

GEOGRAPHY'S PLACE IN BIG SKY COUNTRY: A STUDY OF MOTIVATING
AND DEMOTIVATING FACTORS FOR TEACHING GEOGRAPHY IN THE
MONTANA CLASSROOM

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Geography's Place in Big Sky Country: A Study of Motivating and Demotivating Factors for Teaching Geography in the Montana Classroom

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The purpose of this research was to develop an understanding of the motivating and demotivating factors for teaching geography. The research examined what aspects of policy, preparation, administration, etc. affect a teacher's desire to teach geography concepts in the (K)-12 classroom. By understanding these factors, organizations and programs can begin to mitigate them with the intention of encouraging teacher to teach quality geography concepts, and ultimately produce students with increased geographical knowledge and literacy. The research created a set of primary source data that will be utilized for further research and strategic planning. The research will assist the Montana Geographic Alliance with its objectives, as well as provide a foundation for strengthening geography education in Montana. The research is in alignment with the recommendations made by the Road Map Project in 2013. The Road Map project is a multi-organization plan that brought together National Geographic Society, the Association of American Geographers, the National Council for Geographic Education, and the American Geographical Society. The meetings of these groups resulted in a comprehensive plan to understand the needs of geography education in the nation, and suggested methods of encouraging geography by ways of directing instructional materials and professional development, assessment, and geography education research. The research was conducted to gain an understanding of teaching motivations and aligned with the recommendations indicated in the geography education research section. By following those recommendations, the research will assist The University of Montana, particularly the Department of Geography, with understanding the reasons why an individual pursues teaching geography, and how they can better serve those pre-service teachers who may be interested in specializing in geography. The research consisted of a sequential exploratory strategy that included in-depth interviewing and surveying of sixty-five Montana K-12 teachers.

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Chapter One: Introduction

Statement of Purpose

Geographical literacy is critical to understanding how the world is interconnected. The lack of understanding about how world systems interact can affect future decision making.¹ Geographical literacy will be an important part of making the United States more competitive in a globalized world. Montana's students will benefit from a sound education that does not fail to recognize the interconnectedness of natural and human systems. In addition to geographical knowledge, the skills associated with geospatial technologies have become an important aspect of work in both the public and private sectors. By ensuring that Montana's students have a solid background in geography and geospatial technologies, the state will assure responsible citizenship and provide a more competitive workforce -- thus bringing well-paying jobs to Montana.

With recent cuts in budgets and an overall lack of funding for geography programs,² solutions for increasing geographical literacy and geospatial understanding need to be creative. How can geographical knowledge of Kindergarten (K)-12 students be increased without an increase in funding? Or is an increase in funding the only option? The purpose of this research was to understand the current status of geography education, as well as investigate possible solutions based upon in-depth interviewing, grounded theory, and primary-data gathering. Fifteen social science, geography, and earth science K-12 teachers across the State of Montana were interviewed to gain an understanding of how teachers perceive geography concepts in those courses. The purpose of my research is to better understand the motivations for teaching

¹ Roper Public Affairs. 2006. *National Geographic Public Affairs 2006 Geographic Literacy Survey*. New York.

² *Federal Funding for Geography Education, 2002-2012*. 2012. Washington, D.C.: National Geographic Education Foundation.

geography in the classroom. By understanding how geographical concepts are taught in the classroom, pre-service teaching programs can tailor themselves to encourage participation in geography courses.

The production of qualified teachers, as well as the creation of accredited geography instruction programs, is critical to the success of geography education in Montana. The educators must have adequate training from accredited universities, and pass a PRAXIS examination which tests knowledge of the subject of geography.³ Geography is not required as a stand-alone subject in Montana, and therefore geography-centric teachers are not in high demand. It is crucial that the important contributions of geography be better understood.

A. David Hill suggests that a lack of well-trained geography teachers and quality lesson plans and instructional materials are to blame for the absence of geographic knowledge among students. He notes that higher education is at fault for the lack of support for geography education. “Academic geographers pay little attention to the special needs of students preparing to become pre-collegiate teachers; there are too few graduate students being trained in geographic education; and there is too little research being done in geographic education.”⁴

Creating a connection between university faculty and elementary and secondary teachers is critical for ensuring geographical knowledge understandings are met. Salvatore Natoli suggests that college and university geography departments should be aware of the programs throughout their state's schools. They should know who teaches geography, and they may be able to assist these teachers in overcoming problems and help them to learn new ideas and strategies

³ Educational Testing Service (ETS). *PRAXIS for Test Takers*. 2013. Internet on-line. Available from <<http://www.ets.org/praxis/about/praxisii/>>. [May 9, 2013].

⁴ Hill, A. D. 1992. Geography and education: North America. *Progress in Human Geography* 16, no. 2 (June 01) : 232-242.

while meeting the needs of curriculum requirements.⁵ The lack of interest in geography education research by university academics, may directly affect the quality of knowledge of incoming students to higher-education institutions. Professors often must assume that incoming students have no previous knowledge of the discipline of geography, or at the very least, even a basic understanding of the Earth.

The development of high-quality geography teachers at all levels will not only prepare students for jobs within the state, but also better prepare them to apply to post-secondary academic programs as well as military and civilian service. However, the reasons why an individual decides to teach geography, when he or she may not be required to, are unknown. By understanding the motivating factors for teaching geography, as well as the demotivating factors, pre-service teacher programs can prepare teachers and encourage them to participate in geography courses.

⁵ Natoli, Salvatore J. 1984. The invisible geography teachers and the profession. *Professional Geographer* 36 89-92.

Significance of Research

Research on geography education is desperately needed and, given evidence of extreme geographic illiteracy, extremely timely. Both W.A. Kent and Hill relay the critical nature of academic research in the field of geography education. Kent notes, too little research have been done on geography education, often as a result of costs and lack of funding. Also, geography education research tends to be personal and case study based. The future of research should be wide ranging and produce data about a population⁶. By providing research that may be inferred upon a larger population, quality data may be used to gain an understanding of the larger issue. Research has often focused on individual classrooms or schools, but often as a result of costs and interest, large scale research is uncommon. A. D. Hill echoes Kent's call to action within geography education research by saying geography education research is needed in all areas - particularly that of training graduate students in geography education and performing scholarly and rigorous research⁷.

The completed research is in alignment with the recommendations made by the Road Map project in 2013. The Road Map project is a multi-organizational plan that brought together The National Geographical Society (NGS), the Association of American Geographers (AAG), the National Council for Geographical Education (NCGE), and the American Geographical Society (AGS).⁸ The meetings of these groups resulted in a comprehensive plan to understand the needs of geographical education in the nation, and suggest methods of encouraging geography by ways of directing instructional materials and professional development,

⁶ Kent, W. A. 1996. *Geography in Education: Viewpoints on Teaching and Learning*. Melbourne: Cambridge University Press.

⁷ Hill, A. D. 1992. Geography and education: North America. *Progress in Human Geography* 16, no. 2: 232-242.

⁸ Bednarz, S. W., S. Heffron, and N. T. Huynh. 2013. *A Road Map for 21st Century Geography Education: Geography Education Research*. Washington, DC: Association of American Geographers.

assessment, and geographical education research. The research on teaching motivations is aligned with the recommendations indicated in the geography education research section. These recommendations include recommendations five, seven, and nine. Recommendation five addresses the need for research to assist with the development of geography teacher preparation programs. Recommendation seven asks for scientifically sound research, so that the results can be inferred onto a larger population. Finally, recommendation nine suggests those geographical education researchers and formal and informal teachers and researchers share findings. By following these recommendations, the research will assist The University of Montana, particularly the Department of Geography, with understanding the reasons why an individual pursues teaching geography, and how they can better serve those pre-service teachers who may be interested in specializing in geography.

The research study was rigorous and followed conventions associated with traditional scholarly scientific research. The sampling was stratified, and included simple random sampling strategies. The data collected via survey created primary-source data that may be statistically analyzed to predict inference as well as examine trends and themes. A system of preliminary qualitative interviewing practices was used prior to the development of the survey so that the questions implemented on the survey were as relevant and non-biased as possible.

Chapter Two: Background

Current Issues Surrounding Geography Education

The purpose of this chapter is to provide a background on the current issues in geography education and geography education research. This chapter will also discuss where geography is taught in the Montana social studies curriculum, and the role teacher preparation programs play in providing future teachers with guidance and content knowledge.

In 1988, a Gallop Poll tested the geographical knowledge of eight-teen to twenty-four year-olds in nine countries. The testing scores for the United States were the lowest amongst these ages. The advent of this test showed that the young adults in the United States lack an understanding of the world, which is critical when the nation is facing the need to understand foreign customers, markets, customs, strengths and weaknesses.⁹

In reaction to the geographically illiterate American youth, Walter A. McDougall addressed the reasons why geography is critical in America's schools. He asserts that geography is of critical importance in learning history, as he quotes Ambassador Strausz-Hupe, geography is the context in which "we live and move and have our being, you cannot argue with it."¹⁰ He suggests that geography can be used in basic education as a springboard for all other subjects in the sciences and humanities. By establishing geography as an early social and natural science, teachers and schools may be able to expand upon that foundation and explore more advanced subjects that can better prepare students for post-secondary education as well as workforce placement. Subjects such as sociology, anthropology, hydrology, and geology are integral components of the study of geography, and are often sought after majors in universities.

Salvatore J. Natoli's article on the "Invisible Geography Teacher and the Profession" suggests

⁹ Grosvenor, Gilbert M. 1995. In Sight of the Tunnel: The Renaissance of Geography Education. *Annals of the Association of American Geographers* 85, no. 3 (September.) : 409-420.

¹⁰ McDougall, Walter A. 2003. Why Geography Matters . . . but Is So Little Learned. *Orbis* 47, no. 2: 217-233.

that international illiteracy of Americans has been detrimental to international business and affairs. He implies that this is owing to the decline in both the interest in learning, as well as in teaching foreign language and international-studies courses.¹¹ L. Palmer-Moloney and Elizabeth Bloom's article on the classroom as a place for studying geographical education implies that owing to the recent political emphasis on reading skills, mathematics, and standardized testing, geographical education has lost prominence in both elementary and secondary schools.¹²

McDougall acknowledges that geography in the postmodern world is bound to cause argument as to whose geography is taught, but if geography is properly included and taught in the social studies curriculum it is capable of "saving the world from war, prejudice, and injustice." He recommends three steps to assist with the reemergence of geography education: there must be a restored emphasis on topography, place names, and map reading as these are the foundations of geography; secondly, geography and history should be taught in conjunction with each other; and lastly, teachers should address the changes in space and time as a function of technology.

Geography is inherently interesting. Rex Walford and Peter Haggett indicate, "One obvious benefit is the intrinsic interest in and wonder of the world about which we teach; it is difficult to be a dull geography teacher -- or it ought to be, if only we let the subject-matter speak freely enough through us."¹³ Gilbert M. Grosvenor's article about the renaissance of geography education addresses how geographical education can reemerge in contemporary K-12 classrooms. He emphasizes the role of grassroots initiatives as opposed to massive federal

¹¹ Natoli, Salvatore J. 1984. The Invisible Geography Teachers and the Profession. *Professional Geographer* 36 89-92.

¹² Palmer-Moloney, L., Elizabeth Bloom. 2001. The Classroom as the Field for Studying Geographical Education. *Geographical Review* 91, no. 4: 641-654.

¹³ Walford, Rex, Peter Haggett. 1995. Geography and Geographical Education: Some Speculations for the Twenty-first Century. *Geography* 80, no. 1 (January) : 3-13.

mandates and suggests that "it all comes from the small prairie fires started throughout the rest of the country". The initiatives of The National Geographic Education Program were developed around five key aspects including grass-roots organization, development of educational materials, outreach to decision makers, public awareness, and teacher education. Geography in the United Kingdom has undergone a nationalization of curriculum, which is threatening the twenty-five years of serious geography curriculum development. The use of standardization and testing is not the answer for standardizing geography knowledge.¹⁴ The national curriculum of the United Kingdom follows a set of content knowledge standards, which differs from the proposed Common Core curriculum in the United States. The Common Core, although standards have not been adapted for Social Studies as of yet, schools are aligning the curriculum to meet the imposed writing standards. The proposed impact of Common Core standards on Montana teachers was addressed as part of the research project.

Common Core State Standards Initiative is a program that has been adopted by most of the states as a new education initiative. The Common Core refers to a set of standards in English language arts and mathematics that uses assessment in the form of standardized tests and writing assignments that are taken via computer. There are no social studies standards as of yet, but teachers in many cases are being asked to include writing and critical thinking as a part of their instruction.

Is a proposed common curriculum in geography the answer to ensuring geographical literacy amongst US students? Kent's collection of geography education research studies, suggests that geography education is innately local, and suggests that teachers become involved in action research, or research that takes place in the classroom with the initiative to make

¹⁴ Walford, Rex, Peter Haggett 1995. Geography and Geographical Education: Some Speculations for the Twenty-first Century. *Geography* 80, no. 1: 3-13.

improvements to the knowledge of pupils.¹⁵ As a result of the nature of action research, only a limited sample can be used, and, as a result of the nature of the study, should not be inferred onto a larger landscape of students. There appears to be a multitude of factors that contribute to the environment in which geography teaching and learning takes place. This environment is complex and can even differ between classrooms in the same school.

A series of pilot programs were conducted in Washington, D.C., and Los Angeles to see if by giving teachers better geographical knowledge, successful teaching strategies, innovative teaching tools, and a strong support network, they sought to see how geography awareness amongst the public could be fostered.¹⁶ Natoli suggests that college and university geography departments should be aware of the programs throughout their state's schools. They should know who teaches geography, and they may be able to assist these teachers in overcoming problems and help them to learn new ideas and strategies while meeting the needs of curriculum requirements. The inclusion of professional geographers in the classroom could be beneficial as they could provide courses, materials, lectures, or activities, all to gain interest in the subject.¹⁷ Clare Brooks argues in her article about geography teachers and curriculum development, that teachers should see lesson planning as not just a technical activity but an intellectual one, where questions regarding the geographical knowledge of the students should be raised. By encouraging curriculum development by teachers, they will be able to make effective learning happen, as they are not relying on curriculum development from outside sources which may or

¹⁵ Kent, W. A. 1996. Geography in education: Viewpoints on teaching and learning. 374.

¹⁶ Grosvenor, Gilbert M. 1995. In Sight of the Tunnel: The Renaissance of Geography Education. *Annals of the Association of American Geographers* 85, no. 3: 409-420.

¹⁷ Natoli, Salvatore J. 1984. The Invisible Geography Teachers and the Profession. *Professional Geographer* 36 89-92.

may not be relevant to his or her classroom. Pre-service teacher programs should then support the training of curriculum development.¹⁸

Palmer-Moloney and Bloom state that all geographers, even those who are not interested or are not involved with geography education, should be aware of the bottom-up effect of standards-based education from K-12 schools into college level programs. The lack of geography education at the K-12 level has a direct effect on the knowledge presented by students at collegiate levels. This can affect undergraduate geography programs as they may have to impart more emphasis on basic geographical literacy, and have less opportunity to spend time on advanced geographical theory¹⁹. Walford and Haggett in their article about geographical education in the twenty-first century, discuss how university scholarship and research should play a large role in the shaping of geography curriculum at K-12 schools.²⁰ Grosvenor exclaims that America's wellbeing hinges on their understanding of the world, especially as it grows ever more complex every day. In his words "It is clear that we must eradicate geographical ignorance if we are to compete in the global economy and wisely manage the finite resources of our planet."²¹ The twenty-first century is an era of transnational organizations. Students are citizens of the world, and geography is primed to teach the acknowledgement and understanding of others in the world.¹²

Research on teaching geography can be divided into four distinct areas of concern: a) K-12 geography teaching, subdivided into elementary and secondary instruction, b) the use of maps in geography teaching, c) children's spatial/cognitive development, and d) geography's status as

¹⁸ Brooks, Clare. 2006. Geography Teachers and Making the School Geography Curriculum. *Geography* 91, no. 1 (Spring) : 75-83.

¹⁹ Palmer-Moloney, L., Elizabeth Bloom. 2001. The Classroom as the Field for Studying Geographical Education. *Geographical Review* 91, no. 4: 641-654.

²⁰ Walford, Rex, Peter Haggett. 1995. Geography and Geographical Education: Some Speculations for the Twenty-First Century. *Geography* 80, no. 1: 3-13.

²¹ Grosvenor, Gilbert M. 1995. In Sight of the Tunnel: The Renaissance of Geography Education. *Annals of the Association of American Geographers* 85, no. 3: 409-420.

a school subject.²² Little large-scale research has been done in geography education, often as a result of the cost involved, but mostly as a result of the often pragmatic nature of the research itself.²³ Research is often classroom specific, relying on case studies and observation to make a claim regarding the situation of geography teaching and learning. As a result of the nature of current research focusing on individual classrooms and schools, a claim regarding a larger population would be inappropriate. Given an understanding of the appropriateness of statistical inference and the variability of individual classrooms, is large-scale research then appropriate?

Experts in the field have suggested that gaps within the realm of geography education research particularly exist within physical geography, environmental education, geographical fieldwork in education, and postmodernism in geography education²⁴, the role of geography in citizenship education, values and critical thinking in geography education, and the role and impact of assessment in geography education^{25,26}.

²² *Handbook of research on social studies teaching and learning*. 1991. New York : Toronto : New York : Macmillan ; Collier Macmillan ; Maxwell Macmillan International,.

²³ Kent, W. A. 1996. *Geography in education: Viewpoints on teaching and learning*. Melbourne: Cambridge University Press.

²⁴ Kent, W. A. 1996. *Geography in education: Viewpoints on teaching and learning*, 374.

²⁵ *Handbook of research on social studies teaching and learning*. 1991.

²⁶ Hill, A. D. 1992. Geography and education: North america. *Progress in Human Geography* 16, no. 2: 232-242.

Geography Education in Montana

The discipline of geography in Montana experiences a great amount of variability. In Montana, geography may be considered a naughty word, because it can often be found named as “world cultures”, “global studies”, and “environmental education”. One must understand this in order to not think that geography is absent, but rather repackaged.

The State of Montana has adopted Social Studies standards that provide a guideline of benchmarks about what the student should know at the completion of fourth, eighth, and twelfth grades. The series of content specific standards are quite vague, and provide the individual teacher and the curriculum coordinators at schools to have some leniency in the material. Social Studies is not a subject that has State sponsored testing, so there is no way of determining if the student has met the criteria established by the State Social Studies Content Standards outside of a teacher’s passing of the student.

Geography is discussed as part of the Social Studies Content Standard three.²⁷ Figure one is the social studies content standards in Montana developed in the year 2000. The standards are not tested, so the results of the standards on student abilities is unknown. Also, the standards may be quite complex or robust for a teacher who is not familiar with geography.

²⁷ "Montana Standards for Social Studies." opi.mt.gov <http://opi.mt.gov/pdf/standards/ContStds-SocSt.pdf> (accessed October 1, 2013).

Social Studies Content Standard 3

Students apply geographic knowledge and skills (e.g., location, place, human/environment interactions, movement, and regions).

Rationale

Students gain geographical perspectives on Montana and the world by studying the Earth and how people interact with places. Knowledge of geography helps students address cultural, economic, social, and civic implications of living in various environments.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
1. identify and use various representations of the Earth (e.g., maps, globes, photographs, latitude and longitude, scale).	1. analyze and use various representations of the Earth (e.g., physical, topographical, political maps; globes; geographic information systems; aerial photographs; satellite images) to gather and compare information about a place.	1. interpret, use, and synthesize information from various representations of the Earth (e.g., maps, globes, satellite images, geographic information systems, three-dimensional models).
2. locate on a map or globe physical features (e.g., continents, oceans, mountain ranges, land forms) natural features (e.g., flora, fauna) and human features (e.g., cities, states, national borders).	2. locate on a map or globe physical features (e.g., continents, oceans, mountain ranges, land forms) natural features (e.g., flora, fauna) and human features (e.g., cities, states, national borders) and explain their relationships within the ecosystem.	2. differentiate and analyze the relationships among various regional and global patterns of geographic phenomena, (e.g., land forms, soils, climate, vegetation, natural resources, population).
3. describe and illustrate ways in which people interact with their physical environment (e.g., land use, location of communities, methods of construction, design of shelters).	3. analyze diverse land use and explain the historical and contemporary effects of this use on the environment, with an emphasis on Montana.	3. assess the major impacts of human modifications on the environment (e.g., global warming, deforestation, erosion, pollution).
4. describe how human movement and settlement patterns reflect the wants and needs of diverse cultures.	4. explain how movement patterns throughout the world (e.g., people, ideas, diseases, products, food) lead to interdependence and/or conflict.	4. analyze how human settlement patterns create cooperation and conflict which influence the division and control of the Earth (e.g., treaties, economics, exploration, borders, religion, exploitation, water rights).
5. use appropriate geographic resources (e.g., atlases, databases, charts, grid systems, technology, graphs, maps) to gather information about local communities, reservations, Montana, the United States, and the world.	5. use appropriate geographic resources to interpret and generate information explaining the interaction of physical and human systems (e.g., estimate distance, calculate scale, identify dominant patterns of climate and land use, compute population density).	5. select and apply appropriate geographic resources to analyze the interaction of physical and human systems (e.g., cultural patterns, demographics, unequal global distribution of resources) and their impact on environmental and societal changes.
6. identify and distinguish between physical system changes (e.g., seasons, climate, weather, water cycle, natural disasters) and describe the social and economic effects of these changes.	6. describe and distinguish between the environmental effects on the earth of short-term physical changes (e.g., floods, droughts, snowstorms) and long-term physical changes (e.g., plate tectonics, erosion, glaciation).	6. Analyze the short-term and long-term effects that major physical changes in various parts of the world have had or might have on the environments (e.g., land use, population, resources).
7. describe and compare the ways in which people in different regions of the world interact with their physical environments.	7. describe major changes in a local area that have been caused by human beings (e.g., a new highway, a fire, construction of a new dam, logging, mining) and analyze the probable effects on the community and environment.	7. describe and compare how people create places that reflect culture, human needs, government policy, and current values and ideas as they design and build (e.g., buildings, neighborhoods, parks, industrial and agricultural centers,

Figure 1: Geography standards as a strand of social studies.

Preparation for Pre-service teachers

Pre-service institutions are limited in Montana as a result of the State's small population. The major education degree granting universities include University of Montana, The University of Montana –Western, Carroll College, the University of Great Falls, Montana State University, MSU-Billings, MSU-Northern, Rocky Mountain College, and Salish Kootenai College. The State of Montana released the first standards for the creation of qualified teachers in 1979. These standards have been reviewed and amended periodically. Following the creation of standards, colleges and universities have been asked to provide to the state information regarding the number of pre-service teachers completing degrees successfully. Each participating higher education institution completes a type of report card as well as provides information about the program requirements. These program requirements may vary by institution, but must meet state requirements of what is considered a qualified teacher.

Students who wish to seek a career in teaching have several options available regarding majors. For teachers who specialize in social studies, a program called broadfield social studies offers a variety of courses which cover history, political science, anthropology, sociology, economics, and geography. Most universities that offer a social studies broadfield option will have some required courses, and then allow the student to take electives in fields where he or she is interested. In order to be certified to teach a course labeled as "Geography" in Montana, a pre-service teacher must complete sixteen credit hours in the specific subject of geography at an accredited university. If that pre-service teacher has chosen to study the social studies broadfield, he or she may not have met the sixteen required credits, as it may have not been required. The demand for geography specific courses at the high school level is limited to only a few larger markets in Montana, notably Missoula and Bozeman; however, geography as a junior

high level course can be found across nearly the entire state. World geography is often taught as a seventh grade course with Montana history being offered in eighth grade. Montana high schools emphasize history and government in the high school level courses. This may affect demand in the pre-service area. In Montana the subjects with the highest demand for qualified teachers are music, mathematics, and special education.

Understanding the motivations why one takes up the career of teaching is critical to understanding why one may pursue a focus on geography. Within the confines of this study, teachers were asked as to why they pursued careers in teaching. The findings of this will be discussed further.

During the pre-service time, a future teacher will take a selection of courses to meet the requirements of his or her teaching major. In addition to the successful completion of courses, the pre-service teacher must participate in classroom observation. He or she will visit a classroom and complete a specified number of hours of classroom observation and supervised instruction.

Also during the course of study, the pre-service teacher takes a content knowledge examination in order as part of the certification process for his or her intended course of instruction. This examination known as the Praxis II Subject Assessments, will test subject knowledge as well as subject related pedagogical skills that will be required of an incoming teacher.

The examination consists of 120 multiple choice questions, and has a time limit of two hours. The test is split into the following categories of questions: geography literacy and tools, physical geography, human geography, regional geography, and environment and society.

The combination of three factors GPA from courses, score on Praxis II examination, and the in class observation and supervised instruction provide a framework for the granting institution to recommend the student for licensure. The State licensure office through the Office of Public Instruction will grant the license if the requirements for licensure are met. The license is good for five years and then must be renewed via renewal credits gained at professional development opportunities or accredited university courses. Sixty renewal credits are required for license renewal. One hour of instruction equals one renewal credit.

Chapter Three: Methods

Sequential Exploratory Mixed Methods Research

This chapter will explain the methodology used during this study. The use of a three-prong analysis including an examination of policy, in-depth interviewing, and a survey provided a wide ranging view of issues concerning geography education in Montana. These methods provided means to an insight into a little known topic.

This study of motivating and demotivating factors for teaching geography used a sequential exploratory methodology that relied on in-depth interviewing and data gathering via survey methods. The sequential exploratory strategy utilizes qualitative and quantitative reasoning to develop and test a theory or multiple theories. The first stage of the strategy uses qualitative methodology in the form of semi-structured interviews. The interviews provide the insight and data needed to develop theories around the data gathered. After this, the data was analyzed using qualitative methods of coding multiple theories based on commonalities within the data. The theories were then tested via a survey which will be administered online which allowed a quick and efficient analysis of the data. The theories were tested to see which would stand or fail when applied to a larger sample group of the population of Montana geography, social science, and earth science teachers.

The sequential exploratory strategy was an ideal methodology for the research, as it helped to prevent person bias, and allowed myself to explore questions and findings outside of preconceived ideas.²⁸ This research study was intended to be authentic and genuine, as to provide solid primary source data from which a greater understanding of geography education can be made.

²⁸ Creswell, John W. 2009. *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, California: SAGE Publications, Inc.

The motivation behind choosing a methodology that uses preliminary interviewing was based on my concerns about my own lack of knowledge concerning education. Not having a background in teaching and what happens in the classroom, I sought out preliminary questions that may have been considered simple in their structure to an educator. This was also to prevent as much as possible leading the interviewee into preconceived responses. The sample of teachers chosen for interviewing was selected through a stratified random sampling in order to remove as much of the geographic bias and convenience.

Stratified random sampling provides a sample from a usually stratified population. School size was chosen as the determiner in this case. Students who come from a very low population area will usually experience a much smaller school population than their urban peers. This dictates many of the facets of the school environment and was considered to be the most relevant means of separating the sample.

All of the secondary schools in Montana are listed under their school class size. The schools are classified into four categories AA, A, B, and C. AA schools have the largest student class populations while C schools have the smallest student populations. Interviews included Montana's largest high school with over nineteen-hundred students –Bozeman, as well as the small but growing Turner school of fifteen high school students. Experiences and opportunities vary greatly between schools, and size is a factor in what offerings are available to students. A school with a large population of students may be able to command a more diverse set of courses and electives as the school has more teachers. A small school may not have a wide range of electives for students to choose from, but smaller class sizes allow for more frequent field trips and individualized projects.

The schools were assigned numbers and a random number generator was used to determine which schools to contact. The teacher from the school was asked if he or she would be willing to talk over the telephone for a recorded interview. The interviews were semi-structured meaning they followed a set order of questions, and each interviewee was asked the same set of questions; follow-up, clarifying, and extended questions were asked. As the interviewing process progressed, questions were amended and a few were added in order to further probe themes as they emerged during questioning.

The interviews were audiotaped, and consent to audiotape was verbally required of interviewees. A digital audio device was used to collect the interviews. I later transcribed audio files were then transcribed into text documents. The documents were then able to be used within the NVivo qualitative data analysis software.

The interviews were initially read and then analyzed by gathering common themes amongst the interviews. These interview themes were gathered with regards to the interview questions. The questions were regarding what factors help motivate teachers to teach geography, and what factors demotivate or prevent teachers from teaching geography and geography concepts.

A node tree, figure two below, was developed to map out the significance of the nodes to determine which themes were considered most prevalent. Some of the selected themes were then tested via an online survey that was answered by fifty Montana teachers. The major themes concerning teacher education, available resources, Common Core, and network related issues were tested via the following questions:

Nodes compared by number of coding references

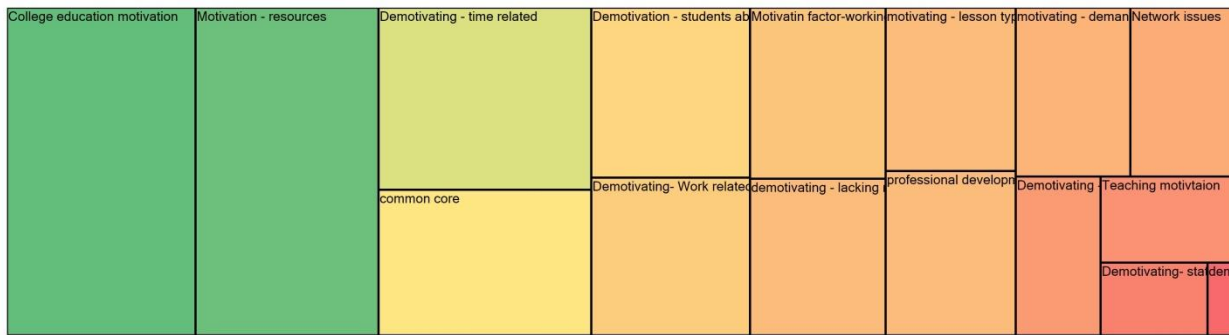


Figure 2: Node tree of themes.

A node tree visually explains the importance of each theme as it shows how often that theme appeared when compared to the other themed – or as a proportion of a theme. The themes that are green where the most common, and the themes that are red are less common, or therefore, less important.

The respondents were able to skip any questions if they felt uncomfortable or did not wish to answer for any reason. A Likert scale was used which required that the questions were odd numbered in order to include a neutral area. Although this may not mimic real life feelings regarding opinions on things, the concept of providing a neutral or “no contest” option was an ethical consideration, and it was important to me that the survey taker feel safe and not feel violated or pressed for answers. It is important to make a positive impact with the sample group, as research in education should be encouraged and teachers should feel comfortable participating. The survey questions can be found in the appendix of this document.

The consideration of ethics within the design of the methodology was taken very seriously. The analysis was completed and gathered at a county level as to not single out any teacher. Within a given zip code, there may be only one social studies teacher, and he or she may be easily singled out. Given a larger geographical area, say a county, there is more likely to be multiple social studies teachers and therefore more autonomy for the survey taker.

The survey was administered to a group of teachers whose emails were gathered during a previous project which sought to reach all the high schools and many junior high schools in Montana. Over five hundred and sixty teachers were emailed the survey which was hosted as a Google form. Respondents were not able to change answers once submitted, and were not able to view others respondents' answers. Fifty teachers responded to the survey.

The survey data was then analyzed in a Microsoft excel spread sheet where graphs were developed to help illustrate the data. Subsequent geographical data was then illustrated using ArcGIS to develop maps. The three data components of qualitative, quantitative, and geospatial data help to provide a rounded understanding of several of the findings.

In-depth interviews with Montana Teachers

Fifteen interviews of Montana teachers were conducted as preliminary data gathering and exploration. These teachers were chosen through a means of stratified random sampling. Montana high schools by class size were assigned numbers. Schools were selected by using a random number generator. The social studies, history, geography, or earth science instructor at each school was contacted and asked if he or she would like to participate in a telephone interview.

School Class Size	Number of Respondents
AA	5
A	3
B	2
C	5

The interviews were conducted over a telephone instead of face to face in order to reduce cost, and include teachers from parts of the state that are far from Missoula. The sampling techniques were used to reduce bias, both geographical and personal. Interviews ranged from thirty-minuets to over one hour. The interviews used a semi-structured approach, and follow-up and clarifying questions were asked during the interview.

In a few cases, interviewees backed-out after confirming a time for an interview as a result of scheduling interests, family conflicts, and other unknown reasons. This did present some issues as well over eighty teachers were contacted for interview, but only a few were interested in taking the time to interview. It was imperative that the population not be hounded,

as again, it is important to encourage teachers to participate in research studies. For the purpose of this document interviewees have been given pseudonyms to protect identity.

Chapter Four: Data Analysis

Factors that Affect the Likelihood and Quality of Geography Instruction

Within this chapter, the themes that emerged from the interviews are discussed and quotes are included to provide insight into the experience and thoughts of teachers that include those of social studies, earth science, and geography. Some themes were considered more motivating and others were considered demotivating, yet some themes impacted teachers in both negative and positive ways.

Impact of college education choices on teachers

College education was the most commonly brought up factor concerning why someone decided to teach, and what subjects to teach. This is not unusual as the college education of a teacher is highly focused and will predetermine what courses they can teach. What one chose to study, however, was an interesting concept to explore. The most common reasons given that one would become a teacher were tested within the survey, these included: enjoying one's own school time, teaching as a viable career, interested in the act of teaching, needing a teaching certificate for coaching, and having limited options when attending college.

Why did you choose a career in teaching?

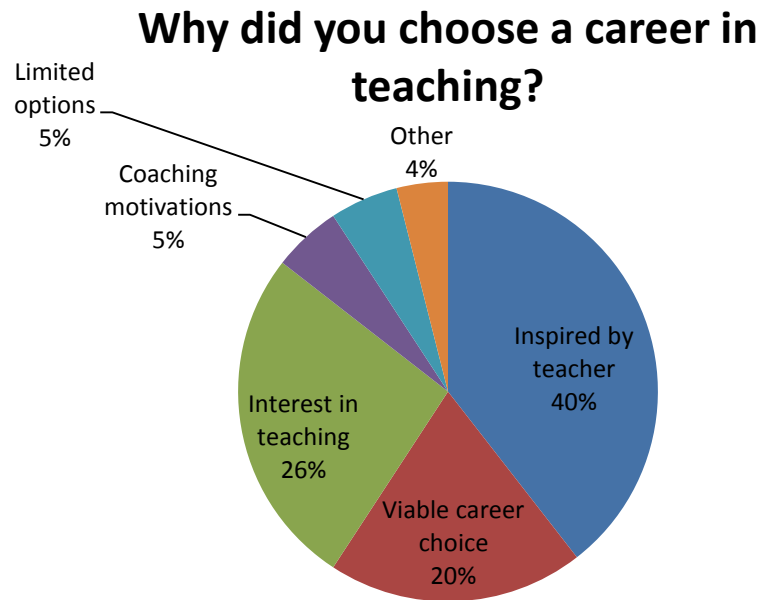


Figure 3: Pie chart of reasons why someone would choose a career in teaching.

The results of the survey indicate that the most common reason for pursuing a teaching degree is because the teacher was inspired by his or her teachers and enjoyed one’s education while in school. This suggests that there is a link between the potential teacher and his or her mentoring teacher. Geography teachers may consider encouraging their students to pursue careers in geography teaching, and provide guidance in exploring those options. One interviewee said that he became a teacher as a result of a positive experience in high school including mentoring from faculty.

...like if you have a pretty good experience in high school, and I had some role models that were faculty members. You’re kind of drawn maybe to that field. I’d say, you know, enjoyable time when I was in high school. Can’t really say it was a love of young people, I don’t know I really, say that, I wish I could be honest with you, it wasn’t it.²⁹

²⁹ Lawrence. Interview by Kayde Kaiser. Telephone Interview. Missoula, April 23, 2014.

Within the concept of teaching education motivations interviewees provided rich responses to why they became teachers. One teacher from a small, northern Montana town commented that she chose teaching because she wanted to coach and knew she needed a teaching degree, but she also loved history while attending school and chose to pursue that as well. As she stated:

Well I always wanted to be a teacher, but I wanted to coach and I knew you got to have a teaching degree, and I thought ok, what do you think I can do, so that's how I picked physical education, health enhancement part, but the history, I love history, always have. When I was in high school I did very well at it, and that was one of my favorite subjects so that is what I went into.³⁰

Within her response, the desire to teach is a component of an experience she had in high school as well as a desire to coach sports. This teacher has degrees in health enhancement and social studies education. As a result of her dual degrees, she teaches junior high and high school social studies as well as K-12 physical education and health.

Another interviewee when asked why she chose a career in teaching explained the multiple reasons why she pursued education:

Well, I'll tell you my politically correct answer, and I'll also tell you my non-politically correct answer. I chose social studies because I always found it interesting, and so I was really interested in geography, and traveling other places, and meeting people from other cultures and learning about others, the histories and cultures in other places around the world... and I was always interested in history just kind of a study of people, sociology, psychology, all those kind of things. So that kind of led to my interest in social studies. Also this is my non-politically correct answer because I loved social studies so much, and I found it so interesting I was really saddened by the fact that my social studies teachers in high school hadn't really inspired that interest. It wasn't really until after I had graduated from high school that [this] really bothered me, and so I was also interested in teaching. I thought if I wanted to be a teacher I would like to teach social studies and make it more interesting and engaging for students.³¹

³⁰ Nora. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 6, 2014.

³¹ Andrea. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 28, 2014.

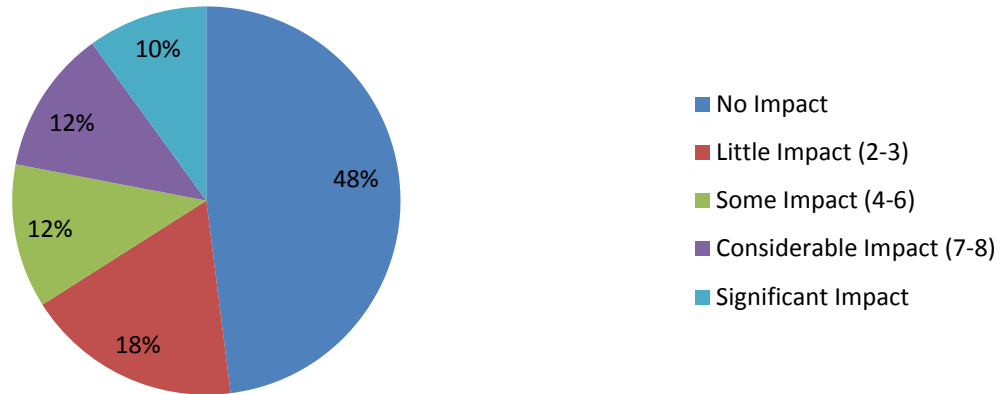
Here the teacher indicated how she was affected by her experiences traveling and having an interest in other cultures and places. However, she was inspired by her teachers from her education, but not in a positive light. She felt that her teachers did not provide the most engaging and worthwhile experience for her.

A teacher from a B school in Montana simply expressed his enjoyment of teaching. “I chose teaching due in large part to [be able to] stand behind the podium and share what I know”³² His comment reflects the concept that teachers do love to teach and share information. Several interviewees indicated that they loved sharing with students. Several teachers mentioned the importance of being able to travel as part of the teaching experience, and to have personal accounts to share with students. When asked about what she would like to learn more about, a teacher from an A size school said, “I would like to be able to learn firsthand about faraway places. I think a person is much more interesting when they have experienced the things they are talking about”³³. She implies that firsthand knowledge is superior to just providing information from secondary sources. The concept of travel as a reason to pursue teaching was tested in the survey.

³² Charles. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 11, 2014.

³³ Patricia. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 13, 2014.

Impact of traveling on decision to become a teacher



In general foreign and out-of-state travel had little effect on a person's decision to pursue teaching. One teacher noted that even though she had not pursued a degree in teaching for travel, she found herself traveling quite frequently. She states:

I did not get into teaching because I wanted to travel, but, boy, have I traveled, all because I am a teacher. Multiple trips to Washington, DC, to France, to Ohio, to Alabama, Florida, Utah, Chicago, Phoenix, St. Louis, and of all things, in one week I am going to China. I never would have thought that teaching provided such opportunities for seeing the world... the more you see, the more grounded your geographical instruction becomes.³⁴

Clearly international and domestic travel was important to her, and she notes that she feels that travel provides a personal context or grounding from which one's teaching can come from.

Teachers expressed the concern over the lack of travel experience their students had. Several teachers noted that students' lack of world knowledge was in part as a result of a lack of travel experience. A teacher from Sanders County noted the connection between student travel experience and classroom performance. "The biggest problem at my school is that many of my students have limited travel experiences and rarely leave the county...it is very obvious as to

³⁴ Kaiser, Kayde. "Survey on Geography Education." Survey. June 11, 2014.

which students have a broader working knowledge of any geographic concepts; those students have traveled, watched the news, and can relate to our world.”³⁵ The relationship between travel and engagement in the classroom should be studied within the context of Montana’s schools to see if there is a link that may assist some at-risk students or provide initiative for funding those outings.

³⁵ Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

Quality of available resources

The quality of resources available to teachers was a well mentioned topic. When teachers had great, informative, and, often fun, resources they felt more inspired and compelled to provide their students with geography information as they often noted the importance of quality resources. A teacher from a small C school noted that hands-on lessons were the most successful at getting students interested and engaged. “Anything hands on and lessons that tie to them personally so they can relate to the subject matter. My students love learning about Montana and the amazing geographical features we have here.” She emphasized what technologies she used with her students to gain their interests, “In class technology is very important. We use GPS, mapping curriculum online, finding information, presenting information, and correspondence with professionals on certain topics in the field.”³⁶ Technology as a resource was mentioned by nearly every respondent. Survey takers were asked if they felt that technology played a positive or negative impact on students’ ability to learn geography and geo-spatial concepts.

³⁶ Williams, Essie. Interview by Kayde Kaiser. Telephone Interview. Missoula, June 4, 2014.

Impact of technology on learning geography

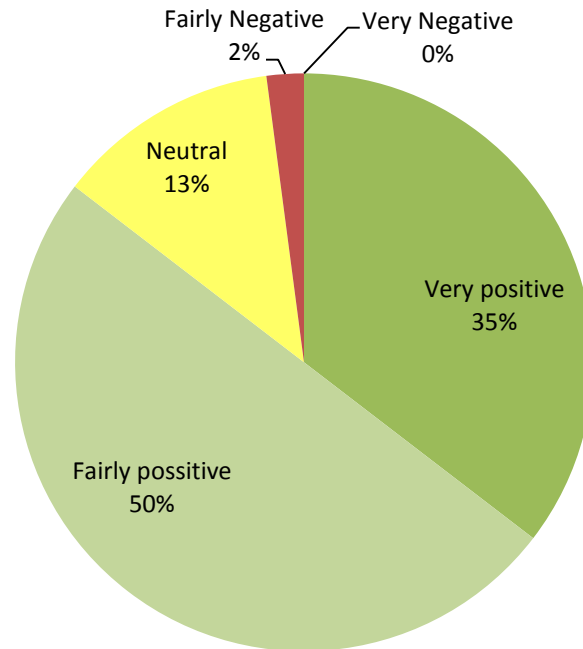


Figure 4: Effect of technology on learning geography and geo-spatial concepts.

Figure three suggests that teachers feel that technology provides an overwhelmingly positive effect on student learning outcomes. A teacher in a school in severe eastern Montana said that technology is readily available to them, and that it is critical to teaching skills that are needed today. The teacher commented:

Our school ... has a technology rich environment that helps students learn. We have a smartboard in every classroom. All high school students are provided a laptop to do their school work on. Elementary students have access to tablets with educational apps and books. This helps our students not only have the tools needed to complete the work expected of them, but they also develop technology literacy which is extremely important in our technological world.”³⁷

Some schools do not have the funds to provide easily accessible technology to all students. One teacher in a class B school said, “...funding for technological resource

³⁷ Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

improvement in school districts would contribute greatly.”³⁸ Another teacher echoes the same concerns. “...professional development, better internet access, more student access to computers that WORK!”³⁹

³⁸ Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

³⁹ Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

Working well with faculty and support from administration

Faculty cooperation was important to many of the respondents. Three of the interviewees were department heads and provided insight on their roles within their respective departments. Department heads were only found in the larger schools, as class C schools will often only have one instructor in social studies. One teacher from a large class AA school said her role as department chair is quite diverse. “I take my role as an instructional leader pretty seriously and try to keep my department up to date on major trends nationwide, and information about good teaching practices, application of common core standards, just certain policies, standardized testing, assessments, formative and that sort of thing.”⁴⁰ This teacher took on the role of providing information and guidance to her faculty while acting as department chair.

The environment of the school was closely related to the support of the faculty and administration. One teacher from a small, rural school said that her experience with superintendents greatly affected her teaching environment. As she stated:

“The school environment all depends on your superintendent. I’m not going to lie to you. Year before we had a superintendent who was at the end of his career, and really not much got done. We got a new, fresh, she’s young, she’s got new ideas –it’s refreshing, just refreshing. And when you have a superintendent like that, the school environment is just totally different. This kids know where they are at, they know what she’s expected of them, she’s here, she’s among them, she knows their names...she wants kids to learn, she’s good about backing you if you want to go do things, and you can have superintendents that don’t really care, and I had both.”⁴¹

This teacher explains very well the importance of leadership and how much influence a person can have over the learning environment and subsequent outcomes of students’ abilities. This suggests that administration should be on-board with geography education if the subject is to move forward. When surveyed about what they felt was the level of importance that their

⁴⁰ Andrea. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 28, 2014.

⁴¹ Nora. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 6, 2014.

administration placed on geography education, most respondents felt that their administrators feel that geography education is irrelevant.

Preceived level of importance placed on geography education by school administrator

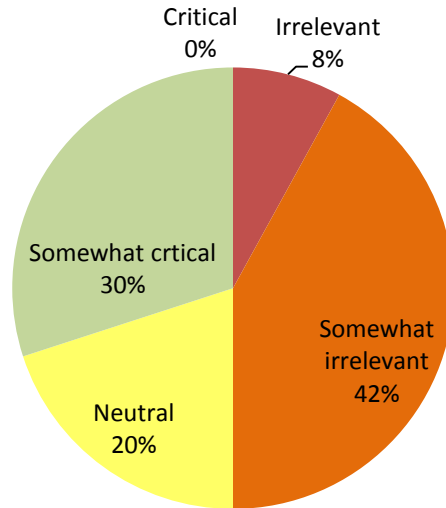


Figure 5: Teachers perceived level of importance placed on geography education by school administrators.

When asked if a formal geography education is important to their students, eighty-four percent felt that a formal geography education is important to their students. This indicates disconnect between what the teachers feel and what they think their administration believes.

Importance of students having geogrpahy

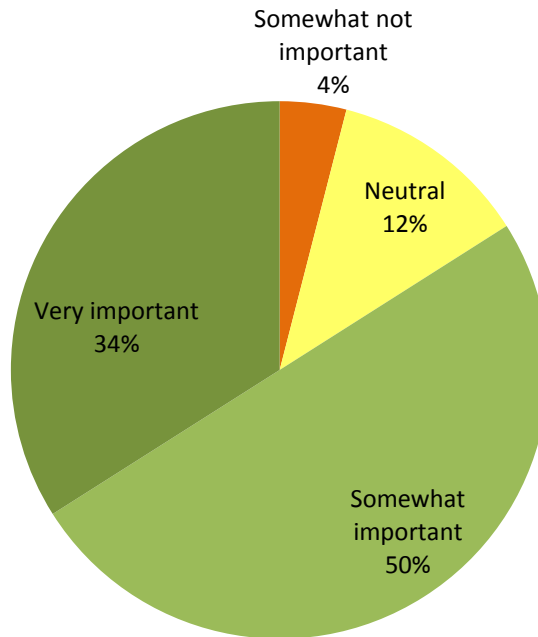


Figure 6: Perceived importance of a formal geography education for students.

When asked in the survey what they would do to improve geography education in the state of Montana, one respondent said, “Superintendents and principals need to be lobbied and educated on the importance of putting hand held units in the hands of students and getting them outside and moving. Making connections by collecting data needs to be emphasized.”⁴² Also, another respondent noted that it is important to have, “Leadership that sees the value of geography.”⁴³ Working with administrators to press the importance of geography education will be a critical component of improving the landscape of the field, and may prove to be successful as a means of change.

⁴² Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

⁴³ Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

Time related issues

Time was the most often occurring factor found within the interviews that was affecting the quality of their students' education, especially when one considered geography instruction and learning. In response to being asked what was most important, one survey taker said, "The biggest [issue] in teaching geography education is the limited amount of time. With the emphasis on state and national testing in Math and Reading, Social Studies and Science have been put on the back burner of education."⁴⁴ Another teacher noted that he experiences issues with time, and often is not able to incorporate geography concepts as a result of the demands placed on him.

I wish I had more time with my students to go into more depth. We go from, and we changed curriculum this year, we used to start at the French and Indian war, and I was lucky if I was to get to 1989 by the end of the year...I wish I got to slow down and pull in more map work and more primary source work and stuff like that, I just don't often feel I have the time to do as much of that as I would like.⁴⁵

Another teacher noted that as a result of his limit time, he must come in to school early and work late at night in order to provide a quality education for his students. "I put a lot of time in. I'm usually here at 6:30 am. And I leave around 4:30, but fifty-percent of the time I'm back at school. I have got a daughter in the 7th grade, so when she goes to bed at 9, I'm usually back at the school, because I don't want to miss out on family time. Put in a few more hours in the evening probably. If you do it right, you've got to spend time." This additional time is not required of him, but he felt that in order to provide a quality education, additional hours are required. This is not unusual of teachers hoping to get a handle on extensive amounts of grading and classroom preparation. Another teacher commented on how she wished there was more time to address assignments and lesson preparation. "I wish I had more time to correct papers. I have

⁴⁴ Kaiser, Kayde. "Survey on Geography Education." Survey. June 11, 2014.

⁴⁵ Hanna, Fred. Interview by Kayde Kaiser. Telephone Interview. Missoula, January 28, 2014.

always had a new or different subject each year to teach in the 9 years that I have been teaching. So, I would like more time to plan for lessons, as well.”⁴⁶ She felt as though the inclusion of additional new courses required a considerable amount of time, and again, grading homework was seen as time consuming, and takes precedence from class preparation.

In addition to new courses, some teachers noted the inclusion of Common Core as a major time consuming task. In response to Common Core, one teacher noted the effect on her schedule and the consequences with a loss of time:

The common core stuff is really kind of time consuming, it is really kind of hard to get in the history along with all of the catch up work, the writing. It’s pretty impressively overwhelming right now, trying to fit everything in and teach history at the same time, well, here we go, here’s some history now. I am learning how to, I am teaching myself how to skip a lot of things, just focus on the important, at least what I think is important.⁴⁷

She comments that she needs to choose what is important to cover as a result of the amount of time Common Core is taking in her class. The writing component is new for many teachers, and this has required a considerable amount of time to rework assignments and prepare writing prompts.

Not only has Common Core become a challenge to find resources and the time to implement the new program, student abilities have become an issue as well. One interviewee expressed her concerns when finding her students could not read and had poor vocabulary knowledge.

I went from doing lectures and notes, to realizing the kids can’t read, we do a lot of reading the book aloud, I got a higher level reading book, I don’t teach AP, but the books that they have right now are written at a fifth grade reading level which is really pathetic when you’re a junior in high school, so I basically got AP books for both my juniors and my sophomores... you’ll have to do a vocabulary worksheet, and vocab lessons every day, and then the writing, and then teaching them how to comprehend, what they are reading, that is just tremendous, I did not

⁴⁶ Patricia. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 13, 2014.

⁴⁷ Bernadette. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 10, 2014.

realize how low their reading comprehension level of a high school student really was.⁴⁸

She laments that she was surprised to find her student reading capabilities to be so low. This may suggest that lower level education, elementary and junior high, are not preparing students for their time in high school. This is not a singular issue however, as many teachers in high school are disconnected from their cohorts in junior high and elementary schools.

⁴⁸ Bernadette. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 10, 2014.

Student abilities

As discussed above, student abilities are a major demotivating factor for teaching geography. As a result of students lack of vocabulary knowledge and reading comprehension, teachers are unable to cover the all the content that is needed in a history or geography course. This creates a major concern regarding teaching responsibilities. Many teachers noted that they had to do remediation as part of their instruction. When asked if he had expectations for his incoming students one teacher responded,

Um, I mean I expect that they've been exposed in the past, but that was typically they were 7th or 8th graders, now they are juniors in high school, you know that they can't remember what they ate for lunch yesterday, let alone what they studied four years ago. So we kind of start from scratch with the expectation that there is some sort of prior knowledge.⁴⁹

He implies that he knows that the students may have had some previous geography knowledge, but he also must assume that they have likely forgotten it by the time high school rolls around. Student abilities affect the course significantly because teachers must begin where the student knowledge is, and must also, as of this year, begin to assess the students writing and reading comprehension.

Student experience and maturity are a component of student ability. One teacher from a large urban school noted that between his AP US history course and his world geography course, there are considerable differences in student abilities.

And then I have, I teach the two AP classes 1st and 2nd period, and then I have a prep during 3rd, it's about 50 minutes long. And then I go, and that's actually good to have, because it's a little bit different demographics between the AP US and the world geography kids. You know, because the top notch juniors, and then we go to kids that are just entering high school from middle school, so it's good to have that transition period.⁵⁰

⁴⁹ Fred. Interview by Kayde Kaiser. Telephone Interview. Missoula, January 28, 2014.

⁵⁰ Charles. Interview by Kayde Kaiser. Telephone Interview. Missoula, November 11, 2013.

Here the teacher experiences a great difference in the abilities of his students. World geography is often seen as a freshman level course, and subsequently teachers need to spend more time teaching their incoming students how to be successful in high school including listening skills and note-taking. One teacher discussed how she works with her incoming freshman who are lacking study skills. She comments:

So since I have freshmen only this year, there are some skills that they come lacking. So I work a lot on those skills that will help them be successful...you know it isn't that they haven't been taught what they should be taught in seventh grade or eighth grade, so that's considered, so if you're taking notes from a film, how often do you stop the film to help them learn how to do that.so that they become very skilled. You know, the same is true for writing the writing matters, but they can do even better. It's helping them get ready for high school.⁵¹

Again, she reiterates the role of the freshman class teacher as a learning skills instructor. This again reduces the amount of time for content that can be instructed upon.

In addition to lacking study and learning skills, incoming students lack basic geographic knowledge which affects courses, especially those pertaining to current events. She expressed her frustration with her students' geographical illiteracy:

You talk to these kids about Afghanistan and Iraq and they look at you like, I don't know where this stuff is. Look at Ukraine, here we are at the middle of getting involved in this Ukrainian dispute between Russia and Ukraine, and they are like 'where is it?' and I have to show them. So it would be nice to get to teach kids when they get older, some of the stuff they can relate to. Like I said, if I could teach more of that I would love it.⁵²

Here geographic literacy affects a teacher's ability to cover content, and connect meaningfully with her students. She would like to work with her students to cover a multitude of current event topics, but is hindered as a result of her students' inability to understand basic world geography.

⁵¹ Nora. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 6, 2014.

⁵² Nora. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 6, 2014.

Work environment related issues

The work environment is a complex issue with regards to motivation for teaching geography in schools. School politics and leadership issues are pervasive, and affect the teaching abilities of teachers due in part to a reduction in funding, as well as a reduction in concern regarding book adoption and curriculum development. Teachers are burdened with leadership issues that affect their classrooms quite considerably. School districts in Montana have school boards whose decisions impact whether or not a teacher will get new books or be able to adopt new curriculum, or even have help establishing a curriculum. One teacher noted the frustrations around getting a new text. She laments:

It used to be a seven year process, and so every seven years different departments would have it on their schedule, got new curriculum and new books. A couple years ago the district did away with that entire process. The district is no longer buying any new text books, and so now it's supposed to be more of an, departments define their curriculum kind of ongoing as it goes on and on, I will tell you that that is kind of a pipe dream since we really don't have time to do it as much as we should.⁵³

Again, time is a major limiting issue for this teacher who now must take on the tasks of finding literature for her students as well as developing curriculum with her fellow teachers in her department.

Leadership within the school plays a critical role in what schools focus on as well as where funds are distributed. One teacher explained the frustration over having a series of leadership changes. "Within any school there are politics. This is my sixth year here, and I am under my third superintendent. Having the change of administration every two years is difficult. The thing is, is that people need to have continuity, and the continuity of the program."⁵⁴ Having

⁵³ Andrea. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 28, 2014.

⁵⁴ Nakia. Interview by Kayde Kaiser. Telephone Interview. Missoula, April, 3, 2014.

experienced considerable leadership change, this teacher noted that it was a challenge for her students and other faculty to have a new administration so often.

In addition to the change of administration, loss of a teacher can greatly affect the others in the department, most notably in this excerpt from a new teacher who lost sections of his course. He states:

...I think it was, is we needed to, we could only have a certain amount of sections for social studies period, when one of our teachers retired last year, what we did is we actually eliminated one of our social studies sections, for anyone to teach, so it's kind of a funding issue. And now as a whole social studies department we have one less social studies section that we teach.⁵⁵

Here the teacher lost one of his world geography sections, and subsequently he had to have more students in each class, thus increasing class size.

Another teacher expresses his concern when a history teacher retired and was replaced by a veteran teacher. He said:

...to be honest with you the other guy is just a veteran teacher - 25 years plus, but he was a shop teacher his whole career. He was going to get rified with a history minor, so we stepped in to replace a retired US history teacher this year, and you know, between you and me, it hasn't gone really well. So we have these three very veteran teachers, but one of us is a rookie, you know, he is a first year teacher. So anyhow, we are trying to be of assistance to him - it's kind of awkward.⁵⁶

Even though the teacher meets the qualifications of content, it could have been 25 years since he had his history courses, and may not be able to provide a quality teaching experience for the students. Politics, funding, and administration issues are common across much of Montana's schools, and much work should be done to further understand the issues and players.

In relation to political issues, the most common environmental complaint was issues concerning wireless internet connectivity and broadband speed, as well as how networks were

⁵⁵ Charles. Interview by Kayde Kaiser. Telephone Interview. Missoula, November 11, 2013.

⁵⁶ Lawrence. Interview by Kayde Kaiser. Telephone Interview. Missoula, April 23, 2014.

managed. These issues are often a result of a lack in infrastructure planning and funding. One Montana teacher discussed his issues when he learned that his school would not provide the infrastructure to bring geospatial technologies to their students. As he states:

Yeah I went to that and I learned cool things there, unfortunately I learned that if I wanted to do that with the students, we have the computers we have the ability to take them to the computer lab and really find some interesting things with google, but there is no way that the internet, the bandwidth will allow for twenty-five students to get onto google earth at the same time. Its gets too slow.⁵⁷

Here the school had the technology and the training to provide students with training using Google Earth, but it lacked the wireless infrastructure to allow the program to work. Another teacher expressed her concerns about the wireless infrastructure even though her school provided her with adequate technology. She notes:

And also, one thing that gets over looked, is bandwidth, I think that would help a lot because we have a lot technology, but it's easy for me to get a cart of iPads and laptops or something, but making sure that every student then can access information quickly - it then can sometimes get really slow. Especially if there is a certain area if all teachers have computer carts at the same time, so I think bandwidth would help, to help with the speed to get the information. There is not a student wireless server, and obviously there are some inherent problems, or risk I guess, but I think students being able to get information on their own devices would be helpful too.⁵⁸

Again, she is able to access the hardware technology for her students, but the wireless internet infrastructure cannot handle all of the iPads or laptops that they would need to allow an entire class to access the programs. With an increase in schools no longer buying or using textbooks, teachers are becoming more dependent with online resources. Although there are great online resources being developed, not all schools, and even those urban schools as seen here, have the infrastructure to support or access those materials.

⁵⁷ Charles. Interview by Kayde Kaiser. Telephone Interview. Missoula, November 11, 2013.

⁵⁸ Andrea. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 28, 2014.

The survey contained questions regarding the effect of wireless and broadband issues on teaching abilities, and nearly all respondents experienced issues with their schools' internet access. The teachers were asked to report how many times in the past school year did internet connectivity affect their teaching. The average of each county was mapped to provide an insight into this issue in Montana. Counties where there were no respondents or where respondents chose to not indicate their county are white or blank and are not included in the analysis.

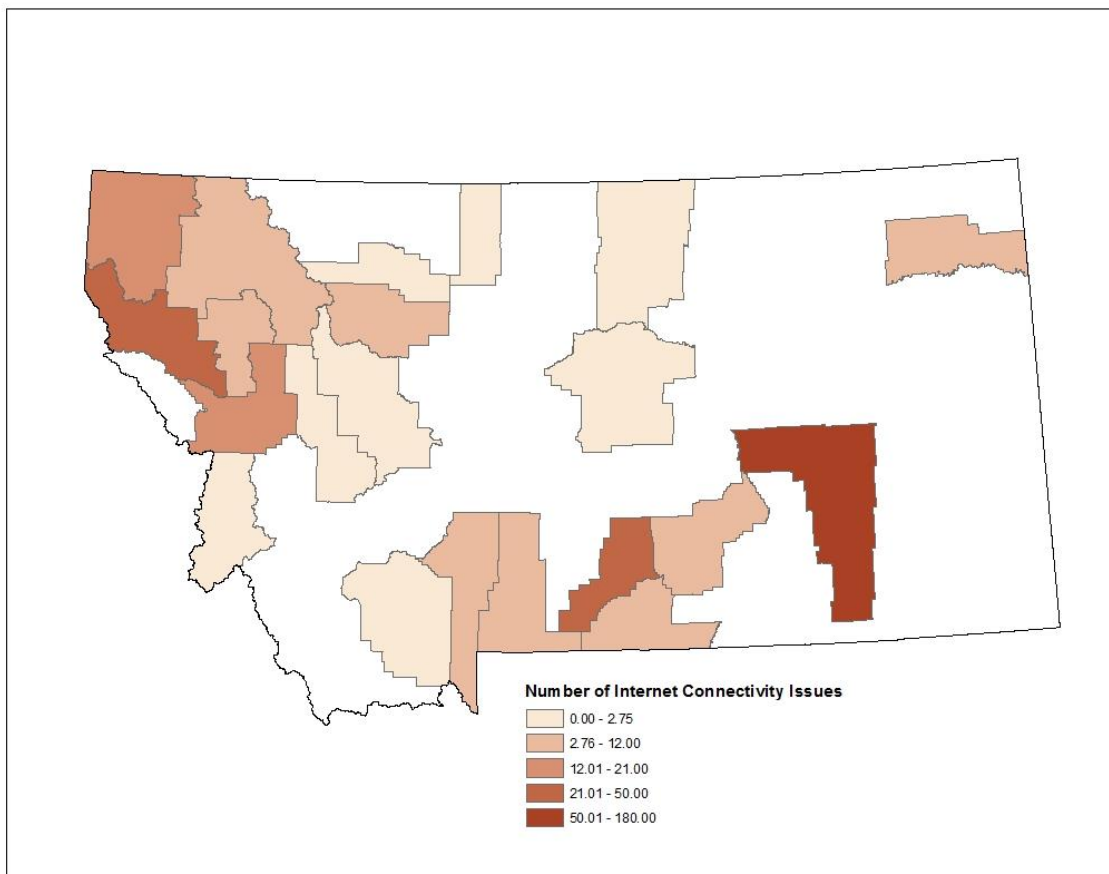


Figure 7: Map of reported internet connectivity issues

Internet connectivity does not discriminate with connectivity issues apparent in some of the state's most populous areas including Missoula County, Gallatin County, and Yellowstone County. One may assume that access to technology would be a rural issue, but urbanized areas are just as prone to slow and poor connectivity. In order to fix these issues in a school district,

the cost is quite astronomical, and requires a technology levy to be placed on the ballot at election time. It may take several iterations of a levy if one gets passed at all.

Lacking technology and resources

Although internet connectivity and bandwidth is a major issue across the state, and in almost all of the schools surveyed, only twenty-percent of teachers reported that their internet connectivity does not affect their teaching; individual schools experience many issues pertaining to resources and technology access. The example discussed above included schools that had technology resources, but lacked the infrastructure to support them. One teacher explained that she uses atlases in her classes, but as a result of the fragility of the resource, the atlases wear out quickly. “We have limited numbers, they are very beneficial... but, they wear out quick and rarely make it through more than a couple years.”⁵⁹ Although atlases are a great resource for students and do not require complicated infrastructure, they need to be replaced, and those funds may not be available.

A teacher from a community in northwestern Montana said that computers are limited at his school, and that it prevents him from using them as part of his curriculum. He states:

Our school has a dearth of technology; student access to use computers is a headache here. We’ve got basically two computer labs for middle school and high school; it’s tough to get kids there, and then when you have five sections of a class. So we don’t have notebooks for the kids to use, or tablets or whatever you say. I would like to do more with them on that, I just don’t have access to it.⁶⁰

The lack of access prevents him from being able to introduce his students to online resources and geospatial technologies. Again, a school would need to pass considerable technology levies in order to improve technology access.

Although the following teacher has access to hardware technology, funding prevents him from providing software for his students.

It’s a tremendous resource that we have some of that in the district, we have an IPod lab, but they have it so locked down that it’s difficult to actually do anything

⁵⁹ Andrea. Interview by Kayde Kaiser. Telephone Interview. Missoula, March 28, 2014.

⁶⁰ Lawrence. Interview by Kayde Kaiser. Telephone Interview. Missoula, April 23, 2014.

with them. They have it so that you can't add programs; they have to add them centrally. They won't actually buy any programs, so that costs me money, I like to say 'if it costs more than 20 cents and a waffle' they won't do it. You have to have money in your budget to do it. I don't have a budget. So that's been a real frustration. And there's a wealth of free stuff out there, but a lot of that stuff you get what you pay for.⁶¹

Limited budgets, or no budget whatsoever, makes already obtained technology useless. An iPad may as well act as a paper weight. When asked about technologies available to them, the most common answers were classroom computers, digital projectors, smart boards, and DVD players. The most commonly sought after technologies included iPad and other tablets, document cameras, and classroom laptops. Having individual technology available to students is less common and is becoming more important to teachers, but cannot be used to its best abilities without proper wireless and broadband infrastructure.

⁶¹ Fred. Interview by Kayde Kaiser. Telephone Interview. Missoula, January 28, 2014.

Chapter Five: Conclusions and Recommendations

The research project sought to discover what factors may hinder or help a teacher to provide geography instruction to students. The study used a three-prong method of analysis including looking at current policy as it relates to geography education, in-depth interviews of teachers, and a survey that helped to gain more information on themes gathered from interviews. This chapter hopes to summarize those findings into conclusions and subsequent recommendations for further research, policy, and organizational objectives.

Given the above findings, the following conclusions can be drawn:

1. Teachers are greatly influenced by their experiences during school - positively or negatively.
2. Pre-service teaching programs do not emphasize geography education, and instead produce teachers who are more capable of teaching history and political science as opposed to geography.
3. School administrators including principals, superintendents, and school board members are highly influential and dictate much of the school environment. Teachers do not feel that these stakeholders care much for geography.
4. Teachers have limited time to teach geography concepts as a result of requirements of history curriculum, Common Core development, finding resources, developing new lesson plans, jumping hurdles to technology access and funding, and teaching remedial concepts including reading and writing to students.

As seen here, the reason why geography is absent is quite clear. These are issues that can be addressed, but it is not a simple solution. When teachers were surveyed and asked what should be done to improve geography education, over 20% mentioned the use of a state mandate. A

state requirement of standalone geography would create a demand that would affect the teacher preparation programs as well as circumvent the impact that administrators have at local levels. However, having a mandate of standalone geography may further burden time strapped teachers and limited school budgets. One teachers suggested that geography be implemented as a cross curricular initiative. “I would like to see state funding similar to Indian Education for All, where funding is set aside in districts to specifically promote geography education in schools. I would also like to have part of that funding for place-based geography.”⁶²

Next Steps

Regarding recommendations for further research, this study found that several projects could be done to expand on some of these findings. Most notably, the idea of a state mandate as a solution to geography education concerns within the state. An analysis of other states that have initiative mandates of standalone geography may assist with gathering an understanding of how that may play out in Montana. Also, given the rural nature of Montana, a spatial analysis of mandate demand would be helpful, as some places of the state may not be able to accommodate additional sections. Obviously a mandate would require considerable funding, but an analysis of economic benefits and returns may be helpful in persuading legislators to enact a mandate.

Another beneficial study would be to look at how geography became a “back-burner” topic in Montana as well as the rest of the United States. A historical analysis as well as an analysis of public perceptions of geography may be helpful. Montana supports many initiatives surrounding environmental education, outdoors education, place-based education, global studies and travel – why not geography?

⁶² Kaiser, Kayde. “Survey on Geography Education.” Survey. June 11, 2014.

As seen in the findings of this study, technology really drives teaching motivations, as many more resources are only being accessible online. As organizations and educators develop materials and resources, it may be beneficial to look at low-tech options for hosting resources. These could include a return to paper materials and CD-ROMs. Although it may be counter intuitive to technology education initiatives, it cannot be assumed that schools will receive the money for the infrastructure, and one should only assume that money will become more and more strained.

Unfortunately no one has found a way to add more hours to a day, and thus, school days are limited. Within this study some of the teachers interviewed expressed their enjoyment of having four-day work weeks with longer class times. Many students are involved in afterschool activities and are use to a longer work day. Fridays are often used for appointments and sporting events, and teachers will often do professional development on those days as well. Most of the teachers interviewed followed a seven-period day, and only one reported a block schedule with alternating day schedules. An analysis of these different day structures may be helpful to see if teachers are able to provide more geography instruction given certain day structures.

Recommendations for Montana Geographic

Based on the research findings of this study, I would recommend that the Montana Geographic Alliance focus on pre-service educators and state policy. With limited resources, and the connection to the University, it would be effective to work with pre-service teachers to encourage them to take geography courses. This could also involve working with the education department to increase the required number of geography courses needed for a social studies broadfield degree. Mentoring of new teachers may also be something the Alliance can assist with.

As far as state policy, the Alliance may want to pursue a state mandate or increased funding for geography education. Although the state may be hesitant to spend money, there is no point in not pursuing the option. The legislature meets for a very short period of time every two years, and finding education supporters is not difficult, as most are supportive of education initiatives.

Along with the recommendations made for the Montana Geographic Alliance, I would suggest that University of Montana reevaluate what social studies is to them. There is no requirement of geography at elementary education levels, which clearly creates an issue when these students reach junior high and high school. I would recommend that the University consider requiring two geography courses to all elementary students, and expanding the requirements of geography for secondary social studies teachers to be at least nine credits, preferably fifteen or more so that all secondary school social studies graduates can teach standalone geography. The Digital Academy based at The University of Montana may also be an excellent resource to provide geography instruction to schools where there are not resources available or qualified teachers.

Problems Encountered

During the course of this study, a few problems occurred, but nothing that, I feel, affected the results of the study dramatically. I had issues as discussed earlier pertaining to getting teachers interested in being interviewed. Also, some schools do not publish emails of teachers, and website quality varied considerably. It was sometimes difficult to find contact information as well as to commit teachers to an interview, as they are extremely busy.

The major regret that I have regarding the research is the level of analysis. As a result of ethical implications, I did a county level analysis and not one pertaining to individual cities and towns. It would have been ideal for analysis reasons to do a zip code based survey that would gather point data that could have been used in more rigorous spatial analysis.

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Appendix

Online survey questions

Survey on Geography Education

1. Where do you teach? Please select a county Mark only one oval. Beaverhead Big Horn Blaine Broadwater Carbon Carter Cascade Chouteau Custer Daniels Dawson Deer Lodge Fallon Fergus Flathead Gallatin Garfield Glacier Golden Valley Granite Hill Jefferson Judith Basin Lake Lewis and Clark Liberty Lincoln McCone Madison Meagher Mineral Missoula Musselshell Park Petroleum Phillips Pondera Powder River Powell Prairie Ravalli Richland Roosevelt Rosebud Sanders Sheridan Silver Bow Stillwater Sweet Grass Teton Toole Treasure Valley Wheatland Wibaux Yellowstone
2. What is your school class? Mark only one oval. AA A B C Don't know No class size assigned.
3. What grade levels do you teach? Please select all that apply. Check all that apply.
Kindergarten 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
4. How many years have you been teaching?
5. What disciplines did you specialize in during college? Please select all that apply. Check all that apply. Social Studies Broadfield History Geography Economics Sociology Earth Science Environmental Science Environmental Studies Global Studies Anthropology Political Science
Other:
6. How many credits of geography courses did you take during college? One course is typically three-credits.
7. If you had a requirement of geography, how many credits did you need to take? One course is typically three-credits.
8. Why did you choose a career in teaching? Please select all that apply. Check all that apply. I enjoyed my education growing up and was inspired by my teachers. It was a viable career

choice. I had a keen interest in teaching before pursuing education. I needed a teaching degree to pursue sports coaching. At the time, there were few options for me. Other:

9. Did out-of-state and foreign travel have an impact on your choice to become a teacher? Mark only one oval.

1 2 3 4 5 6 7 8 9

No impact

Significant impact

10. What classes do you teach, or have you taught in the past? Please select all that apply. Check all that apply. Social Studies US History World History World Geography Montana History Government Political Science Sociology Anthropology/Archaeology Earth Science Environmental Science Natural Science Human Geography World Cultures Current Events Women's Studies Industrial Technology Land/resource management and planning courses Civics Other:

11. What impact does curriculum development have on your teaching? Mark only one oval.

1 2 3 4 5 6 7 8 9

No impact.

Significant impact.

12. How much of an impact will Common Core have on your teaching methods? Mark only one oval.

1 2 3 4 5 6 7 8 9

No impact.

Significant impact.

13. What are your feelings towards Common Core standards? Mark only one oval.

1 2 3 4 5 6 7 8 9

Strongly opposed.

Strongly favorable.

14. What teaching technologies are available to you? Please select all that apply. Check all that apply. Classroom computer Digital projector Overhead transparency projector Whiteboard Document camera Smartboard DVD Player VHS TV Internet access Wireless internet iPad or other tablet Classroom laptops or Chrome books Web-cam, video Classroom website/blog Other:

15. What technologies do you wish you had available? Please select all that apply. Check all that apply. Classroom computer Digital projector Overhead transparency projector Whiteboard Document camera Smartboard DVD Player VHS TV Internet access Wireless internet iPad or other tablet Classroom laptops or Chrome books Web-cam, video Classroom website/blog Other:

16. Does the quality of the wireless infrastructure and internet connectivity at your school impact your ability to teach? Mark only one oval. Yes No I don't know Wireless internet is not available at my school. Internet access is not available at my school.

17. How many times in the previous school year did poor internet connectivity impact your teaching?

18. How do you feel about the impact of technology on students' abilities to learn geography and geo-spatial concepts?

1 2 3 4 5 6 7 8 9

Very negative impact.

Very positive impact.

19. Which of the following do you use as part of your instruction? Please select all that apply. Check all that apply. Google Earth ESRI ArcGIS or ArcMap ESRI Online You Tube National Geographic resources geoguessr.com Classroom maps Atlases Globes Individual maps Other:

20. What do you feel is the amount of importance your administration places on geography education?

1 2 3 4 5 6 7 8 9

Geography education is irrelevant.

Geography education is critical.

21. Do you include instruction of geography concepts in your courses? Geography concepts may include understanding places, land features, economies, human/environment interactions, cultural identities, weather/climate, bio-diversity... Mark only one oval. Yes, always Yes, sometimes Yes, rarely No I don't know

22. If yes, why? Check all that apply. Geography knowledge is important to citizenship.

Geography is fascinating. The students like geography. Geography ties together multiple disciplines, it helps reinforce what the students are learning in other classes. Geography is important when teaching history. Geography is important when teaching economics. It is important my students understand the world where they live. Geography will help to prepare my students for careers and post-secondary education. Other:

23. If no, why? Check all that apply. Geography is not important at the level I teach. Geography is becoming more and more irrelevant. With improvements in technology like GPS, it is no longer as important. We need to focus on other disciplines. My students think geography is dull and uninteresting. Geography is not relevant for my students to pursue careers and post-secondary education. Other:

24. How important is it for a student to have a formal geography education? Mark only one oval.

1 2 3 4 5 6 7 8 9

Not important.

Very important.

25. In your opinion, what should be done to improve geography education in Montana? This could be resources, professional development, mentoring early career teachers, State mandates...

Interview Questions

1. How long have you been teaching at your current position? Your entire teaching career?
2. Where did you receive your teaching degree? What year?
3. What disciplines did you specialize in during college?
4. What courses do you teach? What grades/ages are you involved with?
5. Are you able to choose what courses you teach?
6. What does an average work day look like for you?
7. What things do you wish you could do during your work day?
8. How does curriculum development impact your teaching structure and methods?
9. In what ways are your department and school environment helpful in assisting students with learning? Are there ways you wish they were more helpful?
10. What class activities get students interested in learning and participating?
11. How does technology play a role in the classroom?

12. What resources would assist students in learning more about their world? Are they available to you?
13. What would you like to learn more about?
14. Would you like to further your own education? Or gain another specialty? How would that impact your professional life? How would it impact the quality of learning for your students?

Subject Information and Informed Consent Transcript Form

Study Title: Geography's Place in Big Sky Country: a Study of Motivating and Demotivating Factors for Teaching Geography Concepts in the Montana Classroom

Sponsor: Montana Geographical Alliance

Investigator(s):

Kayde E. Kaiser, Stone Hall 304a, The University of Montana, Missoula, MT 59812, 406-321-1540.

Dr. Jeffrey Gritzner, Stone Hall 210, The University of Montana, Missoula, MT 59812, 406-243-5626

Special Instructions:

This consent may contain words that are new to you. If I read any words to you that are not clear to you, please ask me to explain them to you.

Purpose:

The purpose of this research study is to learn about motivating and demotivating factors to teaching geography concepts in the classroom.

Procedures:

You will be asked a series of open-ended questions and possible follow-up questions. The session will last for approximately 30 minutes.

Risks/Discomforts:

There is no anticipated discomfort for those contributing to this study, so risk to participants is minimal.

Benefits:

Although you may not benefit from taking part in this interview, data gathered from this interview will be utilized to assist in education planning efforts.

Confidentiality:

Your records will be kept confidential and will not be released without your consent except as required by law.

Your identity will be kept private.

If the results of this study are written in a scientific journal or presented at a scientific meeting, your name will not be used.

The data will be stored in a locked file cabinet.

The audiotape will be transcribed without any information that could identify you. The tape will then be erased following completion of transcription.

Voluntary Participation/Withdrawal:

Your decision to take part in this research study interview is entirely voluntary.

You may refuse to take part in or you may withdraw from the study at any time without penalty or loss of benefits to which you are normally entitled.

Questions:

If you have any questions about the research now or during the study contact: Kayde Kaiser at 406-321-1540.

If you have any questions regarding your rights as a research subject, you may contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Statement of Your Consent:

Do you understand the above description of this research study?

Have you been informed of the risks and benefits involved?

Have all your questions been answered to your satisfaction?

Do you understand that if you have any future questions, you may have them answered by a member of the research team?

Do you voluntarily agree to take part in this study?

Statement of Consent to be Audiotaped

Do you understand that audio recordings will be taken during the interview?

Do you consent to being audio recorded?

Do you understand that if audio recordings are used for presentations of any kind, names or other identifying information will not be associated with them?

Do you understand that audio recordings will be destroyed following transcription, and that no identifying information will be included in the transcription?

Online Survey Consent Form

You are invited to participate in a research project titled *Geography's Place in Big Sky Country: a Study of Motivating and Demotivating Factors for Teaching Geography Concepts in the Montana Classroom*. This online survey should take about 10-15 minutes to complete. Participation is voluntary, and responses will be kept anonymous to the degree permitted by the technology being used.

You have the option to not respond to any questions that you choose. Participation or nonparticipation will not impact your relationship with The University of Montana. Submission of the survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

If you have any questions about the research, please contact the Principal Investigator, Kayde E. Kaiser, via email at kayde.kaiser@umontana.edu or the faculty advisor, Dr. Jeffery Gritzner at jeffrey.gritzner@umontana.edu. If you have any questions regarding your rights as a research subject, contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Please print or save a copy of this page for your records.

** I have read the above information and agree to participate in this research project.*

____ Enter survey

Glossary

action research – a study that is conducted to solve an immediate problem.

Common Core – the Common Core State Standards Initiative; an education initiative that details what students should know following each successive year of school in the subjects of language arts and mathematics.

geographical literacy - an understanding of the world's places, people, and systems.

highly qualified teachers – instructors who are experts in content of a field and understand the pedagogy required to teach.

pre-service teacher – a student of teaching and education; a teacher who has not entered the field of teaching as of yet.

wireless network – a computer network that uses wireless data connections to join nodes together.