Paper I
The Importance of Defining Geography

Geography was an important part of the education of our founding fathers and an integral part of American education through the early 20th century. Too often, for various reasons, thinking geographically was abandoned as a goal of education, memory of capitals and landforms was stressed, and geography became comatose, if not dead.

Thinking geographically is critical to a citizen's basic understanding of the world in which he or she lives. In our society, every news story has a geographic or spatial aspect. Comprehending articles on foreign policy, international business and trade, environmental and resource problems, population distribution, urban planning, and growth management requires geographic understanding. Geography also contributes to an understanding of the physical/biological and social sciences and the humanities.

Regrettably few students, teachers, or citizens in general, understand the basic questions, concepts, and methods of geography. This knowledge is critical to achieving world-class standards in geography education. To aspire to this goal practitioners must be able to discuss topics such as: What is geography?, How do we think geographically?, How is geography different from other disciplines?, Do geographers study physical or cultural phenomena or both?, and What are the basic methodological concepts or approaches to geography teaching and learning? Teachers need to be able to discuss adequately these questions. In business it is unthinkable that the salesperson not have a thorough knowledge of his/her product. It can be no less when the product is geography education.

This does not imply that good geography education is not taking place. Many teachers do a good job of teaching about places in the world. History teachers use maps and often explain

the spatial context of an historical event. Current event lessons are discussed as place-related and relationships between and among physical and cultural phenomena are analyzed. Many other examples could be given. In too many cases, however, these lessons in geography are discrete exercises rather than part of a systematic rational attempt to teach the principles, generalizations, models, concepts and skills of the geographer which can be transferred to later intellectual and problem solving experiences.

What, then, is Geography?

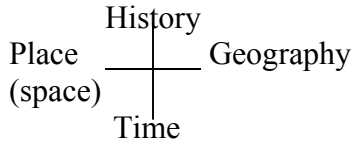
To become more effective in conveying the lifelong benefits of geography to their students, teachers must ask: What, then, is geography? Teachers need to have an understanding of a basic definition of geography in order to better understand the writings of academic geographers.

Teachers also need to be able to explain how geographers deal with both cultural (e.g., religion, health, and retailing) and physical (e.g., landforms, soils, and water resources) phenomena and on different occasions study systematic as well as regional topics. How can a truly scientific discipline deal with climate, vegetation, economic activity, Ghana, disease, the Suez Canal, and pollution and have its own identity? Are not all of these topics covered by other disciplines?

Finally, teachers need to be able to structure their lessons around these new understandings. I hope the next paragraphs will successfully address these issues.

What makes geography a distinct, credible, and intellectually defensible pursuit? Philosopher Immanuel Kant helps by reminding us that all phenomena exist in two dimensions: time and space. If a subject is studied through time, chronologically or historically, everyone seems to understand what is being done (Figure 1). However, if a student purports to study the

WHAT IS GEOGRAPHY?
THINGS TO THINK ABOUT



Kant--everything exits in 2 dimensions
Time and Space (Chronology & chorology)

•A geographic study is not identified by **what** is studied but by **how** it is studied

•Geography is the study of place concerned with the areal distribution and spatial interaction of phenomena on the earth.

Areal Distribution	Spatial Interaction
Pattern	People and things in place
Density	
Dispersion	Places
Diffusion	

* Areal distribution includes the absolute and relative location of phenomena (data).

•Important concepts from geography:

Each of the concepts listed above, as well as cartography (map making), regional geography, systematic geography, spatial differentiation, sequence occupance, time/distance, (the five themes supported by the National Geographical Society Education Program: region, place, movement, location, man-land relationships), scale, coordinates, trade area, service thresholds, resource management, urbanization, and many more.

Note: Research is needed to better understand these concepts and how they can be used in geographic education.

Figure 1

spatial or chorological character, or the geography, of that same phenomenon, people don't seem to understand. Since everything has a spatial dimension, everything can be studied spatially, or geographically. A geographic study, like a historical inquiry, must be identified by HOW and WHY the investigation takes place, not what is being studied.

Because of this approach geography can and must investigate both physical and cultural phenomena since both have a spatial dimension and both are interrelated and often interdependent; that is, everything exists or takes place in a specific location. Some people mistakenly argue that geography is more cultural than physical, others take the equally mistaken opposite stance. This is a divisive, erroneous, and useless activity. Geographers may be specialists in one or the other, but in most cases the cultural investigator must ask if and how the physical environment influences his or her study. In the same way physical geography usually consider the people-physical environment relationship.

To be academically respectable, geography has to be methodologically sound. From the Greek, geography is “earth writing”. Material heralding the 27th International Congress of the International Geographical Union states that "Geography is the science of space and place." A consistent, yet more specific and informative definition is that "Geography is the chorological or place study concerned with the distribution and interaction of phenomena in space or place.” Some have added, “on the Earth as the home of mankind." No other discipline, or study, has as its fundamental approach this spatial methodology.

This definition (others may discuss the geography of outer space but "geo" is earth) is an academic way to say that geographers are interested in where people and things are located, why they are located there, and how they interact. This discipline identifies and explains the character of place. This study, or approach, includes two major methodological components. The first unique concept or approach the geographer uses is to study the areal distribution of

phenomena such as people, climates, farms, roads, shopping centers, and schools. In doing this, the investigator can be very precise and scientific. These phenomena can be described generally, or be precisely located, counted or measured, placed on a map and/or in a computer database. The second unique aspect is spatial interaction, or the relationship of phenomena in place. The properties of areal distribution can be understood by analyzing the density, pattern, dispersion, and diffusion of phenomena, data that can be mapped (Figure 2). Each of these methodological concepts, or approaches, can be used by the professional geographer to analyze data, but they also suggest ways a teacher can involve students in a lesson (see section entitled "Using the Definition of Geography to Develop Teaching Strategies"). A note of caution: using these more analytical approaches is not intended to replace good geographic description. They are intended to be analytical and complimentary. Geography education objectives include the skill to clearly describe both the distribution and interaction of specific phenomena as well as the ability to describe places at various scales.

Now, let us describe the methodological concepts that help us analyze areal distribution. Density is a measure of the number of phenomena per unit area. For example, density can give us a way to understand the pressure people or cultural phenomena have on the physical environment. Pattern is the discernible locational arrangement of data. Some data may be in a circular pattern, or rectangular, radial, linear, etc. or, if no pattern, the arrangement would be random. Identifying a particular pattern helps us analyze the interconnection between and among phenomena. Dispersion is the measurable distance one or more phenomena are from one or more reference points or the extent of the spread of a feature within an area. Understanding the distance between two phenomena is important to the efficient location of retail or infrastructure facilities with respect to their users. Diffusion is the movement or spread of a phenomenon over space through time. Diffusion can measure how rapidly pollution moves or spreads in an aquifer or a river, or how fast the demand for a new product or a new technology moves through space. Time is a major concern of geography as the characteristics of

distributions and relationships change temporally. It should be noted that while these analytical methods are theoretically discrete, there are sometimes overlaps in application as well as with the next approach, spatial interaction. All of these research techniques are used by other disciplines just as geographers use history's chronological approach when it aids in understanding a place (for a more detailed explanation of how the definition discussed above may be helpful please see the section entitled "Using the Definition of Geography to Develop Teaching Strategies").

The second unique methodological concept or approach of the geographer is spatial interaction or relationships within place and also between and among places. This is the analysis or explanation of how phenomena relate within space and how places relate to one another. Within space we learn that the interaction of climate, vegetation, animal activity, and bedrock produces soil. This is an example from the physical environment. In the cultural environment we might examine the relationships between a regional mall, major transportation routes, and housing areas of a population with high discretionary incomes. The relationships of places might include the interaction between the United States and the Panama Canal Zone, or between nations, or between a city and its suburbs. Additional concepts related to areal distribution and spatial interaction include, but are not limited to, scale, region, internal coherence (of a place) and change. Again, it is noted that the primary way to approach a geography lesson is to use place description. This is not wrong. After all, it is the approach of nearly every geography text. However, through the use of maps, pictures, and other data the teacher can have students engage in analytical exercises that a professional geographer might use to help better understand the place under study. Another aspect of this procedure is that the exercises have transfer value.

Maps, aerial photographs, statistics, computers, and other tools are used by professional geographers to teach and study areal distribution and spatial interaction. A good discussion of skills development and techniques is found in Geography for Life, a publication of the National

Geography Education Standards Project which is a marvelous guide to help teachers choose content. It also suggests teaching strategies, activities, and more. The Geography Standards "identify what American students should learn - a set of voluntary benchmarks that every school and school district may use as guidelines for developing their own curricula. The Standards for grades K-4, 5-8, and 9-12 specify the essential subject matter, skills, and perspectives that all students should have in order to attain high levels of competency."

A few other common definitions or descriptions, some in paraphrase, regarding what geography is and what it does may help the classroom teacher gain a better understanding of the discipline. One states that geographers "observe things in order to analyze the variable character of area and to establish the existence of systems, areal patterns and relationships of phenomena in space or place." Another consistent view is that, "geographers describe, analyze and explain the locations of the human and physical features of the earth." Where? and Why there? and how did it get there? are core questions that unify the work of geographers and make it distinct from that of other disciplines. Those questions have persisted at the core of geography since the days of classic Greece. They are questions no other discipline consistently and persistently asks and answers.

The preliminary report of the "National Assessment of Educational Progress 1994 Geography Consensus Program Assessment Framework" on the nature of geography states, "Everything exists in space. Geography's concern is space. Geography uses a spatial perspective to study the arrangement and interaction of people and places over space - Earth's space. By understanding and using a spatial perspective, students seek answers to the questions: Where is it? Why is it there? How did it get there? What is the significance of its location?" These are questions the teacher can have students ask and answer in classroom activities.

It is no accident that we say that events "take place." Every individual and every thing exists in a place, in a global web of physical, economic, social, and political relationships. A place consists of its location in a rich composite of physical features such as soil, topography, climate, and vegetation. A place consists of its changing relative location in an even richer, more complicated web of economic, social, and political linkages that reach out from every place to every other place in the world. A place consists of its changing location in a rich network of exchanges of goods, energy, people, information, and ideas that connect it with the rest of the world.

Every place in the world is now in one way or another linked to every other place. Imports undersell American products in the steel, automobile, and textile industries. The United States faces foreign competition in high-technology industries, the exploration of space, and the service industries as well. Belligerent groups strike violently at places and peoples far removed from the immediate sites of their grievances, providing grim and regular reminders that local politics have global implications. No location on earth provides security from modern weaponry. Electronic reporting of events that occur halfway around the world causes them to receive as much or more attention than local affairs. That kind of world may confuse non-geographers. Geographers, on the other hand, help combat this confusion by suggesting that the key to understanding the whats, hows, and whys of the world is knowing its <u>wheres</u>.

<u>Where</u>? has been a persistent concern of humankind throughout history, and that concern will persist. Every change in airfares and plane schedules changes the geography of the world. In terms of cost and time, the east and west coasts of the United States have gotten progressively closer to each other as fares between major cities have dropped and speed has increased. Small towns and secondary cities that are not located on the coasts have moved farther apart as the time and economic costs of traveling between such places have risen as deregulation of the airline industry has resulted in less or no service to smaller communities.

This discussion of geography is in no way official. Other professional geographers may chose different terms or examples that may be just as good or better than these. However, the basic ideas presented here are all compatible and would be accepted by virtually all geographers. More importantly, these geography understandings are critical to the thinking, problem solving, participating of a successful democracy.

How and why is an understanding of this discussion important to the present lack of geographic knowledge in the United States? There are at least five reasons. First, no administrator, school board member, or faculty member is excited about supporting the teaching of a subject that s/he does not understand, let alone teaching it. Second, while the logic taken from Kant suggests there must be one geography course in a school for every history offering, this idea will not be accepted as long as geography is still a mystery, rather than understood as a critical base study. Third, this discussion clarifies (a) that a geographic study is identified by its methodology, not its content; (b) that the discipline can study both physical and cultural topics(It has been noted that geographers can study anything that is unevenly distributed in space.); (c) it uses both systematic and regional approaches to the study of places; (d) it deals both quantitatively and qualitatively with data; and, (e) it does not presume to take the place of any other subject. Fourth, while there is no reason for grade school students to memorize the above definition or description, it is important for teachers to be able to understand and, if necessary, to explain what geography is. A middle school student might define geography as the study that asks, (1) Where are things located? (2) Why are they located where they are? (3) What is the character of a place? and, (4) How are things, including places related? Fifth, it is very helpful to any geography teacher to keep the methodological concepts or tools of location, density, pattern, dispersion, diffusion, relationships within places, and relationships of places in mind as s/he develops courses, units, and lesson plans or worksheets. Many student activities can be developed from these concepts. It is reasonable that social studies and geography lessons will deal more with concepts regarding the character of places and relationships than the more

analytical concepts because the former are more descriptive and require less specific data. Teachers should strive to include quantitative and technically oriented (air photos, computer, cartographic, etc.) lessons in their teaching. This is also true of the geographic thinking of the educated citizen. Each of these tools of description and analysis is important to the informed citizen and many professionals as well as the academic geographer.

Geography is most often taught as a study about specific regions or countries of the world. This approach is called regional geography. Data is often provided for countries on the following topics: location and physical characteristics; population and cultural characteristics; selected historical facts that give the nation a special character; major economic activity including land uses for transportation, power, communications, etc.; and, important problems and prospects of the country. These topics may be in a different order or even worded differently, but the general ideas are covered. (This approach is much more fully covered in the article on "A Geographic Model for Studying a Nation.") Regional study shows us the areal distribution and spatial interaction of phenomena within the place we are investigating. The "place" does not have to be a nation. It could be the city, the block where the student lives, or even the place where there is a problem. It can be any place as long as we define it carefully.

An alternative curriculum order is called the "systematic or topical approach." Systematic geography studies the topics listed in the previous paragraph, such as physical features (climate, landforms, soil, etc.), or cultural factors (population, race, income, health systems, etc.). When this is pursued, we learn about the areal distribution and spatial interactions we can observe by mapping the topical data we choose to study.

Another aspect of systematic or topical geography in our curriculum is the utilization of the "problem approach" such as the study of a zoning problem, a health or crime problem, or an agriculture or fishery resources problem. The problem approach is usually, but not exclusively,

used in a Civics or Problems of Democracy course. It is important, and interesting, to note that any regional study is done by investigating the systematic topics that make up the study area. On the other hand, when we do a systematic study we can regionalize on the map the topical data under investigation.

Geography should never be characterized by memorizing place names, imports and exports, or physical features. Names and locations are learned as we study places, their physical and cultural components including their problems and prospects. Geography can be an up-to-the-minute class, an exciting effort that gives us an understanding of the world today, and a method to be ready for the world tomorrow.

Implications for Curriculum

For the educator, especially the curriculum specialist, it is important to review, and expand briefly on, some of the above. A shared characteristic of geography and history make them uniquely useful to serve as the basis for the social studies curriculum. That shared quality is that neither is content defined. Just as history is defined by its chronological approach or methodology, geography is recognized by its spatial or chorological character. Neither a geography nor a history study can be identified by its subject or content. Any phenomena that exists in place or time, which includes everything, can be the subject of either or both disciplines. Such studies are identified by how they are studied, not what is studied.

The use of history and geography as the basis for the social studies curriculum does not eliminate or "crowd out" other social science content. A course of study based on geography and history of necessity will include some of the content of political science, anthropology, sociology, economics, other social studies and the physical and biological sciences. The challenge for these disciplines, as well as the curriculum designer, is to make sure that important laws, generalizations, concepts, models, and methodology, including skills, from each is placed

in the courses and grades where they are applicable. As mentioned previously, the best guide to a complete coverage of geography content, skills, etc., is the Geography For Life reference.

Geography provides the basis and a method for understanding the location, distribution and relationships of the physical environment. This foundation understanding also provides a context for environmental studies. All environmental problems are place oriented, whether dry lands, wetlands, island ecosystems, marine environments, etc. Geography provides the rationale for multicultural studies and the term "global" in global studies describes the earth. Geography logically provides the curriculum basis for environmental, multicultural and global studies. Of course, the physical/biological processes aspect of environmental education belongs in the physical science courses and is used in understanding the geography of a place.

Most introductory geography courses follow either the regional format (North America, Europe, Southeast Asia) or the systematic organization (physical, cultural) or a combination. The National Geographic Society has made a noteworthy contribution to approaches to teaching geography. The society has supported the development of the Geography For Life publication and of materials to teach five important concepts taught by the discipline (place, location, movement, man-land relationships, and regions). These concepts are sometimes called "Fundamental Themes." Not everyone agrees with this description as other concepts are just as important to geography and geographic education. In addition, it would be extremely difficult to have a class develop them inductively as a model. Nevertheless, they have received a great deal of attention and have been used by many writers, including textbook authors. For some, the model, or outline, presented in this paper should help show where the "five themes" fit in the study of geography. The geography course is best developed within the regional or systematic format with major attention paid to important topics in the news and relevant societal problems. (See list of concepts and generalizations in section "Ways we Learn"). The regional theme fits most available textbooks and materials. Political, cultural and physical regions are constantly

being used by the intelligent citizen and all political, social, and economic problems have a place and/or regional context. The model for understanding a place would be a useful teaching/learning tool to use with this approach.

In summary, it is critical to be sure that both teachers and students understand what geography is, the methods and tools geographers use and the fact that the study is defined by its methodology and not content. It is then that students will begin to think geographically, not necessarily to become geographers, although that would be an acceptable outcome, but to become better-educated citizens. As teachers begin to think about the proper context within which to teach geography they need to review the basic ways in which we learn. Paper four of the Florida Geographic Alliance papers reviews, at a very simple level, some ways we learn geography.