

Assessment of the Policy Guidelines for the Teaching and Learning of Geography at the Senior High School Level in Ghana

Bethel T. ABABIO¹

Hillary DUMBA²

University of Cape Coast, Cape Coast, GHANA

Abstract

This article empirically assessed the extent to which geography teachers adhered to the Ghana Education Service policy guidelines on the teaching of geography at the Senior High School Level in Ghana. Census survey was used to collect data from seven geography teachers because of the researchers' objective of gaining a quick insight into the problem at hand. Simple random sampling was, however, used to select 80 geography students. Data were collected with the aid of two sets of questionnaires which were personally administered by the researchers. Simple frequencies and percentages were used in the analysis of the data collected. One of the key findings was that all the teachers had knowledge and mastery of the content areas of geography. Again, the study revealed that the geography teachers implemented to a fairly large extent the policy guidelines on teaching by employing a variety of teaching methods, though with varying emphases. Another finding was that some students could not acquire skills in the handling of certain equipment (e.g. in surveying) either because of the non-availability of those equipment in their schools or their teachers lacked the expertise to teach them how to use those equipment even though those equipment were available. The students therefore suggested the frequent use of inquiry methods such as field work and project work. Based on the findings, the study recommended that as part of the reforms in teacher preparation, there should be a re-structuring of the geography education programmes in the universities so as to accommodate the policy guidelines for teaching geography at the senior high school level. Lastly, the study also recommended regular in-service training for practicing geography teachers to enable them hone their professional competence, particularly their pedagogical skills.

Keywords: Geography, policy guidelines, learning, inquiry, teaching, senior high school, Ghana

¹Corresponding author: Dept. of Arts & Social Sciences Education, University of Cape Coast, Cape Coast, Ghana, ababs58[at]yahoo.com

²Associate author: Dept. of Arts & Social Sciences Education, University of Cape Coast, Cape Coast, Ghana, email: hillarydumba[at]yahoo.com

Introduction

Geography is offered as an elective subject in Senior High Schools in Ghana. Geography, like other high school subjects, is guided by a number of policy guidelines so as to ensure its effective teaching and learning in the classroom.

This study focuses primarily on assessing how the teaching and learning of geography in senior high schools is being informed by policy guidelines in Ghana. Attention is focused on the policies concerning the content, the methodology of teaching and the use of teaching-learning resources in geography. The literature on the research problem was reviewed around issues that come under (a) teacher qualification and experience, (b) the policy guidelines on the content knowledge of geography, and (c) the policy guidelines on pedagogical knowledge of geography.

Teacher Qualification and Experience

Various studies have shown that teacher qualifications have effect on their teaching and student achievement. In a study on high- and low-performing schools in New York City, Armour-Thomas et al. (as cited in Darling-Hammond, 2000) found that differences in teacher qualifications (education degrees, certification status and experience) accounted for approximately 90% of the total variation in average school-level student achievement in reading and mathematics at all grade levels. To affirm the findings of Armour-Thomas et al. in a study of high school student performance in mathematics and science, the researchers found that fully-certified teachers had a statistically significant positive impact on student test scores relative to teachers who were not certified in their subject areas (Goldhaber & Brewer, 1999, cited in Darling-Hammond, 2000). There is also a positive relationship between student scores and teacher ability and teaching experience. In other words, the more teaching experience a teacher has, the higher the probability of increases in student achievement (controlling for all other intervening factors) (Greenwald, Hedges & Lain, 1996).

In spite of the purported positive relationship between teachers' experience and student achievement, some studies have argued that, the benefits of teacher experience appear to level off after about five years, especially in schools where Professional learning communities are non-existent (Rosenholtz, 1986, cited in Darling-Hammond, 2000). The reason adduced by Rosenholtz is that older teachers do not always continue to grow and learn and may grow tired in their jobs so the issue of professional development and collaborative programme for performance improvement may not be their concern. Lastly, there are some situations where experience may not count much. An instance is a setting where very well prepared beginning graduate teachers were found to be more effective than their more senior teachers (Andrew & Schwab, 1995).

Policy on the Content of Geography

Teacher content knowledge in geography simply refers to the teacher being familiar with (a) the most recent knowledge in the discipline; (b) how the subject informs or is informed by other subjects; (c) the knowledge and understanding of the different fields of the subject; (d) knowledge of the sources of geographic data such as textbooks, periodicals, journals and unpublished materials and (e) knowledge in the history and philosophy of the subject.

The Report of the President's Committee on Review of Education Reforms in Ghana (2002) after examining the challenges confronting the education system came out with the view that the philosophy underlying the education system in Ghana should be the creation of well-balanced (intellectually, spiritually, emotionally and physically) individuals with the requisite knowledge, skills, values and aptitudes for selfactualization and for the socio-economic and political transformation of the nation. The Curriculum Research and Development Division (CRDD) of the Ghana Education Service (GES) has developed syllabus for each subject taught at the Senior High School level, the content of which conforms to the above philosophy.

The Senior High School Geography syllabus has been divided into three main sections. These are Physical Geography, Human/Regional Geography and Map work and Practical Geography. Physical geography is subdivided into geomorphology, climatology and biogeography. Geomorphology is the study of landforms, including their origin, evolutionary development and patterns of distribution. Climatology is an analysis of climatic characteristics, a study of the distribution of climatic patterns, and projections of long-term trends or tendencies. Biogeography is the study of the ecological developments and biological distributions that exist at or near the earth's surface (Doerr, 1990).

The second category, the regional/human geography has divisions such as human geography, regional geography of Ghana and the geography of Africa. This category touches on the various human activities and their impact on the environment. It creates the awareness that the environment is the source of sustenance for human kind and therefore, there is the need to respect and protect it.

Practical geography, the last category comprises statistics, map reading, analysis and interpretation and elementary survey. This aspect highlights the psychomotor and affective domains of Bloom's taxonomy of education. It affords students the opportunity to become skillful in measurement, calculation and recording of data. It also helps students to develop their analytical minds and critical thinking abilities, which is one of the aims of the Senior High School geography syllabus.

According to the CRDD (2010), the three divisions of the syllabus were arrived at as a result of the desire to give the student a better grounding in the subject - to achieve this, these divisions as well as the various subdivisions should be taught in an integrated manner. At least, each aspect of physical, regional and practical geography should be taught at each level of the high school education. For the teacher to teach the three main divisions of the syllabus, he/she must have been professionally prepared. He/she must have knowledge on

how to teach the subject to students who will see the subject as an integrated whole rather than as a discrete discipline.

The way the teachers blend their subject matter knowledge with pedagogy to create a special mix called content specific pedagogy or pedagogical content knowledge (Shulman, 1987) will either bolster or reduce their performance (Darling-Hammond, 2000). To illustrate further, Byrne (1983) suggests that, for a particular topic to be taught effectively, the teacher should be able to use the relevant pedagogic strategies for teaching it to particular types of learners. In other words, the teacher should not use a 'one size fits all' approach in teaching different topics.

The knowledge and skills acquired by students from the geography curriculum after three years of senior high school education will ensure that these students would actively and effectively participate in the task of nation-building. That is, students' knowledge and skills in all the three aspects of high school geography should help them find employment in the public and private sectors of the national economy (CRDD, 2010).

The attainment of the aims of the geography curriculum depends largely on the geography teacher. The policy guidelines enjoin the teacher to possess accurate knowledge in all the three areas of the Senior High School geography curriculum as well as the various subdivisions of the subject. This aspect of the policy guidelines has been affirmed by the Department of Education (2012) Teachers' Standards document for professional teachers in the United Kingdom. It states among others "... that teachers must demonstrate good subject and curriculum knowledge by having (a) a secure knowledge of relevant subject(s) and curriculum areas and (b) a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship" (p.7). But to Darling-Hammond (2000), subject matter knowledge is a positive influence on teaching and student achievement up to some level of basic competence in the subject, but is less important thereafter. She supported her assertion when she cited a study by Hawk, Cable and Swanson (1985), who found that students of fully certified mathematics teachers experienced significantly larger gains in achievement than those taught by teachers who had subject matter knowledge in mathematics, but were not certified in mathematics.

Lastly, the geography teacher must be someone who has the requisite skills and competence to handle the subject. This policy guideline has been affirmed by Tyagi and Vashisth (2012) who point out that an effective teacher must be master of his/her subject, competent, practical and well prepared for the lesson. To them, one indication of teacher competence is when he/she uses real world applications in his/her lessons so that students can transfer what they are learning into the world of reality.

Policy on Pedagogical Knowledge in Geography

Pedagogical knowledge in geography implies the approaches, methods and techniques used by the geography teacher to convey the subject matter to his/her students. To be more specific, an instructional method is an organized arrangement of instructional techniques

that is intended to achieve a discrete learning outcome – i.e. it is the means by which a teacher gets ideas, concepts, attitudes and skills across to students to achieve some pre-determined outcomes (Kindsvatter, Wilen & Ishler, 1992). In the Senior High School geography curriculum, both expository and inquiry methods have been recommended. Among the suggested methods which geography teachers are to use during the teaching-learning process are Exposition/Lecture, Discussion, use of Teaching-Learning Resources, Project/Assignment, Fieldtrip, use of Resource Persons, Debates, Symposia, Case Study and Drama/Role Play (CRDD, 2010). A brief discussion of each of these methods takes up the rest of this section.

The Lecture Method

It is an expository method in which the teacher gives a verbal presentation of an organized subject matter often augmented by visual aids (Knott & Mutunga, 1993). It is fully suitable when the object or goal of learning is the memorization of the subject matter. It is partially suitable when the type of learning to be attained is the understanding of subject matter. However, a non-interactive lecture is less effective if the object or goal of teaching is the application of knowledge or transfer of knowledge.

The policy on teaching methods in geography as spelt out by the CRDD (2010) directs the geography teacher to use the lecture method mainly to explain a process or a concept, show the class how to use an equipment, to introduce concepts, depict information on maps and diagrams, stimulate students' interest in a topic or in an issue, introduce a new topic, stress a point, make comparisons and to give an overview, among others. One can deduce from the stated policy guidelines that teachers are to use the expository/lecture method as teaching techniques (i.e. a teaching-learning activity, usually of short duration within a lesson). To use the lecture method effectively, irrespective of the duration, the teacher should be guided by the following ideas: (a) He/she must change his/her position as an agent of knowledge to that of a partner of learning by promoting active student learning through team activities and interaction among him/her, the class and the subject matter through the process of open questions, (b) He/she must look for ways to connect student experiences as a resource of insight and discussion, and (c) He/she must encourage a balance of critical and creative learning opportunities (Wardy, 2010).

Discussion

It is a teaching-learning activity involving a controlled conversation in which the discussants pool their knowledge and ideas in a cooperative task of striving to understand a problem by learning from one another (Curson, 1997). This method is characterized by speaking, listening and observing, but it behoves the teacher to carefully prepare and control the discussion if the benefits of discussion as a method of teaching are to be realized in full. Geography teachers, according to the policy guidelines, are to use both class and group discussion when dealing with issues such as the uses and importance of some physical and cultural phenomena; location and composition of regions; effects/ implications of human activities on the environment; relative roles/contributions of some organizations in an area; to let students find solutions to some problems brought by human activities,

various processes/phenomena, knowing or understanding a concept; knowing/understanding factors responsible for a particular occurrence/event; identifying problems associated with a particular occurrence/event/phenomenon; the use and exploitation of natural resources, etc (CRDD, 2010).

The suggested use of discussion as a method of teaching geography supports the assertion by Clark (1973) that teaching is much more than presenting information or even presenting ideas. It also includes among other things, guiding pupils to learn by means of probing, discovering, analyzing and examining activities that involve reflective thinking, building of attitudes and values and development of skills. Though the policy guidelines enjoin teachers to use discussion in teaching, the effective use of this method comes with some professionalism in teaching. In a study by Perkes (1968 cited in Darling-Hammond, 2000), it was found that science teachers with greater training in science teaching were more likely to use laboratory techniques and discussions and to emphasise conceptual applications of ideas while those with less conceptual training placed more emphasis on memorization of learning materials.

Fieldtrip/Fieldwork

The fieldwork method of teaching has variously been referred to as field study, field trip, field investigation or field research. All these terms invariably seem to have a common meaning though in the technical sense there may seem to be some slight differences in their meanings. For the purposes of this article, Harris' (1969) definition has been adopted. Field research, according to Harris is where pupils have the specific task of noting and recording phenomena for themselves through original investigation. Such a method tends to help pupils acquire the skills of observation, description, measurement, sketching, recording, interpretation and report writing. The method also provides pupils an opportunity to develop data gathering skills and to present ideas in graphical and statistical forms.

The policy guidelines on the teaching of geography state that teachers are to use this method to help students collect rock specimens; observe some primary, secondary and tertiary activities with the aim of writing reports, collect data from particular institutions; sensitize students on the need to clean the environment; pay familiarization visits to certain primary, secondary and service enterprises; undertake field observations of environmental hazards; observe physical phenomena and processes; collection of secondary data, establishing relationship between physical and cultural phenomena, surveying their immediate environment, among others. One benefit of fieldtrip is that it enriches school curriculum and when organized properly, it helps the student to develop much interest in geography. Taking for example students' visit to a manufacturing firm where they are likely to see the theories that they have learned in class being applied there, they can then better understand why they are learning those theories (Nacino- Brown, Oke & Brown, 1982).

Project work/Assignment

The project work method of teaching is a teaching-learning activity in which students are given assignments or tasks of ranging duration (i.e. short or long term) to work on individually or in groups with the aim of helping them to attain specific objectives such as the development of a particular skill, imbibing a value, adopting an attitude or acquiring some special knowledge. Projects/assignments such as the making of models, diagrams, plans or maps give students the opportunity to work with their hands and express their ideas in a creative way. When used well projects/assignments encourage initiative and independent work on the part of students which will help them develop the skills of decision-making (CRDD, 1991). For project work to be used effectively by the teacher, he/she should be guided by the following principles: (a) It should involve activity (b) It should provide varied types of experiences to the student – manipulate, concrete, mental, etc., (c) The activity should be purposeful, (d) Projects undertaken should provide real experiences, (e) Students should be free to undertake the different activities connected with the project, (f) The activities undertaken should be useful (Kochhar, 1984).

Demonstrations

Demonstrations are “hands-on” teaching method which combines telling, showing and doing for the benefit of an audience (Nacino-Brown, Oke & Brown, 1982). The basic principle in the use of demonstrations is observing and then doing; the student does the former whilst the teacher does the latter, though in some cases, there is a reversal of roles. When students watch demonstrations, they tend to remember about fifty per cent of what they observe (Dale, 1969).

The policy guidelines on the teaching of geography stipulate that teachers are to use demonstrations to attain instructional objectives such as (a) use of the globe/an orange and torch light/candle to teach a lesson on day and night resulting from the earth’s rotation;(b) use of a coal pot/any other heat source to teach a lesson on heating of the atmosphere by the earth’s surface; (c) use of graphical methods to illustrate aspects of population; (d) draw maps with emphasis on location; (e) make models of some physical and cultural features; (f) demonstrate how internal forces act on the earth’s surface; (g) show how flow charts are drawn in Ghana’s import and export trade; (h) use a pressurized can/bicycle pump to simulate the action of wind over a heap of sand and observe the resultant landforms, etc.

For an effective demonstration, the teacher should be guided by the following procedures: He/she (a) should determine and analyse, first the objectives of the demonstration (task analysis), (b) should make sure all materials needed for the demonstration are available, (c) must give the demonstration a trial run to enable he/she determine the clarity of his/her procedures and be sure whether he/she can work within the stipulated period, (d) must prepare an outline showing the logical steps or stages of the demonstration, (e) must make sure the audience can see and hear the demonstration, (f) must decide in advance who should perform the demonstration –the teacher or the students, (g) must prepare some handouts which should be given out at the appropriate time, and (h) in enacting the performance, it behoves the teacher to demonstrate real showmanship to enable the class imitate accurately the act or skill (Nacino-Brown, et al., 1982).

Use of Teaching-Learning Resources

Tamakloe, Amedahe and Atta (1996) define a teaching-learning resource as a material or equipment used by both teachers and students to facilitate the teaching and learning of knowledge, ideas, concepts or values. According to Wittch et al. (1975, cited in Adjei, 1992), learning aids are designed to reinforce the opportunities for students to demonstrate ways in which they can reorganize creatively and usefully, the information they have gained as a result of studying.

The policy guidelines stipulate that teachers are to make use of atlases, maps, globes, weather instruments, photographs, pictures, films, statistics on production, site plans, town plans, slides, charts, chalk board drawing instruments, strings, tape measure, mathematical sets, prismatic compass, graph sheets, survey equipment, etc. to (a) identify latitudes, location of towns, distribution of land and sea; (b) show how the weather instruments work, among others (CRDD, 2010).

Use of Resource Persons

A resource person is someone who is well versed or knowledgeable and experienced in an area of learning. Such a person is usually purposed to have a richer experience or knowledge in the area of study than the teacher, hence the name 'resource person' (Tamakloe et al., 1996). Preston and Herman (1981) observe that a unit seems to come alive when an expert presents a firsthand account of experiences. The benefits of such a teaching method include bridging the gap between the classroom and the world of work, promotion of better understanding and retention. It also promotes effective schoolcommunity relationship.

The Policy guidelines stipulate that teachers should arrange for resource persons to attain the following objectives: (a) invite a planning officer or even the economics teacher to have a talk on planning strategies and the problems and attempts at solving socio-economic problems; (b) resource person holding talks on the refugee situation in the world; (c) resource persons helping students to use surveying and weather instruments correctly (CRDD, 2010).

Debates

It is an activity in which students are made to express their views on issues which are usually controversial (CRRD, 1991). They are one of several forms of formal discussion. They are largely an audience activity and are therefore, very useful for whole class involvement. Debates have the advantage of improving upon the spoken language of students. They are also very useful in preparing and helping students to develop confidence in public speeches. Debates are also used as a culminating activity – i.e. as climax to a discussion on a topic that has more than one side to it. When used for teaching in large classes, it serves as a means of involving all students. Lastly, it is also used when there is the need to give variety and change of pace to cater for individual abilities in the class.

The policy guidelines on geography stipulate that teachers should organize debates on the socio-cultural implications of tourism. Again, teachers are to organize debates or symposia on the implications of high/low population growth; the structure of the population, etc. When using debates as an instructional method, the teacher can either use the American style, where all speakers for the topic (i.e. the pros) make their presentations before the speakers for the opposing side (i.e. the cons) or the British style where the speakers of the two sides alternate (CRDD, 1991).

Role Play

It is a teaching method in which participants act out different roles in particular situations and later discuss their feelings and aspects of the problem (Knott & Mutunga, 1993). The role to be played by students should be practical and realistic. In any role playing, the actors should try as much as possible to simplify the situation. In role-playing situations, several people usually face a problem and are required to make a decision. The policy guidelines stipulate that teachers should organize their classes to dramatise conflict situations that give rise to refugee problems. For orderly organization of role plays, teachers can divide the activities into four stages.

These are (a) preparation and explanation of the activity (briefing), (b) preparation of students for the activity, (c) the actual role play, and (d) the discussion or debriefing stage after the role play (Amadi, 2012).

Research Questions

The following research questions were designed on the basis of the literature reviewed above:

- What qualifications and experience do the teachers possess for the teaching of geography at the Senior High Schools?
- What knowledge do teachers possess on the content areas of the policy guidelines for teaching geography at the Senior High Schools?
- What are teachers' and students' pedagogical knowledge on the policy guidelines for the teaching and learning of geography at the Senior High Schools?
- Which teaching-learning resources are available to support the implementation of the policy guidelines on geography at the Senior High Schools?

Methodology

Research Design

The research design was a descriptive multi-site case study survey which enabled the researchers to collect data to help describe accurately the nature of the problem and to explain the prevailing conditions and practices of both teachers and students concerning the teaching and learning of the subject. The use of the case study survey helped to answer the research questions which have made it possible for readers to appreciate the problem and stakeholders to address the issues raised.

Population

The accessible population for the study comprised mainly geography teachers and their students from four Senior High Schools, all in the Brong Ahafo Region of Ghana- Sunyani Municipality, Techiman Municipality and Tano North District. These schools were Sunyani Senior High School (co-educational), Techiman Senior High School (coeducational), St. James Senior High School and Seminary (boys' school) and Serwaah Kese Senior High School (girls' school).

Sample and Sampling Procedure

A sample of 80 form two and three geography students and seven geography teachers was taken from the four schools. The sample comprised both male and female geography students. Forty students were selected from each form to make up the total sample which was employed to carry out the study. Twenty students were selected from each school. A census survey was used to collect data from all the seven geography teachers in the four schools which participated in the study. Census sampling was used to select all the seven teachers because of their small number and the fact that the teachers would enable the researchers to gain a quick insight into the issue at stake because they had the right kind of information the researchers were looking for. The lottery method of the simple random technique was used to select the 80 students. This technique was employed in order to give all the students an independent and fair chance of being selected to participate in the study. In using this lottery method, the researchers used a small box which contained 'yes' and 'no' ballot papers. Students were made to pick the ballot papers at random without replacement. Those students who picked the 'yes' ballot papers were those who were included in the sample. The "no" papers which were picked up were put back into the box in order to ensure fairness in the selection of the respondents. The researchers reshuffled the ballot papers in the box before the students were made to pick again. This process was repeated several times until the required sample size was obtained.

Instrument

Two different sets of questionnaires namely, Questionnaire for Geography Students and Questionnaire for Geography Teachers were used for data collection. Each set of questionnaire had both closed and open-ended items. However, most of the items were opened-ended because the researchers wanted to elicit more information on the issues at stake and to give the respondents enough latitude to freely give their responses. The 22-item questionnaire for the teachers was divided into four sections, namely, section A – Bio Data, section B – Teacher Content & Curriculum Knowledge, and section C – Teacher Pedagogic Knowledge and section D–Teacher Knowledge of Teaching/Learning Resources.

A 16-item questionnaire was designed for the geography students. The first section sought information on their background which includes age, sex, religion, parents' occupation and class/form. The second section dealt with students' content knowledge of

geography. The third section dealt with their views on the pedagogic methods used by their teachers. The last section dealt with their knowledge of the teaching-learning resources used by their teachers.

To ensure the validity and reliability of the instruments, the researchers, after self-developing the instruments, presented copies to other researchers and experts for scrutiny. They examined the items in the instruments to either remove or edit/re-word ambiguous items. The researchers and experts also checked the instruments to ensure that the items covered all the objectives of the study.

Data Collection Procedure

The researchers personally administered the questionnaires in October, 2012. With the assistance of the various geography teachers, the researchers had the opportunity of meeting all the respondents. The researchers used between one and two weeks to retrieve all the 80 questionnaires distributed, thus ensuring a 100 per cent response rate. The reason for the 100 per cent response rate was that the researchers were present most of the time to clarify issues which appeared unclear to the students.

Data Analysis

The completed questionnaires were collected, fully checked, coded and quantified before the data were entered in a computer assisted programme known as SPSS. Data on all research questions were analyzed descriptively (frequencies and percentages). The results were then presented in tables and figure for further discussion and interpretation.

Findings and Discussion

The results and discussion were based on the issues raised by the research questions. Issues discussed include the qualification and teaching experience of teachers, teachers' awareness and knowledge of the content area of geography, teaching methods used by teachers and teachers' use of teaching-learning resources.

Qualification and Teaching Experience of Geography Teachers

Items 2 and 3 on the teachers' questionnaire sought to ask respondents to indicate their academic and professional background. Their responses have been presented in the following discussion. With regard to the educational qualification of the teachers, the study revealed that all the seven teachers had first degree with five having Professional qualification in education ranging from post-secondary certificate in education to postgraduate diploma in education. The result of this study affirms the previous finding by Goldhaber and Brewer (1999 cited in Darling-Hammond, 2000) that teachers were fully certified to teach their learners and this had a statistically significant positive impact on student test scores relative to teachers who were not certified in their subject areas.

Item 4 was used to elicit respondents' views on their teaching experience. From the study, it was revealed that majority of them were experienced teachers with five having taught for periods ranging from 10 to 34 years. The other two teachers had taught for two and six years respectively. The qualification and teaching experience of the geography teachers show that they were qualified to teach at the Senior High School level. This

finding supports the previous results obtained by Hawk, Cable and Swanson (1985) that teachers who were fully certified and experienced significantly had larger gains in achievement than teachers who had only subject matter knowledge.

Teachers’ Knowledge and Mastery of the Content Area of Geography

The items in section B of the questionnaire were used to collect information on teachers’ awareness and knowledge in the content area of geography. Their responses have been presented in figure 1.

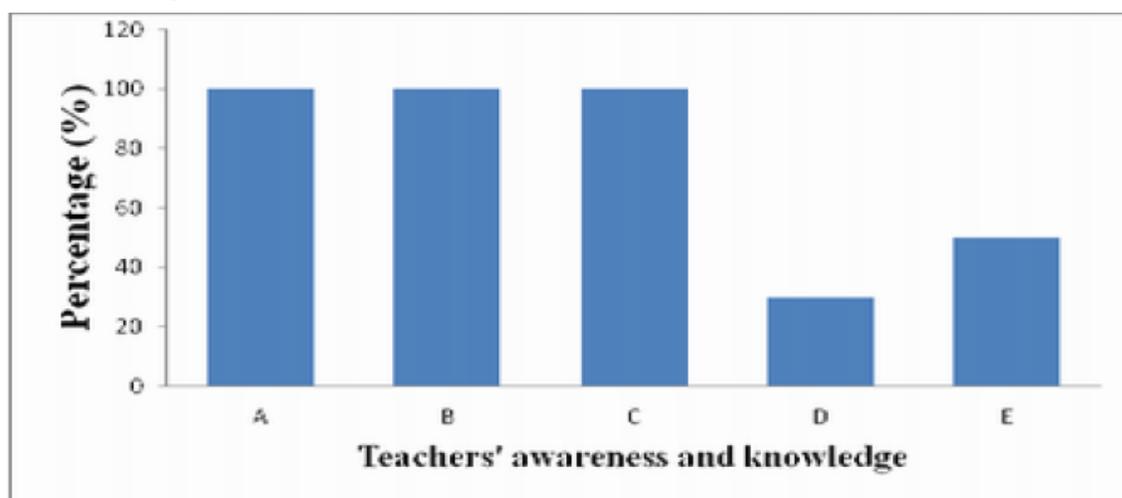


Figure 1.

Graph showing Teachers’ Awareness and Knowledge of the Content Areas in Geography

Key

- A - Knowledge of the main aspects and constituents of SHS geography
- B - Knowledge of the relationship among the main aspects of SHS geography
- C - Knowledge of the major aspects taught at all levels in the SHS.
- D - Teachers who cannot teach all the main aspects of SHS geography
- E - Teachers who seek for assistance

The study revealed that all the teachers knew of the composition of the content of geography. They stated that physical geography comprises geomorphology, climatology and biogeography; human and regional geography comprises the geography of Ghana, Africa with emphasis on West Africa and the rest of the world, whilst map work/ practical geography is made up of statistics, elementary surveying and map interpretation and analysis. This is illustrated by bar ‘A’ in figure 1.

The above analysis is in agreement with the policy guidelines on SHS geography. Geography at this level has been categorized into three main sections, namely, physical, regional and human and map work/practical geography. This awareness aids teachers to

focus on the subject matter to be given to students. All the 80 students were aware of the three main divisions in geography and have had lessons under each division.

In Figure 1, bars A and B show respectively, that all the teachers were aware of the interwoven nature of the various aspects which are taught concurrently at each level of the SHS geography course. This implies that these geography teachers are wellaware of all aspects of the subject which they are supposed to teach. This collaborates the finding of Tyagi and Vashisth (2012) that an effective teacher must be master of his/her subject, competent, practical and well prepared for the lesson

The study revealed that almost all the teachers had adequate knowledge and control of the three main aspects of geography as stipulated by the new policy guidelines for the teaching and learning of the subject at the senior high school level. Five of the teachers indicated that they could teach all the three aspects whilst two of them intimated that the were deficient in elementary surveying. Some therefore sought the assistance of resource persons as shown by bar E. Teachers' deficiency in this aspect of geography undermines one of the objectives of the SHS geography curriculum which states that students' knowledge in map work and elementary surveying should help them find employment as assistants to cartographers and surveyors (CRDD, 2008).

With regard to aspects of the geography curriculum which should be reviewed, one teacher stated that much emphasis should be put on Ghana and Africa, whilst reducing the emphasis on world human geography. Lastly, all the teachers were of the view that the curriculum on elementary surveying should be modified to include the use of modern surveying equipment (e.g. Global Positioning System) in place of the out-dated Gunter's chain/measuring tape and other surveying accoutrements.

Teachers' Knowledge on the Methods of Teaching Geography as Stipulated by the Policy Guidelines

This aspect of the study deals with teachers' pedagogical knowledge of the policy guidelines on the teaching of geography. Teachers' responses to the above theme have been presented in Table 1.

Table 1.

Teachers' Knowledge and Use of Suggested Teaching Methods in Geography

Method of Teaching	Number of Teachers who use it	Percentage of Teachers who use it
Inquiry/Problem Solving	2	28.5
Lecture and Notes-Taking	7	100.0
Fieldwork/Fieldtrip	5	71.6
Discussion	3	42.8
Project/Assignment	2	28.5
Question-and-Answer	3	42.8

Demonstrations	3	42.8
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The study showed that geography teachers used a variety of teaching methods (shown in Table 1) as spelt out by the policy guidelines in the geography curriculum. The most frequently used method is the lecture and notes-dictating method; fieldwork/fieldtrip, though cited by majority of the teachers was used once a year due to financial and time constraints. This was because the teachers who used this method engaged their students in distant fieldwork activities by way of educational tours to certain places of geographic interest. The method which was seldom used by the teachers is the inquiry method. Among the reasons given for the frequent use of some particular methods over others were that the lecture/notes dictation method enables the teacher to cover a greater part of the curriculum within a relatively shorter period; inquiry as a teaching method, on the other hand, was seldom used in view of the fact that most of the geography classes were large, with each class having over fifty students – this made it impossible for the teacher to engage the class in student-centred activities. Another reason was the legal implications of organizing fieldtrips. According to Tamakloe et al. (1996), for a teacher to embark on a fieldtrip with his/her students, he/she must seek permission from the headmaster/mistress, the District Education Directorate and even the Parent Teacher Association. Failure to take students on field trips implies that the opportunity for them to get first hand field experience of concepts taught in class and for that matter establishing a relationship between what they were taught in the classroom and their environment would be lost to them.

Table 1 also shows that project work and the discovery method were the least methods used by the teachers, contrary to the Ghana Education Service policy on the use of such methods which stipulates that students should be given four projects/assignments every term (CRDD, 2008). By failing to implement such a policy, learning benefits such as students' ability to generate ideas and form concepts and formulate hypotheses or intelligent guesses may be lost to them (Tamakloe et al., 1996).

Out of 80 student respondents, 53 affirmed their involvement in the teaching-learning process through discussion, question-and-answer interaction and manipulation of teaching aids. This shows that the teachers implemented the policy guidelines on these teaching methods to a fairly large extent.

Availability and Use of Teaching Learning Resources

Both the teachers and students were asked to indicate the type of teaching learning resources used in the teaching and learning process. Table 2 shows the recommended teaching aids used in the four schools.

Table 2.

Recommended Teaching-Learning Resources and Percentage used by Teachers

Teaching-Learning Resource	Number of Schools having it	Number of Teachers who use it	Percentage(%) of teachers who use
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Pictures	2	2	28.5
Maps	7	7	100.0
Globe	7	7	100.0
Charts	4	4	57.0
Graps	7	7	100.0
Textbooks	7	7	100.0
Speciments	4	4	57.0
Arrows	2	3	42.8
Barometer	2	2	28.5
Chain	2	3	42.8
Capital squares	2	2	28.5
Measuring tape	2	4	57.0
Rain gauge	2	2	28.5
Ranging poles	2	3	42.8
Steven's Screen	2	2	28.5
Prismatic Compass	0	3	42.8

Out of the seven teachers, only two indicated that they used pictures as teaching-learning resource. Four used charts, three used real objects or specimens and two used prismatic compass. All seven however, used maps, graphs, textbooks and the globe. Two teachers had used the rain gauge and two other teachers had used the Stevenson's Screen. Two of the schools had a barometer, chains, ranging poles, arrows, measuring tape and a capital square. From the findings, it was realized that almost all the four schools had limited number of survey equipment. Therefore, the teachers borrowed them from other schools, three taught without using them while one skipped teaching elementary surveying.

The views of the teachers were corroborated by their students. According to the students, some of the materials were available and used in the schools while others were not available but borrowed. About half of the students used textbooks provided by their schools. All the students had access to wall maps and charts. About one third of the students confirmed that Stevenson Screen and rain gauge were used. Globes were also available for use by all the students. Tamakloe et al. (1996) stated that teaching-learning resources were essential to facilitate learning, understanding and acquisition of knowledge. From the study, it was discovered that most of the schools did not have a number of the required teaching learning resources for the teaching of geography.

In the area of practical geography the fact that the teachers had to borrow most of the surveying equipment made the teaching and learning of that aspect of the subject ineffective, making the students victims of teacher ineffectiveness and inefficiency. It was also discovered that some of the teachers were handicapped in the use of some of the equipment (e.g. barometers and prismatic compass). This is due to the fact that they were

not equipped with the requisite skills for using such materials during their pre-service training. Hence, those teachers skipped using them though such equipment was available. This implies that students may lack understanding in the practical geography aspect of the subject because the resource persons consulted (i.e. the teachers) did not have the appropriate pedagogic skills (Asaber, Owusu & Obeng, 2005).

Conclusions and Recommendations

Conclusions drawn from the discussion of the results include: one, that a teacher's professional qualification and teaching experience do not automatically guarantee a mastery of the subject matter as revealed by the study. Two teachers affirmed that they were deficient in elementary surveying thus compelling them to seek the assistance of resource persons. This supports Preston and Herman's (1981) assertion that a unit seems to come to alive when an expert presents a firsthand account of experiences. Again, the use of resource persons is in line with the Senior High School Geography policy guidelines.

Again, on teachers' pedagogical knowledge, the conclusion drawn was that teachers' use of different methods of teaching gave the students a variety of learning outcomes though with varying emphases. However, because methods such as project work/ assignments and fieldwork (organized once a year) were seldom used by the teachers, learning outcomes such as students' ability to generate ideas, form concepts and hypotheses from field observations and write reports could be compromised.

Lastly, on the use of Teaching-Learning Resources, though majority of the teachers had access to materials such as pictures, charts, maps, graphs, specimens and the globe, only a few of them used equipment and tools such as barometers, prismatic compass and other survey equipment. The implication is that the policy guidelines on students' Access to the above-mentioned equipment/materials may not be fully implemented and students not getting the opportunity to manipulate the equipment will not help them have adequate understanding of Practical Geography concepts and issues.

Considering the findings of this study, the following are put forward as recommendations:

1. Regular in-service training or short professional development courses should be organized for practising geography teachers in the study area to enable them upgrade their knowledge and skills in geography.
2. Pre-service university programmes for geography teacher trainees should be structured in such a way that would equip them with the much needed practical skills to enable them implement the policy guidelines on the teaching and learning of geography.
3. Lastly, efforts should be made by the various school authorities in the study area and other stakeholders to provide the schools with the requisite teaching-learning resources for the effective teaching and learning of geography. Further investigation into this topic will provide a basis for policy on classroom practices of geography teachers. Such a policy

should include regular inspection (both internal and external) of the work of teachers from relevant education authorities to ensure that what teachers do in the classroom is informed by those policies. A further study (in a different geographical setting) into whether professional and non-professional geography teachers implement the policy guidelines differently will serve as a further boost to this topic.

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Biographical Statements

Bethel T. Ababio is a Senior Lecturer in Geography Education in the Dept. of Arts & Social Sciences Education at the University of Cape Coast. His areas of specialty are human geography and geography education.

Hillary Dumba is a Principal Research Assistant in the Dept. of Arts & Social Sciences Education who doubles as Special Assistant to Bethel T. Ababio.