MAJOR GEOGRAPHICAL CONCEPTS EMPHASIZED IN GRADES 7 AND 8 OF MONTANA SCHOOLS

BY

ROBERT FRANK WOODMANSEY

Submitted in partial fulfillment of the requirements
for the Master of Education degree
in the School of Education
Montana State College
June, 1961

P378
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CHAPTER I

INTRODUCTION

The writer has felt for a number of years that the youth of Montana have not had an adequate knowledge of basic geographical concepts. In the modern world of today it is necessary to grasp these basic concepts in order to think and speak intelligently about world problems. Distances, resources, climate, and rainfall must be considered with cultural traditions and institutions in all areas when modern problems are faced. The twentieth century mind must be able to use geography, history and the social sciences when public decisions are to be made.[1]

It was felt that a re-evaluation needs to be taken of what concepts students are learning in Montana schools. Grades 7 and 8 seem to be the "jumping off" point for many students for study in geography. In many schools after grades 7 and 8 there are indications that the importance of geography isn't stressed. Frequently it is not given emphasis or a basic position in the social studies program after grades 7 and 8. There is little wonder, according to Hill,[2] that critics of the schools have complained that today's young adults know little geography. Every student, whether seeking further education or joining the nation's labor force, needs to have encountered basic concepts about our world before his or her graduation.

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[1] Cummings, Howard H., Preface, New Viewpoints in Geography, 1959, p. v.

[2] Hill, Wilhelmina, "New Developments in Geographic Education," Journal of Geography, May, 1960, p. 234.

Too often the student, or even the average person, has little understanding of where countries such as Burma, Nigeria, or any other country is located in relation to the world. It would seem that in order to have an intelligent public it is imperative that one know about the world lived in. Unless there is a basic foundation in geography, it is difficult to understand the problems which other people face in their countries or those which each American must face.

The writer felt there was a need to investigate the emphasis placed upon major geographical concepts in Montana.

Statement of the Problem

The problem was to determine the emphasis placed on geographical concepts in grades 7 and 8 of Montana schools. This grade level seemed the logical place for an investigation since in many schools further study in geography is not offered for all students.[3]

It was the belief of the writer that in order to really understand where the lack of emphasis was occurring there was a necessity to determine what concepts were emphasized in grades 7 and 8.

It seemed that the problem of determining the emphasis placed upon goegraphic concepts could be answered by two questions?

1. What are the course offerings and materials used in the teaching of geography in grades 7 and 8?
2. What emphasis is placed upon geographic concepts in grades 7 and 8?

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[3] Ibid., p. 237.

Procedures

There were various methods that could have been used in the approach to determine the current emphasis placed upon geographic concepts in grades 7 and 8. One could have used such methods as giving standardized tests in schools, looking over school programs of study, visiting with instructors, or sending questionnaires to schools.

The questionnaire was used in conducting this investigation although any one of the other methods could have been used. Major geographical concepts stressed in textbooks and other materials in grades 7 and 8 were selected by the writer and these were included in the questionnaire. Since the questionnaire was sent to 75 schools throughout Montana, it was felt that this would be a true sample of emphasis placed upon geographical concepts in the state.

Limitations

There were three limitations to this study. The first limitation was that the study was limited to determining emphasis placed upon geographical concepts in grades 7 and 8. These two grades represented a grade level where a formal course in geography is last offered in many schools.

Secondly, the investigation was limited to 75 schools throughout Montana. Since this is approximately half of the schools in Montana with grades 1-12, the writer felt a good sampling of present emphasis could be obtained. These schools were selected at random.

Thirdly, the investigation was limited to only major concepts which geographers and educators felt each child should have. These major concepts were those stressed in textbooks and other materials used at this grade level. It was felt that the child needed to know these concepts if he or whe was to be able to live as an intelligent and informed citizen.

Geographers and educators have expressed their views concerning the lack of geographical knowledge and the need to build this knowledge through basic geographical concepts. Their viewpoints will be presented in Chapter 2.

CHAPTER II

VIEWPOINTS OF GEOGRAPHERS AND EDUCATORS UPON NEEDED EMPHASIS ON GEOGRAPHY

The importance of geography in the curriculum has been stressed by many geographers and educators. These people have felt that each child should have a basic understanding of geography. This chapter will review some of the viewpoints concerning lack of geographical knowledge and emphasis placed upon basic concepts which are necessary for understanding. These viewpoints are a few of the many found in a review of literature. These viewpoints will help give a clearer picture of the feelings of educators and geographers on needed emphasis in geography.

Geographers and educators have noted the lack of geographical emphasis in the modern world. They believe geography is more important than ever.

Lack of Geographical Emphasis

A basic understanding of geography would seem important in a world where distances have been greatly reduced, at least in the time taken to travel them. The part that the air age has played on the importance of geography was pointed out by Renner in the statement:

> No other subject is quite so necessary to make us understand the changes which man's new machines have brought about in our world; to make us realize the way in which old distances have been shortened, old barriers broken down, old isolations cancelled out, and new relations imposed. And yet no other great nation has been trying to get along with so little geographical education as ours.[4]

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[4] Renner, George T., Human Geography in the Air Age, The Macmillan Company, New York, 1953, p. 3.

Franzen agrees with Renner and feels that geography is even more important in the jet age. He supported this by his statement:

> It is almost superfluous to mention here the impact upon our social, political, and economic relations of the jet age. Everybody seems to be talking about the impact upon our ways of living and thinking of electronics and automation. Expansion is being made in the areas of mathematics, science, and foreign languages. What I want to see is an expansion in the area of geography.
>
> To be effective, to make our people more intelligent about their neighbors near and far, to remove the boorishness of isolationism, boys and girls must have a chance to learn what the world is like. They are not getting this information from the incidental treatment of geography in the history classes.[5]

The criticism of the lack of emphasis placed upon geography is not new. Back in the days of World War II, John Studebaker said, "Apart from rather backward nations, we are more illiterate geographically than any other civilized nation I know."[6]

Kostbade and Ball have agreed with Studebaker, Franzen, and Renner that there is a great geographical ignorance among our people today. They feel that geography is a much more difficult subject to master than most people believe, as shown by the statement:

> It is apparently felt that geography is a simple subject of which an adequate smattering is picked up hit or miss and which, therefore, need not be included in the curriculum certainly not above the elementary level.
>
> The accuracy of such an assessment is belied by the vast fund of geographic ignorance and misconceptions possessed in common by students, graduates, and the public at large. It would probably be safe to state today that there are few

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[5]Franzen, C. G. F.,"Why Geography?," The Bulletin of the National Association of Secondary School Principals, Feb., 1961, p. 127.

[6]Kostbade, J. Trenton and Ball, John M., Geography and Education for Citizenship, The Bulletin of the National Association of Secondary School Principals, Feb., 1960, p. 159.

countries in the world whose presumably educated people know less of world geography.[7]

Studebaker, the well-known educational authority and geographers Renner and Franzen are but a few of the people who have pointed out their feelings concerning ignorance of geography among the people of the United States.

Because they feel there is a geographical ignorance among the general public, educators and geographers have expressed the need for building geographical concepts through the grades. Their views in this area will follow.

The Need for Developing Geographical Concepts Through the Elementary Grades

Geographers and educators have expressed the need for developing geographical concepts through the elementary grades. Many of these educators and geographers have questioned at what grade level the teaching of geography should begin. A foundation to build on is so important if the student is to grasp the material that is presented. This foundation should be built from concepts, ideas, and generalizations.

The building of concepts in geography is a gradual and cumulative process. It really never ends, but the teacher can be fairly well satisfied when the child is able to use the concept to attack new problems. The main weakness, according to Thralls,[8] of most geography

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[7] Ibid., p. 159.

[8] Thralls, Zoe A., "The Importance of Developing Geographical Concepts," Journal of Geography, Sept., 1960, p. 281.

curriculums and textbooks is that geographical concepts have not been identified, introduced, and developed cumulative throughout the curriculum.

It is generally agreed that no amount of real geographic understanding will be attained until basic geographical concepts are introduced in textbooks and curriculums.[9] These concepts should be developed cumulatively from grade to grade and should become as familiar to the child as two plus two.

Smith[10] has stated that most educators have the feeling that geography should be started at the earliest moment in the child's schools. He also feels that the child should first learn how to use maps and globes, since these are some of the essential tools in the study of geography.

Scarfe[11] has indicated that from an analysis of modern education and modern geography, it is reasonable to conclude that the aims, purposes, objectives, and methods of geography fit more closely than any other subject into the central core, purpose, and methods of modern education, especially if taught in each grade throughout the school system as a progressive developing sequence of increasingly difficult concepts, ideas, and generalizations. The common denominator for encouraging mastery of basic materials and original thinking at the

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[9] Ibid., p. 281.

[10] Smith, J. Russell, "Geography and World Citizenship," Social Education, May, 1957, p. 205.

[11] Scarfe, Neville V., "Geography Across the Curriculum," School and Society, Feb. 13, 1960, p. 62.

junior high or any other level is the use of challenging concepts.[12]

Olmstead[13] clearly summed up the feeling of many in saying that he felt that tens of thousands of young citizens, soon to be charged with the responsibilities of world leadership, will end their four to five years spent in American geography classrooms, never to enter another, with little or no comprehension of geographical concepts.

The building of geographical concepts should be a gradual process in the elementary grades. According to these geographers and educators the building of geographical concepts through the grades was felt important. These concepts should be built from the simple to the more complex.

There is a trend toward more emphasis on geography in the junior high. Viewpoints on geographical emphasis in the junior high will be presented in the following section.

Trends Toward More Emphasis Upon Geography in the Junior High

Among geographers there is not complete agreement as to what should be taught in geography at the junior high level. Scarfe[14] points out that geographers feel regional geography should be placed at this

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[12]Frisinger, Wayne A., "Junior High Students Can Think," Social Education, March, 1958, p. 105.

[13]Olmstead, Clarence W., "The Application of a Concept to the Understanding of a Region," Journal of Geography, Feb., 1960, p. 61.

[14]Scarfe, Neville V., "Our Geography Environment and Geography Teaching," Journal of Geography, March, 1960, p. 109.

level. He stated:

> In the junior high years most geographers would like to see regional geography in which emphasis is on some relational thinking or an attempt to see how man's activities are related to the physical environment. No kind of world or systematic ? can ever be attempted without six years of previous intensive study of regions and areas.

Since the purpose of this study was to determine emphasis placed on major geographical concepts in grades 7 and 8, it is interesting to note the views concerning emphasis at this level.

Conant,[15] the well-known educational authority, has found in his studies that teachers and administrators alike are seeking more emphasis on geography in grades 7 and 8. He also urges heavy emphasis on history and geography through social studies in this period.

Grote's[16] findings follow very closely those of Conant. He has found that there is an increasing trend to place more emphasis in either seventh, eighth, or ninth grade on geography.

An indication of present trends in geography in Montana was indicated in a sruvey[17] of policies and practices in Montana schools. In the survey it was found that there was a trend toward geography becoming more prevalent as a separate subject in Montana junior high schools.

Geographers and educators feel that there is a lack of geographical

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[15]Conant, James B., "Education in the Junior High School Years," Educational Testing Service, 1960, p. 12.

[16]Grote, Donald U., "New Developments in the Educational Program of the Junior High School," The Bulletin of the National Association of Secondary School Principals, April, 1960, p. 13.

[17]Franks, Milford, A Survey of Problems, Policies, and Practices in Montana Schools, Montana State College, Jan., 1961, p. 89.

emphasis in the schools. These people feel that understanding of basic geographical concepts can be developed by building these concepts from grade to grade. This means starting with simple concepts and building toward more complex concepts. There is also evidence of the trend toward greater emphasis upon geography in grades 7 and 8.

A questionnaire containing major geographical concepts was sent to schools throughout Montana to determine emphasis placed upon geographical concepts in grades 7 and 8. The results of the survey are presented in Chapter 3.

CHAPTER III

MAJOR GEOGRAPHICAL CONCEPTS STRESSED IN GRADES 7 AND 8 OF MONTANA SCHOOLS

In order to determine emphasis placed upon major geographical concepts in grades 7 and 8 in Montana, a questionnaire was sent to 75 schools in the state. It was felt that the results of the questionnaire would give a picture of current emphasis on geography in grades 7 and 8 in Montana schools.

The writer wanted to discover through what courses geography was taught and materials used in teaching geography in grades 7 and 8. In the first part of the questionnaire, a copy of which is included in the Appendix, the teacher indicated the course offerings in their schools in geography at grades 7 and 8. Teachers indicated by checking whether geography at grades 7 and 8 was taught as a separate course, a separate unit in social studies, an integrated part of the social studies course, or other way in which it was offered.

Teachers were also asked to indicate materials used in teaching geography by checking one of several choices or writing other materials used. Materials listed for the teachers to check were: a separate geography textbook, a social studies textbook, a combination of the first two books, periodicals and newspapers, and other materials.

The second part of the questionnaire contained major geographical concepts. The writer reviewed textbooks and other materials for grades 7 and 8 and selected the common major geographical concepts stressed. The 53 selected concepts were included in the questionnaire. Each subject area contained three or four concepts used for understanding

and placement of a concept area by the student. The teachers were asked to indicate the emphasis they felt was placed on these concepts. Indication of the emphasis was shown by circling the number 3 if the teacher felt most of the students fully understood the concept, 2 if at least half of the students understood the concept, and 1 if few students understood the concept.

The questionnaire was sent to 75 schools in Montana and 68 schools returned them. Teachers reported several different practices used in teaching geography.

Course Offerings and Materials Used in Teaching Geography

In the questionnaire teachers were asked to indicate how geography was offered in grades 7 and 8 of their schools. Twenty-seven of the reporting schools taught geography as a separate course in grade 7. Only four schools reported teaching geography as a separate course in grade 8, as shown in Table 1. This is much like the teaching of geography has been in the past. About one-half of the schools taught geography as an integrated part of the social studies course in both grades 7 and 8. Less than one-fourth of the schools reported geography taught as a separate unit in social studies. Other reported methods of teaching geography were: teaching geography the first three terms of the seventh grade, using current events in teaching geography, teaching geography for one semester at grade 7, using a study of social organization and basic government, and correlating geography with

history and science at grade 7. In three-fourths of the schools, geography was taught either as a separate course or as an integrated part of social studies at grade 7. Nearly one-half of the schools reported it as an integrated part of social studies in grade 8.

There were differences reported in the materials used to teach geography. All schools that teach geography as a separate course use a geography textbook. Some schools use a variety of materials in teaching geography. Nearly one-half of the schools reported using geography textbooks at grade 7, as shown in Table 1. About 50 per cent of the schools indicated social studies textbooks were used in teaching geography in both grades 7 and 8. It was surprising to note that very few schools use a combination of geography and social studies textbooks. Magazines and periodicals were found to be in use in nearly one-half of the classrooms. This is probably due to their value on current events in the world. Five teachers said they used a map reading workbook. Teachers indicated they used other materials in teaching geography. Among these materials were: maps, charts, films, and filmstrips. One teacher mentioned the use of a Montana Geography booklet. Some teachers felt that their textbooks were outdated and new books were needed.

Geography is taught most often as a separate course at grade 7 or integrated with social studies at both seventh and eighth grade levels. Geography and social studies textbooks were the materials reported used most often in the schools.

Results from the second part of the questionnaire dealing with major concepts stressed in the areas of states, countries, and continents will be presented in the following section.

TABLE 1. COURSE OFFERINGS AND MATERIALS USED IN TEACHING GEOGRAPHY IN GRADES 7 AND 8

Course Offerings and Materials	Frequency of schools reporting Course Offerings and Materials used in teaching geography	
	Grade 7	Grade 8
Geography is taught in grades 7 and 8 as		
a separate course	27	4
a separate unit in social studies	9	5
an integrated part of the social studies course	28	32
other	4	2
Type of material used in teaching geography		
separate geography textbook	32	6
social studies textbook	26	24
a combination of the above	8	6
periodicals and newspapers	29	21
other	9	4

Student Understanding and Geographical Placement of States in the United States, Continents, and Countries

Teachers were asked to indicate the student's ability to understand and place the states in the United States, the seven continents, and the countries in the five major continents.

Fifty states of the United States. Teachers were asked to evaluate student understanding and geographical placement of the fifty states of the United States, according to regions, by what states bound other states, and according to each state's economic importance. At least

80 per cent of the 68 teachers felt their students could understand and place the 50 states of the United States according to regions and by what states bound other states, as shown in Table 2. Only about one-half of the teachers felt that at least half of their students understood each state's economic importance.

The seven continents. Teachers were asked to evaluate pupil placement of the seven continents by recognition of shape, in relation to size, in relationship to the equator, and by oceans that bound the continent. More than three-fourths of the 68 teachers indicated that at least half of their students could place the continents by each of the four concepts, as shown in Table 2. The strongest concept was placement of the seven continents by recognition of shape.

Countries in the five major continents. In the questionnaire teachers were asked to evaluate pupil placement of the five major continents by visualization of bordering countries, by knowledge of topography and land use, and by type of people. At least two-thirds of the reporting 68 teachers felt that more than half of their students could place the countries in the five major continents of Asia, Europe, South America, and North America by visualization of bordering countries, as shown in Table 3.

Only about one out of ten of the reporting teachers felt most of their students could place countries in the continent of Africa by visualization of bordering countries and knowledge of topography and land use.

TABLE 2. FREQUENCY OF TEACHER EVALUATION OF PUPIL UNDERSTANDING AND GEOGRAPHICAL PLACEMENT OF STATES IN THE UNITED STATES AND THE CONTINENTS

Geographical Concepts	Frequency of teacher rating of pupil understanding		
	3*	2	1
Placement and understanding of the fifty states of the United States			
according to regions	42	19	6
by what states bound other states	14	42	12
according to each state's economic importance	14	22	32
Placement of the seven continents			
by recognition of the shape of each continent	40	22	6
in relationship to size	23	35	10
in relationship to the equator	28	31	9
by oceans that bound the continent	23	35	10

*3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Knowledge of topography, land use, and type of people in the five major continents were felt to be grasped by at least half of the students in more than half of the reporting 68 schools.

The majority of the teachers felt that emphasis has been placed upon states in the United States, countries, and continents as indicated by the results of the questionnaire. These teachers felt many of their students had a good understanding in these areas.

TABLE 3. FREQUENCY OF TEACHER EVALUATION OF PUPIL PLACEMENT OF THE COUNTRIES IN THE FIVE MAJOR CONTINENTS

Continents	Methods of placing countries in the continents: by visualization of bordering countries			by knowledge of topography and land use			by type of people		
	3*	2	1	3	2	1	3	2	1
Asia	17	31	18	9	31	26	29	27	19
Africa	8	28	30	5	29	32	25	24	16
Europe	26	25	14	21	29	16	28	21	17
South America	26	29	11	20	30	16	22	30	14
North America	50	7	4	42	12	12	44	12	10

*3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Another important area for understanding geographical concepts included in the questionnaire was that of major rivers, seas and oceans, and mountain ranges.

Student Understanding and Geographical Placement of Major Rivers, Seas and Oceans, and Mountain Ranges

Teachers were asked to estimate pupil understanding and geographical placement of major rivers, seas and oceans, and mountain ranges.

Major rivers. In the questionnaire teachers were asked to evaluate understanding and placement of major rivers on each continent

according to headwaters and mouth, by countries or states through which it flowed, and by land area drained by a river system.

Forty-three of the 68 reporting teachers felt at least half of their students fully understood these three concepts for the placement of major rivers.

The weakest concept development indicated was in the placement of a river according to headwater and mouth. About one-third of the teachers felt few pupils understood the concept, as shown in Table 4.

Oceans and seas. The 68 reporting teachers indicated by the questionnaire student understanding and placement of oceans and seas by continents that bound each ocean or sea, the major water routes used, and the importance of each for travel and food. At least three-fourths of the teachers felt that more than half of their students fully understood the concepts pertaining to oceans and seas. The weakest understanding indicated was the importance of each ocean and sea for travel. Sixteen teachers felt few of their students understood the concept.

More than 80 per cent of the teachers felt that more than half of their students understood and could place mountain ranges by realization of the impact of mountains on each country and countries through which mountains extend, as shown in Table 4. More than one-third of the 68 teachers felt few of their students understood what important rivers rise in a mountain chain or could place the important peaks on each continent.

At least 80 per cent of the 68 reporting teachers feel their

pupil concept development is good concerning understanding and placement of major rivers, seas and oceans, and continents. About one-half of the teachers felt few of their students could place major rivers according to headwaters and mouth or important peaks on each continent.

TABLE 4. FREQUENCY OF TEACHER EVALUATION OF PUPIL CONCEPTS OF MAJOR RIVERS, SEAS AND OCEANS, AND MOUNTAIN RANGES

Geographical concepts	Frequency of teacher rating of pupil understanding		
	3*	2	1
Placement and understanding of major rivers on each continent			
according to headwater and mouth	12	35	21
by countries or states through which it flows	13	40	15
by land area drained by a river system	15	35	18
Placement and understanding of oceans and seas by			
continents that bound each ocean or sea	29	28	8
the major water routes used	17	34	14
the importance of each for travel and food	18	30	16
Placement and understanding of mountain ranges by realization of			
the impact of mountains on each country	25	33	10
countries through which mountains extend	24	32	11
what important rivers rise in a mountain chain	12	30	23
the important peaks on each continent	11	24	30

*3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Another important area for understanding geographical concepts included in the questionnaire was that of map reading, projections, latitude and longitude, and time zones.

Student Understanding of Map Reading, Projections, Latitude and Longitude, and Time Zones

Teachers were asked in the questionnaire to evaluate pupil understanding of map reading, projections, latitude and longitude, and time zones.

Map reading. In the questionnaire teachers were asked to evaluate their pupils' understanding of map reading by area on a map as well as a globe, by use of scales, keys, and symbols, according to topography, and by ability to estimate distance.

At least 70 per cent of the 68 teachers felt that more than half of their students understood the concepts pertaining to map reading. It would seem important that students be able to read and understand maps in order to get an accurate picture of the world. Twenty-two of the teachers felt that few of their students could estimate distance when reading maps, as shown in Table 5.

Projections. Teachers evaluated student understanding of common projections by use of each type of map and according to areas of greatest distortion.

TABLE 5. FREQUENCY OF TEACHER EVALUATION OF PUPIL UNDERSTANDING OF MAP READING, PROJECTIONS, LATITUDE AND LONGITUDE, AND TIME ZONES

Geographical concepts	Frequency of teacher rating of pupil understanding		
	3*	2	1
Understanding of map reading			
by area on a map as well as a globe	26	35	7
by use of scales, keys, and symbols	26	32	6
according to topography	30	18	16
by ability to estimate distance	13	31	22
Understanding of common projections			
by use of each type of map	13	31	22
according to areas of greatest distortion	11	24	31
Understanding of latitude and longitude by			
the approximate distance in a degree of latitude	26	27	11
knowledge of great circle routes	15	34	16
knowing the point from which longitude is measured	31	19	14
Understanding of time zones by visualization of			
approximate distance across each zone	18	32	16
relationship in time of the four U. S. zones	40	16	10

*3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Twenty-two of the teachers felt few of their students understood the use of each type of map. Thirty-one teachers felt few of their students understood common projections according to areas of greatest distortion. Projections was the least emphasized of any of the 17 subject areas in the questionnaire.

Latitude and longitude. The teachers were asked to evaluate student understanding of latitude and longitude by the approximate distance in a degree of latitude, knowledge of great circle routes, and knowing the point from which longitude is measured. At least 75 per cent of the reporting teachers felt that half of their students understood these concepts dealing with latitude and longitude. Results are shown in Table 5. Since much is heard concerning latitude and longitude, it is not surprising that teachers have emphasized these concepts.

Time zones. Teachers were asked to evaluate the degree of pupil understanding of time zones by visualization of approximate distance across each zone and relationship in time of the four U. S. zones. Fifty of the reporting teachers felt more than half of their students understood the approximate distance across each time zone. Forty of the 68 teachers indicated that most of their students understood the relationship in time of the four U. S. time zones.

More than half of the reporting 68 schools felt that the majority of the students understood the concepts concerning map reading, latitude and longitude, and time zones. Nearly one-half of the schools felt few of their students understood common projections.

Another important area for understanding geographical concepts

in the modern world is climatic regions, the solar system, and cloud formation and atmosphere. These were included in the questionnaire. Results are given in the following section.

Student Understanding of Climatic Regions, Solar System, and Cloud Formation and Atmosphere

Teachers were asked to indicate the emphasis placed upon geographical concepts in the areas of climatic regions, solar system, and cloud formation and atmosphere since these concepts seem so important in the modern world of exploration.

Climatic regions. Teachers evaluated student understanding of climatic regions by the effect of altitude, latitude, and distance from the ocean on climate.

Nearly 90 per cent of the reporting 68 teachers felt that at least half of their students fully understood the concepts about climatic regions, as shown in Table 6.

The solar system. The solar system was evaluated by the teachers according to pupil understanding of the solar system, in relationship to the size of the planets and by visualization of distances between planets. Fifty-one of the teachers felt at least half of their pupils fully understood the solar system in relationship to the size of the planets, as shown in Table 6. More than one-third of the teachers felt few of the students could visualize the distances between the planets. in the solar system. This would seem important in the space age.

TABLE 6. FREQUENCY OF TEACHER EVALUATION OF PUPIL CONCEPTS OF CLIMATIC REGIONS, SOLAR SYSTEM, AND CLOUD FORMATION AND ATMOSPHERE

Geographical concepts	Frequency of teacher rating of pupil understanding		
	3*	2	1
Understanding climatic regions by			
the effect of altitude on climate	35	23	7
the effect of latitude on climate	31	27	7
the effect of distance from the ocean on climate	31	29	7
Understanding of the solar system			
in the relationship to the size of the planets	26	25	13
by visualization of distances between planets	18	21	26
Understanding of cloud formation and atmospheric layers by			
types of clouds	20	29	17
layers of the atmosphere	16	27	25
a concept of gases composing the atmosphere	19	20	25

*3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Cloud formation and atmospheric layers. Teacher evaluation of student understanding of cloud formation and atmospheric layers was made by indicating understanding of types of clouds, layers of the atmosphere, and gases composing the atmosphere. Three-fourths of the teachers indicated that more than half of their students understood the types of clouds. More than one-third of the 68 teachers indicated few of the students understood the layers of the atmosphere or gases composing the atmosphere, as shown in Table 6.

Nearly 90 per cent of the teachers indicated at least half of their students understood the concepts on climate. Emphasis on the solar system, cloud formation and atmosphere was indicated weak by the teachers. Thirty per cent of the teachers indicated few students understood these concepts.

Concepts dealing with natural resources, industrial regions, transportation, and population distribution are felt to be important in many schools. These concepts were included in the questionnaire. Results are given in the following section.

Teacher Evaluation of Student Understanding and Placement of Natural Resources, Industrial Regions, Transportation, and Population Distribution

Teachers were asked to indicate on the questionnaire the emphasis placed upon natural resources, industrial regions, transportation, and population distribution.

Natural resources. Teachers indicated by their answers on the questionnaire the emphasis placed upon natural resources by pupil understanding and placement of natural resources by the major resources in each country, the knowledge of major resources traded and obtained by each country, and knowledge of the uses of major resources.

More than two-thirds of the teachers indicated that more than half of the students understood the concepts concerning natural resources.

Industrial regions. Teachers evaluated pupil understanding and placement of industrial regions by realization of availability of raw materials, markets available, and manpower available. Eighty per cent of the teachers indicated more than half of the students understood the concepts pertaining to industrial regions, as shown in Table 7.

Transportation. Teachers indicated student understanding of transportation by estimating student realization of major routes used, types and trends in transportation, and factors affecting transportation.

Fifty-four of the teachers indicated more than half of their students understood major routes used for transportation, as shown in Table 7. Thirty-five teachers indicated most of their students fully understood types and trends in transportation. Only eight teachers indicated few of the students understood factors affecting transportation.

TABLE 7. TEACHER EVALUATION OF PUPIL CONCEPTS OF NATURAL RESOURCES, INDUSTRIAL REGIONS, TRANSPORTATION, AND POPULATION DISTRIBUTION

Geographical concepts	Frequency of teacher rating of pupil understanding		
	3*	2	1
Placement and understanding of natural resources by			
the major resources in each country	31	20	12
the knowledge of major resources traded and obtained by each country	21	24	20
knowledge of uses of major resources	22	27	16
Placement and understanding of industrial regions by realization of			
availability of raw materials	28	26	11
markets available	21	32	12
manpower available	23	30	12
Understanding of transportation by realization of			
major routes used	28	31	10
types and trends in transportation	21	25	5
factors affecting transportation	23	37	8
Understanding of factors affecting population distribution by realization of			
fertility of the soil	34	22	8
birth rate and population shifts	12	27	29
size of the country	26	31	9
type of society	19	37	10

*3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Population distribution. Teachers were asked to evaluate student understanding of factors affecting population distribution by realization of fertility of the soil, birth rate and population shifts, size of the country and type of society. More than 80 per cent of the teachers indicated that more than half of the students understood the effect of fertility of the soil, the size of the country, and type of society on population distribution.

More than 40 per cent of the teachers felt few of the students realized the effect of birth rate and population shifts on population distribution. Eighty per cent of the teachers indicated that more than half of the students understood the concepts on natural resources, industrial regions, transportation, and population distribution. Teachers indicated understanding of major resources traded and obtained by a country and birth rate and population shifts as the weakest concepts in these four areas.

Teacher comments on the questionnaire concerning emphasis upon geography will give a picture of how the teachers feel about emphasis on geography.

Teacher Comments on Geographical Emphasis

Many teachers included comments and a few of these are summarized here.

The teacher at Ennis estimated pupil understanding of the geographical concepts by asking the students questions. The results for the questionnaire were determined by their replies. This would seem to

be a good way to get a fairly accurate idea of pupil concepts.

Some schools indicated that they planned to change their course offering to include geography. Harlowton found geography as a subject below average on achievement tests and a course is to be offered in geography. Thompson Falls is planning a revision of its social studies program for wider geographical knowledge. Scobey felt their geography book was outdated and a new one needed.

Townsend enclosed results of achievement tests for geography in grades 7 and 8. Pupils in these two grades placed, on the average, well above their grade placement.

Many teachers indicated that they felt a weakness in the field of geography existed. Culbertson said more emphasis was needed on geography at the junior high level. The teacher at Poplar felt that the world concepts held by one-half of the students in the class extended no farther than Roosevelt County.

Teachers' comments revealed a difference of opinion among the teachers on whether geography should be taught as a separate subject or a part of social studies. The teacher at Havre felt that teaching geography, as such, would be more effective in grade 7 than social studies with its conglomeration of subjects. A Livingston teacher felt that a basic knowledge is needed in geography and that students must know facts in order to understand geographical concepts. The teacher at Superior felt that if geography was taught as a separate subject more geography knowledge would be taught. He questions which subject is more important--history or geography. The elementary principal at Troy feels

their students gain a better understanding of geography when it is not taught as a separate course.

There are many ways in which geography is being taught in grade 7 and 8 in Montana. Most teachers indicated on the questionnaire that their students have a good understanding of geographic concepts. Others anticipate changes in order to provide a better geographic background for students.

The results of the questionnaire have shown that teachers feel emphasis upon geographical concepts in about three-fourths of the schools is good. Less than one-fourth of the teachers felt only a few of their students understood the concepts. In most schools geography is taught as a separate course or as an integrated part of social studies in grade 7.

The summary and conclusions of emphasis placed upon geographical concepts in grades 7 and 8 in Montana will follow in Chapter 4.

CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of the study was to determine the emphasis placed upon major geographical concepts in grades 7 and 8 of Montana schools. The writer believed that the youth of Montana were not getting an adequate geographical education and that a study such as this might help to determine emphasis placed upon geographical concepts. Grades 7 and 8 were chosen as the grade level for the study since this is the last period in many schools in which geography skills are stressed in the classroom.

Summary

A summary of the viewpoints of educators and geographers concerning emphasis on geography and geographical concepts is included in this section.

Well-known authorities such as Studebaker and Renner have pointed out the ignorance which the average person has concerning geography. They feel that through the use of concepts, building from the simple to the complex, the student can gain an understanding of geography.

The world picture has changed so vastly with the air age, and now the space age, that each student needs more than ever to have a basic geographic knowledge.

A questionnaire to determine emphasis placed upon geographical concepts was sent to 75 schools in Montana. The first part of the

questionnaire was used to determine course offerings and materials used in teaching geography in grades 7 and 8. The second part of the questionnaire contained major geographical concepts that were stressed in textbooks and other materials at this grade level. Teachers evaluated the emphasis that they felt was placed upon these geographical concepts in grades 7 and 8 of their school. The results from the 68 reporting schools appeared in Chapter 3.

The results, from the 68 schools, on the first part of the questionnaire show that most schools offer geography as a separate course or integrate it with social studies in grade 7. About one-half of the reporting schools teach geography in grade 8 and this is mainly through a social studies course.

The second part of the questionnaire contained major geographical concepts contained in 17 subject areas. Teachers evaluated the questionnaire by determining whether more, more than half, or few of their students understood each concept.

The results from the 68 reporting schools show that the majority of the teachers feel that emphasis has been placed upon states in the United States,* countries, and continents.

Eighty per cent of the 68 reporting teachers felt pupil concept development was good concerning understanding and placement of major rivers, seas and oceans, and continents. About one-half of the teachers felt few of their students could place important peaks on each continent.

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*Underlined are the 17 subject areas stressed in textbooks and other materials.

More than half of the teachers felt that the majority of the students understood the concepts concerning map reading, latitude and longitude, and time zones. Nearly one-half of the schools felt few of their students understood common projections. Teachers indicated that least emphasis was placed upon common projections of all the 17 subject areas.

Nearly 90 per cent of the teachers indicated at least half of their students understood the concepts on climate. Emphasis on the solar system, cloud formation and atmosphere was indicated by the teachers as being weak. Thirty per cent of the teachers indicated few students understood these concept.

Eighty per cent of the teachers indicated that more than half of the students understood the concepts on natural resources, industrial regions, transportation, and population distribution. Teachers indicated understanding of major resources traded and obtained by a country and birth rate and population shifts as the weakest concepts in these four areas.

The results of the questionnaire indicated that about one-fourth of the teachers believe that most of their students fully understand the major concepts contained in the questionnaire. Less than one-fourth of the teachers felt few of their students understood the major concepts. More than one-half of the teachers felt that over half of their students understood the major geographical concepts.

Some teachers commented that they felt a lack of understanding of geography by their students. The questionnaire has served to show

that less than one-fourth of the schools felt there was a real lack of emphasis upon geographic concepts.

Conclusions

Teachers indicated by the results of the questionnaire that emphasis is being placed upon those major geographical concepts usually covered in textbooks and other materials at grade 7 and 8.

It is assumed that those subject areas stressed in textbooks and other materials are important. Results of the questionnaire indicate more emphasis is needed on common projections and map reading.

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BIBLIOGRAPHY

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APPENDIX

APPENDIX

Questionnaire

Major Geographic Concepts Emphasized in Grades 7 and 8 of Montana Schools

Purpose. This questionnaire is part of a study that is being conducted to determine major geographical concepts emphasized in grades 7 and 8 in Montana schools.

General Information. Please check the answer in the column to the left as it most nearly fits your school.

Grade 7	Grade 8	
		1. Do you teach geography as
		a. a separate course
		b. a separate unit in social studies
		c. an integrated part of the social studies course
		d. other, please indicate _____
		2. In teaching geography do you use
		a. a separate geography textbook
		b. a social studies textbook
		c. a combination of the above
		d. periodicals and newspapers
		e. other, please indicate _____

If you have further comments, please include them on the back of this page.

Instructions. Please indicate by circling the number of the choice which you feel is closest to the emphasis that is placed on each geographical concepts in grade 7 and 8 of your school.

3 Most of the students fully understand the concept
2 At least half of the students understand the concept
1 Few students understand the concept

Geographical Concepts Emphasized

Placement of the seven continents	
by recognition of the shape of each continent	3 2 1
in relationship to size	3 2 1
in relation to the equator	3 2 1
by oceans that bound the continent	3 2 1

Placement and understanding of the 50 states of the United States			
according to regions (such as Northeast, etc.)	3	2	1
by what states bound other states	3	2	1
according to each state's economic importance	3	2	1
Placement and understanding of major rivers on each continent			
according to headwater and mouth	3	2	1
by countries or states through which it flows	3	2	1
by land area drained by a river system	3	2	1
Placement and understanding of oceans and seas by			
continents that bound each ocean or sea	3	2	1
the major water routes used	3	2	1
the importance of each for travel and food	3	2	1
Placement and understanding of map reading			
by area on a map as well as a globe	3	2	1
by the use of scales, keys, and symbols	3	2	1
according to topography (mountains, plains, etc.)	3	2	1
by ability to estimate distance	3	2	1
Understanding of common projections (Mercator, etc.)			
by use of each type of map	3	2	1
according to areas of greatest distortion	3	2	1
Understanding of latitude and longitude by			
the approximate distance in a degree of latitude	3	2	1
knowledge that a great circle route is the shortest distance between two points--such as Los Angeles to Paris	3	2	1
knowing the point from which longitude is measured	3	2	1
Understanding the climatic regions by			
the effect of altitude on climate	3	2	1
the effect of latitude on climate	3	2	1
the effect of the distance from the ocean on climate	3	2	1
Placement and understanding of mountain ranges by realization of			
the impact of mountains on each country	3	2	1
countries through which mountains extend	3	2	1
what important rivers rise in a mountain chain	3	2	1
the important peaks on each continent	3	2	1
Understanding of the solar system			
in the relationship to the size of the planets	3	2	1
by visualization of the distances between planets in the system	3	2	1

Understanding of cloud formation and atmospheric layers by			
types of clouds (such as cumulus, etc.)	3	2	1
layers of the atmosphere (troposphere, etc.)	3	2	1
a concept of gases composing the atmosphere	3	2	1
Placement and understanding of natural resources by			
the major resources in each country	3	2	1
the knowledge of major resources traded and obtained by each country	3	2	1
knowledge of uses of major resources	3	2	1
Understanding and placement of industrial regions by realization of			
availability of raw materials	3	2	1
markets available	3	2	1
manpower available	3	2	1
Understanding of transportation by realization of			
major routes used	3	2	1
types and trends in transportation	3	2	1
factors affecting transportation (mountains, etc.)	3	2	1
Understanding of factors affecting population distribution by realization of			
fertility of soil	3	2	1
birth rate and population shifts	3	2	1
size of the country	3	2	1
type of society (urban or rural)	3	2	1
Understanding of time zones by visualization of the			
approximate distance across each zone	3	2	1
relationship in time between the four U. S. zones	3	2	1

Placement and understanding of countries in the continents of	Asia	Africa	Europe	South America	North America
by visualization of bordering countries	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1
by knowledge of topography and use of the land	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1
by type of people (Negro, etc.)	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1

If you have any comments, please indicate them below or on the back of this page.

Name and address of person completing this report: _____

_____

If you use a geography text, please give title: Grade 7 _____

Grade 8 _____