Teaching and Learning Secondary School Geography in Nigeria

Eugenia A. Okwilagwe

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Supported by University of Ibadan 2006 Senate Research Grant

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Dedication

From

Dr Eugenia Aikhemhe Okwilagwe

To

Dr Oshiotse Andrew Okwilagwe, my Dear Husband;

Dr Osikhuemhe Osomiamhe; Dr Osiro Precious; and Miss Osise Osioriamhe Okwilagwe my lovely angels

And

Those who thirst and hunger for knowledge offered so pure and unrestricted.

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Foreword

The bedrock of a nation's economy is founded on sound and qualitative education. The recurring poor performance of students in public examinations in virtually all subjects including Geography is a national concern that should be addressed immediately. In this book, Eugenia attempts addressing the situation in one of the core secondary school subjects, GEOGRAPHY.

The book focuses on the teaching and learning of Geography at the secondary school level in Nigeria with the aim of understanding some of the factors for the poor performance of students in the subject. In addition, it identifies the skills and teaching methods require by Geography teachers to impart the knowledge required for the overall development of the students and more importantly to perform optimally during examinations.

The book is unique because it is based on the empirical analysis of the methods and patterns of classroom interactions during Geography lessons in selected secondary schools from the six Geopolitical zones of Nigeria. To traverse the entire country and conducts this type of interactive study requires a huge capital outlay that was graciously provided by the Senate Research Grants of the University of Ibadan, a gesture that is worth emulating by other tertiary institutions not only in Nigeria but all over the continent. Thus, one of the major outcomes of the study is an empirically-based identification of the ingredients for effective transfer of knowledge from Geography teachers to the students to increase the success rate in Geography examinations.

No doubt, the 19 chapter book, divided into five sections to ensure a quick grasp of the concept and content of the subject matter, is a must for all Geography teachers at secondary school level, researchers and the general public.

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Preface

Teaching is a growing and dynamic profession established for the training and development of the minds and character of the members of a society. The role of the trained teacher in this onerous but interesting task cannot be quantified. Traditionally, the teacher was the custodian of the shared values of the community he/she served and these values were passed on to the young ones. The teacher still performs this role today besides being the interpreter and implementer of the planned curriculum to develop the cognitive domain of the learners. To achieve this responsibility, the teacher has to exhibit some enabling qualities acquired through training. Such qualities/skills are used to assist students to mitigate the impinging environmental challenges they encounter in the course of their schooling. They, also, assist students to achieve the expected academic excellence that should enable them to transit and forge ahead in their academic journey. Otherwise, stagnation with its unpleasant consequences is inevitable.

The kernel of this book *Teaching and Learning Secondary School Geography in Nigeria* was conceptualised, designed and conducted to provide insight into the quality of teaching and learning of secondary school geography in Nigeria senior secondary schools. Teaching (instruction), which is the core business in these educational institutions, provided the raw data for making the judgement on the quality of the two key issues of education – teaching and learning at this level. In addition, teachers' understanding of geography objectives, location, type of school and class size were the discriminating variables used to explain teaching and learning at this level.

The book is broken into sections and chapters. The style of writing adopted in the book presents each chapter

in simple and easy to read English. Where necessary, relevant graphical illustrations of information were employed for easy understanding of information presented. It is hoped that the book will form an interesting and informative reading to users because it is a core addition to knowledge in the area.

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June, 2011

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Section One

Introduction: Teaching and Learning Secondary School Geography in Nigeria

1 Secondary School Geographic Education and Students' Performance

Students' Performance in Geography

A sound education system is the bedrock of a nation's economy. Students' poor performance in various secondary schools' subjects in Nigeria has been a major source of concern to stakeholders in education. Research is replete with such findings. Among these are Ajewole (1993), Labo-Popoola (2002), Adeniyi (2003), Ojo (2006) and Akpan (2008). Also, the West African Examinations Council's Chief Examiners' reports have over the last three decades expressed concern over the poor performance of students in many Senior Secondary School Certificate Examinations subjects, geography inclusive (WAEC's Chief Examiners' Report, 1983; 1997, 2000, 2005 & 2007). The comments made by these Chief Examiners are so unimpressive, as they revealed that a large number of geography students in some centres do not attempt some questions and/or do poorly on some aspects of geography such as the reading and interpretation of maps and the use of scale. They also, perform poorly on some aspects of physical and regional geography that require interpretation and calculation, an indication of their lack of knowledge of these and other aspects of the subject. The poor performance of students in school geography has been attributed to a number of factors prominent among which is the teacher factor (Okunrotifa, 1971; Anikweze, 2000; Okwilagwe, 2002).

Geography, Its Objectives and the Teacher

Geography has become the science of planning worldwide. The need to make the teaching of geography stimulating as a social science subject by concentrating on making it theoretical and conceptual (Ajaegbu, 1971), and the use of problem-solving methods (Okunrotifa (1969) has been the interest of geographers since the early 1970's. The main aim of geography education as a social science subject is to make the recipient develop practical skills and knowledge and be able to engage in objective reasoning and seasoned judgment (Ajaegbu, 1971). Making reference to Ward (1968), Ajaegbu further observed that geographical knowledge is essential as it establishes in the learner the techniques of managing the environment for economic and other development, and for making planning policy decisions particularly with regards to the study of spatial distributions and space relations (p.27). Perhaps, the current value of the study of geography is well orchestrated in its application in the area of geographic information System (GIS).

The secondary school geographic education and its ensuing aims and objectives, like any other subject in the secondary school curriculum, is derived from the national educational aims and the philosophy of education of the country. The intellectual knowledge, values, attitudes and skills it set out to develop and inculcate are well thought out. In view of these, the overall secondary school geography objectives can be grouped into three: first are those that ensure intellectual development and therefore measure learning at the cognitive domain; two, those that ensure the development of values, attitudes, appreciation and thus measure the affective domain, that is emotions, feelings and behaviours; and third, those that develop psycho-productive skills. Here, there is the interplay of the intellectual (knowledge) and the physical (psychomotor) expressed through geographic investigation, making of maps, and

undertaking the study of map work and its interpretation among others.

The geography teacher should have a clear and deep understanding of these goals, aims and objectives, so as to guide the structure and development of content area. The role of the teacher is to ensure that these goals, aims and objectives are achieved. As identified by Okwilagwe (2002), geography teachers are to explore and use current strategies and techniques of teaching that will help in the discharge of their duties and effectively impart the requisite knowledge, skills and values to students. Also, they are to plan instruction to cover these objectives based on the content to be taught. According to Okunrotifa (1977), the way a teacher sees his instructional objectives, determines to a large extent the teaching methods to apply.

Similarly, Okunrotifa (1971) observed that developing a wholistic geographic education ensures the production of creative geography that can lead to the development of a geographical attitude. He contends that a wholistic geography education invariably ensures that (i), an enduring attitude is developed that can help students seek and find, (ii) an enthusiastic attitude which serves them as a powerful incentive and (iii) a scientific attitude which enables them to seek facts and to reason about them when the facts have been found.

To corroborate Okunrotifa's views, Emeke and Odetoyinbo (2004), reported from the outcome of their study that the teaching strategies (lecture method) employed by integrated science teachers would not ensure proper implementation of Integrated Science curriculum and the achievement of the objectives of the subject at the junior secondary school level in Nigeria. It is important that geography teachers are guided in their teaching by objectives of the subject they teach.

Teaching Geography

The search for the good teacher dates back in time to the early sixties and seventies. That the 'poor teacher' is acclaimed by both parents and school administrators to be seriously deficient of teaching techniques while the 'good teacher' is known for the proper choice of teaching methods, has been documented by research (Tolor, cited in Okwilagwe, 2002). The teachers and students are the principal actors in the teaching-learning process. Each come into the learning situation with some responsibilities. The processes of classroom interaction are not as mechanistic as some may think. Rather, they are planned and organised behaviours which the teacher or instructor tries to exhibit as he/she passes on the subject matter content to the learner. The learners on their part are no longer to be seen as passive recepients but as active participants in their learning experiences. For teaching to be effective, cognitive psychologists are of the view that it should be interactive, a dialectic or dialogic process between the teacher and the learner. This implies that the teacher ensures the use of some interactive methods and exhibits communicative behaviour between him/herself and the students in the classroom.

2 Classroom Interaction Practices

Interaction as different from classroom interaction is defined by Robinson (1994, p.7) cited by Wilson (1999) as the process which refers to 'face-to-face' action and can either be verbally channeled through written or spoken words or non-verbally channeled through touch, proximity, eye-contact, facial expressions, gesturing etc. However, classroom interaction that which can be captured through systematic observations using category analysis system, plays down on many of the specific activities listed by Robinson, but emphasises verbal communications only. According to Flanders (1970), classroom interaction is used to refer to a chain of events which occur in spontaneous interactions, one after the other, each occupying a small segment of time.

In a typical classroom interaction setting, therefore, the teacher's style of communication is expected to be a two way process; teacher- learner(s), learner(s)- teacher. Also, there is room for both teacher/learner interaction with materials. The social environment or atmosphere that exists in the classroom can enhance or reduce important behaviours that can lead to improved academic achievement. In view of this, classroom interactions are supposed to be dialectic or dialogic between the teacher and students, students and materials, and teacher and learning materials. Where these are lacking, learning tends to be drab, monotonous and uninteresting. The teacher's style of communication in the classroom goes a long way to make learning meaningful and effective. Activities like instruction (explanation), questioning, responses, feedback including initiated student

talk and class management are expected to go on systematically. Also, important is the need to make the class interactive and participatory. Learners are to be vigorously engaged in hands on activities in the classroom where the individual learner is seen to be important by allowing him/her engage in relevant activities that can arouse interest and promote learning. This is a current paradigm shift from the usual whole class activity to individual student participation.

A major component of classroom interaction analysis is the teacher's evaluation of learning achievement. This can be done progressively as the lesson progresses or summatively at the end of the lession through the employment of various levels of questions such as recall, application and other higher levels of questions.

The traditional structure of classroom instruction and the laid down communication pattern in a normal classroom set the scene that puts the teacher at the central position. The initiation of classroom interaction is thus centred on the teacher, who wield her authority by setting the process in motion through asking of questions and engaging in other activities. Analysing the functions of linguistic communication in the classroom, Cazden cited in Hickman (2004) notes that the commonest pattern of interaction sequence in the classroom is: teacher interaction, student response and teacher evaluation. He maintained that the teacher is the sole initiator of interactions in the classroom. The implication of this phenomenon on the students' responses and initiated talk is that it sends many wrong signals to learners (Cazden cited in Hickman, (2004). Other implications are:

i. Teachers have the monopoly of talking at any time during the course of interaction, while the students must wait until they are recognised;

ii. That students are not as important as the teachers in the classroom, since their participation strictly depends on the pattern established by the teacher; and

iii. The pattern indicates that it is the teacher who communicates what knowledge is valuable and the lesson pace, while students are cut-off from raising issues or personal problems that concern or are related to difficulty in processing previous information.

To further confirm the importance of teacher communication style in teacher-student interaction using the Levy Wubbles (1992) 'Dominance-Submission dimension of communication style, Hertz-Lazarovitz, Ilatov, Mayer-Young and Shamai (1998), found that different communication styles were manifested in the study they conducted. In one of the classrooms used, the teacher's style of communication was found to be influenced by the academically dominant students while in the other class, the teacher exercised control. This means that in the former case, the teacher talked more or controlled interaction whereas in the latter the teacher was more reserved.

3 Indicators of Classroom Interaction Pattern and Some Influencing Variables

An important variable in classroom interaction analysis to look out for, is time-on-task or student involvement. As explained by Stallings and Kaskowitz (1974), it is the amount of time students are actively involved in the learning process. The ideal interaction in a teaching -learning process is that, if students are to be successful academically, they should be engaged 'on task' for most, or a greater part of the class time. It is also expected that an effective teacher should plan and manage instruction to effectively execute the processes of learning and involve students in activities (individually and in groups) for enhanced academic achievement.

Researchers such as Berliner (1990) observed that the measure of time used to learn a particular school subject matter has been used to predict learning. According to him, instructional time has the same importance as reinforcement in psychology, homaostasis in biology and gravity in physics because instructional time allows for understanding, prediction and control. He also asserts that instructional time is used to refer to a family of concepts which are: allocated time, engaged time, time-on-task, academic learning time (ALT), transition time, perseverance and pace. Allocated time is explained as the time provided for the student instruction, engaged time is that part of allocated time that students devote to materials and presentations that have instructional goals, and time-on-task is the engaged time on particular learning task. Academic learning time (ALT) is the part of the allocated time for a subject in which students are

successfully engaged in activities or with materials that are related to educational goals and outcomes that are of worth.

Time on task or time spent on learning activities was first brought to the fore in education by Carroll in (1963). This he called Academic Learning Time (ALT) which consists of three components; summarised by Fisher and Berliner (1985) cited by Gettinger and Seibert (1995, p.1), as students must be 'actively, successfully and productively engaged in learning' for them to be effective academic achievers. Another important component of classroom interaction is the amount or degree of students' initiated talk, since student are supposed to take control of their own learning situation themselves. In a study of classroom interaction pattern of high and low achievers in an upper primary classroom, Wilson (1999) found that when students attempt to control interaction with the teacher, high achieving students dominate, but when the teacher initiates interactions and controls whom he allows to interact, the inequality between high and low achieving students balances up and students from both achievement levels are encouraged to be involved.

Other research findings relating to differences in students' level of participation in learning are reported by Howe (1997) who found that in whole class teaching where the teacher decides who should contribute, boys made more contributions than girls, and their contributions were usually more elaborate. Also, in small groups where school children resolve matters among themselves, boys usually have the upper hand. The study also reported that girls are more likely to request for help than boys in individual or group work.

The effects of classroom interaction pattern on students' achievement or non- achievement have also been reported by previous studies. Of importance is the study of higher school drop-outs among native students by Caruthers (2006)

who reported that drop-outs perceived teachers as not caring about them nor do they provide them with sufficient assistance when working. He, therefore, concluded that the nature of teacher-student relationship affect student performance, including the decision to drop-out of school. Also, using structural equation modeling to identify teachers and students classroom interactions adopting a multi-level model approach aided by the influence of (Dominance/ Submission) dimension and a proximity (Cooperation/ Opposition) dimension model maps, Rickards, Newby and Fisher (2006) found that the teachers' perception of classroom interactions affect the class perceptions, and that the class' perception also affects the teachers' perception but to a lesser degree. Further evidence from previous studies as observed by Shomoossi (2004) indicates that in an English classroom where emphasis is on referential and display questions, repeated questions from the teacher, low language and proficiency and limiting the class to exercises from the textbook are factors that reduce students' participation. According to this study, factors such as teacher's attention in the response being provided, misunderstanding (that is wrong ideas of the meaning of a word), information gap and humour, tend to enhance the amount of interaction.

Many factors besides learning time (time on task) would seem to have the potential to influence classroom interaction. Other variables of interest in this study therefore, are: class size, school type, location and understanding of secondary school geography objectives. These are considered to be germane to the proper teaching and learning of the subject at the secondary school level in Nigeria. This view is borne out of the fact that each of these variables has the potential for enhanced students' achievement even though, findings are still inconclusive. For instance, the contention for reduced class size in schools in many parts of the world as against large classes is that the teacher with reduced workload can

pay more attention to individual students. Besides learning situation in classes with small size, less time is spent on classroom management and there is more interaction between teacher and students. In the view of Mosteller (1995), reduction in class size has the potentials for teachers to work with and know individual students. In a similar vein, National Council of English Teachers (NCTE) (1999) states that students' achievement increase significantly in classes of fewer than 20 students and that smaller classes create better student performance, more positive attitudes and fewer discipline problems.

However, there are reports and research evidence to show that in spite of the perceived positive effects of reduced class size on students' achievement, the gains are minimal. This line of evidence is linked to the Education Commission of the United States (2001) which reported that minimal effects of small class size have been found, although limited to a small group of Kindergarten learners who were of black origin in American States of Califonia and Wisconsin. The studies concluded that the cost of class-size reduction reform far outweigh the benefits and as such efforts should rather be directed at improving teacher teaching quality. Reporting from the same background, findings from the type of studies as those fore cited and reported by Hanushek and others, may have informed the World Bank (2004) synthesis of findings to conclude that teachers do not change their methods of teaching and assignments in response to small class size, and that the small gains experienced are limited to early grades.

Evidence on the effect of small class size reduction are still in conclusive, because studies reported from other parts of the world like Asian countries and Japan indicate that students are achieving better academically in large classes. These findings are reported by World Bank (2004) citing examples from Asian schools where there are large classes. Making reference to Ehrenberg, Brewer, Gramoran and Willms (2001) the same World Bank document, reports that teachers trade-off large class size for more preparation time. This study saw the need to further investigate the effect of the variable of class size on learning achievement.

During instruction, teachers engage in a number of activities to impact knowledge. Among these are the asking of questions, providing feedback, prompting the learners among others. Questioning is an age long mode of clarifying instructional issues (facts, principles, theory etc), right from the time of Socrates and has since become a teaching and evaluation strategy whenever the teacher and the learner are engaged in the classroom. Brualdi (1998) observed that teachers have come to realise the possibility of transferring relevant knowledge through the process of asking questions.

The reasons as to why teachers ask questions in class as advanced by Morgan and Saxton (1991) cited by Brualdi (1998) seem to be in agreement with previous scholars who have investigated the importance of questions in learning facilitation. These scholars have come up with the views that questions, especially those that require giving complex answers, interpretation, opinion and elaboration are designed to:

i. get the learner to produce language (Van Lier, 1988 cited by Shomoossi, 2004);
ii. increase the amount of learner output (Brock, 1986 in Shomoosssi, 2004);
iii. produce discourse which produce a flow of information from student to the teacher (Shomoossi, 2004); and
iv. encourage students to volunteer ideas which connect relative experiences or express critical viewpoints or take any risks which might lead to a more comprehensive understanding of the concepts being taught (Hickman, 2004).

Good pedagogic skills or procedures require that the teacher spreads questions to all students such that all students have equal opportunity to participate in the lesson. If poor achieving students are not carried along, their learning weakness may get worse, especially if the teacher do not

recognise their learning difficulties and get them involved in the lesson. When questions are put into proper use that is, a teacher randomly distributing his/her questions to many students, it will not only help to keep the class interactive, but make individual students attentive. Closely related to good questioning skills or procedure in classroom interaction is that the teacher applies an amount of wait time usually coded as 'silence' in Ten Minutes Interaction (TMI) observation instrument to allow the students to think through the question and be able to provide the correct answer before the question is either redirected to another student or answered by the teacher. According to Gettinger and Seibert (1995), wait time should be of five seconds duration.

The pattern or techniques of questioning and the responses elicited in the classroom have been extensively documented by such researchers as Brualdi (1998), Hickman (2004), Brophy and Good cited by Hickman (2004) and Shomoossi (2004). The contribution of type of questions to students' learning as reported by these studies seem not to be conclusive. For instance, Brophy and Good cited in Hickman (2004) strongly believe that there is no difference in the value of different kinds of questions, be it lower or higher order questions in facilitating learning, even though they recognised the need to be conscious with the construction of questions and the varying of the cognitive activities. There are other studies that do not find any difference in the efficacy of various types of question in the facilitation of learning. These include those of Wilen, Arends, cited by Brualdi, (1998); and Lukinsky and Schachter cited by Hickman (2004). Some other studies, for instance Ball cited by Brualdi (1998), however, reported the positive effects of low-level or factual questions on learning, especially, among young disadvantaged children where mastery of basic skills is involved. He also reported that higher order cognitive

questions promote better learning in students of average to higher abilities. As observed and reported by Shomoossi (2004), display questions, the ones that allow learners to respond with one word or give short answers, do not encourage language production or discourse especially in an English Language classroom.

Previous studies such as those of Long and Sato (1983) cited by Shomoossi (2004), tend to confirm the quality and quantity of students responses. These authors assert that learner responses would differ not only quantitatively but also qualitatively depending on the type of questions asked by the teacher. In his study, Shomoossi (2004) reported that referential questions that require the learner to give complex answers, interpretations, opinion or elaboration; seek information unknown to the learner and so tend to elicit longer, more authentic responses than display questions which have pre-determined responses from the lesson content or are meant for confirmation or comprehension checks.

In the views of Shomoossi (2004), such pattern of questions in spite of the teachers' good intentions of authenticating students' understanding, more often than not do not ensure that the student has proper understanding of the information being imparted. Rather the questions aim at predetermined responses by the teacher and not that the student has mastery of the learning. To corroberate the above, Cadzen cited by Hickman (2004), contends that it is not that students 'necessarily internalise the knowledge or has connected the answer to any larger context of meaning' (p.64). Also, according to Hickman (2004) referring to Lukinsky and Schachter, lower order questions are simple and they encourage recall or memorisation and do not encourage any 'real thinking'. This made them to suggest that teachers who use these should supplement them with

activities that involve more of comprehension and application of learnt concepts. Brophy and Good cited by Hickman (2004) on their part, suggest activities with higher-order processing skills such as analysis, synthesis and evaluation.

In spite of the observed deficiencies of lower-level questions in students' learning, it would seem that many teachers tend to use low-level cognitive questions in order to avoid a slow-paced lesson, keep the attention of the students and maintain control of the classroom. There is therefore, the need to further examine the type and extent of use of various questions by teachers in geography classrooms in this study.

Characteristics of good and appropriately sequenced questions according to Brophy and Good cited by Hickman (2004, pp 5-6) should 'shift attention away from the questioning process to learning'. They should also 'be planned to accomplish worthwhile goals that are integral parts of well-designed units of instruction and should help students to think about the topic systematically and should emerge from the discussion with connected understanding'. As acclaimed by Brualdi (1998), good questions are known to foster students' understanding, and citing Rosenshine, he contends that they promote students' achievement.

Classroom interaction studies that focus on different locations are hard to come by in interaction literature. However, enough studies abound on teachers' classroom task performance that address their effectiveness and students' learning in urban and rural locations. Many of these studies tend to show that students who are taught by the teachers in urban location do better than those in the rural areas. These are indicated by such studies as Ndukwu (2002), Odinko (2002) and Walberg and Ross (2002). Other studies such as Orji (1998) do not find any influence of location on students achievement. These studies do not agree with those

of Okwilagwe and Samuel (2011) who found that teaching effectiveness of Social Studies teachers in rural locations were better than those in urban locations.

In view of the foregoing and the fact that many of the researches on the variables of interest in this study are inconclusive, the study examined the classroom interaction patterns of geography teachers in the country with a view to establishing the status of the teaching and learning processes of this subject at the senior secondary school level and to determine the factors that influence these patterns.

4 Methods and Approaches for Teaching Secondary School Geography

Methods are the means or ways that a teacher uses to teach subject matter content to students. The choice of an appropriate method depends on what to teach (content), who the learners are (class) and the level of competence expected (proficiency). There are various methods a teacher can adopt to facilitate the teaching-learning process. For effective teaching to take place, an appropriate method must be employed and the teacher may develop lesson plans or use lesson plans that have been developed by other teachers (Wikipedia, 2011). This source explains further that when deciding on the teaching methods to use, a teacher should consider the students' background knowledge, environment, and learning goals.

Geography is a wide discipline that brings together all the different components of man's activity in its bid to understand the complexities of the physical environment (the earth) he lives. This include his social, economic, political and transportation life. Geography has, therefore, been defined as the study of spatial variation of how and why things differ from place to place on the surface of the earth (Demirci, Kesler and Kaya, 2010; CURIC, 2000 in Brkic-Vejmelka, 2000; Okunrotifa, 1977 citing Bunge). Its nature makes it one of the foremost school subject that exposes learners to direct contact with man's daily activities in his natural habitat.

In view of this, no one method is adequate in teaching and learning all its component parts. Various teaching methods and approaches have been advanced by

educationists and researchers in secondary school geographic education. For instance Okunrotifa (1972), Okwilagwe (2002), Demirci, Kesler and Kaya (2010), Kagoda (2009), Ajibade and Raheem (1999) and Balci (2010) identified among others the following methods in teaching geography at the secondary school level:

(a) demonstration method;
(b) discussion method;
(c) activity-based methods (project method, field trip, inquiry method/problem-solving method, simulation/ games);
(d) guided discovery method;
(e) programmed instruction;
(f) advance organiser;
(g) concept mapping; and
(h) the use of quantification in the study of geography.

Demonstration Method

Demonstration method involves displaying some objects, models, equipment etc before the learners. It involves doing or performing some actions on how an equipment works or can be used in the presence of others, either as a means of showing them how to do it themselves or illustrating a principle. Demonstrations are better carried out by teachers or students in small groups or individually. To use demonstration method effectively, students should be used as actors or demonstrators in some cases. Demonstration also involves using visible or large materials for students to see (e.g. the globe, maps, rain gauge etc).

Merits of Demonstration Method

1. If used to introduce a lesson, it has the potential to motivate and capture students' interest.

2. It enhances a teacher's presentation of material especially in a large class, and thus saves time.
3. Helps to facilitate summary of learnt topics.

Demerits of Demonstration Method

1. It restricts the development of manipulative skills and the use of all sensory organs in learning.
2. It is limited in scope and so should be used in conjunction with other methods.

Discussion Method

Discussion method consists of elucidating on an idea, issue or opinion with a view to making its nature known from many perspectives. Discussants "think together, and examine each other's thinking". The teacher acts as a moderator or facilitator prompting students to think and speak. Both the teacher and the learners are expected to contribute to information building during the learning process. Students should be motivated to relate the subject of discussion to real life situation. The teacher is not expected to dominate the discussion but to involve learners throughout the duration of the lesson. The method assumes that each learner is endowed with some intellectual ability and can work as a group member. This method is a learner-centered strategy of teaching. The current trend in pedagogy is a break away from whole-class discussion to other forms. A popular one is the small-group discussion method which has been explained later in this section.

Types of Discussion Method

The teacher is open to using any of these types of discussion methods but has to plan ahead of class which one he/she intends to use for it to be effective.

1. Brainstorming – allowing a group of students to think about a problem at the same time with a view to having a better idea of the problem.
2. Small group discussion – a group of 5-8 students thinking and resolving issues surrounding a problem.
3. Round table discussion – a small group of people sitting around a table to discuss a social, political or economic problem.
4. Panel discussion – a group of experts giving their opinions on an issue.
5. Opposing panel – two groups of experts giving opposing views on an issue of common interest. This is popularly called a debate.

Merits of Discussion Method

Some of the merits of discussion method are: it develops positive interpersonal relationship between teacher and students and between students themselves. Also, it promotes fluency, develops confidence in the students themselves and in the task assigned them.

Demerit of Discussion Method

A common weakness of the method is that it wastes a lot of time if not well coordinated by the teacher and fewer topics may be covered during a term or session as a consequence.

Activity-Based Learning Approaches

Activity-based approaches to learning is a paradigm shift that has gained much prominence and recognition in the pedagogical training of teachers in the United States of America, United Kingdom and some other nations of the world in the last few decades. Demirci, Kesler and Kaya

(2010) are of the opinion that the initiative was injected into the education system to replace the traditional 'talk and chalk' (lecture) method which encouraged rote-learning rather than active learning.

Demirci *et al* (2010) and MATAS (1990) in Brkic-Vejmelka (2000) assert that activity-based approaches to learning and teaching do not only encourage active learning by students, but increases their thinking abilities, and places them at the centre of learning while the teacher serves as a guide. Besides, these approaches to learning do not only enable students to gain knowledge of the subject area but general, technical and academic skills. Students are also prepared for active and effective citizens. Activity-based approaches incorporate learning and doing and go beyond in-class to out-of-class activities (Demirci *et al*, 2010).

Many methods can be grouped under the activity-based learning approaches and they include: student-centred methods, experimental methods, project-based methods, inquiry-problem-solving methods, field-trip and cooperative methods. This shift in pedagogical paradigm arose from the outcomes of empirical researches and scientific breakthroughs witnessed by cognitive and behavioural psychologists that brought to limelight theories on constructivism-which proposes that learners can construct their own learning rather than become passive recipient of knowledge waiting to be spoon fed by their teachers.

In the study conducted by Demirci *et al* (2010), they found that activity-based methods have gained much ground in Turkey where the study was conducted, and teachers have even incorporated new technologies such as the Google Earth and GIS in the teaching of geography. They, however, reported that some traditional methods like discussion, and questioning and answers were still in use, and where concerned about the sustainability of the use of these new methods in Turkey schools.

Some activity-based methods that have been used in the teaching and learning of geography are now discussed. These are: project method, field trip, inquiry/problem solving method and simulation and games.

(a) Project Method

This method is one of the activity based methods that allows the learners to identify societal problems and find solution to them. Project work may be group or individual based. It helps to provide an avenue for the class of individual students or sometimes small groups to exhibit their ingenuity and creativity so that those with special abilities have opportunities to fulfill themselves. When executing a project work the teacher guides and coordinates the work and allows the students to do the actual work. The method is an independent approach to learning that brings about new discoveries.

Merits of Project Method

(i) It equips students with investigative skills.
(ii) keep learners active and makes learning meaningful with better understanding.

Demerits of Project Method

Some of the demerits of project method are:

(i) It is time-consuming and restricts syllabus coverage.
(ii) It is difficult to use in situations where research materials are inadequate.
(iii) Also, it is cumbersome and does not take into consideration individual differences.

9. However, students who are reluctant to go for the trip, should not be pressurised to go or punished.

Advantages of Field Trip

(i) It sharpens students' observational abilities and helps them to observe events and phenomena.
(ii) It also promotes teacher-student relationship.

Disadvantages

(i) It is costly in terms of transporting and feeding of the students.
(ii) Time consuming in terms of planning and execution.
(iii) Disruptive to school programme if scheduled during school hours.

(c) Inquiry/Problem-Solving Method

The method of inquiry allows the learners to react individually to a problem. It is an investigative approach in which learners are given tasks or problems to solve. It involves problem formulation and interpretation, generation of ideas and actions. This technique requires students to think and adopt various skills to get the required result. The method helps the students to develop skills of independent thinking, analysis and decision making. Inquiry and problem solving are two related methods. Inquiry skills such as investigation, discovering, search for data, analysis, evaluation, subjecting an information received to scrutiny are essential in problem-solving. These processes lead to in-depth knowledge of the problem at hand and arriving at new facts about the problem. In problem-solving, these identified steps are applied to solving a real problem such

as: finding solution to economic problem on fuel scarcity, pipeline vandalisation, urbanisation etc. The underlisted steps are necessary for employing inquiry/problem solving method:

1. identifying a problem;
2. stating hypothesis(es);
3. collecting relevant information;
4. analysis, appraising and interpreting the information gathered;
5. arriving at the solution of the problem; and
6. drawing conclusion and inferences from the findings of the inquiry.

Role of the Teacher in Inquiry/Problem-Solving

1. Planning/determining the problem to be solved.
2. Identifying the objectives to be achieved.
3. Allocating the problem/dimension to students.
4. Planning for the collection of data by the students (where/how).
5. Planning the method/procedure for reporting/ grading or evaluation of the activities.

(d) Simulation/Games

Simulation methods are "dynamic ways of presenting very thought provoking ideas, problems, issues and realities in our past and present socio-economic life". It is used in a situation where a real world is imitated by explaining the origin, cause, solution or situation, or workability of a process. The situation could be social, political, economic issues or problems in nature. Well known simulation/games in geography is the Nigerian

railway and transportation system. Modern day simulation/ games are played on computer and these abound in developed countries like Europe and U.S.A. Creative and dynamic teachers inconjuction with their classes can develop games based on any aspect of geography.

Planning for Simulation/Games

(i) Identification of problem.

(ii) Identification of specific objectives to be achieved.

(iii) Identification and isolation of the various components of the problem and the stakeholders involved.

(iv) Allocation of specific components to students for exploration.

(v) Investigation by students and final execution of the simulation in class.

Advantages of Simulation/Games

(i) Enables more realistic learning while reducing abstract learning.

(ii) Inculcates, problem-solving skills and attitudes in the students.

(iii) Enables students express their creative abilities.

(iv) Provides a clear understanding of how things and people in the society function.

(v) Enables multiple instructional objectives to be achieved in one lesson.

(vi) Makes for easy retention of knowledge.

(vii) Trains students in group processes and dynamics thereby, enabling students to appreciate the roles and responsibilities of good leadership and followership.

Disadvantages

(i) Not easy to develop.
(ii) Time consuming.
(iii) Students may misconstrue targeted objectives.

Programmed Instruction

The concept of programmed instruction is characterised by self-paced, self-administered instruction presented in logical sequence. The method is also known as individualised learning method. This method of teaching is highly suitable for making students with different abilities to obtain optimal level of comprehension of geographical concepts (Okwilagwe, 2002). The method provides conditions under which students can learn geography content efficiently with little or no outside help. There are two types of programme instruction; the linear and the branching.

Steps in the Preparation of Good Programmes

Mackenzie, Eraut and Jones (1970) cited in Okwilagwe (2002) advocated the following procedures:

1. formulation of lesson objectives;
2. designing and testing appropriate criteria measures to determine when the objectives are being achieved;
3. definition of the target population (class);
4. analysis of learning tasks (learning materials);
5. developmental testing of programme (a trial-testing of the programme to remove ambiguities);
6. preparation of prototype programme (initial programmes that will be tested); and
7. validation of programme (to collect data that indicate the validity of effectiveness of the programme.

How Students should Progress in Programme Learning

1. In the linear programming, the student moves from item to item (frames) in a linear faction at his/her own speed.
2. Each piece of information is followed by a question.
3. The student responds to the question orally or in writing.
4. A correct response attracts an automatic progress to the next stage or frame.
5. Each subsequent frame that follows provides another piece of information and a question, to which the student progresses in the same manner.
6. If a wrong response is provided, the student may be asked to go back one or more frames or back to the last frame where he/she was referred.

The 'Branching' type requires that a student perform step 6 above and also to skip some frames and move ahead so long as comprehension is not hindered.

Advantages of Programmed Instruction

1. It is individual student paced.
2. It enables active and continuous participation of the student in learning.
3. The immediate feedback of result is self-motivating and encourages continuity in the activity.
4. It also reduces student's anxiety inherent in teacher centred teaching.

Disadvantages of Programmed Instruction

1. The construction of programmes is time-consuming and can discourage the uncommitted teacher.
2. Lacks the development of cooperative and interpersonal relationship among students.
3. Differential learning time is observed for the slow, average and high achieving students.

Guided Discovery Method

Discovery method allows the learners to discover facts for themselves, especially if it is presented in a logical and systematic way. Discovery method can be grouped into two: guided discovery method and unguided discovery method. The guided discovery method involves the teacher's direct guidance while the unguided discovery allows students' free choice of investigation. Here, the teacher plays the role of a facilitator and a guide.

Teaching and learning involves helping students discover certain facts or answers to a given problem. Many times students depend on teachers for all the answers they need. This kind of situation is not helpful in bringing out the intellectual development of learners. Guided discovery may be focused around a picture, landforms or artifact. This strategy helps to develop critical thinking and decision making abilities in students. It is an appropriate method for teaching concept formation in geography. In guided discovery the teacher ensures that students discover answers to problems stated for learning. For instance, in the teaching of 'land and sea breezes' the teacher can list some terms related to the two types of breezes and ask students to classify them, stating reasons for such classification, and making inferences based on the classifications made. E.g.

Cold wind, sweating, hot temperature, dry wind, cool temperature, dust, water vapour etc.

If students are able to classify these terms into those related to sea breeze and land breeze and explain why the terms are grouped together and make inferences from these, then they have knowledge of land and sea breezes.

Advantages of Guided Discovery

1. It makes learning real and meaningful.

2. It encourages full participation of students.
3. It is motivating and gratifying as knowledge is being discovered.

Disadvantages of Guided Discovery

1. It is time consuming.
2. Creates differences in learning among students.

Advance Organiser

This is a pre-instructional strategy which is concerned with the learner's previous knowledge. The learner's prior knowledge serves as an organisational framework for incoming materials such that the new materials are only meaningful to the learner if there are relevant concepts in his/her memory to which the new material can be anchored (relate) (Adegbile, 2002). He defined it as a framework or information pattern presented to the learner in advance of learning new material to help facilitate learning. There are two types of advance organiser, as identified by Ausubel (1963). They are expository advance organiser and comparative advance organiser. The expository type is used when the learning material is new to the learner while the comparative advance organiser is used when the learning material is relatively familiar. Organisers presented before new learning are referred to as advanced organisers but there are those presented after learning and are known as post-organisers. According to Ausubel (1960) organisers take different forms. It can be a statement, a question, a descriptive paragraph, a demonstration or a film.

Advantages of Advance Organisers

1. Learning is made meaningful.
2. New learning is anchored on what has been learnt.

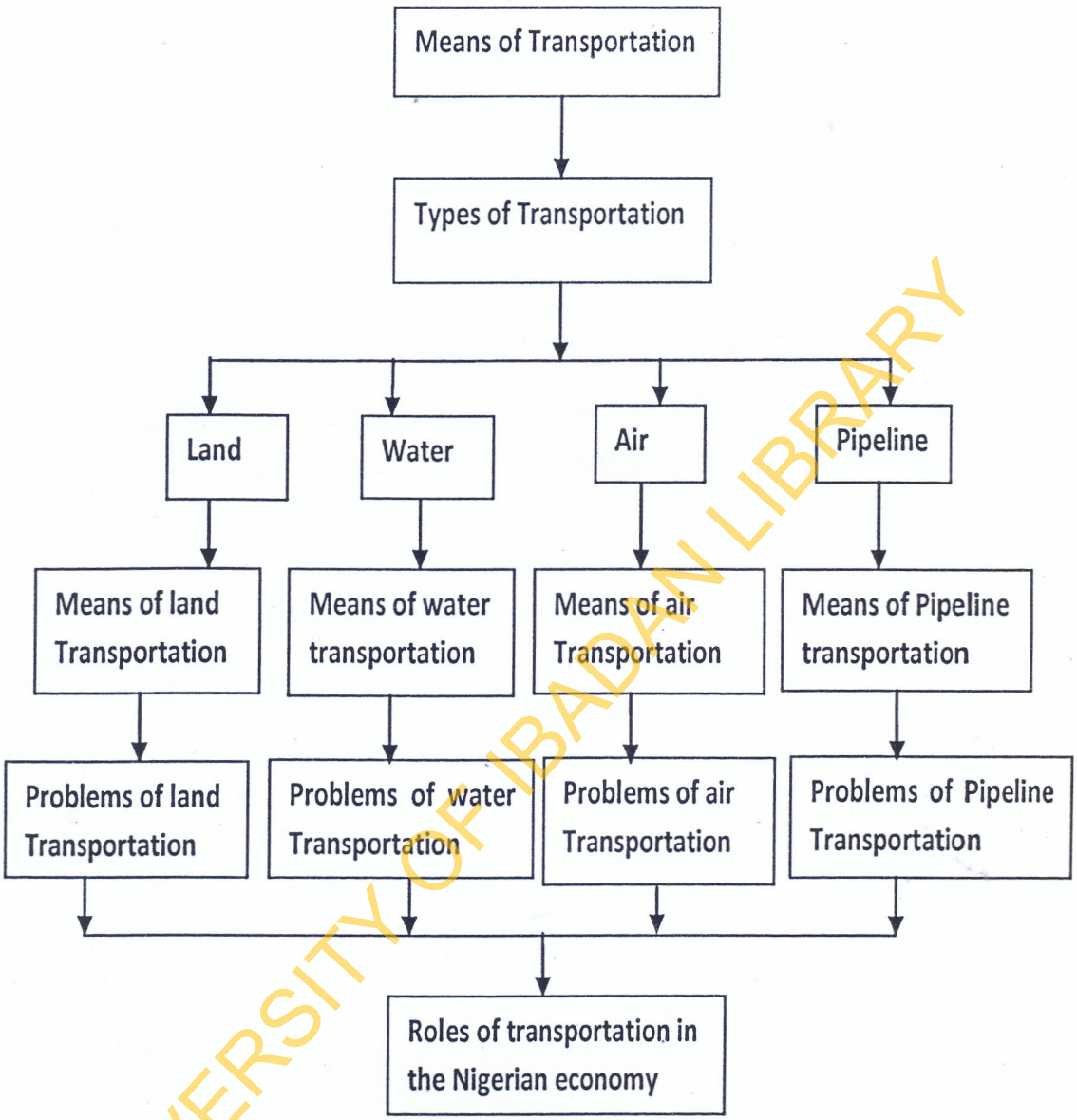
Disadvantages of Advance Organisers

1. It is time consuming to construct advance organisers.
2. It requires an adequately motivated teacher to plan and execute.

Concept Mapping

Rather than study some concepts or words isolatively, it is at times good to present a relationship among some concepts. Concept mapping is a technique of representing concepts and their interrelationships in two-dimensional structure to present the concepts in a topic or unit. Both teacher and students can represent their views on how a group of concepts interconnect or relate and this forms an in-depth understanding of the concept. Some concepts in geography are transportation, landforms (volcanic, glacial, running water, arid etc.). These can be mapped to show how they interconnect or interrelate. Myths which some students think exist in the learning of some subjects like geography are cleared and learning becomes meaningful.

Example: Concept of Map of Transportation in Nigeria



Modified after NTI (2003)

Merits of Concept Mapping

1. Facilitate meaningful learning as indepth understanding of concepts is achieved.
2. Students can create their concept maps which can be used to summarise a unit or topic in the prescribed geography textbooks.

3. Reduces anxiety in learning situations.
4. Enables topics to be presented in sequential and holistic manner that reduces the complexity of some topics and anxiety arising from some difficult topics.

Demerits of Concept Mapping

1. Time consuming.
2. Requires care in isolating and linking of the concepts.
3. As a technique, it cannot stand alone as a method of teaching. It must be complemented with other methods.

Section Two

Methodological Perspectives

5 Methods and Materials

The Use of Quantification in the Study of Geography

This involves the use of statistical methods and mathematical rules to study some concepts in geography. Quantitative techniques have been satisfactorily introduced into physical geography in areas as the study of climate, and in map reading topics such as the calculation of gradients, profiles, scales and slope measurement from topographical maps (Okwilagwe, 2002). Some elements of statistical methods according to her, have also been introduced into practical work in geography. Quantification requires proper understanding and teaching of mathematics in the schools as skills learnt will be used by the students in the learning of these mathematically related geography topics.

Introduction

This chapter discussed the methodology of this work. It comprises of the research design, sampling procedure and sample, instrumentation, ethical approval and method of analysis.

Research Design

The study is an ex-post-facto type of research designed to cover all states of Nigeria as represented by the six geo-political zones and the Federal Capital Territory (FCT).

Study Population, Sampling Procedure and Sample

The target population for this study are SS II and SS III geography teachers and their students in all the secondary schools in Nigeria. The parents and other stakeholders in education did not participate in the study. The multi-stage-stratified sampling procedures were used to select the sample as follows:

(a) Two states in each geo-political zone of the country and the (FCT) were selected to participate in the study.

(b) In each selected state, five secondary schools were randomly selected, with consideration given to representation of public and private schools; and rural and urban location.

(c) In each secondary school selected, two geography teachers (SS II and SSIII) and their respective classes were observed. In all, 65 secondary schools and 76 geography teachers participated in the study.

Instrumentation

Three instruments were used in the study to collect information on the teacher and classroom environment interaction process. These are:

i. *Teachers' Understanding of Secondary Education Geographic Objectives Scale (TUSEGOS):* This was developed by the investigator to gather information on teachers' understanding of secondary geography education objectives.

ii. *Ten-Minute Interaction Instrument (TMI):* This instrument was developed and used for IEA study on 'Classroom Environment Study: Teaching for Learning'. It was designed to cover varied teacher-learner classroom environment interactions which have been divided into 'context', 'who to whom', 'what was said', 'qualifier' and 'non-academic'.

iii. *Classroom Interaction Sheet (CIS):* The instrument was developed by Onocha and Okpala (1990) and was used to record the observation data on classroom interaction. It is a category recording instrument. Its validity and reliability as a useful observation instrument has been ensured by Onocha and Okpala (1990), Akinsola and Okpala (2001) and UNICEF/UNESCO/World Bank/ FME/'ESA' Study (2003).

However, the instruments were re-validated and found highly valid, reliable and useable before they were used in the field activities. The instruments were content validated by giving them to experts in evaluation to ensure that they were useable. Using equal length Spearman-Brown split-half formula, TUSEGOS yielded a correlation coefficient of 0.86, TMI had inter and intra rater reliability values ranging from 0.73 to 0.85 while the CIS gave reliability values of 0.76 to 0.84.

The Ethical Approval

The ethical issues of anonymity and confidentiality of responses were taken care of during and after data collection.

Statistical Analysis

Data analyses in the study involved the use of descriptive and inferential statistics such as frequency counts, percentages, graphs, and t-test. Qualititaive reporting was given to some aspects as the general trend of interaction, teachers characteristics and episodic analysis where it was appropriate.

Benefit of Study to Society

i. The study provides a large scale report on the classroom interaction patterns between teachers and students in typical Nigerian classroom settings. It also provides a

qualitative and quantitative analysis as well as descriptions of observed instructional processes in senior secondary geography classroom environment.

ii. The findings of this study provides empirical data base as an additional built-up in advancing the frontiers of knowledge in the area of classroom interaction studies in Nigeria.

iii. It serves as a yardstick for advising policy makers, school administrators, Inspectors of Education, and institutions that train teachers on the relevant teacher and environmental factors that influence effectiveness which should be enhanced and sought to improve students' achievement.

Research Questions

The following are the reseach questions examined in this study.

1. To what extent do geography teachers' understand the objectives of secondary school geography education in Nigeria?
2. What is the general trend of interaction patterns of geography teachers at the Senior Secondary School two (SS2) and Senior Secondary School three (SS3) in Nigeria?
3. What is the time extent expended on facilitating learning by geography teachers at the (SS 2) and (SS3) classes in the country?
4. Is there any significant difference in the geography teachers' interaction patterns in terms of school type, location, class size and understanding of geography objectives?
5. What is the quality of these interactions in some selected schools in the country?

Section Three

Empirical Evidence of Pattern of Classroom Interaction in School Geography in Nigeria

6 Geography Teachers Characteristics

Introduction

In this chapter, the reports of results and findings of this study are presented. It has been broken-up into section with each section reporting an important component of the results and findings. Section one presents the general characteristics of the observed geography teachers who participated in the study.

Table 1: Geography Teachers Characteristics

Characteristic	SS3	SS2
	Freq. %age	Freq. %age
1. Age		
20 -29	5 (10.6)	6 (28.6)
30-39	24(57.1)	9 (42.9)
40 – 50	18 (38.3)	4 (19.0)
50 and above	-	1 (4.8)
2. Sex		
Male	45 (83.3)	14 (66.7)
Female	9 (16.7)	7 (33.3)
3. Highest Qualification		
NCE	6 (11.1)	3 (14.3)
HND	1 (1.9)	1 (4.8)
B.Ed,B.A./BSc./PGDE	37 72.2)	16 (76.2)
MA/M.Ed	8 (14.8)	1 (4.8)
4. Teaching Experience		
Below 4 years	10 (18.5)	8 (38.1)
4 -6 years	10 (18.5)	3 (14.3)
7 – 9 years	4 (7.4)	3 (14.3)
10yrs and above	30 (55.6)	7 (33.3)
5. Area of Specialisation		
Geography	49 (90.7)	16 (76.2)
Geog-related (geology)	2 (3.7)	1 (4.8)
Others (e.g. Econs/Bus Admin Social Studies	3 (5.6)	4 (19.0)

Table 1 and the accompanying Figures (1a) and (1b) show the characteristics of the SS 3 geography teachers as observed in this study. Majority of the SS3 teachers (57.1%) were between 30 – 39years old, 38.3% were between 40 - 50 years old while 10.6% were 20 -29 years old. In terms of gender, most of the teachers were males (83.3%) whereas 16.7% were females. Refer to Table 1 and Figure 1(a)

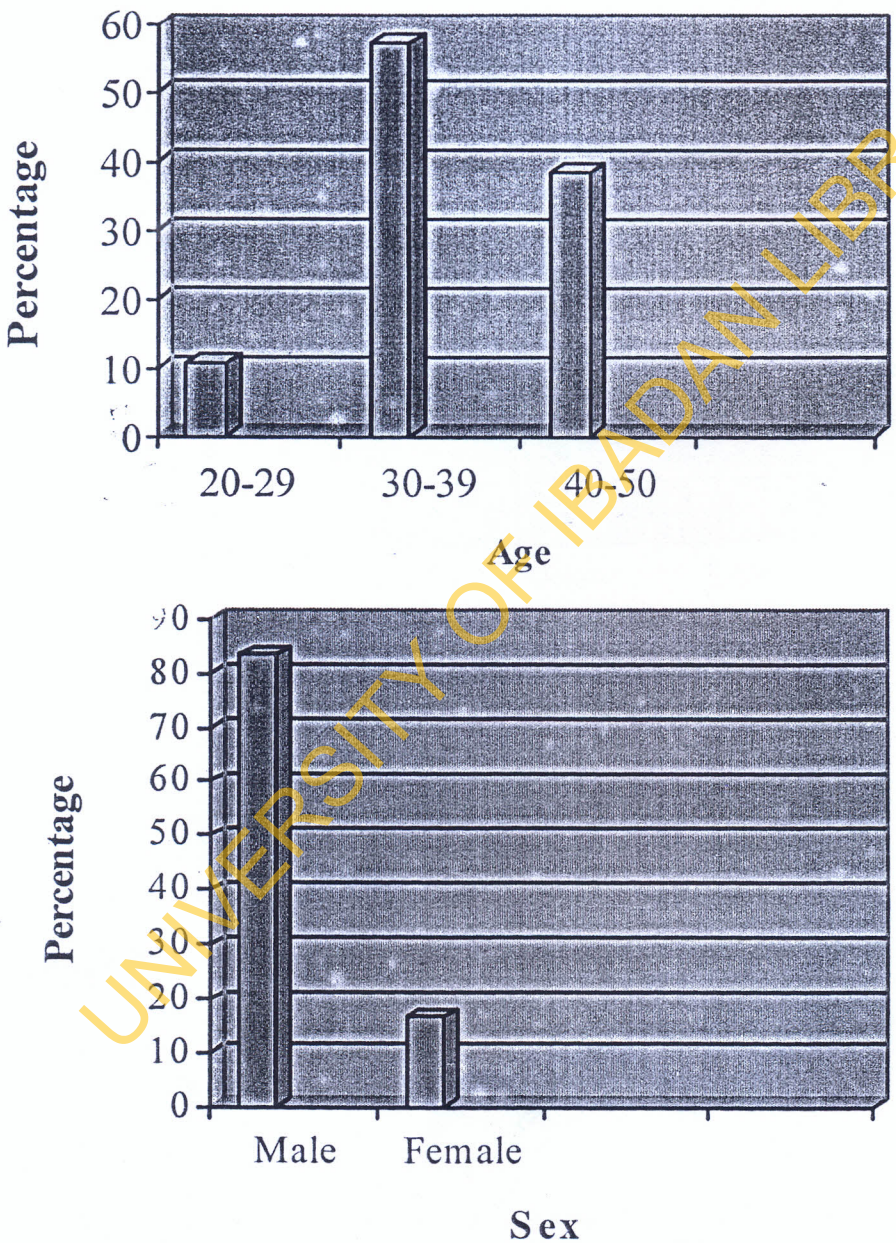
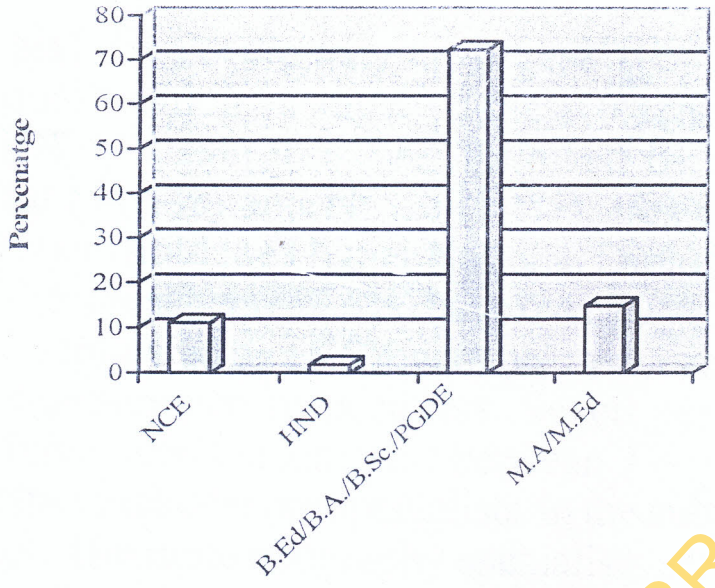
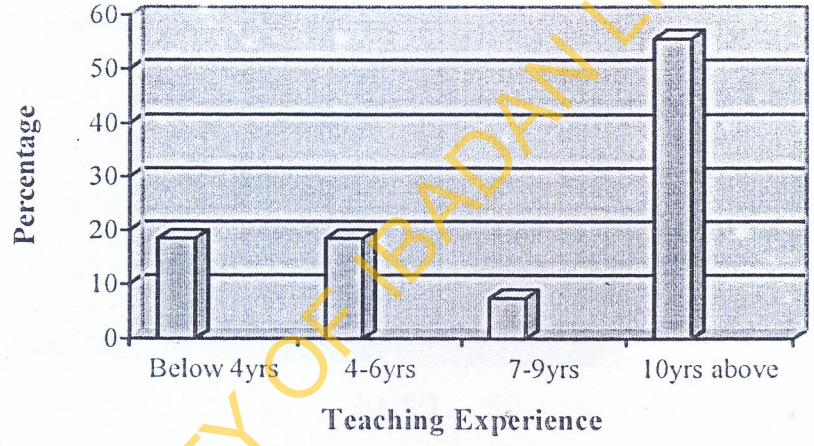


Figure 1(a): Senior Secondary School 3 Geography Teachers Characteristics





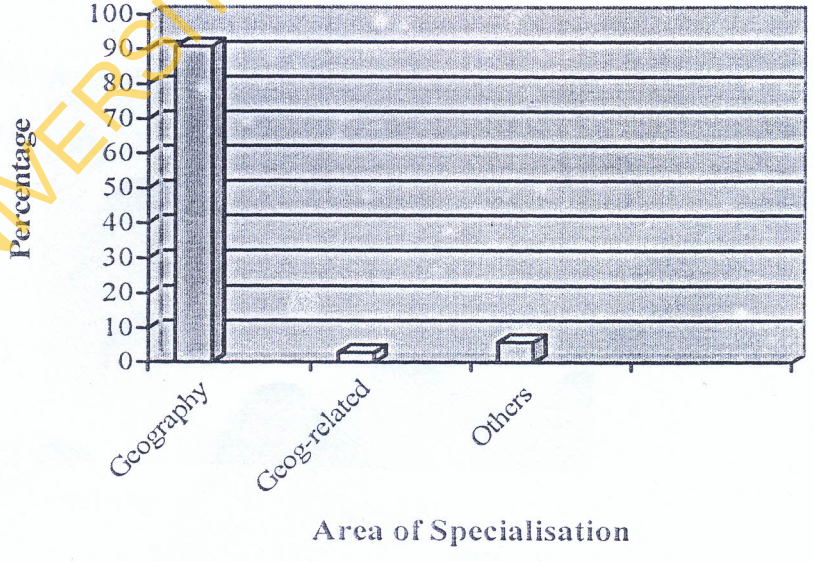


Figure 1(b): Senior Secondary School 3 Geography Teachers Characteristics

Table 1 and the accompanying Figure 1(b) show that the highest qualification of most of these teachers was B.Ed/ B.Sc/PGDE (72.2%), this was followed by teachers with M.A./E.Ed (14.8%) and NCE (11.1%). Besides, about 2% of the teachers hold the Higher National Diploma certificate. Many of these teachers (55.6%) have over 10 years of teaching experience, followed by 18.5% with below 4years and between 4-6 years experience respectively. Seven percent of these teachers have been teaching for between 7 – 9 years. About (91%) of these teacher are specialists in the subject but about 6% are not. The none geography specialists are from diverse background e.g. Business administration, and Economics.

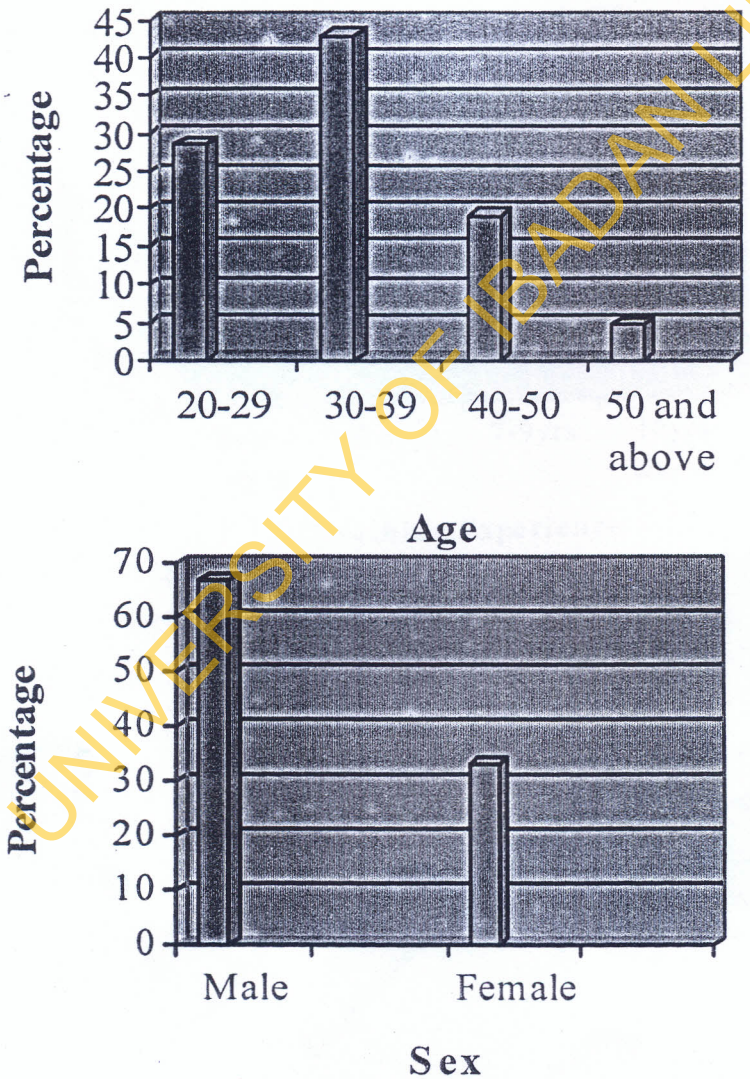
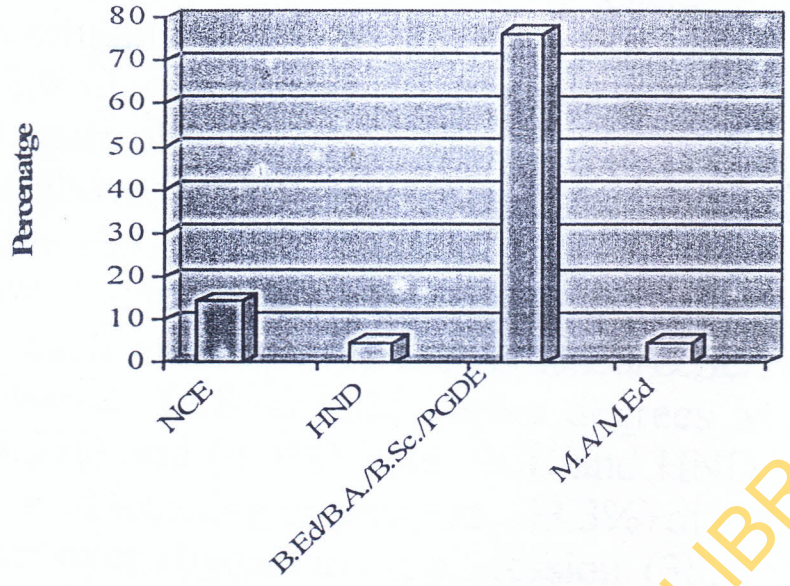
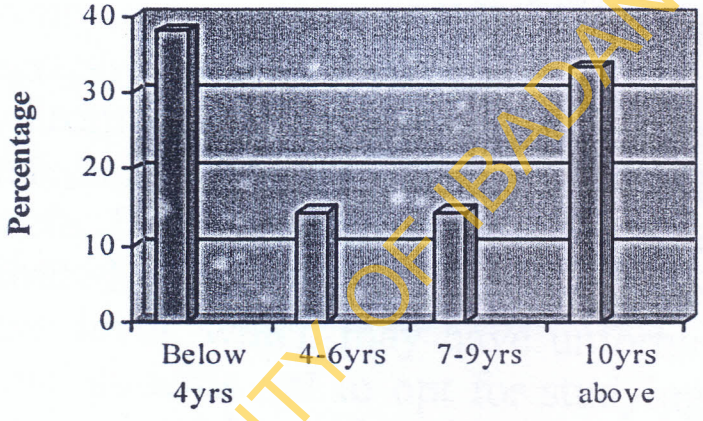


Figure 1(c): Senior Secondary School 2 Geography Teachers Characteristics





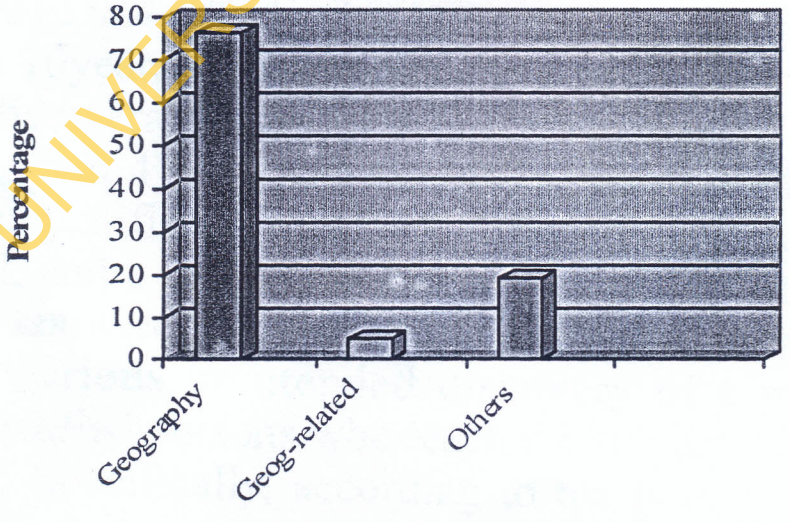


Figure 1(d): Senior Secondary School 2 Geography Teachers Characteristics

Among the SS2 geography teachers, Table 1 and the accompanying Figure (1c) show that a large number of them (42.9%) are between 30-40 years old, 28.6% between 20 - 29 years old, (19.0%) and (4.8%) are between 40 -50 years and above respectively. Of these teachers, (66.7%) are males while (33.3%) are females. Table 1 and Figure (1d) also show that many of these teachers hold the basic qualification to teach at this level that is B.Ed/B.Sc/PGDE (76.2%). However, (4.8%) hold higher degrees M.A/M.Ed while (14.3%) and (4.8%) hold NCE and HND respectively. In terms of teaching experience, (33.3%) of these teachers have spent over 10years in the profession, (38.1%) below 4 years and (14.4%) have spent 4 -6 years and 7-9 years respectively. Seventy-two percent of these teachers are specialists in geography, while (19%) are not.

From these information, it would seem that more male than female teachers teach geography in Nigerian secondary schools. This would be attributed to the difficulty and rigor attributed to the studying of the subject at the secondary school level, which may have unfortunately made many female students not to opt for studying geography at the tertiary level. Many of the teachers are experienced with an average of 44.4% having been teaching the subject for more than 10years. Of importance is a small proportion of 2.8% on the average who are relatively young in the profession (less than 4 years). Over 70% of these teachers have the basic qualification (B.Ed/B.A/B.Sc/PGDE) to teach at this level, and a small number have gone to further improve their knowledge to enhance their job performance. However, is a curious unintended discovery of a proportion of unqualified persons who teach the subject – an average of 16%. Specifically, according to the policy on education, NCE holders are to teach at the junior secondary level and not at the senior secondary where geography is taught.

In terms of age, many of the teachers (an average of 69%) are still very young and they belong to the active population. On the average, (89.4%) of these teachers are trained geography teachers but a small proportion of those who teach the subject in some schools are not trained. This group consisting of 12.3% are specialists in diverse subject areas not directly related to geography. These are: business administration, social studies, economics and government.

7 Teachers' Understanding Geographic Objectives

Introduction

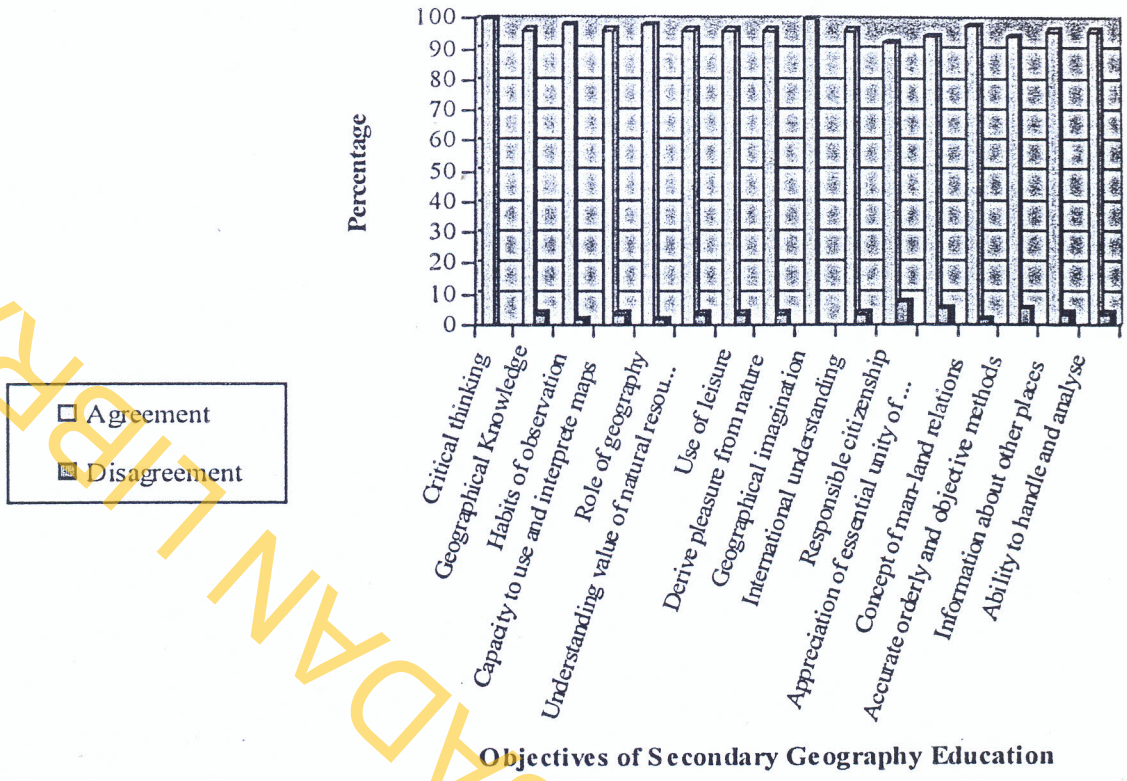
In this chapter, the geography teachers' understanding of geography objectives is presented.

Table 2: Teachers Understanding of Geography Objectives

	Objectives of Secondary Geography Education	SS Three				SS Two			
		Agreement		Disagreement		Agreement		Disagreement	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	Develop ability to do critical thinking in students.	52	100	-	-	21	91.3	2	8.7
2	Provide students with a body of geographical knowledge, which are interesting and useful for everyday life .	51	96.2	2	3.8	23	100	-	-
3	Establish in students the habits of observation of phenomena around them.	52	98.1	1	1.9	21	91.3	2	8.7
4	Develop in students the capacity to use and interpret maps.	51	96.2	2	3.8	23	100	-	-
5	To appreciate the role of geography as a 'bridge' subject between the sciences and humanities.	52	98.1	1	1.8	20	87.0	3	13.0
6	Promote a better understanding of the value of natural resources and the need for a more intelligent use of them.	51	96.2	2	3.8	21	91.3	2	8.7

	Objectives of Secondary Geography Education	SS Three				SS Two			
		Agreement		Disagreement		Agreement		Disagreement	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
7	Develop students' ability to make worthwhile use of leisure by making local trips and excursion.	51	96.2	2	3.8	21	91.3	2	8.7
8	Teaching them to derive pleasure from the beauties of nature.	51	96.2	2	3.8	22	95.7	1	4.3
9	Develop students' geographical imagination" which is the ability to visualize what conditions would be like in places outside their locality.	53	100.	-	-	23	100	-	-
10	Promote international understanding by means of knowledge of the inter-dependence of peoples.	51	96.2	2	3.8	21	91.3	2	8.7
11	Develop in students a sense of responsible citizenship.	49	92.4	4	7.6	21	91.3	2	8.7
12	Develop in students the appreciation of the essential unity of all knowledge.	50	94.3	3	5.7	20	87.0	3	13.0
13	Develop an understanding of the concept of ma-land relations, which is, to correlate the life of man with his physical environment and to explain the interaction of human and natural agencies.	52	98.1	1	1.9	21	91.3	2	8.7
14	To develop respect for accurate, orderly and objective methods of investigation.	50	94.3	3	5.7	22	95.7	1	4.3
15	Provide students with information about other places and environments other than their own so as to enable them appreciate the uniqueness of these places.	51	96.2	2	3.8	21	91.3	2	8.7
16	Equip students with the ability to handle and analyze spatial data obtained from the field.	51	96.2	2	3.8	20	87.0	3	13.0

Table 2 and the accompaying Figure 2(a) and 2(b) present teachers' understanding of geography objectives. Results show that a greater proportion (over 70%) of SS2 and SS3 geography teachers in Nigeria secondary schools have high (good) understanding of geography objectives.



2(a): SS Three Teachers Understanding of Geography Objectives

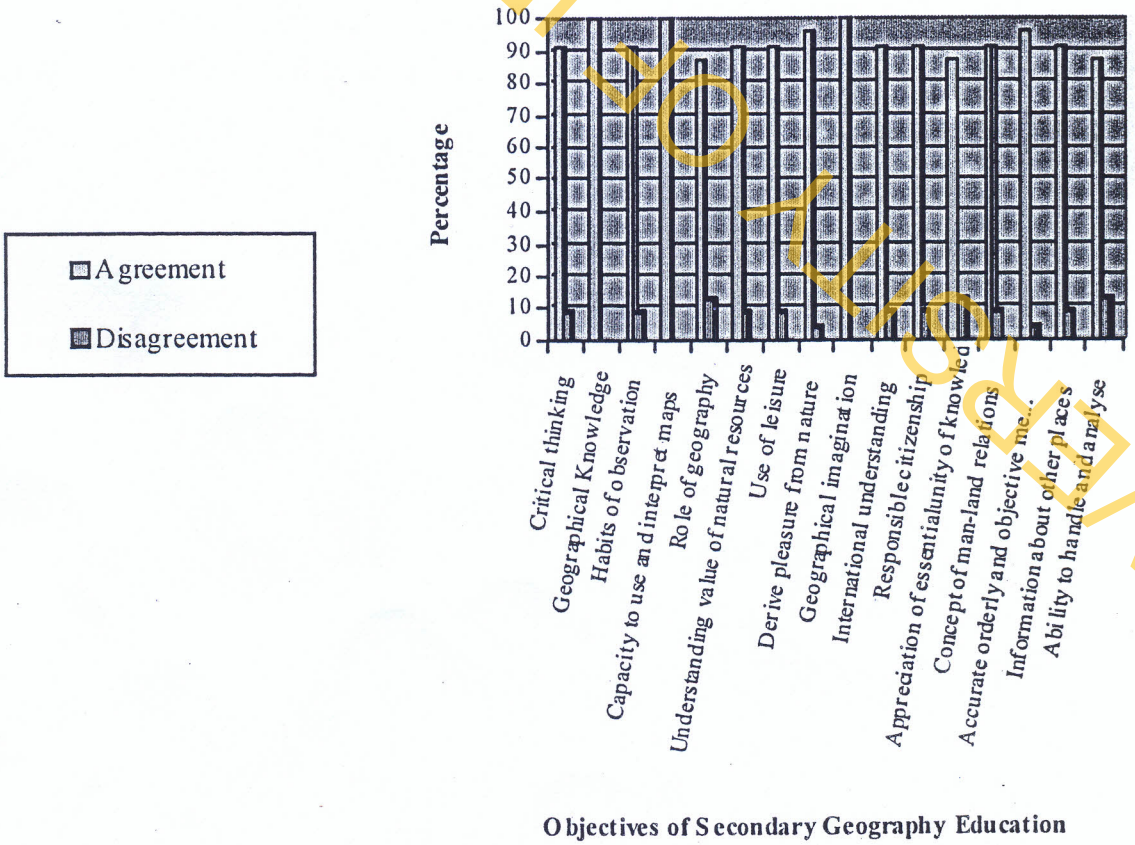


Figure 2(b): SS Two Teachers Understanding of Geography Objectives

8 Senior Secondary School Three (SS3) Geography Teachers Teaching Behaviours

Introduction

Senior Secondary School three teachers general trend of teaching behaviours and the influence of class size, location, school type and understanding of geography objectives on their teaching behaviours are presented.

Table 3 and Figure 3(a) present the observed general trend of teaching behaviour of SS3 geography teachers. The table shows that 'who to whom' account for 42% of the total time spent in class, 'instruction' (30.2%), 'question' (8.3%), 'response' (8.2%), 'feedback' (7.2%), 'class management' (1.3%) and 'emphasis' (2.8%). The result also shows that communication flows mainly from the teacher to the whole class (30.2%) with minimal 'student to teacher' talk (3.9%).

Table 3:Observed General Trend of Teaching Behaviours of SS 3 Geography Teachers on TMI

Category No.	Category Behaviour	Freq.	%
	Who to Whom		
1	Teacher to group	727	31.2
2	Teacher to student	104	4.5
3	Student to teacher	91	3.9
4	Group to teacher	41	1.8
5	Teacher to other	16	0.7
	Sub-total	**979**	**42.0**
	Instruction		
6	Lecture/Explain	447	19.2
7	Lecture with materials	65	2.8
8	Lecture non-verbal	3	0.1
9	Gives example	122	5.2
10	Cues/structuring	23	1.0
11	Directives	23	1.0
12	Probe	20	0.9
	Sub-total	**703**	**30.2**

Category No.	Category Behaviour	Freq.	%
	Question		
13	High level	92	3.9
14	Recall	55	2.4
15	Opinion	25	1.1
16	Redirect	22	0.9
	Sub-total	**194**	**8.3**
	Response		
17	Silence	159	6.8
18	Recite	6	0.3
19	Extended Response	7	0.3
20	Don't know	16	0.7
21	Statement	3	0.1
	Sub-total	**191**	**8.2**
	Feedback		
22	Acknowledge positive	64	2.7
23	Wrong	14	0.6
24	Punish	1	0.01
25	Repeat answer	27	1.2
26	Gives answer	29	1.2
27	Effectiveness of teaching	27	1.2
28	Silence	5	0.2
	Sub-total	**167**	**7.2**
	Management–Non-Academic		
29	Discipline	1	0.01
30	Procedure	13	0.6
31	Can't hear	7	0.3
32	Social	9	0.4
	Sub-total	**30**	**1.3**
33	**Emphasis**	**66**	**2.8**
	Total (Overall)	**2,330**	**100%**

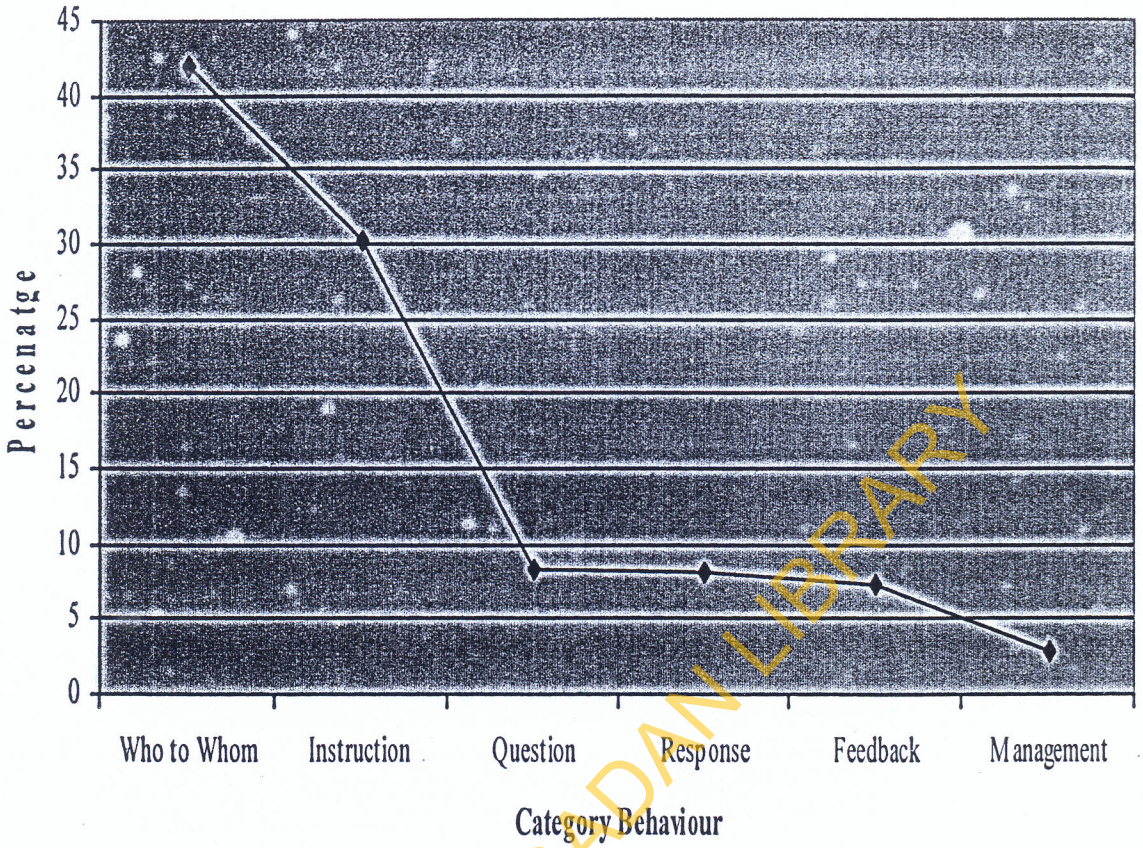


Figure 3(a): Observed General Trend of Teaching Behaviours of SS 3 Geography Teachers on TMI

Also, information in Table 3 and Figure 3(b) further reveal that the geography teachers spend about 19.2% of the lesson time on lecturing/explaining, 5.2% on 'giving examples' and 1% on 'directives'. On the type of questions asked by the teachers, high level questions accounted for 3.9%, recall 2.4% and redirect 0.9%. On mode of response, 'silence' accounted for 6.8%. In terms of feedback, 'positive acknowledgement' accounted for 2.7%. (refer to Table 3 and Figure 3c).

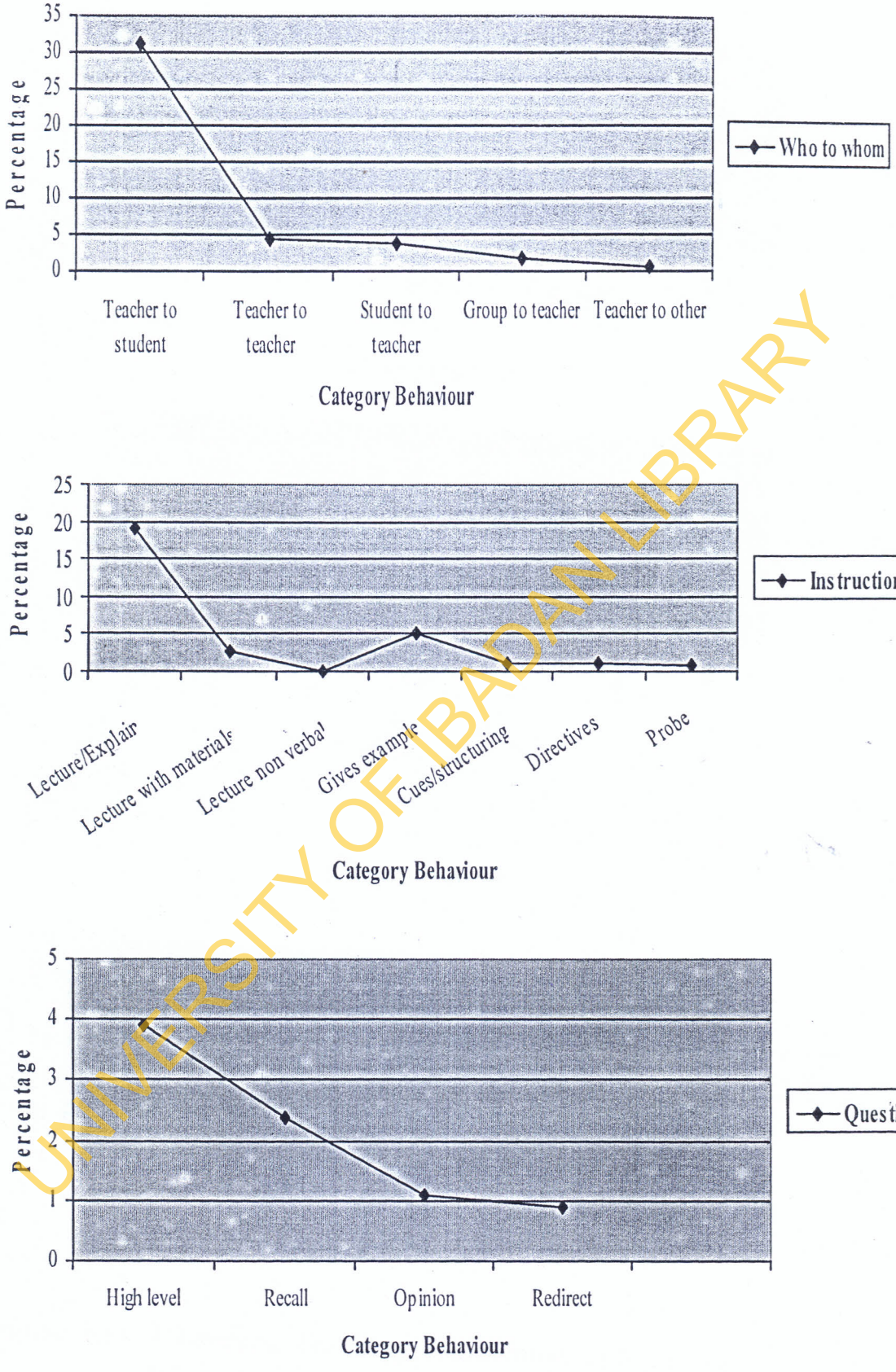


Figure 3(b):Observed Teaching Behaviours of SS 3 Geography Teachers on TMI 'Who to whom', 'Instruction' and 'Questions'

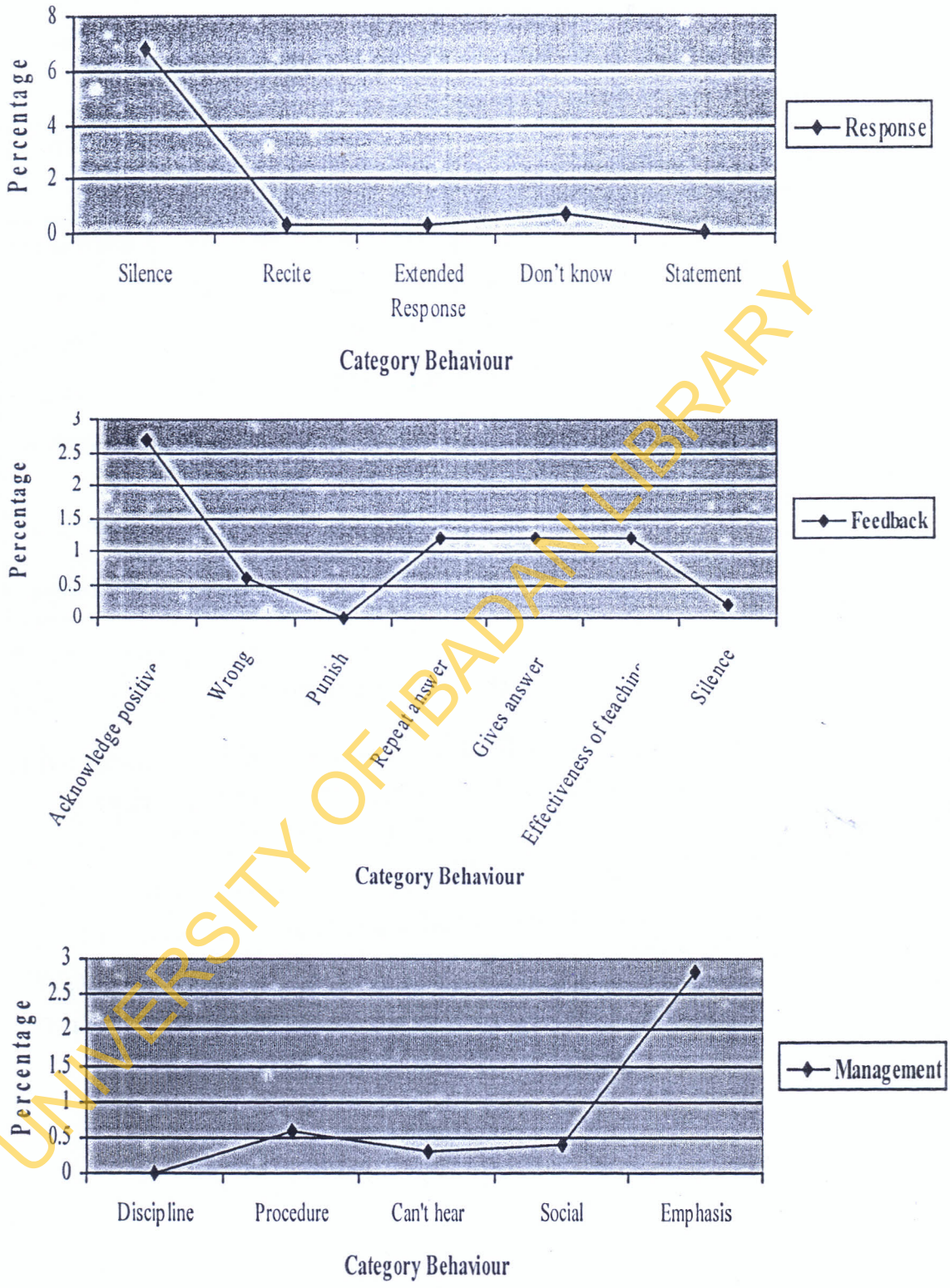


Figure 3(c): Observed Teaching Behaviours of SS 3 Geography Teachers on TMI: 'Response', 'Feedback' and 'Management'

Table 4: T-test Analysis of Teaching Behaviours of Geography Teachers by School Type

Behaviour	Public				Private						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	40	700	17.50	10.37	13	279	21.46	8.68	1.24	51	0.220^{NS}
Instruction	40	491	12.28	8.99	13	212	16.31	11.85	2.30	51	0.021*
Question	40	149	3.73	2.77	13	45	3.46	2.26	0.31	51	0.758^{NS}
Response	40	139	3.48	2.30	13	52	4.00	2.00	0.74	51	0.465^{NS}
Feedback	40	138	3.45	3.57	13	29	2.23	2.20	1.16	51	0.253^{NS}
Class management	40	26	0.65	1.44	13	4	0.31	0.85	0.81	51	0.423^{NS}
Emphasis	40	49	1.23	1.23	13	17	1.3	1.30	0.22	51	0.828^{NS}

* = Significant at $p<0.05$
NS = Not significant at $p < 0.05$

The result in Table 4 shows that there is significant difference in geography teachers' pattern of instruction based on school type ($t= 2.30$; $df = 51$, $p<0.05$) with Mean = 16.31; SD = 11.85 for private schools and Mean = 12.28; S.D = 8.99 for public schools. Other teacher-student classroom behaviours such as 'who to whom'; 'type of questions asked', 'response', 'feedback' and 'class management' were not significant.

Table 5: T - test Analysis of Teaching Behaviours of Geography Teacher by Class Size (Science)

Behaviour	Class Size 30 and below				Class Size 31 and above						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	27	558	20.67	10.99	26	421	16.19	8.60	2.65	51	0.011*
Instruction	27	422	15.63	11.60	26	281	10.81	6.89	2.83	51	0.043*
Question	27	97	3.59	3.24	26	97	3.73	1.89	0.19	51	0.851^{NS}
Response	27	98	3.63	2.60	26	93	3.58	1.79	0.09	51	0.932^{NS}
Feedback	27	71	2.63	3.04	26	96	3.69	3.55	1.17	51	0.247^{NS}
Class management	27	12	0.44	1.01	26	18	0.69	1.59	0.68	51	0.501^{NS}
Emphasis	27	31	1.15	1.17	26	35	1.35	1.20	0.61	51	0.545^{NS}

* = Significant at $p < 0.05$
NS = Not significant at $p < 0.05$

The result in Table 5 reveals that there is significant difference in the geography teachers behaviours under the categories 'who to whom' ($t = 2.65$; $df = 51$, $p < 0.05$) and 'instruction' ($t = 2.83$; $df = 51$, $p < 0.05$) when class size is low in Science classes. The Mean for 'who to whom' = 20.67; SD = 10.99 for class size of 30 students and below, and Mean = 16.19; SD = 8.60 for class size of 31 students and above. Under 'instruction', Mean= 15.63; SD = 11.60 for class size of 30 students and below and Mean = 10.81; SD = 6.89 for class size of 31 students and above. Other teacher behavior such as 'type of question asked', the 'response', 'feedback' and 'class management' were not significant.

Table 6: Analysis of Teaching Behaviours of Geography Teachers by Class Size in Commercial Classes

Behaviour	Class Size 30 and below				Class Size 31 and above						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	35	696	19.89	9.62	18	283	15.72	10.56	1.44	51	0.155^{NS}
Instruction	35	483	13.80	10.84	18	220	12.22	7.56	0.55	51	0.584^{NS}
Questions	35	117	3.34	2.07	18	77	4.48	3.48	1.23	51	0.225^{NS}
Response	35	122	3.49	2.17	18	67	3.83	2.36	0.54	51	0.594^{NS}
Feedback	35	90	2.57	2.43	18	77	4.28	4.44	1.81	51	0.036*
Class Management	35	22	0.63	1.50	18	8	0.44	0.92	0.48	51	0.636^{NS}
Emphasis	35	47	1.34	1.24	18	19	1.06	1.06	0.84	51	0.405^{NS}

* = Significant at $p < 0.05$
NS = Not significant at $p < 0.05$

Table 6 shows that there is significant difference in the way geography teachers 'feedback' information based on class size in Commercial classes when class size was more than 30 students, ($t = 1.81$; $df = 51$, $p = 0.05$) with Mean= 2.57, SD = 2.43 for class sizes 30 students and below and Mean = 4.28, SD = 4.44 for class sizes 31 students and above. Other classroom categories such as 'who to whom', instruction' 'question' 'response', and class management were not significant.

Table 7: Analysis of Teaching Behaviours of Geography Teachers by Class Size in Art Classes

Behaviour	Class Size 30 and below				Class Size 31 and above						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	29	511	17.62	10.49	24	468	19.50	9.61	0.67	51	0.503^{NS}
Instruction	29	405	13.97	11.30	24	298	12.42	7.77	0.57	51	0.572^{NS}
Question	29	105	3.62	2.50	24	89	3.71	2.85	0.12	51	0.906^{NS}
Response	29	104	3.59	2.23	24	87	3.63	2.26	0.06	51	0.950^{NS}
Feedback	29	103	3.55	3.82	24	64	2.67	2.57	0.97	51	0.338^{NS}
Class management	29	12	0.41	0.87	24	18	0.75	1.72	0.92	51	0.362^{NS}
Emphasis	29	33	1.14	1.18	24	33	1.38	1.17	0.73	51	0.470^{NS}

NS = Not significant at $p < 0.05$

The result in Table 7 shows that the teaching behaviours of geography teachers were not significantly different in terms of class size in Arts classes.

Table 8: T-Test Analysis of Teaching Behaviours of Geography Teachers by Location

Behaviour	Urban				Rural						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	30	577	19.23	9.85	23	402	17.48	10.44	0.63	51	0.534^{NS}
Instruction	30	399	13.30	10.16	23	304	13.22	9.54	0.03	51	0.976^{NS}
Question	30	114	3.80	2.12	23	80	3.48	3.23	0.44	51	0.664^{NS}
Response	30	110	3.67	1.94	23	81	3.52	2.59	0.23	51	0.817^{NS}
Feedback	30	105	3.50	3.54	23	62	2.70	3.01	0.87	51	0.390^{NS}
Class management	30	15	0.50	1.07	23	15	0.65	1.61	0.41	51	0.682^{NS}
Emphasis	30	42	1.40	1.16	23	24	1.04	1.19	.09	51	0.278^{NS}

N.S- Not significant at $P < 0.05$

The result in Table 8 shows that there is no significant difference in geography teachers' teaching behaviours in terms of location.

Table 9: Analysis of Geography Teachers Classroom Behaviours by their Level of Understanding of Geography Objectives

Behaviour	High				Low						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	34	593	17.44	9.66	19	386	20.31	10.74	1.00	51	0.323^{NS}
Instruction	34	427	12.56	10.21	19	276	14.53	9.16	0.70	51	0.489^{NS}
Question	34	134	3.94	2.85	19	60	3.16	2.19	0.04	51	0.304^{NS}
Response	34	118	3.47	2.03	19	73	3.84	2.57	0.58	51	0.564^{NS}
Feedback	34	99	2.91	2.78	19	68	3.58	4.15	0.70	51	0.487^{NS}
Class management	34	0.13	9.38	0.85	19	17	0.89	1.88	1.36	51	0.179^{NS}
Emphasis	34	38	1.12	1.17	19	28	1.47	1.17	1.06	51	0.295^{NS}

NS = Not significant at $p < 0.05$

The results in Table 9 show that there is no significant difference in classroom interaction pattern of geography teachers in terms of their level of understanding of geography objectives.

9 Senior Secondary School Two (SS2) Geography Teachers Teaching Behaviours

Introduction

This chapter presents the general trend of SS2 geography teachers' teaching behaviours, and the influence of school type, location, class size and teachers' understanding of geography objectives on these behaviours.

Table 10: Observed General Trend of Teaching Behaviours of SS 2 Geography Teachers

Category No.	Category Behaviour	Freq.	%
	Who to Whom		
1	Teacher to group	319	32.3
2	Teacher to student	35	3.5
3	Student to teacher	30	3.0
4	Group to teacher	28	2.8
5	Teacher to other	6	0.6
	Sub-total	**418**	**42.3**
	Instruction		
6	Lecture/Explain	140	14.2
7	Lecture with materials	20	2.0
8	Lecture non-verbal	3	0.3
9	Gives example	64	6.5
10	Cues/structuring	14	1.40
11	Directives	12	1.21
12	Probe	6	0.6
	Sub-total	**259**	**26.2**

Category No.	Category Behaviour	Freq.	%
	Question		
13	High level	43	4.4
14	Recall	33	3.3
15	Opinion	4	0.4
16	Redirect	15	1.5
	Sub-total	**95**	**9.6**
	Response		
17	Silence	59	6.0
18	Recite	3	0.3
19	Extended Response	8	0.8
20	Don't know	4	0.4
21	Statement	4	0.4
	Sub-total	**78**	**7.9**
	Feedback		
22	Acknowledgement positive	31	3.1
23	Wrong	4	0.4
24	Punish	3	0.3
25	Repeat answer	15	1.5
26	Gives answer	44	4.5
27	Effectiveness of teaching	14	1.4
28	Silence	2	0.2
	Sub-total	**113**	**11.4**
	Management–Non-Academic		
29	Discipline	0	0
30	Procedure	0	0
31	Can't hear	6	0.6
32	Social	4	0.4
	Sub-total	**10**	**1.0**
33	**Emphasis**	**14**	**1.4**
	Total (Overall)	**987**	**100%**

Table 10 and the accompanying Figure 10 (a)present the observed general trend of teaching behaviour of SS 2 geography teachers. The results show that, out of the total class time spent in teaching, 'who to whom' accounted for 42.3%, 'instruction' 26.2%, 'type of questions asked' 9.6%, 'response' 7.9%, 'feedback' 11.4%, 'class management' 1.0% and 'emphasis' 1.4%. The result in Table 1and Figures 10(b) and (c) also show that 'teacher to group' 32.3% dominated the classroom interaction pattern followed by 'teacher to students' 3.5%, 'student to teacher' 3.0%, group to teacher 2.8% and 'teacher to others' 0.6%. On the pattern of 'instruction', 14.2% of the total time was devoted to 'lecturing/ explanation' and about 6.5% to 'giving of examples'. On type of questions asked 'high level' questions accounted for 4.4%, 'recall' 3.3% 'redirect' 1.5% and 'opinion' 0.4%. The result further reveals that on mode of response, 'silence' accounted for 6%, 'extended response' 0.8% and 'don't know' 0.4%. Result on 'feedback' shows that 'acknowledgement' was 3.1%, 'give answers' 4.5%, 'repeat answer' 1.5%, 'effectiveness of teaching' 1.4%. Under class management, 'can't hear' accounted for 0.6%, social 0.4% discipline 0%

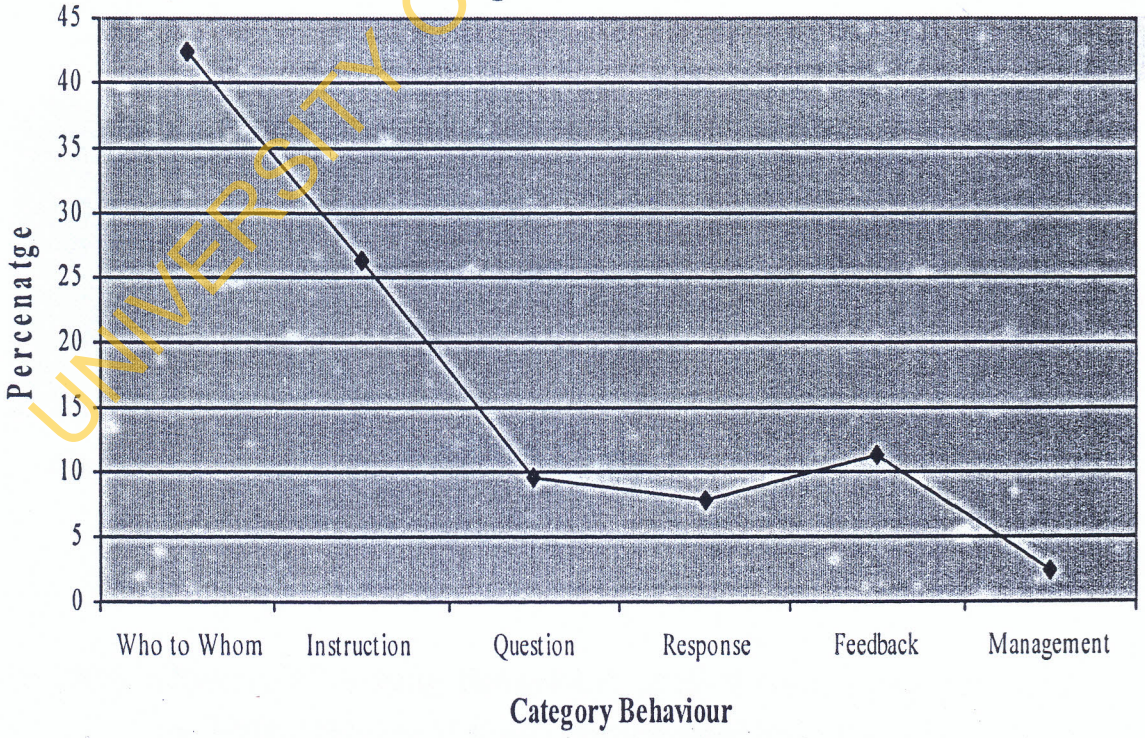


Figure 10(a): Observed General Trend of Teaching Behaviours of SS 2 Geography Teachers on TMI

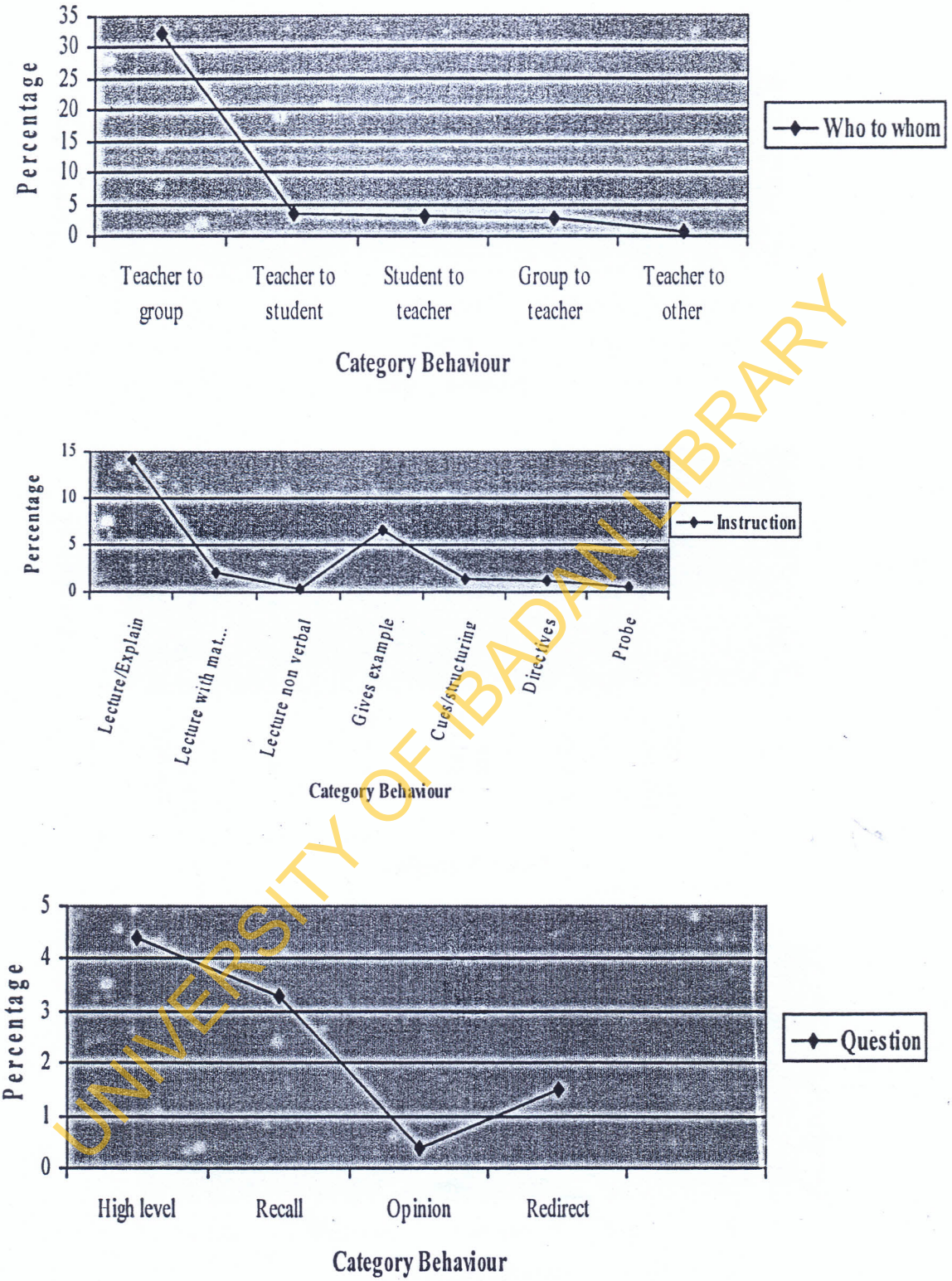


Figure 10(b): Observed Teaching Behaviours of SS 2 Geography Teachers on TMI: 'Who to Whom', 'Instruction' and 'Questions'

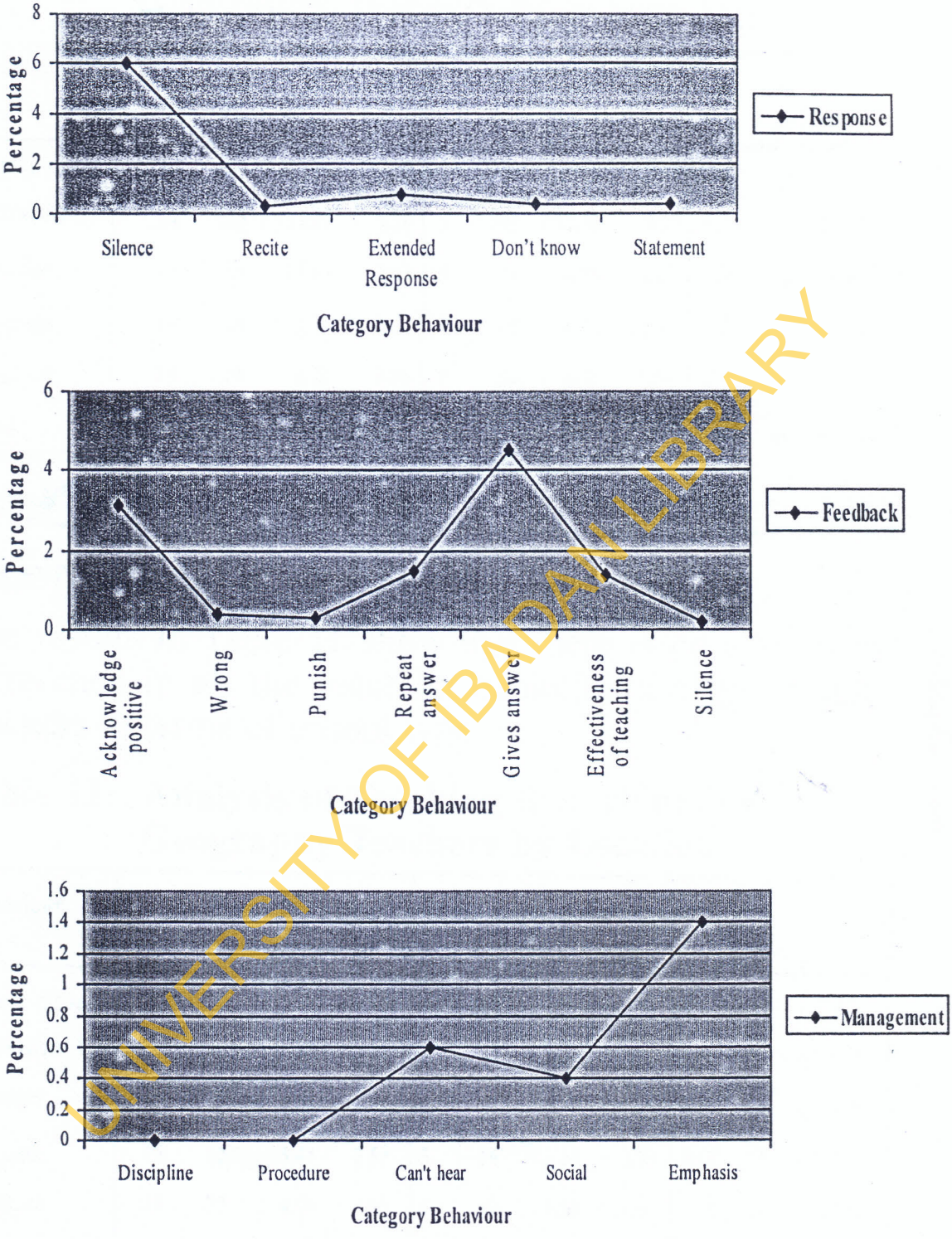


Figure 10(c): Observed Teaching Behaviours of SS 2 Geography Teachers on TMI: 'Response', 'Feedback' and 'Management'

Table 11: Analysis of Teaching Behaviours of Geography Teachers by School Type

Behaviour	Public				Private						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	14	268	19.14	12.80	9	150	16.67	10.37	0.49	21	0.632^{NS}
Instruction	14	155	11.07	6.36	9	104	11.56	9.79	0.15	21	0.886^{NS}
Question	14	51	3.64	2.47	9	44	4.89	3.14	1.06	21	0.300^{NS}
Response	14	38	2.71	2.23	9	40	4.44	3.40	1.48	21	0.154^{NS}
Feedback	14	58	4.21	4.98	9	54	6.00	5.55	0.80	21	0.431^{NS}
Class management	14	5	0.36	1.34	9	5	0.56	1.67	0.32	21	0.755^{NS}
Emphasis	14	12	0.86	1.46	9	2	0.22	0.67	1.22	21	0.237^{NS}

NS = Not significant at $p < 0.05$

The results in Table 11 show that there is no significant difference in all the teaching behaviours of geography teachers in terms of school type.

Table 12: Analysis of Teaching Behaviours of Geography Teachers by Location

Behaviour	Urban				Rural						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	18	314	17.44	11.26	5	104	20.80	14.34	0.56	21	0.583^{NS}
Instruction	18	217	12.06	8.11	5	42	8.40	5.51	0.94	21	0.357^{NS}
Question	18	72	4.00	2.79	5	23	4.60	2.88	0.42	21	0.676^{NS}
Response	18	62	3.44	2.59	5	16	3.20	3.83	0.17	21	0.868^{NS}
Feedback	18	72	4.00	4.95	5	41	8.20	5.02	1.68	21	0.109^{NS}
Class management	18	5	0.28	1.18	5	5	1.00	2.24	0.99	21	0.145^{NS}
Emphasis	18	8	0.44	1.04	5	6	1.20	1.79	1.23	21	0.234^{NS}

NS= Not significant at $p < 0.05$

Table 12 shows that there is no significant difference in all the teaching behaviours of SS two geography teachers based on location.

Table 13: T-Test Analysis of Teaching Behaviours of Geography Teachers by Class Size in Science Class

Behaviour	Class Size 30 and below				Class Size 31 and above						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	12	234	19.50	12.07	11	184	16.73	11.73	0.56	21	0.583^{NS}
Instruction	12	129	10.75	5.75	11	130	11.82	9.60	0.33	21	0.747^{NS}
Question	12	57	4.75	2.41	11	38	3.46	3.05	1. 14	21	0.269^{NS}
Response	12	39	3.25	2.60	11	39	3.55	3.14	0.25	21	0.808^{NS}
Feedback	12	76	6.33	5.37	11	37	3.36	4.68	1.41	21	0.173^{NS}
Class management	12	5	0.42	1.44	11	5	0.45	1.51	0.06	21	0.952^{NS}
Emphasis	12	11	0.92	1.56	11	3	0.27	0.65	1.27	21	0.219^{NS}

NS= Not significant at $p < 0.05$

Table 13 shows that class size in Science classes have no significant difference on all the teaching behaviours of geography teachers in SS two.

Table 14: Analysis of Teaching Behaviours of Geography Teachers by Class Size in Commercial Classes

Behaviour	Class Size 30 and below				Class Size 31 and above						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	14	246	17.57	10.40	9	172	19.11	14.16	0.30	21	0.766^{NS}
Instruction	14	164	11.71	8.44	9	95	10.56	6.71	0.35	21	0.732^{NS}
Question	14	69	4.93	2.79	9	26	2.89	2.32	1.82	21	0.082^{NS}
Response	14	58	4.14	3.11	9	20	2.22	1.86	1.66	21	0.111^{NS}
Feedback	14	88	6.29	5.48	9	25	2.78	3.99	1.65	21	0.113^{NS}
Class management	14	5	0.36	1.34	9	5	0.56	1.67	0.32	21	0.755^{NS}
Emphasis	14	8	0.57	1.16	9	6	0.61	1.41	0.18	21	0.861^{NS}

NS= Not significant at $p < 0.05$

The results in Table 14 show that there is no significant difference in teaching behaviour of geography teachers in terms of class size (commercial).

Table 15: Analysis of Teaching Behaviours of Geography Teachers by Class Size in Arts Classes

Behaviour	Class Size 30 and below				Class Size 31 and above						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	9	188	20.89	11.34	14	230	16.43	12.04	0.89	21	0.386^{NS}
Instruction	9	108	12.00	5.32	14	151	10.79	9.02	0.36	21	0.720^{NS}
Question	9	42	4.67	1.94	14	53	3.79	3.19	0.74	21	0.467^{NS}
Response	9	31	3.44	2.07	14	47	3.36	3.27	0.07	21	0.944^{NS}
Feedback	9	42	4.67	5.12	14	71	5.07	5.37	0.18	21	0.859^{NS}
Class management	9	5	0.55	1.67	14	5	0.36	1.34	0.32	21	0.755^{NS}
Emphasis	9	8	0.89	1.36	14	6	0.43	1.16	0.87	21	0.395^{NS}

NS = Not significant at $p < 0.05$

The results in Table 15 show that there is no significant difference in teaching behaviours of geography teachers based on class size in Art classes.

Table 16: Analysis of Teaching Behaviours of Geography Teachers by their Level of Understanding of Geography Objectives

Behaviour	High				Low						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Who to Whom	13	245	18.85	12.82	10	173	17.30	11.29	0.31	21	0.762^{NS}
Instruction	13	133	10.23	9.31	10	126	12.60	6.33	0.72	21	0.425^{NS}
Question	13	45	3.46	3.23	10	50	5.00	2.22	1.35	21	0.190^{NS}
Response	13	34	2.62	3.47	10	44	4.40	1.98	1.56	21	0.134^{NS}
Feedback	13	39	3.00	6.24	10	74	7.40	3.24	2.26	21	0.039*
Class management	13	5	0.85	1.58	10	5	0.50	1.39	0.19	21	0.854^{NS}
Emphasis	13	8	0.62	1.35	10	6	0.60	1.19	0.03	21	0.977^{NS}

* = Significant at $p < 0.05$
NS = Not significant at $p < 0.05$

Table 16 shows that there is significant difference in SS two geography teachers teaching behaviours in the way they feedback information in terms of their level of understanding of geography objectives ($t = 2.26$; $df = 21$, $p < 0.05$) with Mean 3.00; SD = 6.24 for those teachers with high level of understanding and Mean = 7.40, SD = 3.24 for those with low level of understanding. Other teaching behaviours 'who to whom', 'instruction', 'question', 'response' and 'class management' were not significant.

10 Senior Secondary School Three (SS 3) Teachers' Interaction Patterns: Time Extent

Introduction

This chapter presents the result of SS3 geography teachers' general trend of interaction pattern in terms of time extent and the influence of location, class size, school type and teachers understanding of geography objectives on the patterns.

Table 17: Observed General Trend of Interaction Patterns of SS3 Geography Teachers by Time Extent

Behaviour	Freq	%	Time Spent (min)
Individual student work	281	5.8	1min 10secs
Student group activity	370	7.6	1min. 20secs
Teacher prompting learning	1248	25.6	5mins
Monologue	2613	53.6	11mins 5secs
Teacher not facilitating learning	218	4.5	1min
Confusion	80	1.6	17secs
Others	65	1.3	15 secs
Total	**4,875**	**100**	**20mins**

Table 17 and Figure 17(a) show the general trend of classroom interaction pattern of geography teachers in terms of time extent. Table 17 shows that for SS3 teachers, frequency of 'monologue' was 2,613 (53.6%), 'teacher prompting learning 1,248 (25.6%), 'student group activities, 370 (7.6%), 'individual student work, 281 (5.8%), 'teacher not facilitating learning' 218 (4.5%), 'confusion', 80 (1.6%) and 'others', 65 (1.3%).

Time spent on each important class activity by the SS3 teachers as presented in Table 17 and Figure 17(b) shows that monologue took the greatest part of class time (11mins. 5secs). This was followed by teacher prompting learning (5mins.). Students group activities and individual student work constituted 1min 20secs., and 1min.10secs. respectively. Other activities that indicated that the teachers were not in full control of their classes constituted minute segments of the class time observed. These are teacher not facilitating learning, confusion and others.

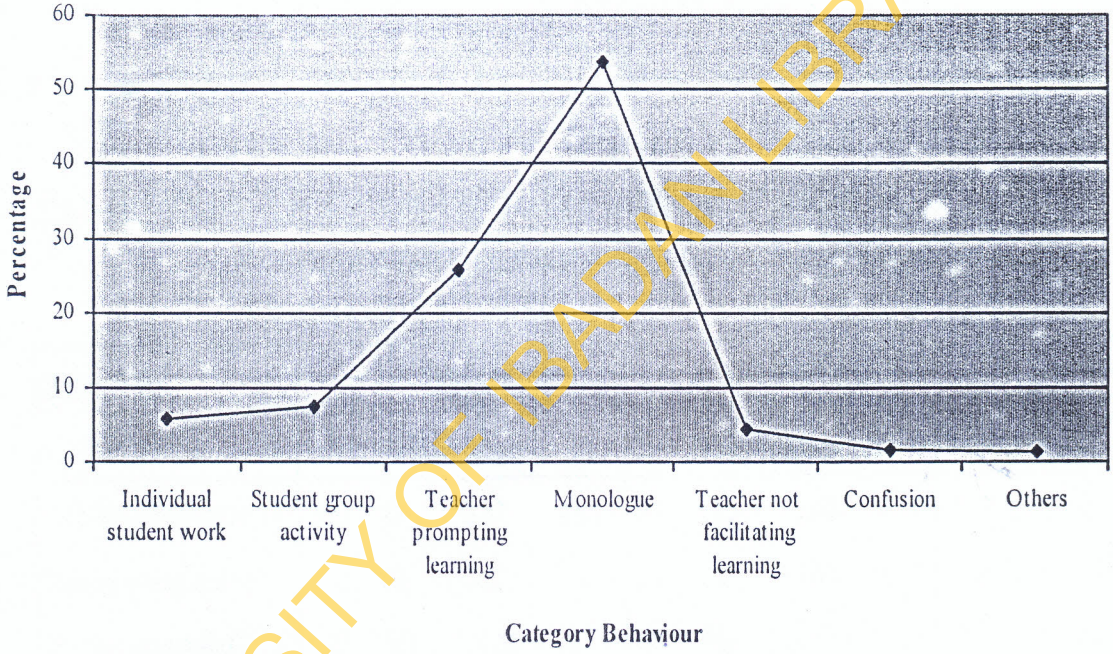


Fig 17(a): Observed General Trend of Interaction Pattern of SS3 Geography Teachers on CIS

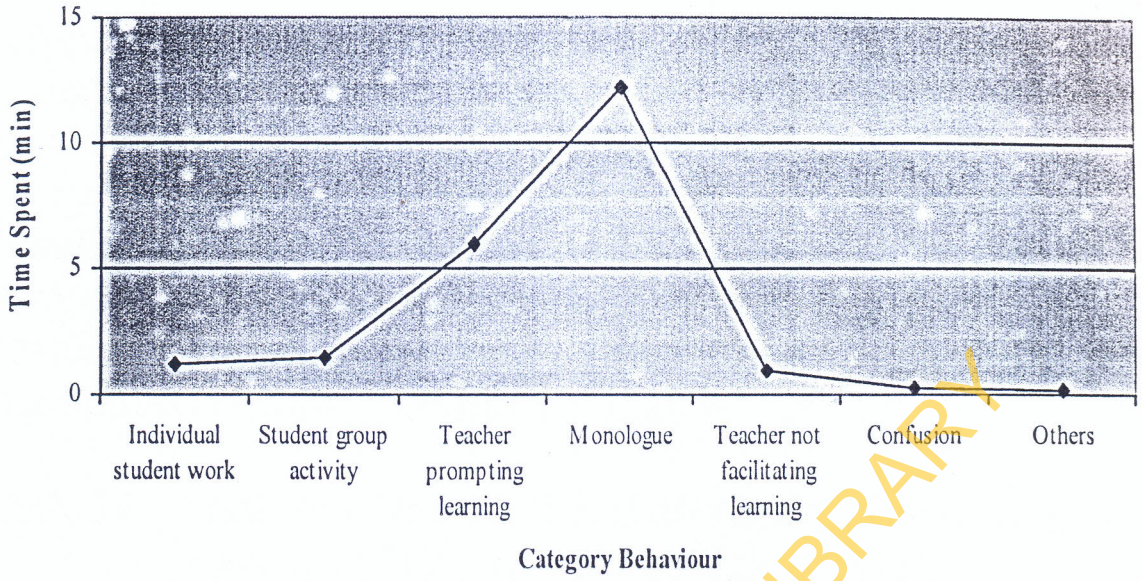


Figure 17(b): Time Spent by SS 3 Teachers on Class Interaction

Table 18: Analysis of Interaction Pattern of SS3 Geography Teachers (Time Extent) by Location

Behaviour	Rural				Urban						
	N	Freq	Mean	SD	N	Freq	Mean	SD	t	df	Sig
Individual student work	23	89	3.87	4.00	30	182	6.40	5.84	1.98	51	0.041*
Student group activity	23	82	3.57	7.48	30	268	9.60	18.67	1.46	51	0.150^{NS}
Teacher prompting learning	23	502	21.83	15.3	30	746	24.87	13.29	0.77	51	0.444^{NS}
Monologue	23	1231	53.52	21.90	30	1382	46.07	20.25	1.28	51	0.206^{NS}
Teacher not facilitating learning	23	103	4.48	8.33	30	115	3.83	5.95	0.33	51	0.744^{NS}
Confusion	23	21	0.91	1.41	30	59	1.97	4.01	1.20	51	0.235^{NS}
Others	23	19	0.83	1.97	30	48	1.53	2.13	1.24	51	0.221^{NS}

* = Significant at $p < 0.05$
NS = Not significant at $p < 0.05$

Table 18 shows that there is significant difference in 'individual student work' in terms of classroom behaviour by school location ($t = 0.041$, $df = 51$, $p < 0.05$), Mean = 3.87; SD = 4.00 for rural and Mean = 6.40; SD = 5.4 for urban location. Results also reveal that there is no significant difference in other classroom behaviours such as 'student group activity', 'teacher prompting learning', 'monologue', 'teacher not facilitating learning', 'confusion' and 'others'.

Table 19: Analysis of Interaction Pattern of SS3 Geography Teachers (Time Extent) by School Type

Behaviour	Private				Public						
	N	Freq	Mean	SD	N	Freq	Mean	SD	t	df	Sig
Individual student work	13	72	5.54	5.58	40	208	5.23	5.20	0.19	51	0.85^{NS}
Student group activity	13	77	5.92	6.41	40	293	7.33	17.02	0.29	51	0.77^{NS}
Teacher prompting learning	13	336	25.85	18.27	40	912	22.80	12.74	0.67	51	0.51^{NS}
Monologue	13	641	49.31	24.15	40	1972	49.30	20.74	0.01	51	0.99^{NS}
Teacher not facilitating learning	13	46	3.54	7.03	40	172	4.30	7.09	0.34	51	0.73^{NS}
Confusion	13	34	2.62	5.42	40	46	1.15	1.97	1.46	51	0.15^{NS}
Others	13	16	2.3	1.64	40	49	1.23	2.21	1.01	51	0.99^{NS}

NS =Not significant at $p < 0.05$

Table 19 presents the t-test analysis of interaction pattern of SS3 Geography teachers in terms of time extent by school type (i.e. private or public). The table shows that there is no significant difference in 'individual student work', 'student group activity', 'teacher prompting learning', 'monologue', 'teacher not facilitating learning', 'confusion' and 'others' in terms of school type in these classes.

Table 20: Analysis of Interaction Pattern of SS3 Geography Teacher (Time Extent) by Class Size Science Classes

Behaviour	Class Size 30 & below				Class Size Above 30						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	27	150	5.56	5.83	26	131	5.04	4.65	0.36	51	0.723 NS
Student group activity	27	171	6.33	8.67	26	199	7.65	19.83	0.32	51	0.753 NS
Teacher prompting learning	27	539	19.96	12.37	26	709	27.27	15.15	1.93	51	0.051 NS
Monologue	27	1411	52.26	21.22	26	1202	46.23	20.97	1.04	51	0.303 NS
Teacher not facilitating learning	27	126	4.67	8.43	26	92	3.54	5.26	0.58	51	0.563 NS
Confusion	27	43	1. 59	3.94	26	37	1.42	2.19	0.19	51	0.848 NS
Others	27	37	1.37	2.24	26	28	1.08	1.92	0.51	51	0.011 NS

NS = Not significant at $p < 0.05$

Table 20 presents the t-test analysis of interaction pattern of SS3 geography teachers in terms of time extent by class size in science classes. It shows that there is no significant difference in all the behaviours in terms of class size in science classes.

Table 21: Analysis of Interaction Pattern of SS3 Geography Teachers (Time Extent) by Class Size in Commercial Classes

Behaviour	Class Size 30 & below				Class Size Above 30						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Individual student work	35	212	6.06	5.66	18	69	3.83	4.05	1.48	51	0.145^{NS}
Student group activity	35	248	7.09	8.99	18	122	6.78	23.08	0.07	51	0.945^{NS}
Teacher prompting learning	35	862	24.63	14.11	18	386	21.44	14.42	0.77	51	0.443^{NS}
Monologue	35	1655	47.29	20.17	18	958	53.22	22.92	0.97	51	0.337^{NS}
Teacher not facilitating learning	35	167	4.77	7.09	18	51	2.83	6.88	0.95	51	0.346^{NS}
Confusion	35	64	1. 83	3.47	18	16	0.89	2.49	1.02	51	0.313^{NS}
Others	35	55	1.57	2.37	18	10	0.56	1.10	2.13	51	0.038*

* = Significant at $p < 0.05$
NS = Not significant at $p < 0.05$

Table 21 presents the t-test analysis of interaction pattern of SS3 geography teachers in terms of time extent by class size in commercial classes. It shows that there is significant difference in "others" ($t = 0.03$, $df = 51$, $p < 0.05$). It further reveals that there are no significant difference in other class behaviours such as 'individual student work', 'student group activity', 'teacher prompting learning', 'monologue', 'teacher not facilitating learning' and 'confusion' in these classes.

Table 22: Analysis of Interaction Pattern of SS3 Geography Teachers (Time Extent) by Class Size in Arts Classes

Behaviour	Class Size 30 & below				Class Size Above 30						
	N	Freq	Mean	S.D	N	Freq	Mean	S.D	t	df	Sig
Individual student work	29	149	5.14	5.82	24	132	5.50	4.55	0.25	51	0.805^{NS}
Student group activity	29	278	9.59	19.08	24	92	3.83	7.18	1.40	51	0.169^{NS}
Teacher prompting learning	29	667	23.00	14.24	24	581	24.20	14.34	0.31	51	0.760^{NS}
Monologue	29	1334	46.00	20.85	24	1279	53.29	21.17	1.26	51	0.214^{NS}
Teacher not facilitating learning	29	130	4.48	8.17	24	88	3.67	5.45	0.42	51	0.678^{NS}
Confusion	29	47	1.62	3.77	24	33	1.38	2.36	0.28	51	0.782^{NS}
Others	29	41	1.41	2.16	24	24	1.00	1.98	0.72	51	0.475^{NS}

NS – Not significant at $p<0.05$

Table 22 presents the t-test analysis of interaction pattern of SS3 geography teachers in terms of time extent by class size in Art classes. It shows that there is no significant difference in all other class behaviours in these classes.

Table 23: Analysis of Interaction Pattern of SS3 Geography Teachers (Time Extent) by Level of Understanding of Geography Objectives

Behaviour	High				Low						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	19	137	7.21	5.64	34	144	4.76	4.24	2.04	51	0.05*
Student group activity	19	141	7.42	9.56	34	229	17.55	6.74	0.16	51	0.88^{NS}
Teacher prompting learning	19	480	24.21	13.06	34	788	14.91	23.18	0.25	51	0.80^{NS}
Monologue	19	915	48.16	23.35	34	1688	20.10	49.94	0.29	51	0.77^{NS}
Teacher not facilitating learning	19	99	5.21	8.48	34	119	6.11	3.50	0.85	51	0.40^{NS}
Confusion	19	48	2.52	4.51	34	32	1.97	0.94	2.78	51	0.02*
Others	19	18	0.95	1.58	34	47	2.31	1.38	0.73	51	0.47^{NS}

* = Significant at $p < 0.05$
NS = Not significant at $p < 0.0$

Table 23 presents the t-test analysis of interaction pattern of SS3 geography teachers (Time Extent) in terms of their level of understanding of geography objectives. Result shows that there is significant difference in 'individual student work' ($t = 0.04$, $df = 51$; $p < 0.05$), and 'confusion' ($t = 0.02$, $df = 51$; $p < 0.05$). in terms of level of teachers' understanding of geography objectives. Table 23 also shows that there is no significant difference in other behaviours: 'student group activity', 'teacher prompting learning', 'monologue', 'teacher not facilitating learning' and 'others'.

11 Senior Secondary Class Two (SS2) Teachers' Interaction Pattern: Time Extent

Introduction

This chapter presents the result of SS2 teachers classroom interaction patterns in terms of time extent as well as the influence of location, class size, school types and teachers' understanding of geography objectives on the interaction patterns.

Table 24: Observed General Trend of Interaction Pattern of SS2 Geography Teachers in terms of Time Extent

Behaviour	Freq.	%	Time Spent (min)
Individual student work	113	6.2	1.24
Student group activity	185	10.1	2.02
Teacher prompting learning	479	26.2	5.24
Monologue	902	49.3	10.00
Teacher not facilitating learning	102	5.6	1.12
Confusion	37	2.0	0.40
Others	11	0.6	0.12
Total	**1,829**	**100**	**20mins**

Table 24 and Figure 24(a) show the general interaction classroom patterns of SS2 geography teachers' interaction 'Monologue' was 902 (49.3%), 'teacher prompting learning' 479 (26.2%), 'student group activity' 185 (10.1%), 'individual student work' 113 (6.2%), 'teacher not facilitating learning' 102 (5.6%), 'Confusion' 37 (2.0%) and 'others' 11(0.6%).

In SS2 classrooms, time spent by the teachers as presented in Table 24 and Figure 24(b), showed that 'monologue' with (10mins) took up the greater part of class time, followed by 'teacher prompting learning' (5mins, 24secs). 'Student group activity' and 'individual student activity' constituted (2mins, 2secs) and (1min., 24secs) respectively. Other activities that are made up of 'teacher not facilitating learning', 'confusion and others', took small segments of the total class time.

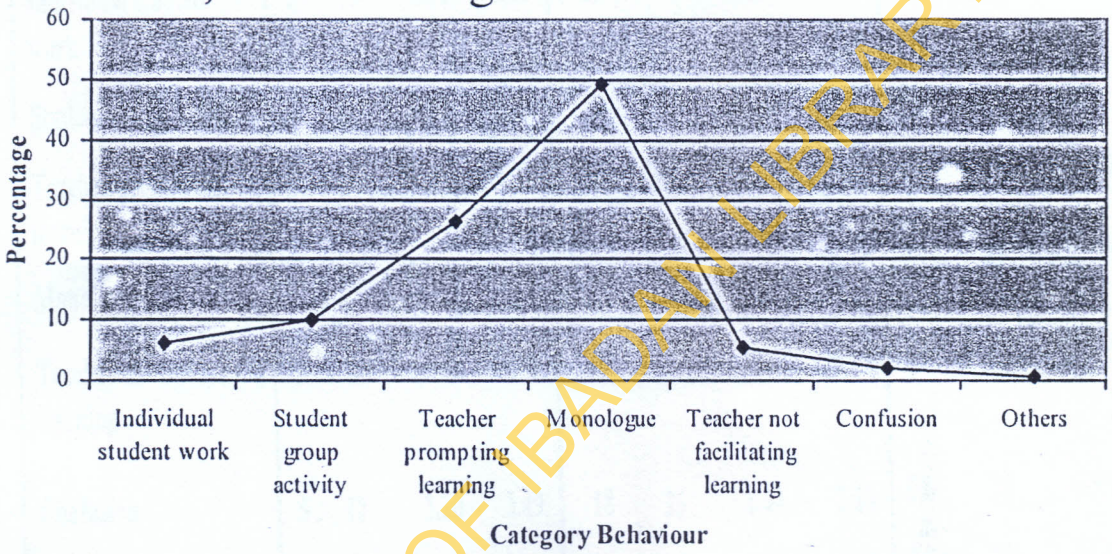


Fig 24(a): Observed General Trend of Interaction Pattern of SS 2 Geography Teachers on CIS

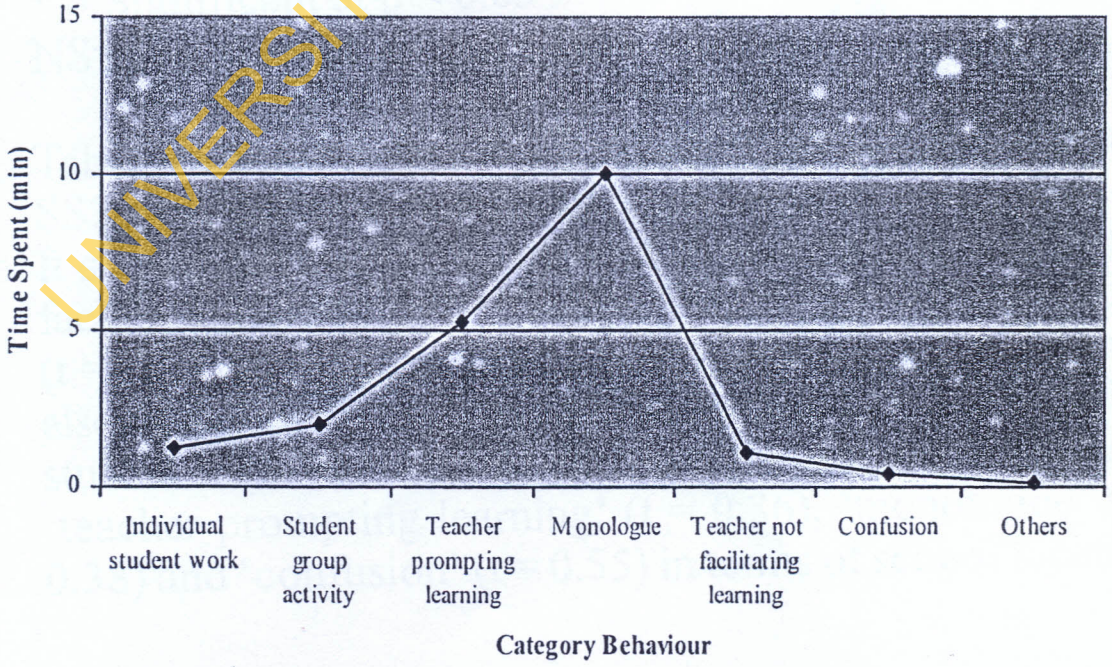


Figure 24(b): Time Spent by SS 2 Teachers on Class Interaction

Table 25: Analysis of Interaction Pattern of SS 2 Geography Teachers (Time Extent) by Location

Behaviour	Rural				Urban						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	5	9	1.80	2.68	18	104	5.78	6.61	1.30	21	0.208 NS
Student group activity	5	64	12.80	13.25	18	121	6.72	6.88	1.42	21	0.171 NS
Teacher prompting learning	5	86	17.20	11.34	18	393	21.83	9.39	0.94	21	0.360 NS
Monologue	5	166	33.20	15.02	18	736	40.89	17.31	0.90	21	0.378 NS
Teacher not facilitating learning	5	65	13.00	17.15	18	37	2.06	5.29	2.44	21	0.024*
Confusion	5	11	2.20	3.49	18	26	1.44	2.15	0.61	21	0.550 NS
Others	5	1	1.40	1.34	18	4	0.22	0.65	2.82	21	0.010*

* = Significant at $p < 0.05$
NS= Not significant at $p < 0.05$

Table 25 presents the t-test analysis of interaction pattern of SS2 geography teachers in terms of time extent by location. It shows that there is significant difference in 'teacher not facilitating learning' ($t = 0.024$, $df = 51$; $p < 0.05$) and 'others' ($t = 0.01$, $df = 51$; $p < 0.05$) in terms of school location. It also shows that there is no significant difference in 'individual student work' ($t = 0.21$), 'student group activity' ($t = 0.17$), 'teacher prompting learning' ($t = 0.36$), 'monologue' ($t = 0.38$) and 'confusion' ($t = 0.55$) in terms of school location.

Table 26: Analysis of Interaction Pattern of SS 2 Geography Teachers (Time Extent) by School Type (Private or Public)

Behaviour	Private				Public						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	9	64	7.11	8.87	14	49	3.50	3.20	1.40	21	0.175^{NS}
Student group activity	9	84	9.33	8.06	14	101	7.21	9.23	0.56	21	0.579^{NS}
Teacher prompting learning	9	197	21.89	12.31	14	282	20.14	8.17	0.41	21	0.686^{NS}
Monologue	9	360	40.00	15.57	14	542	38.71	18.14	0.18	21	0.863^{NS}
Teacher not facilitating learning	9	13	1.44	2.35	14	89	6.36	12.23	1.18	21	0.250^{NS}
Confusion	9	18	2.00	2.65	14	19	1.36	2.34	0.61	21	0.548^{NS}
Others	9	2	0.22	0.67	14	9	0.64	1.08	1.04	21	0.310^{NS}

NS = Not significant at $p<0.05$

Table 26 presents the t-test analysis of interaction pattern of SS2 geography teachers (Time Extent) by school type. It shows that there is no significant difference in 'individual student work', 'student group activity', 'teacher prompting learning', 'monologue', 'teacher not facilitating learning', 'confusion' and 'others' in terms of school type.

Table 27: Analysis of Teaching Behaviour of SS 2 Geography Teachers (Time Extent) by Class Size (Science)

Behaviours	Class Size 30 below				Class Size Above 30						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	12	42	3.50	3.48	11	71	6.45	8.07	1.15	21	0.260^{NS}
Student group activity	12	79	6.58	9.69	11	106	9.64	7.51	0.84	21	0.411^{NS}
Teacher prompting learning	12	261	21.75	10.23	11	218	19.82	9.62	0.47	21	0.646^{NS}
Monologue	12	492	41.00	19.20	11	410	37.27	14.47	0.52	21	0.607^{NS}
Teacher not facilitating learning	12	89	7.42	12.96	11	13	1.18	2.18	1.57	21	0.131^{NS}
Confusion	12	21	1.75	3.08	11	16	1.45	1.57	0.286	21	0.778^{NS}
Others	12	9	0.75	1.14	11	2	0.18	0.60	1.48	21	0.155^{NS}

NS =Not significant at $p < 0.05$

Table 27 presents the t-test analysis of interaction pattern of SS 2 geography teachers in terms of time extent by class size in science classes. Result shows that there is no significant difference in all the behaviours in terms of class size in science classes.

Table 28: T-Test Analysis of Interaction Pattern of SS 2 Geography Teachers (Time Extent) by Class Size (Commercial)

Behaviour	Class Size 30 & below				Class Size Above 30						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	14	88	6.295	7.22	9	25	2.78	3.35	1.36	21	0.189^{NS}
Student group activity	14	143	10.21	9.70	9	42	4.61	5.70	1.54	21	0.137^{NS}
Teacher prompting learning	14	304	21.71	10.92	9	175	19.44	8.06	0.54	21	0.598^{NS}
Monologue	14	515	36.78	14.55	9	387	43.00	20.20	0.86	21	0.400^{NS}
Teacher not facilitating learning	14	58	4.14	10.24	9	44	4.89	9.70	0. 17	21	0.864^{NS}
Confusion	14	18	1.29	2.30	9	19	2.11	2.67	0.79	21	0.439^{NS}
Others	14	5	0.35	0.93	9	6	0.67	1.00	1.76	21	0.457^{NS}

NS = Not significant at P< 0.05

Table 28 presents the t-test analysis of interaction pattern of SS2 geography teachers in terms of time extent by class size in commercial classes. Result shows that there is no significant difference in all the behaviours according to class size in commercial classes.

Table 29: T-Test Analysis of Interaction Pattern of SS 2 Geography Teachers (Time Extent) by Class Size (Arts)

Behaviour	Class Size 30 & below				Class Size Above 30						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	9	54	6.00	8.37	14	59	4.21	4.44	0.67	21	0.510^{NS}
Student group activity	9	94	10.44	11.29	14	91	6.50	6.49	1.07	21	0.297^{NS}
Teacher prompting learning	9	184	20.44	8.71	14	295	21.07	10.70	0.15	21	0.885^{NS}
Monologue	9	359	39.89	21.23	14	543	38.79	14.18	0.15	21	0.882^{NS}
Teacher not facilitating learning	9	74	8.22	13.53	14	28	2.00	5.83	1.53	21	0.141^{NS}
Confusion	9	16	1.78	2.73	14	21	1.50	2.31	0.26	21	0.796^{NS}
Others	9	3	0.33	1.00	14	8	0.57	0.94	0.58	21	0.568^{NS}

NS = Not significant at $P < 0.05$

Table 29 presents the t-test analysis of interaction pattern of SS2 geography teachers in terms of time extent by class size in arts classes. Result shows that there is no significant difference in all the teacher behaviours in terms of class size in arts classes.

Table 30: T-Test Analysis of Interaction Pattern of SS2 Geography Teachers by Level of Teacher Understanding of Geography Objectives

Behaviour	Low				High						
	N	Freq	Mean	S.D	N	Freq	Mean	SD	t	df	Sig
Individual student work	10	29	2.90	3.81	13	64	6.46	7.25	1.41	21	0.174^{NS}
Student group activity	10	15	5.00	5.72	13	135	10.38	9.98	1.52	21	0.143^{NS}
Teacher prompting learning	10	180	18.70	10.17	13	292	22.46	9.52	0.91	21	0.372^{NS}
Monologue	10	423	42.30	13.37	13	479	36.85	19.26	0.76	21	0.454^{NS}
Teacher not facilitating learning	10	25	2.50	6.88	13	77	5.92	11.64	1.82	21	0.420^{NS}
Confusion	10	17	1.70	2.67	13	20	1.54	2.33	0.16	21	0.878^{NS}
Others	10	4	0.40	0.84	13	7	0.54	1.05	0.34	21	0.737^{NS}

NS = Not significant at $P < 0.05$

Table 30 presents the t-test analysis of interaction pattern of SS2 geography teachers in terms of time extent by level of understanding of geography objectives. Result shows that there is no significant difference in all the teacher behaviours in terms of teacher's level of understanding of geography objectives.

Section Four

Quality Assurance in Teaching and Learning Geography in Nigeria

12 Episodic Analysis of Senior Secondary School Three Geography Teachers by States

Introduction

Quality teaching involves a whole gamut of factors and it would mean applying learner-centred, skill-based approaches and other categories of instructional media to promote learning in all students without an exception. In addition, the teachers' quality in terms of qualification, pedagogical skills, adequate offering of relevant courses (extent of subject knowledge), adequacy of internship and relevant experiences, motivation (drive to achieve) among others are essential factors to achieving quality.

The quality of the geography teachers teaching behavours were explained in episodic analysis or what can also be called sequence analysis. This was done at state level. At the SS three level, two scenarios were observed and analysed per state while one was analysed at the SS two level. With the two scenarios analysed at the SS three level, attempts were made to present where possible, one 'good' or (ideal) and one 'poor' (not ideal) teaching scenerios.

In a few states, it was impossible to identify bad/poor (not ideal) or good (ideal) cases. At the end of each episodic reporting, a summary of analysis of the features of the lesson was presented indicating the overall performance of each teacher.

Abuja

In Abuja, one of the teachers observed (a male) proceeded from lecturing to asking a higher order question directed at the class but went into a period of silence. Rather than use prompts and other techniques to make the students learn he went ahead to provide the answer laying emphasis on the response and then asked the class to recite the answer after him. The teacher then went on teaching using examples for some time, then asked another higher order question directed at the class to which they responded correctly and teacher acknowledged response as correct. The lesson continued with the teacher giving examples then asked another higher order question laying emphasis on the question while the class kept silent. He probed them further until they provided the required response. Though, he did not acknowledge the correctness of their response, he went on teaching and later asked another higher order question, which was answered by a student and the teacher acknowledged and continued with teaching.

In another scenario, the teacher asked a higher order question in the course of teaching, to which the class responded correctly. This teacher acknowledged, repeated the response and went on with the teaching. Shortly after, he asked another higher order question and the students were silent, then the teacher gave the answer laying some emphasis on this to enable them remember next time, and he continued to teach. The teaching of the lesson and the use of examples continued for a fairly long period of time, before a higher order question was asked again. The class gave the correct response which the teacher repeated and he then continued with the teaching. This was followed closely with another higher order question, a response and teacher repetition of the answer.

Analysis of Findings

The two lessons observed and reported here are characterised with these features:

- regular use of examples;
- questions (mainly higher order) were asked;
- teaching behaviours were more methodological with proper understanding of pedagogical skills;
- students were carried along, encouraged and participation was fairly high;
- though lecture method was used for a fairly long period of time, students' participation was never over looked;
- this pattern was common in the schools observed in the Capital Territory; and
- learning materials were, however, not used extensively.

Akwa-Ibom

Scenarios from two schools were also presented from this State. In one of the schools in the State, the geography teacher's teaching behaviour shows the following episodes. Using the lecture method, the teacher passed on information to the students using examples, then asked a recall question directed at a student who answered the question and the teacher repeated the answer and asked for the effectiveness of instruction. As teaching continued, with the teacher still giving examples, he asked a higher order question which was answered by a student while the teacher asked for effectiveness of the teaching and proceeded to teach giving examples.

In another school, the teacher during the course of teaching asked a higher order question to which a student responded followed by a recall question that was directed to the student again who then gave an extended response.

The teacher continued with the teaching and asked a recall question which was answered by a student but this was discontenounced by the teacher who continued teaching without giving attention to the student's response.

Analysis of Findings

These lessons are characterised by the following features:

- short use of the lecture method to pass on information to students;
- use of higher order and recall questions to engage students in the lesson;
- adequate examples were used even though learning materials were conspicuously absent;
- the short teacher teaching behaviours recorded in this state seem to indicate that less time was spent on task out of the 10minutes the TMI instrument was used; and
- the observed episodes seem to be the pattern in all the schools observed in the State.

Edo State

In the first scenario, the geography teacher (a female) tended to maintain a fairly good teaching behaviour pattern expected of a good teacher but could not follow through to the end. The teacher proceeded from a brief lecture/exposition to asking opinion questions directed at a student which was responded to. The teacher acknowledged the response and proceeded to teach using materials. Along the line, individual students made students initiated talk without the teacher noticing or was it a deliberate refusal to notice the students? Teacher went on with the lesson, then asked another opinion question which she redirected to the class, who gave a chorus answer. She was not probably satisfied with the answer so

did not acknowledge the response but went on teaching. Shortly after, she redirected the question to another student who responded to the question and the teacher again went on teaching without any feedback.

In the second scenario, the geography teacher started teaching by using examples, then asked a recall question that was directed at a student who responded. The teacher redirected the question to another student without any feedback to the first student or class. The student then answered the question, and teacher said student was wrong and went on to give the answer without providing further information on why the response was wrong. In each of the instances, the teacher failed to prompt, give cues, probe the students with other questions that could lead to thinking and can elicit the required response. Next, this teacher went on teaching, asked an opinion question directed at a student who gave a fairly long response, the teacher continued teaching without providing appropriate feedback to the student or class.

Analysis of Findings

In the two scenarios presented, the lessons are characterised by:

- short use of the lecture method to provide information to students;
- use of questions (opinion and recall) which were fairly distributed across students;
- there was serious problem of pedagogic mastery. For instance, examples and learning materials were scarcely used and seems to be the case in all the schools observed in the State;
- students were hardly prod to provide correct responses nor were they encouraged through praise or other

- long/extended use of lecture method;
- higher order and recall questions were used in the delivery of instruction;
- learning materials and examples were used to some extent;
- probing was fairly used while silence was observed;
- teachers used pedagogical procedures fairly well; and
- this pattern was common in most of the schools observed in the State.

Kaduna State

In the first scenario in this State, the geography teacher in one of the schools observed, proceeded from providing information to asking a recall question directed at the class who gave chorus response. The teacher acknowledged the response and asked for the effectiveness of that understanding. He then continued to teach using examples, and asked a higher order question directed at the class to which a student provided a response and the teacher replied 'wrong'. He did not stop at that, but probed the student further until he was able to provide the needed response and the teacher acknowledged the correctness of the response. As the teaching progressed, the teacher asked an opinion question directed at the class who gave a chorus response. This, the teacher acknowledged and continued to teach.

In another scenario, a male geography teacher that was observed started his teaching and proceeded to ask a higher order question directed at the class, a student answered the question and the teacher responded and said 'wrong' and went ahead to provide the answer and also asked for the effectiveness of the response he gave. The teacher taught for a while, again using some form of learning materials

then, asked another higher order question to which a student responded and was acknowledged as correct with some emphasis. As teaching progressed, the teacher asked an opinion question directed at the group and they gave some chorus answers. This was ignored by the teacher who continued to teach with examples and using some materials. He later asked another higher order question to which a student answered and was acknowledged by the teacher to be correct with some emphasis and he went on teaching using examples.

Analysis of Findings

The two scenarios are characterised by these features:

- use of questions (opinion and higher order questions), these were directed at the whole class;
- lecture was used to provide brief information at intervals;
- learning materials were used for better comprehension in the second instance and not in the first, though both teachers used examples to drive home the points being made;
- the teachers tended to exhibit good teaching behaviour by using probing questions to make students learn;
- there was, however, poor class management exhibited by frequent chorus answers from students; and
- this pattern seems to pervade the classrooms observed in the State.

Kebbi State

The first scenario in Kebbi state showed that in one of the observed schools, the geography teacher used the lecture method all through the duration of the ten minutes the TMI was used, there was no interaction between this teacher, students and materials.

The second scenario tended to be much better than the first. The teacher in this school used the lecture method for fairly long period of time using examples. Then he asked a higher order question directed at the whole class, to which a student responded and the answer was repeated by the teacher. The teacher continued to teach and using examples intermittently for a very long time, then carried out a procedure and asked a higher order question to which a student responded and the teacher continued teaching without paying attention to the response given. He asked another higher order question directed to a student which was answered.

Analysis of Findings

In the two scenarios presented, the following are the characteristics of the lesson:

- the teacher took the central stage without the participation of the students in the first scenario while the second was much better;
- though the lecture method was used to a large extent in the second scenario, there was an increased uncoordinated teacher-students interaction than the first;
- higher order questions were asked even though not followed through but examples were provided several times; and
- this manner of classroom behaviour seem to pervade the schools visited in the State.

Kwara State

In the first scenario in Kwara State, the geography teacher gave a directive, a probe and a higher order question in that order to a student. The student responded 'I do not know" and the teacher said wrong and gave the correct answer.

Thereafter, the teacher continued to teach using examples, then asked a recall question directed at the class which a student responded to and the teacher acknowledged as being correct and repeated the answer. The teacher also asked for effectiveness of his teaching to which the students chorused a positive response and the teaching continued with the teacher using examples and learning materials. Next, the teacher asked a recall question directed at the whole class, probed further when they did not respond, and they gave the correct response to which the teacher acknowledged as correct, repeated the answer and sought for effectiveness of teaching. The teacher asked another recall question, a student responded and the teacher gave the answer and the student responded by repeating the teacher's answer.

In the second scenario, the male geography teacher observed asked a higher order question in the course of teaching, the teacher probed further and directed the question to a student who responded and the teacher, rather than probe, prompt and encourage the student to elicit the correct response gave the answer and the student and the class in turn repeated the answer. As the teacher continued to teach, he asked an opinion question directed at the class, redirected the question to a student when the whole class could not provide the answer. Rather than wait for the student to answer the question, he went ahead and continued teaching.

Analysis of Findings

Analyses of the two scenarios show the following as the characteristics of the lessons.

- short use of the lecture method to provide information on the topics being taught;
- recall, higher order and opinion questions were used to drive home the information being imparted;

- probes were used but most times teacher did not wait for students to respond, but was in a hurry to end the lesson than allow students to learn, so gave the answers and made them chorus these;
- learning materials were sparsely used but examples were frequently provided;
- students' responses were not promptly motivated; and
- class management was poor and so was teachers mastery of pedagogy.

Ogun State

Two scenarios of geography teaching in this State show that the following are the episodic teaching features. In one of the schools where the geography teacher was observed, the teacher proceeded to ask a recall question during the course of teaching which was directed at a student, the student responded correctly and was acknowledged by the teacher who went ahead to teach without carrying the students along.

In another scenario, the teacher proceeded from teaching with learning materials to asking an opinion question to which a student responded correctly and was acknowledged as being correct by the teacher. The teacher continued with the lesson using learning materials, then gave a directive and continued teaching, asked another opinion question which was answered by a student and was acknowledged to be correct by the teacher. As the teaching continued, she asked a recall question which was responded to and was acknowledged to be correct and the lesson continued with the teacher using some learning materials.

Analysis of Findings

The features of these two episodic reports of observed teaching are as follows:

- lecture method was used in short duration to pass information;
- recall and opinion questions were mostly used to elicit students' knowledge;
- the teacher in the second scenario seems to have fairly good pedagogic skills, than the first though the time on task observed in these two classrooms tended to be short;
- learning materials and examples were used to make lessons effective; and
- short duration of the learning time observed tended to pervade all other schools visited in this State.

Oyo State

In one of the schools visited in this State, the geography teacher embarked on teaching using the lecture method for a greater part of the lesson, then asked a higher order question directed at the class. The answer was provided by a student and the teacher went on teaching oblivious of the response provided by the student, then asked another higher order question again which was answered by another student.

In the second scenario, the female geography teacher observed lectured. She gave a directive and provided a cue, then asked a higher order question in that order. The answer to the question was provided by a student and the teacher showed no interest in the student's response, and continued teaching giving examples. This she did for a fairly long time and then asked another higher order question directed at another student who said 'I do not know' the teacher was too much in a hurry to finish the lesson than allowing students

learn, so she decided to give the answer and went on teaching using examples.

Analysis of Findings

These two teachers have some characteristics in common, they are listed as follows:

- the lecture method was solely used for a very long period of time;
- few questions were asked even though they were higher order questions but the teachers paid no particular attention to the students' reactions to them;
- examples and learning materials were used intermittently in the lesson;
- the teachers generally depicted poor understanding of proper pedagogic skills; and
- pattern of teaching seemed to be the trend among the teachers' sampled in the State.

Plateau State

In this State, the observation of a geography teacher in one of the schools revealed that he maintained just a fair teaching behaviour. During the course of teaching, the teacher asked a recall question directed at a student. The student was silent and later replied 'I do not know'! Rather than apply necessary learning procedures to enable student elicit expected response, the question was redirected to another student who gave a correct reply and was acknowledged as correct. The teacher continued teaching using examples and learning materials, then asked a higher order question which a student answered and the teacher repeated the answer with some element of emphasis without any feedback or any encouraging word. The teacher then gave a directive and went into a period of silence.

In the second scene, the geography teacher, taught with learning materials, carried out a procedure like cleaning the blackboard and then asked a higher order question directed at a student who was silent, apparently because he/she did not know the answer and later replied 'I do not know'. Like the first teacher, the question was redirected to another student without any delay. The student answered correctly to the admiration of the teacher who spent some time acknowledging the student's response with emphasis. The lesson progressed with the teacher using examples and learning materials. Then there was silence followed by a directive given to a student.

Analysis of Findings

The two teachers in the two scenarios have everything in common. The characteristics of the lessons are:

- short use of the lecture methods to pass information across to students;
- use of examples and learning materials;
- prompts and cues were not used to students' advantage;
- use of questioning method, recall and higher order questions to create and enhance thinking abilities of the students;
- Sudden silence was observed from the teachers during the course of the lesson shortly before carrying out a procedure or before a student answered a question.
- Teaching behaviours of the type of the first scenario seem to pervade the schools observed in the State.

Yobe State

The scenario in one of the geography classroom in this State shows that during the course of teaching the teacher asked a recall question directed at the class and the students chorused the answer, another recall question that followed

was equally chorused by the class and the teacher acknowledged the correctness of these responses. He then asked a higher order question which was directed at a student. This was answered, and followed by another higher order question which was answered and the teacher repeated the answer and went ahead to continue teaching instead of re-inforcing the student's responses. As the teacher kept teaching with materials he gave a directive to a student who was silent for a while and the teacher asked a higher order question which was responded to and the teacher said 'wrong' and gave the answer instead of prompting and probing further to elicit the correct response.

In another school, as the lesson development went on, the teacher asked a recall question directed at the class and a chorus answer was provided. Thereafter, the teacher gave a directive to a student which was carried out and he went on teaching using learning materials and giving examples for quite sometime and a higher order question was directed at the class which was answered and the teacher acknowledged as correct. This was followed with a recall question which was answered by a student and the correctness was acknowledged by the teacher.

Analysis of Findings

The characteristics of the two lessons are:

- the lecture method was used at short duration to pass information;
- teaching materials and examples were frequently used;
- recall and higher order questions were frequently used;
- student silence was observed before responding to higher order questions;
- teachers seemed to have a good knowledge of pedagogic skills; and
- this quality of lessons were observed to be the trend in the schools visited in the State.

13 Episodic Analysis of Senior Secondary School Two Geography Teachers by States

Introduction

In SS two classes, the episodic analysis was done in only one school per State. This was because there were fewer cases and the patterns did not detract markedly from what obtained in the SS three classes.

Akwa-Ibom

In one of the schools where the female geography teacher was observed, the teacher proceeded with her lesson using learning materials, she then asked a recall question directed at a student who responded and the teacher repeated the answer, continued to teach for sometime using examples to elaborate her points. Next, she asked a recall question which was answered by a student and she continued to teach again using examples without reinforcing or paying attention to the student's response. She asked another question which followed the same pattern like the earlier ones.

Analysis of Finding

Characteristics of this lesson are:

- short use of the lecture method;
- use of examples and learning materials;
- frequent use of recall questions only; and
- seem not to have very good grasp of pedagogical skills.

Enugu State

In this State, one of the teachers observed at this level a male, engaged the class in enough interaction. He asked a higher order question directed at the class and it was answered by a student and the correctness acknowledged by the teacher who also went ahead to repeat the response provided laying some amount of emphasis on this. He then continued with teaching, asked another question which the student could not answer and so kept silence, then he redirected it to the other student who also kept silence before redirecting it to two other students. The last student gave an extended response, which the teacher acknowledged to be wrong and then gave the answer laying some emphasis on his response. He further proceeded with the lesson, laying emphasis on some points he was passing across, then he asked the class to repeat what he had said, the class chorused the statements. At this point, the teacher started attending to a visitor who came into the class, returned to the class, and asked them to repeat the statement again and continued with the teaching using some learning materials and went into class management issues by punishing the whole class.

Analysis of Finding

The lesson is characterised by the following features:

- lecture method was put into short and frequent use to disseminate information;
- frequent use of recall and higher order questions to ensure full students' participation;
- use of examples and learning materials to focus the lesson;
- use of occasional prompts and conscious repetition to make students learn, even though it was not consistent; and
- generally maintained a good classroom behaviour pattern.

Ogun State

The teacher observed at this level in this State was present for a short duration. He proceeded from teaching to asking a recall question, which was directed at the class and the group made no attempt to answer it because they did not know the answer. The teacher made no attempt to pursue the issue beyond that point, he went ahead teaching but using examples and learning materials.

Analysis of Findings

The features of the lesson are listed below:

- short to moderate use of the lecture method;
- few use of question (only recall was asked);
- learning materials and examples were used;
- pedagogic skills seemed not to be put to full use; and
- lesson duration was very short.

Plateau State

The scenario presented is from one of the schools. The teacher, a female, asked a recall question during the course of the lesson and the class who apparently did not know the answer kept silent. The teacher provided the answer, went on teaching then she asked another recall question, the class was silent again but this time the teacher probed further. The class gave a response which was acknowledged to be correct by the teacher, repeated the response given and asked for the effectiveness of their understanding. The teacher then asked an opinion question, probed the student further who said 'I do not know', and the teacher redirected the question to another student who responded but the teacher said it was wrong and she provided the answer instead, and asked for the effectiveness of the lesson without the students

responding. As the lesson progressed with the teacher using examples to focus her point, she asked a higher order question which a student responded to and she acknowledged her response as being correct, repeated the answer and asked for the effectiveness of her teaching. She continued teaching and using examples then she asked a recall question, probed further and the student replied 'I do not know' but the teacher gave a verbal punishment instead of prompting and probing deeper into the student's cognitive knowledge. She then gave the answer, asked for effectiveness of instruction and continued to teach using examples then gave a directive which was carried out.

Analysis of Finding

The features of the lesson are:

- short and frequent use of the lecture method to pass information;
- frequent use of recall and higher order questions;
- frequent use of examples though learning materials were not used;
- use of occasional prompts and conscious repetition to make students learn; and
- seem to have good amount of pedagogical skills.

Section Five

Issues, Discussion and Summary

14 Teachers' Understanding of Secondary Geography Objectives in Nigeria

Objectives are set to attain the philosophy and educational goals of a nation. They also serve as a guide to what is learnt (curriculum), how it is to be learnt and the depth and scope, as well as the nature of assessment and evaluation to conduct.

Findings with respect to the geography teachers' understanding of secondary education objectives indicate that a greater proportion of the teachers over 70% of them have good understanding of these objectives. Statistics show that the few who probably claimed low or poor knowledge of these objectives were teachers who are not specialists in geography and constituted (6%) and (19%) of SS3 and SS2 geography teachers respectively. These teachers specialise in Government, Economics, Social Studies, Business Administration and Environmental Management.

Observations in this study with respect to the influence of teachers' understanding of secondary geography objectives and their pattern of classroom interaction indicate that this variable seems to influence the way these geography teachers teach at the secondary class two level where the teachers with high understanding of geography objectives (Mean = 3.003; SD= 6.24) had poor feedback mechanism than those with low understanding of geography objectives (Mean = 7.40; SD = 3.24). The study did not observe any significant difference in the teaching behaviours of senior secondary class three geography teachers, who had high understanding of geography objectives and those who did not.

The finding with respect to the effect of Senior Secondary School two teachers' understanding of geography objectives on their instructional pattern, has come as a surprise. This finding generates a number of questions which are: could it be that the teachers with low understanding of geography objectives possess better pedagogical skills than those who claimed they possessed high understanding of geography objectives? Or is this category of teachers those who say they are specialists in other subject areas but who by chance teach geography, better teachers than those who are geography specialists? This could not easily be answered in this study.

Understanding of geography objectives is an input to education. Objectives give direction to teaching- learning and to education generally. They serve as a guide or compass for gauging standards attainment. It is an irony that most of the geography teachers claim understanding of geography objectives, yet such understanding did not impact on their professional practices. It was those teachers who claimed to have low understanding of geography objectives that tended to exhibit better pedagogic skills by using feedback mechanism of information flow to an advantage in their professional practices. With all honesty, these teachers should be commended either for their display of ingenuity, commitment or love of teaching. There is no doubt that better understanding of geography objectives should lead to proper and comprehensive planning of content to be taught, choice of strategies or methods and materials to be applied and assessment methods to be adopted. The bottom line is that teachers generally (geography teachers inclusive) need to be committed to their work and there is a lot the government and the school management personnel should do to encourage and motivate teachers to work.

15 General Trend in Interaction Patterns of the Teachers in Secondary Class Two and Three in Nigeria

The Ten Minutes Interaction (TMI) observation instrument was used to capture teacher classroom behaviour within ten minutes duration out of the total of 30 minutes observation time period. Findings with regards to the general trend of SS three geography teachers' interaction patterns indicate that the teacher was the dominant initiator and actor in classroom interaction link. Thirty one percent (31%) of such initiated talks was to the class and 4.5% to individual students. Students made minimal amount of interaction (3.9%).

Also, explanation was the dominant activity (19.20%) that the teacher engaged in, use of learning materials was very poor and low (2.5%) and use of examples while teaching was 5.2% of the time. Use of high level questions constituted only 3.9%, and recall 6.8% , opinion 1.9%, students' initiated talk was very low 0.1%. Feedback of information from the teacher to students, acknowledgement of students responses, repetition and giving of answers were minimal – 2.7%, 1.2% and 1.2% respectively. Silence (mostly students silence) was observed to be high 6.8%. Also high was effectiveness of instruction or confirmation check 12%. Communications with persons outside the classroom (social) was low 1.3%, so were all other behaviour categories.

The general trend of the SS two teachers classroom behaviour seems to follow the same pattern as those of the SS three geography teachers. Teachers' initiation of interaction to the whole class constituted 32.3%, teacher to

individual student was 3.5%, class to teacher talk was 2.8% and individual student talk was 3.0%. Explanation under what was said or instruction was dominant 14.2% followed by giving of examples 6.5%. Use of teaching materials, probes, cues etc were low – 2.0%, 0.67% and 1.2% respectively. The use of high level questions and recall questions were moderately high 4.4% and 3.3% respectively. Under response, silence was high (6.0%), while students initiated talk was very low 0.4%. Giving of examples, acknowledging what was correctly said, repetition of answers and effectiveness of instruction in that order were high – 4.5%, 3.1%, 1.5% and 1.4% respectively. There were very low management problems probably because of the presence of an external person in the classes observed.

Findings in this study, are similar to those of Padron, Wasman, Brown and Powers (2000) who found that in an English Language classroom where the intent is to prove the classroom behavior of resilient and non-resilient students in a whole class instructional setting, the teacher dominate about 80% of the class time, small group and individualised tasks constituted 10% of class time while both resilient and non-resilient students interacted with the teacher for about 10% of the class time. Similarly, findings are not too different from those of Falaye (2007), Osokoya and Odinko (2005), Shittu (2006), Okwilagwe and Adetayo (2011) and Adetayo (2011).

It is obvious that many of the geography teachers observed in this study displayed poor pedagogical skills in their practice. What these findings further indicate is a total disconnect between theory and practice. This seems to be contrary to the training many of them may have received, considering the fact that between 95% and 98% of these teachers hold professional qualifications, the lowest being NCE. Besides, methodology courses are core courses in all teacher training institutions the world over. Darling-Hammond (1999; 2000) citing several studies including those of

Ashton and Croaker (1987); Everton, Hawley and Zlotnik (1985); Begle (1979); Ferguson and Womack (1993) which contradict observed findings in this study, indicated that knowledge of education course work, number of credits a teacher had on methods course, other teaching dimensions have consistently impacted stronger positive influence on teaching performance and student learning.

Perhaps, these geography teachers lack a lot of commitment and positive attitudes to work or may have been negatively influenced by the conditions of their work environment, since teaching takes place in the context of the school. Many factors of the school environment, some beyond the teachers' control affect their work. The Education Commission of the States (2001), reporting on the progress of education reform between 1999-2001, submitted that the nature of the daily work of teachers may have been altered by education policies reforms such as work ethic, the amount of decision-making they are allowed and the amount of support they receive from parents or school, class-size, standards and assessment. The environment has to be work friendly and teachers need adequate support from parents and the system to enable them perform to expectation. It is not enough to leave teachers with bare qualifications and the curriculum to implement. To corroborate the Education Commission for the states reports, Okwilagwe and Okunogbe (2009) reported that teachers' attitudes and behaviour to task performance are influenced by government policies illustrated through poor opportunity given to teachers to improve themselves beyond the monthly emolument they receive, while the school policy only permit them to determine student progress and not much freedom to take decision in matters affecting their jobs. Teachers also, need regular on the job or in-service training to update their

knowledge, it is only a teacher who is knowledgeable that can translate policies and theories into practice.

Poor pedagogic skills are expressed in poor instruction, low student participation, poor choice of teaching strategies, teacher dominance of the teaching-learning process among others. In the view of Darling-Hammond (1999; 2000), the degree of 'teachers' knowledge of pedagogical skills may interact with subject matter knowledge to bolster or reduce teachers' performance' (p.8). By implication, teachers with poor pedagogical skills and poor knowledge of subject matter are most likely to do poorly in teaching, while the reverse is the case.

16 Extent of Time Expended in the Teaching Behaviours of the Teachers

The Classroom Interaction Sheet (CIS) was used as a complement to the Ten Minutes Interaction (TMI) observation instrument. The observation made with the (CIS) is time bound as it enables the time expended by teachers on each behaviour to be measured every 3 seconds of the observation time. The instrument also permitted the researcher to identify the total amount of time expended on each important class activity such as explaining, student group work, individual student activity, questioning, response and so on.

Findings in respect of SS three geography teachers indicate that the teachers undertook some activities that prompted learning. For instance, explaining, writing on the board, asking questions took up 5 minutes of the total time allocated to the observation, monologue (that is teacher talking continuously without involving the students) an indication of teacher not facilitating learning, took 11 minutes; students group and individual activities took up a combined time of 2 minutes 30 seconds. Other activities that indicated that the teachers were not facilitating learning includes poor classroom management (confusion), took up 1minute and 32 seconds. At the senior secondary school class two level, the pattern of the teachers behaviours was not too different from those of the senior secondary school class three teachers. Teacher prompting learning took up 5 minutes 24 seconds, monologue 10minutes, student group and individual activities jointly accounted for 3 minutes 26 seconds while other activities relating to teacher not facilitating learning accounted for 2 minutes 4 seconds.

By implication, the teachers in the two classes spent more of class time in talking, meaning that the classes were dominated by the teacher. Little time was spent by the students participating in learning. This pattern of interaction resulted in lack of initiatives from the students who were more or less on-lookers. That about 6 minutes was spent by the teachers on activities that facilitated learning indicated that less time was spent on learning tasks while more of class time was spent on time-off-task in addition to attending to other persons and receiving phone calls. These findings tend to find support in previous studies such as those of Wilson (1999), Okwilagwe and Adetayo (2011) and Adetayo (2011).

Closely linked to proper practices of instruction is the ability of the teacher to apportion instructional time to every important class activity. Negligence of the teacher to do this important allocation may lead to lopsidedness in time spent between relevant and irrelevant classroom behaviours. The results obtained with the Ten Minutes Interaction (TMI) and Classroom Interaction Sheet (CIS) used as complementary data capturing instruments in this study tended to corroborate each other on important classroom teacher-student behaviours like the attention paid to facilitating activities that enhance learning, students' participation through initiated talk, individual and group activities, lecturing and other non-academic activities. Teacher-student interaction is important but student-teacher interaction is more important as the later develops in students ability to express their views and opinions, participate actively in class discussion, build bridges for inter-personal relations between and among their peers, develop confidence in their personal values and self-concept. It also, develops communicative ability in learners, especially when the language of instruction is foreign to them.

Consequently, the views of Berliner (1990) with respect to the importance of ALT should be given serious consideration and attention by teachers if they want their students academic achievement to improve.

17 Relational Report of Discriminating Variables

In this study, findings with respect to the relational effects of the variables on teachers' interaction patterns indicate that some were significant. With respect to type of school, instruction of public school teachers using the TMI instrument was significantly different from teachers in private schools. Senior Secondary School three geography teachers in private schools with Mean = 16.31, S.D = 11.85 were better in 'instruction' than those in public schools with Mean =12.28; S.D = 8.29. Significant difference was not observed in the other behaviour categories between these teachers. Also, no significant difference was observed between Senior Secondary School two geography teachers in terms of school type.

Findings with respect to class size, indicate that there is a significant difference in teacher behaviour category 'who to whom' (i.e. initiator of interaction) when the class size was small, between (1-30 students), Mean = 20.67; S.D = 10.99 and instruction when class size was small (1- 30 students) Mean = 15.63; S.D = 11.60 especially in Science classes. Feedback was significantly different in commercial classes when class size was large (more than 30 students) Mean = 4.28; S.D = 4.44, than when class size was small (1 -30 students) with Mean = 2.57; S. D = 2.43. However, class size was not significant in influencing any of the behaviours of Senior Secondary School three teachers in Art classes. The Senior Secondary School two teachers were not significantly different in their teaching behaviours irrespective of the number of students they taught.The

findings in this study tend to be in agreement with previous studies such as Mosteller (1995) and Education Commission of the United States (2001) which suggest that smaller class size give increased opportunities for teacher –individual student interaction. What was observed in Commercial classes than in Science classes tend to suggest that teachers talked more by passing information and not necessarily engaging the students in hands-on-tasks. Also, findings tend to support research reports by the World Bank (2004) that students tended to learn better in large classes in Japan and elsewhere in Asia depending on subject area of concentration.

With respect to location, findings seem to suggest that location does not seem to influence any difference in the teachers' classroom behaviour. Whether schools were located in the urban and rural areas, teaching behaviours were same. These findings are at variance with those of Okwilagwe and Samuel (2011) who found that social studies teachers in rural locations are more effective in the business of teaching than their urban counterparts. However, the findings are consistent with those of Orji (1998) where the urban location influenced teachers' performance than rural location.

Class size is an important input into education. The quality of inputs to a large extent, determine the influence of teacher performance in conjuction with or without the influence of other factors. Findings in this study support unarguably the two factions of debate on effect of small or large class size. The context of teaching and learning was found to determine to a great extent the overwhelming influence of this input variable on instruction and feedback behaviours of these geography teachers. Findings also suggest that the teachers bring their personality to bear on the influence of this variable on their professional practices.

Teachers who teach Commercial classes seem to put in a lot more efforts in managing their large classes to make much impact as teachers who manage small geography class sizes in the Science classes. These are unique findings in this work and stakeholders and school management personnel will have to consciously maximise teacher effect in the teaching of geography based on the existing peculiarities in their schools.

The observed dichotomy in instructional practices between private and public shools is not new. Public schools are known to have highly qualified teachers than those in private schools even though private schools tend to have better performance in externally conducted examinations, a factor linked to better and improved monitoring style of the management personnel in private schools (Okwilagwe, 2005). It is pertinent to ask why exactly are public schools in Nigeria performing poorly in spite of the seemingly adequate personnel at this level? What is being done elsewhere that is not being done in these schools?

The leadership and managerial accumen of school heads as well as the style of mangement are key to proper school improvement and students' achievement. Studies such as Anyanwu (2002) tend to coroborate this. Public school management personnel need to work relentlessly on their roles as school managers to achieve set goals and standards. In countries like the United States of America, school managers and their teachers who do not achieve set goals and standards through observable school improvement and students' achievement indices, are shown the way out and are immediately replaced Feamise (2003), in Risimati, (2007).

In view of the foregoing, there is need for school managers to adopt Total Quality Management (TQM) principles in ensuring that all persons linked to the school in any way (teachers, parents, schoolheads, heads of

departments and Ministry supervisory agents) work collaboratively to achieve excellence with minimal cost and optimal efficiency and effectiveness. They should develop sustainable plans for continuous improvement, applying TQM as a systemic change, imbibing and implementing its principles encapsulated in the '3Cs' that is, it should be costumer, culture and capacity oriented which are necessary for continuous improvement. According to Cotton (1990), the first C-customer, presupposes that total quality is ensured if every person in the production line (establishment) adds value to the product before it gets to the next stage, and ultimately to the customer's satisfaction. The second C-culture, explains that TQM is committed to a kind of organisational culture that is based on thrust and shared decision-making. The last C-capacity, is management based. Here, the leadership is quality conscious and seeks for ways to bring about change as well as instill and manage the change process to bring about a continuous achievement of purpose.

TQM is all about systemic change. It must pervade all aspects of the system and not only an aspect. The change process is engineered by the end users or customers. Using the Mt. Edgecumbe High School as an example of where Demmings (the father of TQM) fourteen points for quality in education have been successfully implemented, Cotton (1990) advanced the following modified points that school managers should take a cue from:

1. **Create and maintain a constancy of purpose toward improvement** of students and service; and aim to create the best quality students capable of entering and improving meaningful positions in society.
2. **Embrace the new philosophy.** Educational management must take up the challenge, learn their responsibilities, and take on leadership for change.

3. **Work to abolish grading and the harmful effects of rating people** and focus on the learning process.
4. **Cease dependence on testing** to achieve quality but providing learning experiences which create quality performance; learning experience that encourage creativity and experimentation.
5. **Work with the educational institutions from which students come** and minimise total cost of education by improving the relationship with student sources and helping to improve the quality of students coming into your system.
6. **Improve constantly and forever the system of student improvement and service** to improve quality and productivity in personal life and community.
7. **Institute continuous training on the job** for students, teachers, classified staff administration and for all people connected to the human organisation.
8. **Institute leadership** (supervision) by helping people use technology and materials to do a better job and set the pace, driving human creativity.
9. **Drive out fear**, so that everyone may work effectively for the school system and create an environment which encourages people to speak freely and take risks.
10. **Break down barriers between departments.** People in teaching, special education, accounting, food service, administration, curriculum development and research must work as a team. Also, develop strategies for increasing the cooperation among various groups and miximise time.

11. **Eliminate slogans, exhortations, and targets for teachers and students, asking for perfect performance and new levels of productivity.** Exhortations create hostile relationships and the main cause of low quality and low productivity belong to the system and thus lie beyond the control of teachers and students.
12. **Eliminate work standards (quotas) on teachers and students** (e.g. raise test scores by 10%; lower dropouts by 15%) but substitute leadership, the eternal drive for quality, and joy of learning.
13. **Remove barriers that rob the students, teachers and management** (principals, assistants and central office support staff) of their right to pride and joy of workmanship. Abolish the annual or merit rating and of management by objectives. The responsibility of all educational managers must be changed from quantity to quality.
14. **Institute a vigorous program of education and self-improvement for everyone.**
15. **Put everybody in the community to work to accomplish the transformation** (p.5)

18 Quality Assurance of Geography Teachers Teaching Behaviours

Quality connotes different meaning to different people. Its meaning according to UBEP (2002) ranges from excellence, efficient production of products to the total transformation of the product by the addition of values. Each of these perspectives according to this source on quality, lays emphasis on one characteristics of quality, or another. Okwilagwe (2003) asserts that quality should cover three important areas: input, process and output. Input is seen as covering both the characteristics learners bring into the learning process, and other human and financial resources. The process according to her connotes quality of the instructional phase and the interaction in the classroom and output connotes the outcomes such as academic achievements attitudes, values and acquired skills.

Teachers in each school are to promote and maintain education standards. They are also expected to monitor and appraise their teaching to see that their lesson plans, teaching notes align with the scheme etc. Failure to do such self-evaluation could lead to loss of precious time and ineffectiveness. Some of the quality assurance principles in the classroom that teachers should observe include:

(i) ensuring that all students learn irrespective of their background;

(ii) make lessons purposeful and judiciously executed;

(iii) assessment should be valid, reliable and equitably distributed;

(iv) feedback the competencies and performances of students to relevant persons and bodies;

(v) beyond school support, teachers should make personal provision for effective delivery of lessons;

(vi) maintain teaching and learning standards at respective class and school levels;

(vii) ensure that students get required support for learning;

(viii) build and reinforce students confidence in themselves; and

(ix) ensure a healthy and conducive learning environment.

Though, quality assurance is a collaborative effort between the teacher, school management personnel, supervisory agency, parents, the respective teacher in each school has a major role to play in ensuring that quality control is maintained in every lesson delivered. Such quality control include monitoring learning activities, assessing every learning and does a self-appraisal of his/her instructional activities and feedback information to the students and other relevant authorities and stakeholders. The actualisation of these key activities by every teacher (a key link in the educational chain) will strengthen the process and ensure the achievement of the desired set objectives at the class and subject level and attainment of the educational goals of the country.

A critical analysis of the quality of the teaching behaviours of the teachers (episodic analysis) indicates that the teachers teaching behaviours' can be classified into three viz 'good', 'fair' and 'poor'. In a normal classroom situation, teaching is supposed to be a series of connected links or steps, involving the interaction of teacher-student and materials. Besides, the teacher is expected to be ecclectic using varying strategies and methods to impart relevant facts, principles, theories and information to learners. Equally important is the active participation of the learners in the learning process. In view of these, the teacher has to display

great wealth of experience, ingenuity and innovativeness both at the level of planning, execution of the lesson and the use of effective evaluation techniques. The use of various levels of questions plays key role in enhancing the learning and retention of important information. Also, of equal importance is the teachers' feedback, an important learning block building process. The potential of these indicators of good teaching behaviours in setting the weak and not too confident learner on track cannot be quantified. Therefore, among the observed lessons, there were those where these basic features were frequently put into use, some were moderately used and others hardly apparent. These formed the basis for classifying the observed lessons into the three categories of 'good', 'fair' and 'poor'.

The very good lesson presentations possessed to a great extent the identified quality indicators. These were found among teachers in Abuja, Kaduna, Yobe, Plateau and Enugu. Those lessons that could be judged to fall within fair category had about 50% or a modest amount of the quality indicators identified. These were common among teachers in Akwa-Ibom and Kwara. Lessons that were classified as poor were those where the identified features were employed to a lesser extent and these could be found in classrooms in such States as Ogun, Oyo, Edo, and Kebbi.

Many teachers rush their lessons in a bid to implement the scheme of work or set curriculum at the expense of achieving quality. The reasons usually advanced by such teachers is that, they have to meet up with the examination syllabus. Good as this reason may sound, there is an adage that says quality should not be sacrificed on the altar of inefficiency. Teaching is a process that needs to be systematically executed. A lot of time is wasted by teachers by spending quality instructional time-off-task either talking to others, telling stories or engaging in other non-academic activities during lessons rather than engaging students in active learning. Teachers, also, employ ineffective

approaches, rather than approaches and methods that can allow them maximise learning. Most often, some teachers hardly prepare fully for their lessons picking up their textbooks only when lessons are few minutes away. As a result, quality time is sacrificed on the alter of inefficiency and ineffectiveness. In addition, students are thrown into a state of confusion leading to poor learning and adoption of poor learning strategies that lead to rote- learning of learnt facts, which they soon forget immediately after examination.

Research evidence reported by Darling-Hammond (1999; 2000) has strongly linked student learning to teacher variables such as: teaching clarity, enthusiasm, task-oriented behaviour, variability of lesson approaches, student opportunity to learn; and teachers' abilities to structure materials, ask higher order questions, use student ideas and probe student comments, besides the adoption of the right methodology by successful teachers. Teachers should make concerted efforts to engage students in quality learning and assuring standards attainment.

19 Summary, Implications of Findings, Conclusion and Recommendations

The major findings in this study are:

With regards to the characteristics of the teachers observed in this study

- More males than females teach geography in Nigerian senior secondary schools.
- Greater proportion of Senior Secondary School three geography teachers (90.7%) and Senior Secondary School two (76.2%) are specialists in the subject.
- Many of the teachers are within their active years 30 -39 years (57.1%) for Senior Secondary School three and (42.9%) for Senior Secondary School two.
- 83.3% and 90.3% for Senior Secondary School three and Senior Secondary School two respectively are professionally trained.
- Majority of the teachers (between 70-96%) have a high understanding of the objectives of geography education in Nigeria.
- A modest proportion (33-58%) of these teachers have over 10years teaching experience.

With respect to the teaching behaviours of these teachers in the classroom,

- The teacher (36.9%) is the dominant figure of interaction and initiator of events in the classroom.
- Instruction (monologue) expressed through lecture or explanation (26-30.2%) took the greater share of class interaction.

- Effective students' participation was very minimal (4.0%).
- The pattern of instruction of Senior Secondary School three geography teachers in private schools was observed to be significantly better than those in public schools.
- These teachers' pattern of 'instruction' and 'who to whom' were significantly different in Science classes when class size was small (less than 30 students). 'Feedback mechanism' was significantly different in commercial classes when class size was large (above 30 students).
- Teachers' teaching behaviours were not significantly different in Arts classes irrespective of the class size.
- Location and understanding of geography objectives were not significant discriminating factors of these teachers' teaching behaviours at this level.
- The pattern of interaction in the classroom was observed to be significantly different in terms of Senior Secondary School two teachers understanding of geography objectives. Other factors were not significant in influencing interaction patterns at this level.
- In terms of time-extent used in discharging the relevant class activities, 'monologue' (teacher talking non-stop) and 'other activities' that show that the teacher was not facilitating learning constituted 12minutes 30seconds of class time dominating the class activities. Time on task was minimal between 2minutes 30seconds to 3mins 26secs.
- In Senior Secondary School three, the time spent on individual student talk was significantly different in terms of location and teacher understanding of geography objectives. Teachers in urban schools were better than

their rural counterparts, whereas teachers with high understanding of geography objectives were better off than those with low understanding of geography objectives.

- Class size was only significant in the way teachers interacted with 'others' in Commercial classes than in Art, and Science classes.
- In Senior Secondary School two, none of the variables was significant in discriminating between the teachers' pattern of time use.
- The quality of instruction in terms of episodic analysis, was high in schools in 5 states, modest in 2 states and low in the other 4 states.

Implications of Findings for Teaching and Learning

The study findings have implications for the practising teachers, school management personnel, policy makers, teacher trainers, curriculum planners and students.

The observed poor instruction in the public schools as against the private schools calls for proper monitoring of teaching by the school management personnel to ensure that adequate teaching and learning go on in those schools. There is no doubt that the system has the manpower to ensure this, but perhaps the nonchalant attitude of many management staff in some of our schools, besides the lack of commitment, do not enable them to have firm control over their teachers' activities, and has led to the poor state of education in our schools.

Poor participation of students in instruction that was observed through insufficient student initiated talk which has resulted in non-expression of their views and opinions on issues in class, has serious implication for students' inadequate learning in schools. Many students prefer not to

be noticed by the teacher in class. Rather than taking personal steps or efforts to handle their own learning to achieve success they stay in the background. By implication, these students lose out of proper education and may not be able to contribute to their personal, family and societal development in due course.

The factor of smaller class size in science classes, and moderate to large class size in commercial classes should be taken seriously by both school management personnel and policy makers if effective teaching and learning are to take place in geography classrooms.

There is the need for the curriculum or course contents of our teacher training pragrammes to be continuously reviewed to update the teacher trainees with new knowledge in teaching strategies. They also need new and effective pedagogical skills in the management of instruction in small and large classes to achieve enhanced learning and the objectives of education at this level in our schools.

Conclusion

The study established the pattern of interaction in geography classrooms in Nigeria. It was established in the study that not much of action learning is going on at this level of education when many of the teachers dominate class activities, while the students are left as onlookers. 'Instruction' and 'who to whom' tended to be teacher dominated activities, and were significant when class size was small but 'feedback' was significant when class size was and in the class where teachers have low understanding of geography objectives. It is rather surprising that teachers'high understanding of geography objectives and location had no influence on teachers' interaction patterns. Time spent on class activities by students, which is an indication of their level of participation and an indicator of effective learning was inadequate while

'monologue' (teacher talk) dominated the class interactions. All these observations border on poor application of pedagogical principles and practices and poor teacher attitude to work.

Recommendations

In view of the findings in this study the following recommendations are made:

- Need for proper training and retraining of trainee and practising teachers.
- Review of existing courses on pedagogy in colleges/ universities where teachers are trained.
- Science classes where geography is taught should be small for effective instructions/interaction and subsequent achievement of enhanced learning by students.
- Commercial classes should be moderate to large in size for feedback to be effective.
- To achieve high quality of well sequenced and effective lessons, teachers should put into use all available ingenuity, creativity, pedagogic skills, be daring, and give attention to students' participation in class.
- Students, especially, in rural locations should be daring in the organisation of their learning as well as take quality decision about their learning into their own hands.

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Appendices

Classroom Interaction Sheet (CIS)

Date: ..... School No:.....Subject..... State No: .....

Class: ..... Obsersation No: ..... Teacher No:..... Time start: ..... Time stop.....

Behaviour Category	Time →
A. Individual student work	
B. Student group activity	
C. Teacher prompting learning	
D. Monologue	
E. Teacher not facilitating learning	
F. Confusion	
G Others	

Note on Categories:

A. Individual student work (observing, writing, questioning, manipulating, etc).
B. Student group activity (observing, writing, manipulating, etc).
C. Teacher - prompting learning (questioning, aiding the slow learner, demonstrating, explaining, reinforcing correct response, etc).
D. Monologue (teracher talking non-stop)
E. Teache not facilitting learning (punishing, distracting attention, use of negatibe reinforcement, giving notes, etc).
F. Confusion (noise, student playing, class disorganized, etc).
G Others (whatever interaction that does not fit into A-F).

Instruction for Recording:

Code in the appropriate cell after each interval of 15 seconds

Ten Minute Interaction Instrument (TMI)

State No:.....
School No:.....
Teacher No: .....
Observation No :.....
Time Start : .....
Time Stop : .....
Subject: .....
Class: .....

Context Code
L = Large Group
S = Small Group
M = Monitoring
T = Transition
P = Private
N = Non-involved

Who to Whom ← → | What → | Qual.

	Context	1 2 3 4 5	6 7 8 9 10 11 12	13 14 15	16 17 18 19 20 21	22 23 24 25 26 27 28	29 30 31 32	33
		Academic					Mgt	
		Instruction		Question	Response	Feedback	Non. Aca.	
		Teacher to Group Teacher to Student Student to Teacher Group to Teacher Teacher to Other	Leacture/Explain Leacture with Mate. Lecture Non-Verbal Gives Example Cues/Structuring Directives Probe	High level Recall Opinion Redirect	Silence Response Recite Extended Response Don't Know Statement	Acknowledge positive Wrong Punnish Marking Notes Repeat answer Gives answer Effective of teach Silence	Discipline Procedure Can't bear Social	Empahsis
(01)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	Ac Wr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(02)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(03)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(04)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(05)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(06)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(07)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(08)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(09)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em
(10)–( )		TG TS ST GT TO	LE LeM LeN Ex Cu Dr Pb	Hc Rc Oc Rd	Sl Rc Er Dk St	AcWr Pu Mn RsGa Ef Sl	Di Pr Ch So	Em

Ten Minute Interaction Instrument (TMI)

State No:.....
School No:.....
Teacher No: .....
Observation No :.....
Time Start : .....
Time Stop : .....
Subject: .....
Class: .....

Context Code
L = Large Group
S = Small Group
M = Monitoring
T = Transition
P = Private
N = Non-involved

Who to Whom ← → What → Qual.

Context	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
	Academic																												Mgt				
						Instruction							Question				Response					Feedback							Non. Aca.				
	Teacher to Group	Teacher to Student	Student to Teacher	Group to Teacher	Teacher to Other	Lecture/Explain	Lecture with Mate.	Lecture Non-Verbal	Gives Example	Cues/Structuring	Directives	Probe	High level	Recall	Opinion	Redirect	Silence	Response	Recite	Extended Response	Don't Know	Statement	Acknowledge positive	Wrong	Punnish	Marking Notes	Repeat answer	Gives answer	Effective of teach	Silence	Discipline	Procedure	Can't bear	Social	Empahsis
(11)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(12)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(13)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(14)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(15)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(16)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(17)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(18)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(19)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em
(20)–( )	G	TS	ST	GT	TO	LE	LeM	LeN	Ex	Cu	Dr	Pb	Hc	Rc	Oc	Rd	Sl	Rc	Er	Dk	St	Ac	Wr	Pu	Mn	RsGa	Ef	Sl	Dl	Pr	Cn	So	Em

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