geography course(s), if any, are required in the school's curriculum;
3. description of where would a geography course for preservice educators would best be taught, and why;
4. identification of the utilization of the state's Geographic Alliance, if any; and
5. description of the need for a field-oriented model geography curriculum.

An acceptable number of surveys were returned after the third contact for the researcher to feel comfortable in analyzing the data. This number was 138 responses out of 191 useable surveys, for a response rate of 72.2, exceeding the minimum acceptable response rate as stated by Morgan, 1970.

Statistical Analysis

The data for this study were analyzed using the Statistical Package for the Social Sciences (SPSS). Kenneth Janda, Instructor of Elementary Statistics for Political Research at Northwest University in Illinois, states in his website, Overview of SPSS:

> SPSS is a software program developed in the late 1960s by graduate students at Stanford University. Although initially created to manage a large survey research project of citizen participation in seven nations, the package quickly gained popularity, and was greatly enhanced over the next few years. In 1984, a microcomputer version of SPSS for IBM-compatible personal computers was introduced, which included many of the

most popular features of the mainframe version of SPSS (2002).

Because this statistical package was originally designed for use by social scientists to analyze data from surveys, it is particularly well suited for this research. SPSS can perform a variety of data analysis and presentation functions, including descriptive statistics, such as frequencies, charts, tables, and lists (SPSS, Inc. website, 2/24/02: 1). The 198 questionnaires were coded for computer entry. Coding was checked and accuracy verified. Seventeen variables were described and labeled. These variables are described and discussed in Chapter IV.

Summary of the Procedures

This chapter has summarized the procedures followed in developing and sending the survey in this study. This included selection of four-year SREB institutions that have education and geography programs. A five-item questionnaire was developed to determine geography requirements for preservice K-8 educators, what type of geography courses, if any, were required; where these courses would best taught, in an education or geography department; the participation of state Geographic Alliances in preservice education; and whether a field-oriented geography curriculum would be useful for existing programs. Surveys were mailed two times through the U.S. Postal Service for a combined response rate of 139 responses out of 198 institutions (70.2 percent.) Of the remaining 59 non-respondents, a 20 percent random selection (12 institutions) was surveyed by fax. An additional six responses (50 percent) from this last survey contact was figured into the total response, for a return rate of 145 responses out of 198

institutions (73.2 percent). From the initial mailout of 198 institutions, seven responded that they did not have a teacher education program. This reduced the total number of the sample by seven to 191.

Of the 191 useable surveys, 138 responses represent a response rate of 72.2 percent. From these responses to the five-item questionnaire, data was entered into the SPSS statistical package to determine frequency, tables, and percentages of responses based on the researcher's survey instrumentation. Interpretation and analyses of these procedures are provided in Chapter IV.

CHAPTER IV

FINDINGS, ANALYSIS AND INTERPRETATION OF DATA

Findings

The purposes of this study were to identify geography courses and/or credit hours that colleges and universities within the Southern Regional Education Board require of their K-8 preservice teachers; to determine how these institutions utilize state Geographic Alliances with regard to preservice teacher training; to determine need for a field-oriented model curriculum for geography education; and, to develop a field-oriented model curriculum for geographic education at the college/university level designed for preservice teachers. Chapter IV contains the findings of the survey instrument (Appendix D) of this study, and includes analyses and interpretation of the data, and a summary of the findings.

Information regarding the number of colleges and universities within the Southern Regional Education Board was obtained from the SREB website (http://www.SREB.org). Two hundred schools were listed as members, but two did not have sufficient address information to be included in this study. The deans of 198 colleges and universities within the SREB were mailed a personalized cover letter (Appendix C) and survey instrument (Appendix D). From the initial mailout, 83 questionnaires were received for a total of 41.9 percent. A second letter (Appendix E) and survey (Appendix F) were sent to those schools that did not respond initially. From this second mailout to 115 colleges and

universities, 56 (48.6 percent) additional responses were received, for a response of 139 questionnaires (70.2 percent). A third contact was made. A 20 percent random follow-up was made to the remaining 59 institutions. Six responses (50 percent) were received. From the initial mailout of 198 institutions, seven responded that they did not have a teacher education program. This reduced the total number of the sample by seven to 191.

Table 4 provides a breakdown of the response rate. The first mailout to 198 deans yielded 83 returns (41.9 percent). The second mailout to the 115 schools that did not respond to the initial mailout, yielded 56 responses (48.6 percent). The third contact to 12 institutions yielded six responses (50 percent). Thus, of the original sample of 198 institutions, 145 institutions (73.2 percent) responded. Of the 191 usable surveys, 138 institutions responded (72.2 percent). This percentage exceeded the 66 percent minimum acceptable response rate based on Morgan (1970). Even though this was primarily a postal survey, this far exceeds comparable email surveys that have an acceptable response rate of 31 percent (Sheehan, 2001: 7). Carroll stated in an article in Marketing News, entitled "Questionnaire Design Affects Response Rate," it is determined there are "a few simple but important factors that helped or appeared to stimulate returns beyond the average return rates for market research (10%-20%)." A geographical distribution of responses by state is provided in Table 5. There was at least a 50 percent response rate from all 15 SREB member states.

TABLE 4

RESPONSE RATE OF SREB INSTITUTIONS TO SURVEY QUESTIONNAIRE -- 2001/2002

Survey Stage	Number Contacted	Number Responding	Percent
Initial mailing	198	83	41.9
Second mailing	115	56	48.6
Third Contact	12	6	50.0
Aggregate Response	198	145	73.2
Usable Surveys	191	138	72.2

TABLE 5

GEOGRAPHICAL DISTRIBUTION OF RESPONSES BY STATE

State	Number Surveyed	Number Responding	Percent
Alabama	16	13	81
Arkansas	9	6	67
Delaware	2	1	50
Florida	10	6	60
Georgia	16	12	75
Kentucky	7	5	71
Louisiana	12	7	58
Maryland	11	7	64
Mississippi	8	6	75
North Carolina	15	11	73
Oklahoma	12	9	75
South Carolina	10	8	80
Tennessee	9	9	100
Texas	33	24	73
Virginia	13	8	62
West Virginia	8	6	75
Total	191	138	72

Item 1 on the survey instrument asked respondents to indicate number of credit hours in geography required in their K-8 education curriculum. Choices were "geography is not required," "1-3 hours," "4-6 hours," and "more than 6 hours." The reported numbers ranged from 0 hours to more than 6 hours of geography required. Sixty-eight (49.3 percent) of the respondents indicated one to three hours of geography credit "is required." This indicated at least one course in geography was required for preservice K-8 educators. Twenty-two respondents (15.9 percent) reported that 4-6 hours of geography were required, and four (2.9 percent) indicated that more than six hours of geography were required. Forty-four responses (31.9 percent) indicated no geography course was required. Table 6 provides the percentage breakdown for these responses.

TABLE 6

TOTAL NUMBER OF GEOGRAPHY CREDIT HOURS REPORTED BY SREB COLLEGES AND UNIVERSITIES – 2001/2002

Geography Credit Hours	Number	Percent
Geography Not Required	44	31.9
1-3 Hours	68	49.3
4-6 Hours	22	15.9
More than 6 Hours	4	2.9
Total	138	100.0

Item 2 requested that respondents identify specific courses required in their K-8 curriculum. Choices were "Regional (World) Geography," "Introduction to Geography," "Physical Geography," "Cultural/Human Geography," "Any Geography Elective," and "Other." Table 7 shows number of respondents and response. The majority, 51 (37 percent) responded "Regional Geography" was required, and 29 (21 percent) responded "Cultural Geography." Eighteen (13 percent) reported "Introduction to Geography" was required, and 15 (10.9 percent) responded that "Physical Geography" was required. "Any Geography Elective" was selected by 18 respondents (13 percent). "Other" was indicated by 13 respondents (9.4 percent).

TABLE 7

REQUIRED GEOGRAPHY COURSES IN SREB K-8 EDUCATION CURRICULUM – 2001/2002

Geography Course	Yes	Percent	No	Percent
Regional (World)	51	37.0	87	63.0
Introduction to Geography	18	13.0	120	87.0
Physical Geography	15	10.9	123	89.1
Cultural Geography	29	21.0	109	79.0
Any Geography Elective	18	13.0	120	87.0
Other	13	9.4	125	90.6

Note: Twenty-six respondents (18.8 percent) indicated more than one course was required (see Table 6 for numerical breakdown).

Item 3 of the survey instrument requested that respondents indicate what department could best teach a geography course for preservice educators. Choices included, "Education Department," "Geography Department," or "Other." In addition, an open-ended response requesting "Why?" was also included. Table 8 provides a breakdown of responses. The majority of respondents, 110 (79.7 percent) indicated a geography course for preservice educators would best be taught within a Geography Department. Eleven (8.0 percent) responded that a geography course would best be taught in an Education Department, and thirteen (9.4 percent) responded "Other." There was no response to the questions from four (2.9 percent) institutions.

TABLE 8

BEST LOCATION FOR TEACHING A GEOGRAPHY COURSE FOR PRESERVICE EDUCATORS IN SREB INSTITUTIONS

Department	Number	Percent
Education Department	11	8.0
Geography Department	110	79.7
Other	13	9.4
No Response	4	2.9
Total	138	100.0

Item 4 was an open-ended question to determine the extent of involvement of the state Geographic Alliance in K-8 preservice teacher training within each institution. For purposes of analysis, no responses received a ranking of "0," Geographic Alliance involvement received a ranking of "1," and no involvement by the State Geographic Alliance was ranked a "2." Sixty-three respondents (45.7 percent) reported that there was no involvement or utilization of the Geographic Alliance in their K-8 preservice teacher training, 42 (30.4 percent) responded that the Geographic Alliance was utilized in K-8 preservice teacher training, and 33 (23.9 percent) of the respondents did not indicate an answer. Table 9 shows the breakdown of state Geographic Alliance utilization.

TABLE 9

UTILIZATION OF STATE GEOGRAPHIC ALLIANCES IN K-8 PRESERVICE TEACHER TRAINING AT SREB INSTITUTIONS

	Number Responding	Percent
Yes	42	30.4
No	63	45.7
No Response	33	23.9
Total	138	100.0

Item 5 asked whether a field-oriented geography curriculum for preservice teachers would be useful at their respective institutions. Eighty-seven respondents (63 percent) indicated that a field-oriented geography curriculum would be useful. Forty-five respondents (32.6 percent) indicated that a field-oriented geography curriculum would not be useful at their institution. There were no responses to this item from six (4.3 percent) of the institutions surveyed. Table 10 provides a breakdown of these responses.

TABLE 10

USEFULNESS OF A FIELD-ORIENTED GEOGRAPHY CURRICULUM FOR K-8 PRESERVICE TEACHERS AT SREB INSTITUTIONS

	Responding	Percent
Yes	87	63.0
No	45	32.6
No Response	6	4.4
Total	138	100.0

Analysis and Interpretation of Data

Data for this research were derived from a survey questionnaire submitted to 198 SREB colleges and universities. From the initial survey request and follow-up, 145 institutions responded for a response rate of 73.2 percent. The collaboration of the Department of Geography and Geology at Middle Tennessee State University was instrumental in achieving this high response rate. Of the initial 198 institutions surveyed, seven responded that they did not have a teacher education program. Therefore, these were non-usable responses and the survey pool was lowered to 191 SREB institutions. The responses also lowered by seven to 138, for a response rate of 72.2 percent.

Item 1 of the survey asked "How many credit hours in geography are required in your K-8 education curriculum?" for which 68 respondents (49.3 percent) claimed one to three hours of geography was required. A review of area university educational curriculum indicated that most colleges and universities require at least one geography course for their education majors. The lack of formal course work in geography may indicate teachers are dealing with geographic concepts and skills on the basis of the background that they have from their own elementary, middle and high school years. Forty-four respondents (31.9 percent) indicated no geography course was required in their K-8 educational program. As previously stated, teachers cannot teach what they have not been taught. In the ever-increasing globalization of the world around us, whether it is global economic issues or global environmental issues, some knowledge of the world in spatial terms can assist the educator in the classroom. The subject does not have to be geographic specific to use geographic knowledge of the world around us.

Eight out of ten education majors in preservice teacher training in SREB colleges and universities have one or less geography courses upon graduation. These preservice educators may not be well equipped to ensure that each child in their future classroom, regardless of background, learns to develop understandings, skills, and habits of mind that make it possible to participate fully in the life of a multi-ethnic, multi-cultural society operating in the context of a global economy.

Item 2 of the survey asked "What geography course(s), if any, are required in your K-8 education curriculum?" Of the respondents, 51 (37.0 percent) stated that Regional (World) Geography was the required course for K-8 education majors. Cultural/Human Geography was the required course with the second highest percentile, 29 respondents (21.0 percent) chose that selection. World Regional Geography and Cultural Geography are the two most widely accepted geography courses for education majors. For example, a community college in middle Tennessee only teaches two geography courses, World Regional Geography and Cultural Geography. Their reasoning lies in the fact that for K-8 education majors at Middle Tennessee State University, World Regional Geography is required; and for K-8 education majors at Tennessee Technological University, Cultural Geography is required. These two institutions absorb most of this community college's transfer students in education. The open-ended sixth response to Item 2 of the survey ("other") enabled respondents to include geography courses that were not identified specifically on the survey instrument. For instance, respondents from Louisiana institutions listed Louisiana Geography is required for preservice education majors in the state of Louisiana.

Survey Item 3 asked, "Where would a geography course for preservice educators best be taught, and why?" The overwhelming majority of respondents, 110 (79.7 percent) felt a Geography Department was most appropriate. The open-ended "why" portion of this survey question resulted in statements such as, Geography Departments have "stronger content knowledge," "expertise, academic credentials," and "education majors need information from professional geographers to gain content specific perspectives." Several respondents, having checked Geography Department as the most logical place for a geography course to be taught, provided written statements, which included, "designed specifically for teachers but with the assistance of education faculty."

Item 4 of the survey questionnaire asked, "To what extent, if any, is your state's Geographic Alliance utilized in K-8 preservice teacher training?" Sixty-three (45.7 percent) of the SREB respondents claimed no involvement of their state Geographic Alliance in preservice K-8 teacher education. An additional 33 respondents (23.9 percent) in colleges of education did not know if the Alliance was involved, and some were not clear as to the meaning of a Geographic Alliance. Combined, 99 respondents (70 percent) claim no involvement or were unaware of any involvement of the state Geographic Alliance with their K-8 preservice teacher training. Responses such as, "I am not familiar with the Geographic Alliance," and "Not aware of the Alliance," "Not at all – Alliance doesn't touch us out here in the wilderness" were received. Of those negative responses, answers range from "none," "not at all," "none to my knowledge," and "non-existent." Of the 42 positive responses, (30.4 percent) respondents stated that the Geographic Alliance was involved in preservice teacher education; however, most of the responses were not resounding responses for Alliance

involvement. Some responses included, "some, but not really a major player," "materials shared," and "conference information shared." Other responses that were recorded as positive included, "slightly," "marginal," and "very little involvement."

The National Geographic Society established its first state Alliance in 1983. According to Sarah Bednarz:

> The NGS Alliance model is a partnership between university professors and elementary and secondary teachers. University departments act as hosts for the Alliance: professors cooperate with trained teacher-consultants to give workshop presentations, develop classroom materials, and to conduct summer institutes. Some liken the Alliance movement to a pyramid scam: each teacher trained at a summer institute receives a solid background in geography along with a repertoire of effective ways to teach geography in the classroom. Because the institute-trained teacher has learned to make effective presentations and to offer support to his/her colleagues through "peer coaching," the model is very effective in improving the quality and effectiveness of geographic education in school classrooms (Bednarz, 1989:484).

The purpose of this research was not to determine the usefulness or success of Geographic Alliances for inservice educators. However, Alliance success and usefulness could possibly be increased and valued more if taken into the preservice classroom. Based on the responses to this survey, Alliances appear to be minimally involved in most preservice education programs. Geography is discipline specific and seldom housed within a college of education. However, a logical place to start the geographic education

process may be in a classroom of preservice students who are about to embark upon careers as educators Those geographers and educators interested in forging a solid relationship between the two disciplines will need to recognize mutual involvement in developing appropriate curriculum for their preservice educators. A field-oriented curriculum that is unified and coherent may be useful for those involved in geography education.

Item 5 on the survey instrument asked, "Would a field-oriented geography curriculum for preservice teachers be useful at your institution?" Eighty-seven respondents (63.0 percent) replied with a "yes" they would be interested in a field-oriented geography curriculum.

In the 1980s there appeared to be a decline in fieldwork by geographers, and this is well documented in Russmond and Kisnmer, 1989. The profession became enamored with technology, and for many, technology became geography. However, in recent years techniques appear to be taken for what they are, simply tools of the geographer, and the call for fieldwork in a geography curriculum has seen some resurgence. For example, Rice and Bulman successfully argued that the five geographic skills (asking geographic questions, acquiring geographic information, organizing geographic information, analyzing geographic information, and answering geographic questions) fit nicely in a framework for field-oriented geography (ibid: 3).

In summary, most preservice education majors take at least one geography course during their degree program, and this course is most likely a World Regional Geography course. SREB respondents felt strongly that this course should be taught within a

Geography Department. State Geographic Alliances are seldom involved in preservice teacher education.

Lastly, there was strong support among survey respondents that a field-oriented geography curriculum would be both useful and valuable for preservice teacher training at their institutions. A proposed model curriculum for geographic education is included in the Appendix.

Summary of Findings

Several findings of practical importance resulted from this study.

1. Of the 138 SREB institutions responding to the survey, 31.9 percent responded that no geography course(s) was required for preservice educators.
2. Of the 138 SREB institutions responding to the survey, 49.3 percent responded that one to three hours of geography were required for preservice educators.
3. Of the 138 SREB institutions responding to the survey, the majority, 37.0 percent responded that a Regional (World) Geography course was required for preservice educators.
4. Of the 138 SREB institutions responding to the survey, an overwhelming majority (79.7 percent) responded that a geography course would best be taught within a Geography Department because they felt geography faculty were most qualified.

5. Of the 138 SREB institutions responding to the survey, 45.7 percent stated that their state's Geographic Alliance was not utilized in K-8 preservice teacher training, and another 23.9 responded that they were unfamiliar with a Geographic Alliance and/or Geographic Alliance activity at their institution.
6. Of the 138 SREB institutions responding to the survey, 63.0 percent responded that a field-oriented geography curriculum would be useful at their institutions.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides a summary of the research and findings, derives conclusions from this research, and makes recommendations for improving preservice geography education.

Summary

Geography has a long history in the American educational system spanning over two hundred years. American geography education maintained a steady, slow growth and only recently has it come to the forefront as a subject matter essential for today's global citizen. This recent significant growth is substantially due to the acknowledgement that the American public was largely geographic illiterate, and the assessment that to compete in a global market in a global theater the American populace needed timely, relevant, and consistent geographic education.

In 1994 after recognition as a key subject in the Goals 2000 Educate America Act, the document Geography for Life: National Geography Standards was developed and written by geography's governing agencies, such as American Geographical Society, Association of American Geographers, National Council for Geographic Education and the National Geographic Society. In this document geography and what the geographically informed person should know was arranged into six essential elements. They are: The World in Spatial Terms, Places and Regions, Physical Systems, Human Systems, Environment and Society, and The Uses of Geography. Within these six

clusters eighteen standards serve as axioms for the geographically informed K-12 student, and in turn the geographically informed citizen.

The cornerstone of geography is considered by many to be based on fieldwork and field observation, the most primary of geography's laboratories. However, fieldwork in K-12 curriculum is seldom addressed, and even more infrequently incorporated into the classroom. A strong background in field observation and geographic fieldwork may provide a logical outlet to better achieve an understanding of the world, how it is organized spatially, and how geography can best address its essential elements and standards. Seldom, however, are preservice educators, the very ones who may teach geography at the K-12 level, adequately exposed or informed of the significance of fieldwork in geographic inquiry, and the role it plays in the education of the geographically informed person. Many times these educators, once they enter the classroom, are not fully prepared to explore the depth and breadth of geography in its most basic foundations, fieldwork, field observation, and landscape interpretation.

The purposes of this study were to: identify what geography courses and/or credit hours, if any, that colleges and universities within the Southern Regional Education Board require of their K-8 preservice teachers; determine if these institutions utilize Geographic Alliances with regard to preservice teacher training, and if so how; determine need for a field-oriented model curriculum for geography education; and develop a field-oriented model curriculum for geographic education at the college/university level designed for preservice teachers.

To better understand the role geography plays in a preservice teacher's education and the significance placed on fieldwork in the preservice educator's training, four-year

institutions that maintain an education program or tract within the Southeastern Regional Education Board were surveyed for this study. The survey sample originally consisted of 198 colleges and universities within the southeastern United States. Due to lack of complete contact information, this number was decreased to 191 colleges and universities serving as the study group. A five-item survey instrument was mailed to deans of colleges of education, or other qualified college/university members, to answer questions pertaining to their preservice teacher education. These questions included how many credit hours were required in geography; what courses, if any, were required; where geography would best be taught; what role, if any, the state Geographic Alliance performed in preservice education; and, whether a field-oriented model curriculum would be useful.

After all efforts were made, a total of 72 percent of the SREB institutions responded to the survey questionnaire. Possible reasons for 28 percent of the SREB institutions not responding to the survey questionnaire were: due to the unforeseen tragedy of September 11, 2001 and the disruption of the U.S. Postal Service that followed, some initial questionnaires and possibly initial responses were slowed or lost in transit or delivery; and, some initial surveys were forwarded to Departments of Geography, or college or university geography instructors, which added additional internal campus forwarding of the survey questionnaires, and in turn slowed response rate. These data were analyzed using a SPSS statistical package, and the following are conclusions drawn from these data.

Conclusions

Conclusions in this section are drawn directly from data obtained from the 138 responding SREB institutions, a careful review of current geography education literature specifically pertaining to preservice geography education, and the significance of fieldwork in geography education.

Sixty-eight respondents (49.3 percent) claimed that one to three hours of geography were required in their preservice education program. That equates to at least one course for the preservice educator. An alarming 44 respondents (31.9 percent) indicated that geography was not required at all for education majors. Therefore, 112 respondents (81.2 percent) stated that future K-8 educators took one or less geography course. The researcher concluded from these findings that little or no geography is required in most teacher education programs in SREB institutions. With rapid globalization resulting in a classroom that is multi-cultural, multi-ethnic, and multi-regional, many preservice educators may feel ill prepared to enter a dynamic 21st century classroom with a dynamic 21st century student body. Of the colleges and universities that did respond that geography was required in the education tract, the preferred courses were Regional (World) Geography, then Cultural Geography.

And overwhelming 110 respondents (79.7 percent) indicated the Geography Department was the preferred locale from which this course could best be taught. It was concluded that teacher education officers believe that geographers, based on their content knowledge and academic training, should teach a course in geography.

An open-ended question was included in the survey instrument to determine the extent of involvement of the state Geographic Alliance in K-8 preservice teacher education for each institution. Sixty-three respondents (45.7 percent) reported that there was no involvement or utilization of their state Geographic Alliance in K-8 preservice teacher training. This percentage is rather high and in itself disturbing. It is concluded that Geographic Alliances have little or no impact, or input, into the design of geography education for preservice teachers in SREB institutions. An additional 33 respondents (23.9 percent) in colleges of education were not aware of any Geographic Alliance involvement in preservice teacher education. Some respondents were not clear as to the meaning of a Geographic Alliance. Seventy percent of the SREB respondents claimed no involvement or were unaware of any involvement of their state's Geographic Alliance. Even though the purpose of Alliances is to further educate inservice teachers in the subject of geography, there is apparently a large body of future educators that might benefit greatly from the expertise, wealth of information, and superb geographical tools Alliances have to offer. It was concluded that opportunities to increase Geographic Alliance visibility and educational outreach were available for SREB institutions. However, since there were respondents that indicated lack of awareness concerning Geographic Alliances, it was concluded that individual state Alliances should increase their educational outreach within these regional institutions.

The last survey item asked if a field-oriented geography curriculum for preservice teachers would be useful at the surveyed institution. Eighty-seven respondents (63 percent) replied "yes" to this question. It was concluded that these respondents understood the meaning of "field" or "field-oriented" geography. As a geography

educator who has long supported field-oriented geography, this high rate of approval validates the need for a field-oriented geography course for preservice educators. If these preservice educators are taught simple, straight-forward, relevant, and fun field activities relating to the National Geography Standards while in a preservice education classroom, the researcher believes it is likely they will take this new found knowledge and geographical insight into their future classrooms. In short, teachers teach what they have been taught.

Recommendations and Design of Model Curriculum

To address this apparent interest and need for a field-oriented geography curriculum in the preservice educator's training, a curriculum model has been developed that uses the six essential elements of the National Geography Standards, and a corresponding field-oriented activity. It is recommended that these modules be incorporated partially, or in total, in existing college and university courses taken by preservice educators. These modules could be incorporated in a World Regional Geography course, as well as an Introductory Physical Geography course. This suggested model curriculum is included in Appendix G, and offered as six lesson plans of varying grade levels.

The researcher realized that education requirements are housed within the College of Education at SREB institutions, and geography and geography courses are usually housed in colleges other than education. The proposed modules included in Appendix G were not developed as new or independent curriculum, but were developed for infusion

or integration into existing curriculum and courses. These modules could be discipline specific in geography or could involve social studies within a College of Education. For example, one or all of the modules could be incorporated into existing World Regional Geography courses and Cultural Geography courses taught at the college/university level. These modules would be adaptable to the needs and styles of various instructors and couses. These six modules are simple and straightforward, and the level of difficulty could be increased or decreased according to the interests and needs of the instructor, and the make-up of his or her preservice classroom. The modules can be completed quickly, and assessments would not be complicated. Most importantly, the preservice educator would be exposed to what geographer's do, and in turn they would be doing geography. It is hoped once the preservice educator enters his or her own classroom, like their college instructor, they will tailor the six module lesson plans to suit their needs and the needs of their students.

In summary, the primary purpose of this study was not to develop field-oriented geography, although the results of the study indicated a clear interest. An outcome of this interest by six out of ten respondents was the development of field-oriented geography modules that could be incorporated into existing geography courses for preservice educators at SREB institutions. Developing new courses and separate curriculum are not necessarily difficult tasks, but preservice programs are often highly structured at the state level and do not easily allow for the addition of new courses. With the incorporation of these field-oriented geography modules, no new courses or additional hours are proposed or required of the existing education programs or of the education major. No new or additional course preparations are required of the college or university instructor. The

modules can be tailored to meet the needs of any K-8 educator, and some or all can easily fit within existing courses.

The infusion of field-oriented geography modules into existing preservice curriculum is not intended to revamp existing education programs. However, they will certainly enhance the presence of geography in teacher preparedness and better prepare future educators for the global classroom. Additional possibilities to infuse geography into the overall preservice educational packet include workshops at SREB campuses that would be open to education majors, geographers, and those interested in the social sciences. These workshops could serve as pilots for these proposed field-oriented geography modules included in this research, and may serve as examples for the college and university instructor. These workshops would provide hands-on interactive exposure to geography and its role in a complete education.

Simply incorporating field oriented geography modules into existing curriculum is one step in the process of better educating geography teachers. However, these modules may be augmented if taught by college and university master educators with expertise or strong interest in geography education. These educators may be able to further define needed curriculum elements, therefore improving the overall quality of the modules and their adaptability to the preservice college classroom and in turn to the K-8 classroom.

Future research would include pilot studies using these geography modules in select SREB education programs. Institutional funding and external monies could be obtained through grants to achieve best practices in teacher professional development, and to further strengthen ties between college and university instructors and their future

and to further strengthen ties between college and university instructors and their future inservice educators. The end result is that they are preparing a better-educated populace, and a more geographically informed citizenry.

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APPENDIXES

APPENDIX A

FIGURE 1

MAP OF THE UNITED STATES INDICATING

SREB INSTITUTIONS

MAP OF THE UNITED STATES

SREB INSTITUTIONS INDICATED BY ■

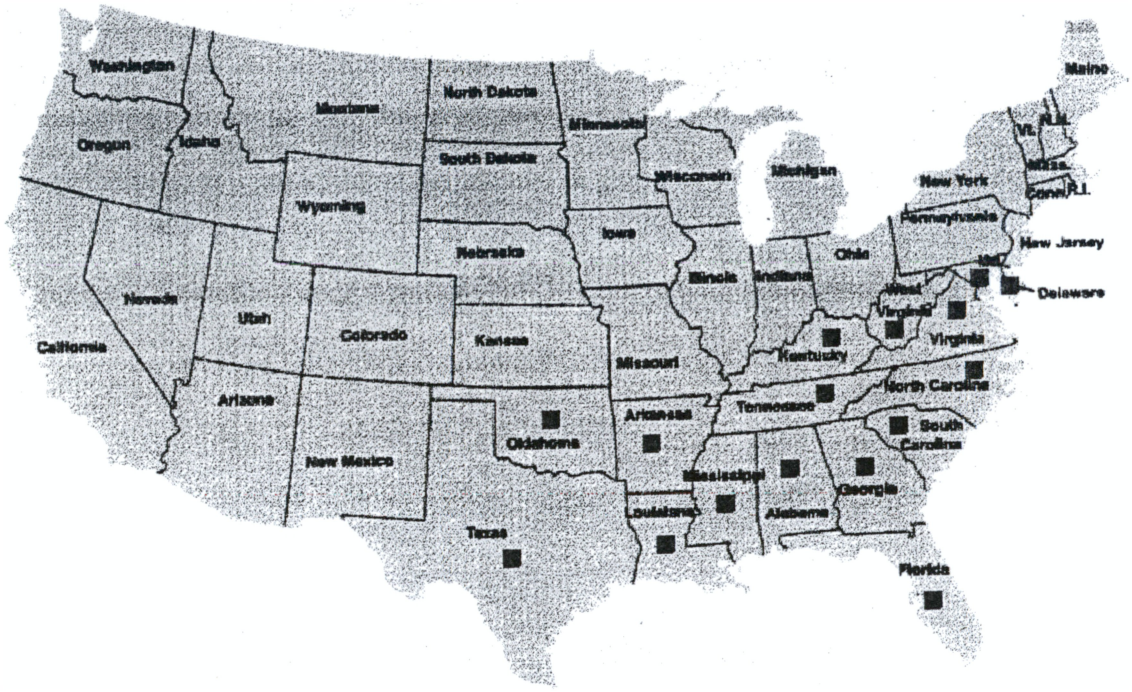

FIGURE 1

MAP OF THE UNITED STATES

APPENDIX B

FIGURE 2

BAR GRAPH OF SREB INSTITUTIONS

BAR GRAPH OF SREB INSTITUTIONS

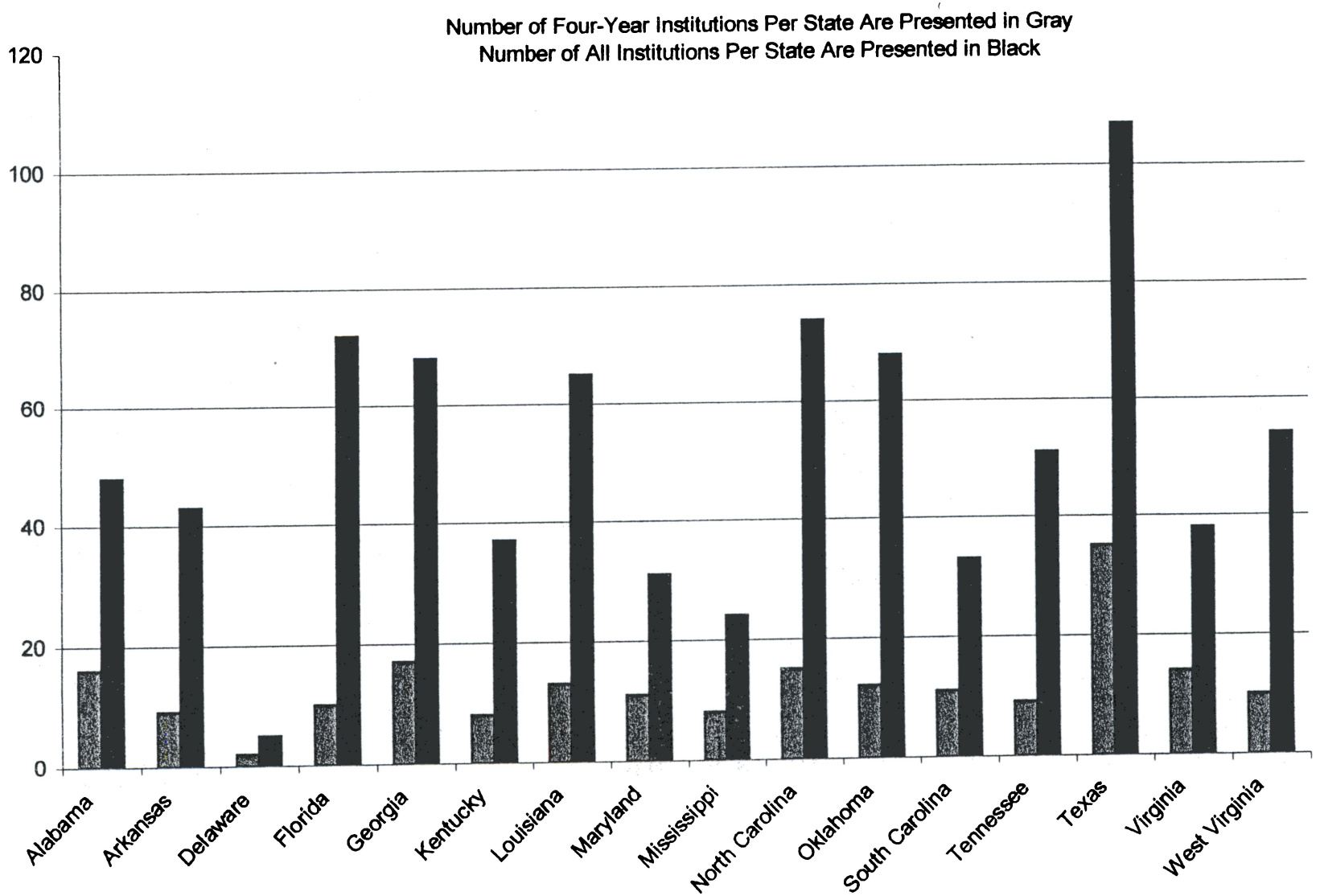

FIGURE 2

BAR GRAPH OF SREB INSTITUTIONS

APPENDIX C

COVER LETTER

INITIAL MAILOUT

Department of Geography and Geology
Middle Tennessee State University
P. O. Box 9, MTSU
Murfreesboro, TN 37132

November 15, 2001

Dear Dean:

Your assistance is requested to better understand geography's role in preservice teacher training. Attached you will find a brief questionnaire that will provide invaluable information on the status of geography and geography education within SREB colleges and universities. This questionnaire was developed as part of a recent National Council for the Social Studies Grant for Enhancement of Geographic Literacy, and doctoral research in geography education.

The inclusion of geography in the core subjects of the 1994 Goals 2000 Educate America Act has elevated the emphasis on geographic education in grades K-8. Additionally, the publication of the National Geography Standards in 1994 signals the importance of a new era of geography. However, geography is often not required or included in the curriculum for an education degree or teacher certification.

We hope you will choose to participate in this research on behalf of your school by completing the enclosed questionnaire. Your questionnaire contains a code number that may be used for follow-up purposes only. We assure you that no presentation/analysis of data will specifically identify an institution by name.

We believe the results of this study will be useful to all educators, specifically geography educators. A summary of the results of the study will be sent to you, if requested. Thank you for your time and participation.

Sincerely,

Douglas Heffington, Ph.D.
Associate Professor of Geography

Judith C. Mimbs, MPA
Geography Research Assistant

APPENDIX D

SURVEY QUESTIONNAIRE

INITIAL MAILOUT

Code Number _____

Geography Curriculum Study

SURVEY QUESTIONNAIRE

This questionnaire is part of survey designed to determine how programs in education are including geography in their curricula. Please answer the questions as accurately as possible. You may need to obtain some of the data from other faculty members.

The code number on the questionnaire will be used for follow-up purposes (if needed), and will be removed once data analysis begins. Please return the questionnaire in the enclosed, self-addressed, stamped envelope by December15, 2001.

1. How many credit hours in geography are required in your K-8 education curriculum?
a. geography is not required _____ b. 1-3 hours _____
c. 4-6 hours _____ d. more than 6 hours _____

2. What geography course(s), if any, are required in your K-8 education curriculum?
a. Regional (World) Geography _____ b. Introduction to Geography _____
c. Physical Geography _____ d. Cultural/Human Geography _____
e. Any geography elective _____ f. Other: _____

3. Where would a geography course for preservice educators best be taught, and why?
a. Education Department _____ b. Geography Department _____
c. Other _____
Why? _____
_____

4. To what extent, if any, is your state's Geographic Alliance utilized in K-8 preservice teacher training?
_____
_____

5. Would a field-oriented geography curriculum for preservice teachers be useful at your institution?
Yes _____ No _____

APPENDIX E

COVER LETTER

SECOND MAILOUT

Department of Geography and Geology
Middle Tennessee State University
P. O. Box 9, MTSU
Murfreesboro, TN 37132

January 10, 2002

Dear Dean:

Even though we have not received your response to our initial inquiry, we are hopeful that you or someone in your school will participate in this study to better understand geography's role in preservice teacher training. Enclosed you will find a brief questionnaire that will provide invaluable information on the status of geography and geography education within SREB colleges and universities. This questionnaire was developed as part of a recent National Council for the Social Studies Grant for Enhancement of Geographic Literacy, and doctoral research in geography education.

The inclusion of geography in the core subjects of the 1994 Goals 2000 Educate America Act has elevated the emphasis on geographic education in grades K-8. Additionally, the publication of the National Geography Standards in 1994 signals the importance of a new era of geography. However, geography is often not required or included in the curriculum for an education degree or teacher certification.

We hope you will choose to participate in this research on behalf of your school by completing the enclosed questionnaire. Your questionnaire contains a code number that may be used for follow-up purposes only. We assure you that no presentation/analysis of data will specifically identify an institution by name.

We believe the results of this study will be useful to all educators, specifically geography educators. A summary of the results of the study will be sent to you, if requested. Thank you for your time and participation. Please return the survey by January 29, 2002.

Sincerely,

Douglas Heffington, Ph.D.
Associate Professor of Geography

Judith C. Mimbs, MPA
Geography Research Assistant

APPENDIX F

SURVEY QUESTIONNAIRE

SECOND MAILOUT

Code Number _____

Geography Curriculum Study

SURVEY QUESTIONNAIRE

This questionnaire is part of survey designed to determine how programs in education are including geography in their curricula. Please answer the questions as accurately as possible. You may need to obtain some of the data from other faculty members.

The code number on the questionnaire will be used for follow-up purposes (if needed), and will be removed once data analysis begins. Please return the questionnaire in the enclosed, self-addressed, stamped envelope by January 29, 2002.

1. How many credit hours in geography are required in your K-8 education curriculum?
a. geography is not required _____ b. 1-3 hours _____
c. 4-6 hours _____ d. more than 6 hours _____

2. What geography course(s), if any, are required in your K-8 education curriculum?
a. Regional (World) Geography _____ b. Introduction to Geography _____
c. Physical Geography _____ d. Cultural/Human Geography _____
e. Any geography elective _____ f. Other: _____

3. Where would a geography course for preservice educators best be taught, and why?
a. Education Department _____ b. Geography Department _____
c. Other _____
Why? _____
_____

4. To what extent, if any, is your state's Geographic Alliance utilized in K-8 preservice teacher training?
_____
_____

5. Would a field-oriented geography curriculum for preservice teachers be useful at your institution?
Yes _____ No _____

APPENDIX G

FIELD-ORIENTED MODEL CURRICULUM

MODULES ONE - SIX

Field-Oriented Model Curriculum

The following six modules are provided as examples for a field-oriented model curriculum. One or more could be incorporated into existing introductory level college and university courses, and in turn into the K-8 classroom. These modules focus on each of the six essential geography elements: The World in Spatial Terms, Places and Regions, Physical Systems, Human Systems, Environment and Society, and The Uses of Geography. Modules One through Six reflect many of the components of "new" geography as defined by Marran (1994). These components include problem solving, critical thinking, collaborative learning strategies, and most importantly "observation through field work" (ibid: 26). These modules are easily transferable to the K-8 classroom. Therefore, upon completion of the geography course, the preservice educator would have six field-oriented lessons that can be used in their K-8 geography or social studies classroom. These modules represent one alternative way of developing necessary and important geographic knowledge and skills. The instructor can easily modify the modules to fit his or her specific needs, the needs of individual students, individual classroom settings, the instructor's and students' geographical area, and the instructor's and students' level of geographic expertise. For example, Module One uses a campus to make a map to a traffic light. Some rural schools and communities may not have this element of the landscape. However, they may have barns or stock ponds that the urban

setting does not have. The rural student can use a compass to locate these familiar landscapes just as easily as the urban student uses a compass to find a traffic light. Although the fieldwork activities may seem somewhat simplistic, they were intentionally designed in that manner to better facilitate implementation into the classroom once the preservice education major becomes an inservice K-8 educator. These model curricula can be of immediate use in the K-8 classroom. The educators will not only be teaching these lessons, they will have completed these lessons themselves. A field assignment should always be field tested before being assigned to students in the classroom. It is hoped if this field-oriented model curriculum is incorporated into a college level Regional or Cultural Geography class that the preservice education student will have at his or her disposal one to six K-8 classroom-ready field-oriented geography lesson plans that are not only applicable to a geography class at the K-8 level, but should be applicable to a wide variety of social studies subjects and topics. The six modules in this field-oriented model curriculum are timely, relevant, and multi-sensory. They are also fun and easily accomplished – all curriculum traits that should make them a success in the K-8 classroom.

Each of the following six module overviews was taken directly from Geography for Life: National Geography Standards(1994). The modules were developed by classroom geographers, and based on geographic literature were successful in the classroom and in the field (Murphey, 1991; Milner, 1986; Rice and Bullman, 2001; Glynn, 1988 and Dragovich, 1980). Although success of portions of Modules One through Six was evident in the previously listed references, further validity lies in elements of these six modules having been successfully incorporated into geography

education workshops conducted for the Tennessee Geographic Alliance and the Hamilton County, Tennessee Public Education Foundation (Heffington and Mimbs, 1998 and 1999).

MODULE ONE

THE WORLD IN SPATIAL TERMS

Title: Compass and Campus

Overview:

In Module One, The World in Spatial Terms, geographers study the relationships between people, places, and environments by mapping information about them into a spatial context. Thinking in spatial terms enables students to ask what, when, where, and why about people, places, and environments. Spatial concepts and generalizations are essential for explaining the world both locally and globally. They are the building blocks that develop geographic understanding (Geography for Life, 1994).

In this field-oriented exercise students will construct a linear map using inexpensive compasses and simple pacing. The linear map will include portions of their campus, their surrounding neighborhood, and community. The fieldwork involves data collection in the field, based on compass directions and pacing of distance.

National Geography Standard addressed:

1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

Objectives:

Students will:

- Conduct accurate and meaningful field observation
- Determine cardinal directions by using compasses

- Calibrate pace measurements for linear mapping
- Construct a schematic map using geographic field data
- Present a map drawn using cartographic techniques
- Listen and follow oral directions
- Work cooperatively and share with a group
- Discuss the activity and express evaluations

Procedures:

Classroom:

1. Begin with a brief overview of the "reading" of a landscape. Similar to reading a book, the world around us provides information that is both spatial and temporal. An eye for detail is required. Peirce Lewis provides the most extensive and detailed guide for reading landscapes in his 1979 article "Axions for Reading the Landscape" in which he lists landscape items geographers should focus on, such as landscapes as clues to culture and the landscape of ordinary things.
2. Divide the class into groups of four or five students. Each group member is provided with a specific task. One student will pace off the distance, one student will record the direction from the compass, one student will be the timekeeper, and one student will record the information.
3. Each group is given a compass direction to follow during the field activity.
4. Each group must observe and gather as much data as possible. Students will look at structures, landmarks, and surroundings and record the information.

Fieldwork:

1. Students will set their own pace for determining distance. A pace is usually counted as two steps, each time the right foot hits the ground. The following instructions are used to set your pace:
    - Accurately measure a pacing course of 100 feet on level ground
    - Put stakes at each end
    - Pace off the course, counting off the number of paces (two steps) it takes to complete the distance. Repeat several times and determine the average.
    - Record the number of paces per distance (per 100 feet). This is your pace count (LeBlanc, 2002).
2. Groups are required to travel in a specific compass direction. For example, Group One may be assigned "North."
3. Students will pinpoint the absolute location of their school on a map of the United States. Students will determine latitude and longitude. Students will observe and list major sites or landmarks such as public buildings within view of the school. Neighboring cities should be identified on the map. Information should be recorded in the students' field notebooks.
4. Groups will record the distance from the front door of the school, in pre-determined directions, to the nearest recognizable outdoor feature, e.g. campus flagpole, school parking lot, or campus sign.
5. Once outside, students will pace, and record to the first street intersection that possess a traffic stop light. Obviously, students cannot walk across personal

property such as yards, but they can use existing road networks, even if by angles, to continue on in their direction.

6. Students will record distance, note change and direction, and record all landmarks and structures, such as houses, parks, stores, and churches.
7. Once the students reach the destination of the first intersection with a traffic light, they are to return to campus, backtracking on the same route to double check their recordation of the cultural landscape.

Summary:

1. Students will gather in their groups in the classroom to discuss the notes in their field journals, paced distances between known features, and compass directions.
2. Students will locate, based on their observations, these locales on the community map.
3. Students will construct a schematic map on graph paper based on field notes, compass directions, and paced distances from the front door of the school to their destination and back. They will record and draw most obvious features encountered during their mapping excursion. They will identify public buildings and physical features (ponds, creeks, large trees, road signs, etc.).
4. Students will share maps with other classmates and compile them into a Compass and Campus Notebook.

Materials and Equipment:

- Notebooks, pens and pencils
- Compasses
- Cameras

- Graph paper
- Maps of the United States
- Community Maps

(Adapted from Murphey, 1991: 38-40)

MODULE TWO

PLACES AND REGIONS

Title: Playground and Description

Overview:

In Module Two, Places and Regions, the identities and lives of individuals and peoples are rooted in particular places and in those human constructs called regions. Our sense of self is interconnected with that of place. Who we are is sometimes inseparable from where we are. To better understand other peoples, cultures, and regions of the world, students need to understand their own place. People's mental maps are incorporated by knowledge of places on all scales, locally and globally (Geography for Life, 1994).

During this field-oriented activity kindergarten and early elementary students will learn the foundations of directions, and identify the physical and human characteristics of their school playground.

Geography Standard addressed:

1. The physical and human characteristics of places.

(Derived from Milner, 1986: 18-21)

Objectives:

Students will:

- Conduct accurate and meaningful field observation
- Differentiate fundamental directions, such as left, right, behind, and in front of

- Listen and follow verbal directions
- Follow directional arrows to a given point
- Verbalize field observations of physical and cultural characteristics
- Draw depictions of field observations
- Work cooperatively and share with a group

Procedures:

Classroom:

1. Discuss fundamental directions that start from a "known."
2. Demonstrate the foundations of directions, such as left, right, in front, and behind, by using students.
3. The teacher will become the "known." (In the field, a "known" will equate to "home base."
4. Students will be selected to stand at the teacher's left, the teacher's right, in front of the teacher, and behind the teacher.
5. Explain and discuss that all places have physical things that are describable, such as mountains and rivers; but that also possess cultural items, such as schools, churches, and grocery stores.
6. Discuss how describing these places will allow students to compare and contrast physical and cultural landscapes.

Fieldwork:

1. At the school playground the teacher will select a "home base," for example, the playground slide.

2. The teacher will label home base as "HB" on a paper plate, which is then placed at the slide.
3. With orientation towards North, the teacher will run string to the left of the slide, to the right of the slide, in front of the slide, and behind the slide. The paper plate will be labeled, "L" for left, "R" for right, "F" for in front of, and "B" for behind.
4. The students, in small groups, will walk along designated strings in each of the directions, stopping at the boundary of the playground and marked paper plate.
5. Students will discuss among their group members what they see going from home base to the paper plate, and their return trip.
6. Once students return to home base, they will verbalize to their teacher what they saw. For example, was the playground muddy? Was it rocky? Did they pass a swing set or sand box?
7. Students will draw, individually, with crayon and paper what they saw along their directional line from home base marker to directional marker and return. This provides students' the foundation for describing the physical and human characteristics of places, even if that place is the school playground.

Summary:

1. Students will review in groups what they saw on their map excursion.
2. Students will share and discuss their drawings.
3. Students will compare and contrast the differences and similarities of their drawings.

Materials and Equipment:

- Notebooks, pens and pencils
- Drawing paper
- Crayons
- Strings
- Paper Plates

MODULE THREE

PHYSICAL SYSTEMS

Title: Health of Local Ecosystems

Overview:

In Module Three, Physical Systems, physical processes shape Earth's surface and interact with plant and animal life to create, sustain, and modify the ecosystems. The physical environment is the essential background for all human activity on Earth. Understanding how ecosystems operate and change will enable students to understand the basic principles of environmental management. Students will understand ways in which they are dependent on living and nonliving systems of Earth for their survival (Geography for Life, 1994).

In this field-oriented activity students will be exposed to local patterns of ecosystems. Students can work individually or in groups, and the investigations can be done at a single site visit, or conducted over a series of days, weeks, or months.

Geography Standard addressed:

8. The characteristics and spatial distributions of ecosystems on Earth's surface.

Objectives:

Students will:

- Conduct accurate and meaningful field observation
- Point out a specific area of study on a map
- Interpret geographic and spatial information

- Analyze water samples according to observations
- Hypothesize about the variations in samples
- Explain the fundamentals of ecosystems
- Describe the characteristics and spatial distributions of an ecosystem
- Present findings orally and in a written report
- Debate possible ecological influences on the ecosystem they studied

Procedures:

Classroom:

1, Provide an overview of ecosystems and their geographic areas. Ecosystems can be large such as the Amazon Forest, or they can be small such as a pond.
2. Provide students information on five local bodies of water, each representing an ecosystem within their community.
3. Students will locate each of these ecosystems on area maps.
4. The field observation constant will be a labeled prescription bottle filled with distilled water.
5. Students will select three of the five previously listed water bodies/ecosystems to conduct their field observations.

Fieldwork:

1. Students will collect at least one bottle of water at their selected water site to compare to the distilled water constant.
2. Each bottle will be numbered and labeled, and each location will be observed and described in the student's notebook, including sketch maps of the area.

3. Observable items should include: additional water discharge, human induced pollution, and urban encroachment.
4. Students will compare their collected sample to the distilled water, and describe the coloring.
5. Students will describe any sediment they observe.
6. Students will document any smells of the sample.
7. Students will enter all information for each specimen and each ecosystem into their field notebook.

Summary:

1. Students will return to the classroom to work individually or in groups and describe their impressions of the health of their selected ecosystem, based on field observations and comparison of collected water samples to the known distilled water sample.
2. Students will discuss some indication on the well being, or potential threat of problems, of their selected ecosystems.

Materials and Equipment:

- Notebooks, pens and pencils
- Cameras
- Waterproof markers
- Small, clear prescription bottles
- Distilled water
- Area maps

(Derived from Glynn, 1988: 58-62; Rice and Bulman, 2001: 66-67)

MODULE FOUR

HUMAN SYSTEMS

Title: The Interpretation of Urban Landscapes

Overview:

In Module Four, Human Systems, people are central to geography in that human activities help shape Earth's surface, human settlements and structures are part of Earth's surface, and humans compete for control of Earth's surface. To appreciate the significance of geography's central theme that Earth is the home of people, students should understand the settlement processes and functions, and patterns of settlement. Settlements, the organized groupings of humans, are an essential part of human life and important in economic activities, transportation systems, communications media, political and administrative systems, culture, and entertainment (Geography for Life, 1994).

This fieldwork exercise examines urban activity and land use on a highly urbanized thoroughfare in a community. Students can conduct this urban, retail, front survey in any size city or town.

Geography Standard addressed:

12. The processes, patterns, and functions of human settlement.

Objectives:

Students will:

- Conduct accurate and meaningful field observation
- Explore an area and gather data to construct a map

- Identify and classify retail establishments
- Interpret the urban landscape of retail establishments
- Interpret geographic data
- Analyze and present findings using cartographic skills
- Construct a schematic map

Procedures:

Classroom:

1. Discuss basic geographic concepts concerning urban geography, such as central place theory, and the concept of a central business district. Students should do additional research at their schools' media center.
2. Divide students into small field survey groups, one for each linear block of a selected urban retail zone.
3. Provide students with a community map and identify their section of street to be surveyed, usually a block-to-block linear distance.
4. Students will survey functions of all buildings in their survey section, whether retail, service sector, churches, or vacant frontages.
5. Each structure will be paced off to determine frontage.
6. Students will enter a brief description of each structure's function in their field journal.
7. Students will record all observations specifically what businesses are located where and how much road frontage they possess.

Fieldwork:

1. Students will walk their area to familiarize themselves with businesses and functions of structures in their selected section of city streets.
2. Students will start at one end and one side of the street and go from business to business describing what each does and how many feet it occupies on the road frontage.
3. Students will make sketch maps, take photographs, and possibly interview store patrons and owners concerning the business and their shopping preference.

Summary:

1. Students will share their individual field logs, their shared observations, and the data they acquired through the fieldwork exercise with the entire class.
2. Students will classify businesses and footage they occupy along their designated stretch of street. This can be tabulated in table, graph, or spreadsheet form.
3. Students will discuss in groups their collected field data.
4. Students will discuss additional topics, such as clustering of like functions, parameters of frontage for like and dissimilar businesses, and the economic health and vitality of their selected stretch of street.
5. Students will determine whether their observations could be used to predict future changes in their study area.
6. Each group will make a presentation to their peers and instructor, and will open the floor for suggestions, shared observations, and criticisms.

Materials and Equipment:

- Notebooks, pens and pencils

- Cameras
- City maps
- Tape measures or yardsticks to measure and record student's paces

(Derived from Rice and Bullman, 2001: 73-76)

MODULE FIVE

ENVIRONMENT AND SOCIETY

Title: Landscapes of the Dead

Overview:

In Module Five, Environment and Society, the physical environment is modified by human activities, largely as a consequence of the ways in which human societies value and use Earth's natural resources, and human activities are also influenced by Earth's physical features and processes. Many important issues of the global society are the consequences, positive and negative, and intended and unintended, that humans place on the physical environment. Students will increasingly be required to make decisions about relationships between human needs and the physical environment. (Geography for Life, 1994).

In this field-oriented activity, students will develop an appreciation of how humans can affect the physical environment. Students will examine local cemeteries to determine if human activities (pollution) have had an effect on tombstones (rocks). Students will observe the weathering process on cemetery stones through field observations.

Geography Standard Addressed:

13. How human actions modify the physical environment.

Objectives:

Students will:

- Conduct accurate and meaningful field observation
- Investigate patterns on rocks that are the result of change over time
- Determine the age of tombstones and markers from dates
- Analyze material types of tombstones and markers
- Identify and distinguish different weathering patterns
- Hypothesize human/land relationships
- Prepare a written report categorizing material types and weathering patterns

Procedures:

Classroom:

1. Provide a brief overview of the role weathering plays in the study of physical geography, the aspects of weathering, and field documentation of weather.
2. Students will do research on the weathering process in their media center.
3. A local cemetery will be selected for observation.

Fieldwork:

1. Field observations can be conducted individually or in groups.
2. Students will select a cemetery within their community that is at least 100 years old, and will provide the location and name.
3. Students will survey the cemetery's headstones, stone markers, and stone statuary to determine if weathering has had any effect on exposed stone surfaces.
4. Students will make an assessment of material type.

5. Students will determine information concerning the weathering environment (e.g. area rainfall, proximity to factories, and heavy traffic concentrations.
6. Students will determine age of the selected tombstone or marker.
7. Students will list information regarding observable weathering, such as pitting or scaling of surface.
8. Student will determine orientation of the marker by use of a compass.
9. Students will draw a sketch map of the cemetery, including areas of light, moderate, and heavy observable weathering.

Summary:

1. Students will use research material to prepare a short report on weathering processes at their selected cemetery.
2. Students will use sketch maps and photographs to support their written document.
3. Students will hypothesize the likely causes of weathering, such as automobile or factory emissions; and, assess future environmental problems.

Materials and Equipment:

- Notebooks, pens and pencils
- Cameras
- Compasses

(Derived from Dragovich, 1980: 56-60)

MODULE SIX

THE USES OF GEOGRAPHY

Title: The Geography of Your Town – Past and Present

Overview:

In Module Six, The Uses of Geography, knowledge of geography enables people to develop an understanding of the relationships between people, places, and environments over time – that is, of Earth as it was, is, and might be Students should understand that viewing the past from both chronological and spatial viewpoints, leads to a better understanding of physical and human events. Understanding the past geographically helps explain why events happened and is crucial to the understanding of events of today (Geography for Life, 1994).

Students will utilize historic maps, and present day community maps, and if possible, historic photographs, for comparison to modern day landscapes. Fieldwork activities will be utilized to compare and contrast what is observed on historic maps and what is seen today. Sandborn Insurance Maps from the late 1800s were drawn for many American communities. They provide detailed information on streets, businesses on community streets, and residences. Using the Sandborn Insurance Map as the historic base map, the students will observe in the field changes to these landscapes, collect data, and brainstorm reasons for these changes.

Geography Standard addressed:

17. How to apply geography to interpret the past.

Objectives:

Students will:

- Conduct accurate and meaningful field observation
- Determine locations on maps
- Interpret geographic data from observations
- Analyze landscape change over time
- Analyze field observations and record data
- Compare and contrast geographic information from an historical perspective

Procedures:

Classroom:

1. Provide students with an overview of the history of their community.
2. Provide history of Sandborn Insurance Maps.
3. Provide students with information concerning primary data, such as location of historic photographs and Sandborn Insurance Maps.
4. Students will locate and examine a Sandborn Insurance map of their community.
5. Students will select and photocopy a four-block area of the map that they know exists in the present day urban landscape.
6. Students will check for clarity of copying to make sure buildings and streets are clearly labeled.

Fieldwork:

1. Students, as individuals or groups, will take their photocopied Sandborn Insurance Map into the field and carefully walk and observe their chosen four-block study area.
2. Students will denote changes in the urban landscape from the turn of the century to present day.
3. Students, using a clear plastic cover placed over the photocopy and colored pens, will document field observations.
4. Students will record the information in their field notebooks.
5. Students will take photographs of portions of their study area to compare to existing historic photographs of the same area.

Summary:

1. Students, as individuals or in groups, will examine the landscape of the Sandborn Insurance Map and compare it to the same landscape of today.
2. Students will carefully itemize changes based on their plastic overlay.
3. Students will interpret their data and observations in a geographical format, which may be maps, photos of cultural landscapes past and present, graphs, and charts.
4. Students, as individuals or in groups, will discuss in an open forum their study area and the geographical comparisons and contrasts.
5. Students will prepare a written report based on field observations, research, and interpretation of geographic data.

Materials and Equipment:

- Notebooks, pens and pencils

- Cameras
- Community maps
- Plastic overlays
- Colored, erasable markers
- Clipboards
- Sandborn Insurance Maps (may be obtained from community library, local Historical Society, or area college/university)

(Adapated from National Geographic Expedition Webpage "Your Town in the Past, Present and Future" 2002; Rice and Bulman, 2001: 86-88)

VITA

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She has taught middle school social studies in Tennessee since 1993. She received a graduate certificate in Geoscience, with an emphasis in geography, from Middle Tennessee State University in 2001. She completed her Ed.D. at the University of Tennessee, Knoxville, with emphasis in geography education, in 2002. Since beginning her graduate work in geography education she has served as adjunct instructor of geography at area colleges and universities.

Since becoming involved in geography education, she has presented or co-presented seven professional papers at state, regional, and national geography conferences. She has authored or co-authored five juried and non-juried articles in various geography and social studies publications. In addition, she has received numerous academic grants with emphasis on geography in the classroom. Honors include National Geography Society Foundation Teacher Grant; Tennessee Humanities Outstanding Teacher, 2001; and Who's Who Among America's Teachers, 2002.