IMPACT OF VIDEO ADVANCE ORGANIZER ON NCE STUDENTS' INTEREST, PERFORMANCE AND RETENTION IN GEOMORPHOLOGY CONCEPTS YOBE STATE, NIGERIA

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NIGERIA

JUNE, 2016

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BY

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M.Ed/EDUC/27740/2012-2013

A DISSERTATION SUBMITTED TO SCHOOL OF POSTGRAGUATE STUDIES, AHMADU BELLO UNIVERSITY IN PARTIAL FULFILMENT FOR THE AWARD OF MASTER DEGREE IN INSTRUCTIONAL TECHNOLOGY, DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND CURRICULUM, AHMADU BELLO UNIVERSITY, ZARIA NIGERIA

JUNE, 2016

DECLARATION

I declare that the work in this dissertation titled 'Impact of Video Advance Organizer on NCE Students' Interest, Performance and Retention in Geomorphological concepts, Yobe State, Nigeria has been performed by me in the Department of Educational Foundations and Curriculum. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other institution.

BUKAR Muhammad

_____ _____

Signature Date

CERTIFICATION

This dissertation entitled 'IMPACT OF VIDEO ADVANCE ORGANIZER ON NCE STUDENTS' INTEREST, PERFORMANCE AND RETENTION IN GEOMORPHOLOGY CONCEPTS YOBE STATE, NIGERIA' By Muhammad BUKAR meets the regulation governing the award of Degree in Instructional Technology (Med Instructional Tech) of the Ahmadu Bello University and it is approved for its contribution to knowledge and literary presentation.

Dr. (Mrs.) B. Abdulkarim Chairman, Supervisory Committee	_____ Signature	_____ Date
Dr. S. A. Zubairu Member, Supervisory Committee	_____ Signature	_____ Date
Prof. B. Maina Head, of Department	_____ Signature	_____ Date
Prof. K. Bala Dean, School of Postgraduate Studies	_____ Signature	_____ Date

DEDICATION

This study was dedicated to Bukar Zarma and Ahmad Talba Kuras' family.

ACKNOWLEDGEMENTS

All praises are due to Allah, the most Beneficent, most Merciful, the Cherisher and the Sustainer of the universe. My profound gratitude and deepest appreciation goes to my supervisors; Dr. (Mrs) B. Abdulkarim and Dr. S. A. Zubairu for their scholarly advice that encouraged and put me in the right direction, may Allah in His infinite mercies reward you here and hereafter with Aljannatul Firdaus. I am grateful to Prof. A. K. Tukur for his professional advice, guidance and tolerance. Prof. M. Abdullahi deserves special thanks for his immeasurable contributions. I must also appreciate the effort of my lecturers Dr. S. Salahu, Dr. A. A. Dada, Dr. I. A. Gambari, Mal. S. Mohammed and Mal. D. Abubakar.

I am very grateful to Tertiary Institution Educational Trust Fund (TETFUND) and the management of Umar Suleiman College of Education Gashu'a for their assistance towards financial grant for the study. I will not forget to thank Dr. S. A. Agana, Mr. Aliyu Aihong for their prayers and well wishes during the study. I also appreciate the cooperation of all staff and students of Umar Suleiman College of Education Gashu'a.

I must put on record my highest regard and esteemed appreciation to Hajiya Maryam Umar Suleiman and Hajiya Magira Umar Suleiman for their Motherly advice, motivation and encouragement may Allah (SWT) make Aljannatul Firdaus their final abode Amin. I also acknowledge the contribution of Mallam Sani Dahiru, Coordinator Educational Technology Centre FCE Potiskum, Yobe State, for his input toward the actualization of this work. I am also indebted to Umar Ahmad Abubakar, The Chief Imam Bade Emirate Council Gashu'a, for moral advice and encouragement to endure the challenges of a research. I also extend gratitude to Abubakar Jajere (The Geographer of our time) for his geographic contributions.

I appreciate the support of Dr. S. S. Abubakar and Dr. Ahmad Muhammad Talba and their families throughout the period of this study. May Allah reward them abundantly. To my sisters; Haj. Hafsat Ahmad Talba, Haj. Balliya, Haj. Aisha (Aunty Yabebi), Haj. Talatu, Haj. Iyabaze, Haj. Fatsima, Haj. Ille I say a big thank you for being with me throughout my period of needs.

I will not forget to extend my appreciation to my friends and colleagues for their support; Kabiru Garba, Bakura, Ibrahim Usman, Musa Umar Babi, Garba Ago (Sheikh) Muhammad Bello, Umar Aji Umar, Ahmad Dede, Abubakar Jajere, Muhammad Basabo, Muhammad Lawan and Abubakar Sadiq. Thank you all.

My deepest love and respect to my wife Maimuna Bulama Budde for her sincerity, patience and consideration for taking care of our two blessed daughters; Maryam and Amina throughout the period of this research.

ABSTRACT

This study investigated the impact of video advance organizer on NCE students' interest, performance and retention on geomorphological concepts in Yobe State, Nigeria. The study was set up to achieve four objectives among are; to investigate the effect of video advance organizer on students' interest in learning Geomorphology concepts before and after treatment, to examine the effect of video advance organizer on students' performance in geomorphology concepts before and after treatment with aim of improving effective utilization of video advance organizer. Four research questions and four hypotheses were also stated. Literatures related to this study were reviewed and all authors cited in the work were duly acknowledged in the reference. The research design adopted for the study is one sample experimental design involving pretest, posttest according to Thyer, (2012). The target population of the study was 234 NCE II students of Umar Suleiman College of Education Gashu'a 2012/2013 session. A sample of 30 from NCE II students were purposely selected for the study. Geomorphology Interest Test and Geomorphology Performance Test were adopted and used as instrument for data collection; its content, clarity and appropriateness were also validated. 30 NCE I students were used for Pilot testing and the reliability (r) 0.80 and 0.87 were obtained. Geomorphology Interest Test and Geomorphology Performance Test were used as instruments for data collection. Hypothesis 1 was tested by using Wilcoxon Signed Rank Test, hypothesis 2, 3 was tested using paired t-test and 4 were analyzed using independent sample t-tests at alpha level of $P \leq 0.05$, research questions were answered using mean and standard deviation. The findings revealed that video advance organizer influences students' interest which indicates significant difference, those students exposed to video advance organizer strategy performed significantly higher. Students exposed to video advance organizer strategy retain geomorphology concepts very well and

male and female students' performance did not significantly differ after treatment. It is concluded that video advance organizer has influence over students' interest, performance and retention therefore the study recommended that, teachers should use video advance organizer strategy in teaching earth science courses for its adequacies to improve the cognitive ability of the students and strength there capacity to retain meaningful information for future recall.

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LIST OF ABBREVIATION AND SYMBOLS

GPT: Geomorphology Performance Test

GIT: Geomorphology Interest Test

RT: Geomorphology Retention Test

NCE: National Certificate of Education

USCOEGA: Umar Suleiman College of Education Gashu'a.

VOA: Video Advance Organizer.

OPERATIONAL DEFINITION OF TERMS

Geomorphology: Is a study of the origin and evolution of the earth's landforms, both on the continents and within the ocean basins.

Anchorage: The ability of ideas in the Video Advance Organizer to be clear, stable and well organized that will provide better link for new learning and retention than if it is unclear, unstable and not properly organized.

Arid Zone: Part of the earth's surface characterized by a severe shortage of water, both meteorological and hydrological.

Landform: Feature of the Earth's surface that shows areas of uplift, subsidence and other terrain characteristics.

Sub-Sumers: Basic structure around which geomorphology concept information is organized.

Sub-Sumption: A facilitation of both learning and retention of geomorphology concept in video advance organizer.

Video Advance Organizer: Five minutes video learning package on geomorphology concepts introduced to the learner prior to lesson in abstraction.

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

The trend of education has drastically changed from teacher centred to learner centred globally. This is due to the fact that in the former, a learner has nothing to contribute instead remain as passive listener with less comprehension, prone or subjected to forgetfulness and he cannot recall events. While in the later, the learner is considered as most functional element in the classroom by dominating the class through discovering of facts, relating the new learning materials with existing cognitive experience.

Education is an integral part of human development which has transformed civilizations and communities for centuries in addition technology has further refined sharing information through computers, audio and visual tools. Ausubel, (2000) posits that the use of an advance organizer strategy in teaching represents such technology whose strategy involve the use of e-manipulations of concept in the classroom and in the field. The writer emphasize that learning becomes interesting when integrated with instructional materials. Abimbade and Egunjobi (2002) advance that the primary aim of instructional media strategy is to make teaching effective and facilitate learning.

The Federal Ministry of Education in Nigeria has emphasize the use of ICT by teachers at all levels of learning (FME, 2013). Awofala, (2008) reported that efforts have been made by the Federal Government of Nigeria to improve the status of teaching and learning of the Science, Technology and Mathematics (STM) especially in secondary and tertiary levels of education. Acheonye, (2004) and Ibikunle, (2006) reported that when instructional materials are effectively utilized and matched to learning objectives, learners' individual difference and the structural properties of the learning task, perception,

understanding transfer of training, recall and retention can be enhanced. Balogun and Abimbade, (2002) emphasize the need for teachers to use multimedia and computer programmed text in classrooms. The contiguity principles for computer-based instruction gave students effective impact when words and pictures were presented contiguously in time or space Mayer and Anderson, Mayer and Sims in (Shih-Chuan & King-Dow, 2014). Many Nigerian educators have advocated for the introduction and effective implementation of computer education in Nigerian schools Abimbade and Udousoro (1997); Okebukola, (1990); Galadima, (1990); Modu, (1990); Aghadiumo, (1990); and Robinson, (1981).

It is important for educators in higher education to ensure that instructional application of computer are infused within a variety of curricular experiences for pre-service teachers. Even with ongoing research in this area, a review of the literature indicates that college students do experience some anxiety about computers (Olufunmi, 2008). That is why this study investigated the impact of video advance organizer as a new teaching strategy which involved the use of video advance organizer gadgets (Computer, Multimedia projector, DVD Plate, Capture Card, Camcorder, Digital Camera, Micro Wave Speakers, Pointer and Projector Stand) and expose learners to video learning package, in abstraction, generality and inclusiveness prior to actual teaching. As cited by Mayer, (2003) in recent time some educators began to use Microsoft PowerPoint, Macromedia Flash or other computer software to create video advance organizers.

Advance organizers are links that have capacity to introduce and also organize the new learning material and learners' experience. Meyer, (2003) reported an advance organizer is information presented by an instructor that helps the student organize new incoming information. This is achieved by directing attention to what is important in the

learning material, highlighting relationships, and providing a reminder about relevant prior knowledge. Woolfolk, Winne, Perry and Shapka, (2010:43) has this to say video advance organizers have potentialities of making it easier to learn new material of a complex or otherwise difficult nature, it provide basis of understanding the new concept presented to them in the organizer and the organizer must indicate the relations among the basic concepts and terms that will be used.

The most effective teaching strategies are those that consider learner as the most important element in the classroom interaction. In teaching learning process, the learning of the student depends on various factors out of which method of teaching is the most important one. Presently, teaching in most of Nigerian Institution of Learning is dominated by the conventional method which is easy to use but is not so effective (Kaka, 2008). Students' non-performance in different subjects is due to poor understanding of concepts. Even poor understanding of concepts by teachers themselves and status quo of being untrained in the right method of teaching concepts can also be the probable reasons of non-performance of students. Different researchers tried to explore different areas to find effective methods of teaching (Acheonye, 2004; Olufunmi, 2008; Anulobi, 2009; Kompa; 2012; Agnohotri & Sharma, 2013; Bello, 2014) Today's world is scientific as well as materialistic in nature where every individual especially students are trying to collect maximum possible knowledge from all possible sources. Hence, today's world is sometimes referred to as information technology age. With the advancement in the technology, information explosion has resulted which is greatly affecting the field of education. As a result, it is necessary for an educator to find efficient and effective ways of

imparting knowledge to the learner wherein written or text material will remain forever as an important source of information Ausubel, (2000).

Ausubel first introduced the concept of advance organizers in his assimilation theory of meaningful learning and retention. Like other cognitive theorists, Ausubel asserted that learning is based on schemata or mental structures by which students organize their perceived environment. He stressed that students can only learn better when they find meaning in learning. In teaching, Ausubel promoted that use of advance organizers helps students activate prior knowledge in the new instructional context and makes the instructional process meaningful to the students (Ausubel, 2000). His early experiments provided the most-cited research supporting the effectiveness of advance organizers with increasing achievement over the material to be learned (Chen, 2007)

Most of our classrooms are heavily dominated by too much verbalization by the teachers, this procedure of instruction is biased in nature in nature, because it emphasizes on talk and chalk as the main medium of instruction. Recent research findings Etiubon and Etiubon, (2013); Ebo, (2013); Aniefiok and Ogar, (2013) and Adedeji, Foloruno Adedeji, (2013) has discredit this procedure of instruction, due its inadequacies to solve learner immediate problems, therefore learners are to be actively involved in the classroom discussion, that is the researcher rise up to this existing problem by integrating ICT into the classroom due to its potentialities in bringing events into the classroom closely resembles realities. As Afafuna, (1999) posits that human mind advances from picture to words. So in the same vein human mind do accept messages meaningfully when they are concretize pictures and videos.

Geomorphology is the study of earths' physical land surface features, its landforms; rivers, hills, plains, beaches, sand dunes, and myriad others. Land forms are conspicuous features of the earth and occur everywhere. They range in size from molehills to mountains to major tectonic plates, and their lifespan range from days to millennia to eons (Richard, 2006).

Gap that exist in sub-Saharan Africa, and out-of-school children, more of whom are girls, deprived opportunity to gain any ICT related knowledge and skills in school. African women have the lowest enrolment rates in the world in science and technology education at all levels. A study conducted in four African countries established that women are less confident than men in their computer skills and this may results in incompetence of using computer as an instructional media in the classroom (Ogar and Opula, 2013).

Chen, (2007) in his research claims that females are different from males but not deficient in abilities in mathematics, which in turn, is a prerequisite to taking science and technology. Oloyede, (2011) in his findings showed that advance organizer is a gender friendly strategy this is why he says there was no significant difference between the achievements of male and female chemistry students taught with pictorial and written organizers.

Video Advance Organizer strategies could be used to effectively enhance students' learning and retention of Basic Science and also promote their interest in the subject (Adedeji, Foloruno & Adedeji, 2013). Recently, multi-media learning environments have been created online with audio, video, graphic and animation to simulate true task environment. Studies indicate that technology can accelerate, enrich, deepen basic skills;

motivate and engage student learning; helps to relate academics' to the practices of today's workforce; strengthens teaching; and improve interest. For the instructor, on the other hand, online teaching is beneficial in terms of structure and time convenience Ebe, (2011).

1.2 Statement of the Problem

In the world of technology today, learners do understand concepts faster and vividly recall them easily when they are exposed to instructional materials with less verbalization. Research findings like Olayinka, (2008) have continued to reveal that our classrooms are heavily dominated by the use of traditional teaching methods (Barde, Ezugwu, Muhammad & Mustapha 2003).These methods emphasize procedure of instruction in which majority of learners are merely passive listeners, while teacher plays the role of dispenser of knowledge. Recent researches like Nuruddeen, (2013) have debunked the use of this mode of instruction because of inadequacies to solve and address learner's immediate problems. Therefore learners are to be actively involved in constructing knowledge and video advance organizers have such potentials (Ausubel, 2000).

This problem of non-utilization of instructional materials is an impediment to good performance of students in geomorphological concepts in Umar Suleiman College of Education Gashu'a (USCOEGA). The previous result of geomorphology revealed that from 2009-2014 students' performance was not quite encouraging, this is due to the fact that the dominant method employed by the teachers is a traditional teaching method which is deficient in boosting learner moral to participate and also contribute to classroom activity Academic office (2014). Geography is a discipline that studies space and spatial relation, Geographical space varied widely over space thus having a physical contact with all varying Geographical phenomena and processes is not possible to a larger extent.

Therefore, integrating information technology teaching method would break this learners' contact with geographical phenomena that are thousands of kilometers away from their local environments.

Reports and studies reveal that there is a difference in interest in the use of information technology gadgets between sexes, in African culture of northern Nigeria there is a lot of differences in gender social attitudes, the use of educational technology teaching methods may have an influence between the different sexes.

The learner previous experience is important in the choice of teaching methods. The use of ICT technological materials in teaching in recent time, attached the attention of education academic communities; the parent socio-economic status, community advancement among others, can affect student access, electronic devices programmes etc. Northern Nigeria communities are among, the poor and less advance societies of the world. Therefore, the main thrust of the study is to examine the impact of video advance organizer on NCE students' interest, performance, and retention on geomorphological concepts in College of Education Gashu'a Yobe State.

1.3 Objectives of the Study

The main objective of the study was to examine the effect of video advance organizer on NCE II students' interest, performance, and retention of geomorphological concepts. Specifically the objective of the study was to:

i. investigate the impact of video advance organizer on students' interest in learning Geomorphology concept before and after treatment.

ii. examine the impact of video advance organizer on students' performance in geomorphology concepts.

iii. find out the impact of video advance organizer on NCE II Geography students` retention levels in learning geomorphology concepts after treatment.

iv. compare the difference between the academic performance of male and female students exposed to video advance organizer strategy in learning geomorphology concept.

1.4 Research Questions

The following research questions were used to guide data collection:

i. What is the difference in the interest levels of students taught geomorphology concepts using Video Advance Organizer strategy before and after treatment?

ii. What is the difference in the mean score performance of students taught geomorphology concepts using video advance organizer strategy.

iii. What is the difference in the retention score performance of students taught geomorphology concepts using video advance organizer strategy after treatment?

iv. What is the difference between the performance of male and female students taught geomorphology concepts using video advance organizer strategy.

1.5 Research Hypotheses

The following null hypotheses were treated at alpha (λ) level of 0.05

H_{o1}: There is no significant difference between the pretest and posttest interest of students taught using video advance organizer strategy.

H_{o2}: There is no significant difference between the performances of students taught using video advance organizer strategy and those taught the conventional method.

H_{o3}: There is no significant difference between the retention levels of students taught using video advance organizer strategy and those taught conventional method.

H_{o4}: There is no significant difference in the performance of male and female Students taught using Video Advance Organizer strategy.

1.6 Significance of the Study

This study is an effort at improving cognitive learning of geomorphological concepts in Umar Suleiman College of Education Gashu'a, Yobe State, with inventiveness embedded in the use of video advance organizer strategy. The demand placed on both teacher and the taught have been changed dramatically by the advent of ICT. Therefore video advance organizers have succinctly and immediately risen to the challenges posed by traditional method of teaching as well as loopholes created by too much teachers' verbalization in classroom. This study has great influence over:

1. **Students**: Video advance organizer as an instructional strategy is capable of bringing authentic information that is closely resembles reality, the learners have more chances of discovering facts for themselves and retain for future recall. Therefore, Students have more able to participate in to classroom discussion and retain concepts longer for future recall.
2. **The Teachers**: The potentialities of video advance organizer make it easier for teachers to expose students to certain experiences that are real, meaningful and immediate without much stress. Because video advance organizer is capable of concretizing arguments with less ambiguity and less verbalization as well.
3. **School Administrators**: School administrators will find the outcome of this this study very essential in creating awareness on the importance of VAO strategy as a means of improving teaching and learning.

4. **Ministries of Education**: Ministry of education will be much appreciative with the findings of this study because of its immense importance as instructional strategy, which encourages the learner to remember more conceptual ideas and be able to relate concepts with previous knowledge, and that the use of multimedia in exposing learners help them to meaningfully understand the concepts very well. Since Stake holders are putting more pressure on teachers to improve the way they are teaching, the findings of this work will help them to change their methods to students centred learning strategies using VAO strategy that is generally appealing to many senses.

5. **Educational Planners** may incorporate the use of Video Advance Organizer as an effective teaching strategy because of its effectiveness in improving learning and retention.

6. **Curriculum Developers**: The outcome of this study will help the curriculum experts/planners in their planning and bulletins as part of improving and standardization educational programmes.

7. **Other Researchers**: Fellow researchers will find it very useful, the outcome of this study as a new strategy that improves students learning and retention. The study will also extend the frontiers of knowledge and stimulate further researches on teaching and learning Geomorphological concepts in Nigeria.

1.7 Basic Assumptions

The study was carried with the following assumptions;

i. that Video Advance Organizer strategy is capable of persuading, motivating and improving students' interest in understanding geomorphological concepts.

ii. that Video Advance Organizer strategy as a new teaching strategy will enhance students' performance in understanding geomorphological concepts.

iii. that the finding of this study will improve students' ability to retain geomorphological concept for future recall when the need arise.

iv. That the study will pave way for new teaching strategy that will serve as a solution to prevent gender differences in relation to performance.

1.8 Scope of the Study

This study was conducted at Umar Suleiman College of Education Gashu'a Yobe State (USCOEGA). The instructional media used was video advance organizer (video learning package). The sample was to limited NCE II students offering Geography as a teaching subject in the USCOEGA. The content taught for this study centered on geomorphological concepts; Flood plain, Lateral erosion, Sand bars, River valley, Gullies, Vertical erosion, Inselberg, Rock pedestal, Barchan, and oasis. The treatments took six weeks. Variable of students' gender was also investigated.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviewed related literatures on; Conceptual Framework, Theoretical framework, Teaching Strategies in Geography, Influence of Teaching Strategies on Students' Performance, Video Advance Organizers, Types of Advance Organizer, Steps to Developing Advance Organizer, Relevance of Video Organizers, Empirical Studies.

2.2 Conceptual Framework

Video advance organizers have positive effects on students' performance; it allows students to connect the relationships between the previous and to be learned concepts. As a result of this view it can be concluded that video advance organizers have a positive influence on performance.

Advance organizers have considerable value where the learner may not be able to recognize his or her prior knowledge as relevant and where the teacher wishes to focus students' attention on relationships among linked parts of an idea and on connections between parts and the whole. But it has elegantly argued that the use of advance organizers can enhance the relationship between cognitive structure and new material, thus facilitating students' performance (Shihusa & Keraro, 2009). And that video advance organizers and concept mapping if they are effectively utilized students would never be passive subjects in the learning process there by improving performance. A key requirement for the future is the need to prepare students to participate in the information society, where knowledge is the most crucial factor in the social and the economic development of a country (Spathis, 2004). The adoption of new Information Technologies and Communication has led to

significant changes in both the structure and the functionality of education (Dimitrios; Labros; Nikolaos; Koutiva and Anthanasios, 2013).

There is a relationship between motivation, cognitive engagement and conceptual change. An effective teaching approach should, therefore, utilize a wide variety of teaching methods to enhance learners' motivation and actively involve them in the learning process, teaching approaches that actively involve learners, would likely lead to higher motivation and meaningful learning as academic performance compared to those where they remain passive Nelson, (2000). Previous studies reveal that using visuals along with textual information enhanced learners' performance to a considerable extent. According to the Multimedia Principle of Mayer (2000), when words and pictures are presented simultaneously, learners have a chance to construct both verbal and pictorial mental schemas, and build connections between them. Within the scope of the current study, many forms of geomorphological features both videos and visuals are taken into account for successful recognition of that specific features (Kuzu, Akbulut & Sahin (2007).

2.3 Theoretical Framework

The theoretical framework of this study was based on the subsumption theory by Ausubel, (2000). This theory provides fascinating account that is empirically grounded, because of its emphases on learner centred activity. Under this theory, learners have more chance to discover, develop, acquire and maintain what is taught to them as a result of their interest which will eventually lead to their performance and finally retained for future recall. Video advance organizer strategy "entails a video learning material package presented to the learner prior to actual teaching". It is video advance organizer strategy, with its potentialities of making learning to become real, immediate and permanent. In

other words, it implies the use of introductory materials with a higher level of generality that introduces new material and facilitates learning by providing an "anchoring idea" to which the new idea will be attached. Cognitive theorist believed that it is essential to relate new knowledge to existing information learned. Teachers can facilitate learning by organizing information presented; so that new concepts are easily relatable to concepts already learned. Examples of devices that may be used include: pictures, short video segments, titles of stories, reviews of previous learned concepts. Since this organizers are introduce in advance of learning itself, the substantive content of a giving organizer or series of organizers is selected on the basis of its suitability for explaining, integrating, and interrelating the material they precede, this strategy simultaneously satisfies the substantive as well as the programming criteria for enhancing the organizational strength of cognitive structure.

Ausubel first introduced the concept of advance organizers with an admirably thorough explanation in his assimilation theory of meaningful learning and retention. Like other cognitive theorists, learning is based on schemata or mental structures by which students organize their perceived environment. He stressed that students can only learn best when they find meaning in learning. In teaching, the use of hyper media advance organizers helps students activate prior knowledge in the new instructional context and makes the instructional process meaningful to the students, and supported the effectiveness of advance organizers with increasing achievement over the material to be learned Chen, (2007). Advance organizers are different from overviews and summaries which simply emphasize key ideas and are presented at the same level of abstraction and generality as the

rest of the material. Organizers act as a subsuming bridge between new learning material and existing related ideas.

This theory has commonalities with Gestalt theories and those that involve schema as a central principle. There are also similarities with Bruner's "spiral learning" model, although Ausubel emphasizes that subsumption involves reorganization of existing cognitive structures not the development of new structures as constructivist theories suggest. He was apparently influenced by the work of Piaget on cognitive development. The most general ideas of a subject should be presented first and then progressively differentiated in terms of detail and specificity. Instructional materials should attempt to integrate new material with previously presented information through comparisons and cross-referencing of new and old ideas.

On the prior experience of the learner scholars talk at length, one of them is Chen, (2007) who asserts that the rationale for using advance organizers is deeply rooted in cognitive learning theories. Cognitive learning theories claim that learning depends on the processing capacity of the learners, and one of the most important elements of learners' processing capacity is their prior or existing knowledge. With the aid of advance organizers, learners are able to link what they already know to new information, transform the knowledge, and apply it in the new context.

The use of video advance organizer to ensure effective teaching and learning in education was advocated by Ausbel in his advance organizer learning theory. This can be an appropriate instructional approach to the teaching of concepts in chemistry. Ausbel reasoned that advance organizer learning theory is a pedagogic strategy for implementing the programme principles of progressive differentiation and integrative reconciliation

which involves the use of appropriately relevant and inclusive materials that are maximally stable and discriminable from related conceptual systems in the learners' cognitive structure. It is used to provide a conceptual framework that students can use to clarify the task ahead (Oloyede, 2011).

Advance organizers are a term used to describe the process of linking the upcoming unfamiliar material to what is already known to the learner. Learning and retention of unfamiliar material could be facilitated by the advance introduction of relevant subsuming concepts. And if new material is incorporated into cognitive structure in so far as it is subsumable under relevant existing concepts, then appropriate and stable organizers should enhance the achievement and retention of the new materials.

2.4 Teaching Strategies in Geography

The goal of science education is to develop scientifically literate citizens. A result of this goal is that the earth and its systems need to be understood by how they relate to each other instead of as separate entities, a systems thinking approach. Systems thinking approach has three components; the understanding of the parts that make up the system, understanding the connections between the parts of the system and understanding of the system as a whole. Traditional teaching methods often lack the tools needed to develop the connections between the parts of the system. Concept maps and video advance organizer strategies are an excellent way to integrate the parts of the learning process thus developing understanding of the concepts and their relationships to each other more importantly in geography (Assaraf & Orpaz, 2010).

Development of models of teaching is the recent innovations in teaching. They have been developed to help a teacher to improve capacity to reach more children and create a

richer and more diverse environment for them. Model of teaching consists of guidelines for designing educational activities and environments. Important purpose of discussing models of teaching is to assist the teacher to have a wide approach for creating a proper interactive environment for learning. Intelligent use of these approaches enables the teacher to adopt him to the learning needs of the students. In teaching learning process, the learning of the student depends on various factors out of which method of teaching is the most important one. Presently teaching in most of the institutions is dominated by the conventional method which is easy to use but is not so effective. Students' non-performance in different subjects is due to poor understanding of concepts. Even poor understanding of concepts by teachers themselves and status quo of being untrained in the right method of teaching concepts can also be the probable reasons of non-performance of students. Different researchers tried to explore different areas to find effective methods of teaching (Agnihotri & Sharma, 2013).

The pedagogic uses of computers necessitate the development, among teachers' and learners' skills and attitudes relating to effective use of ICTs. Beside, literacy, ICTs also facilitates leaning to programmed, learning to learn in subject areas and learning at home on ones' own, and these necessitate the use of new methods like modeling, simulation use of data bases, and guided discovery for the teaching of Geography (Solomon, Catherine & Okunamiri, 2011). Educators have shown increasing interest in the use of computers for classroom teaching during the last few years (Olufunmi, 2008). Chen, (2007) argues that a teaching strategy that a teacher adopts is a strong factor that may affect learner's motivation to learn and hence has a direct impact on the resultant cognitive gain. A study by Nyabwa, (2005) has demonstrated the effectiveness of using advance organizers in the teaching of mathematics in secondary schools. Ejedafeta, (2007) believed that, there seems

to be a general agreement among educators concerning the role played by teaching method and instructional strategy adopted by the teacher as a classroom variable in affecting student's performance, retention and attitude.

The computer-based education is an instructional strategy that has been acclaimed all over the world. For example a number of educationist and researchers has attested to the effectiveness of computer based strategy (Olufunmi, 2007). Augustine, (2009) asserts that the dominance of teacher-talk in class instruction involves only the learners' sense of learning which practice could be boring after a while. Therefore the more the number of sense involves in the instructional process the more enduring the learning become. Indeed, the use of new technologies of information and communication transforms traditional teaching and assists the adaptation of new curricula and new courses in existing applications (Petridou & Spathis, 2001; Mohamed & Lashire, 2003) in Belias, Sdrolias, Kakkos, Koutiva, Koustelios, (2013). Kompa (2012) posits that teacher-centered learning fosters a culture whereby the learner does not outgrow his dependency on the supervising instructors and In a nutshell, computer availability alone will not have an impact, policymakers and project leaders should think in terms of combinations of input factors that can work together to influence learning. Coordinating the introduction of computers with national policies and programmes related to changes in curriculum, pedagogy, assessment and teacher training is more likely to result in widespread use and impact (Cabrol & Severin, 2013).

Conventional method is being largely used in the teaching of science, technology and mathematics (STM) which does not enhance students' learning outcomes, and

therefore recommended that more effective teaching strategies be used as conventional teaching methods result in rote learning (Olayinka, 2008).

Moreover there is need for instructional strategies that give more freedom to the learners to find information for a longer period and also put to use appropriately. Furthermore, within the current higher educational environment, there is a drive towards the development of greater independence and personal reflection requiring students to take ownership of their learning, and the need to identify the appropriate strategies that will achieve such goals (Olayinka, 2008).

The following are some prominent methods used to teach Geography: Lecture Method, Field Method, Practical Method, Inquiry Method, Project Method, Observation Method.

Lecture Method

The lecture is broadly the single frequently used method of teaching geography (and other subjects). Lecture involves a timetable period of usually one hour at regular time each week during which a number of staff will talk about some aspect of geography. lecture format allowed an expert in a particular aspect of geography to give you an overview of the subject based on his/her extensive reading and perhaps research, that wealth of experience and understanding, distilled into continues presentation, allow you access to the point of a large volume of work by geographers.

Traditional teaching method as an activity with much of teachers talk to the students about the subject matter and expect them to learn everything through the lectures held in the classroom. One of the main goals of modern pedagogy by contrast is to create strong self-directed learners. A teacher- centered learning environment does by definition neither

facilitate nor empower a learner's autonomous study-skills and subsequently lifelong learning skills (Freelance Article Writers, 2013). Bello (2014) affirmed that the problem of poor school performance was generally caused by poor method of teaching in schools. This shows lack of appropriate and adequate application of educational technology that could bring about maximum and effective teaching and learning process.

Prior to the popularization of the information and communication technology (ICT), teachers followed the traditional or conventional teaching pattern; teacher was trained to be a dispenser of information expected to convinced passive receivers of information (learners) with ambiguous comments that are very sensible halt learner cognitive gain. This means the learner was regarded as a" tabularasa" who depended on the teacher for a holistic transformation. The teacher was believed to possess all that was required to develop the learner (Merry & Anthony, 2011), Traditional teacher-centered learning runs into a variety of bottlenecks when faced with the challenges of our modern life-world and an emerging globalized work-environment. Advanced communicative and cross-cultural skills, problem-solving and meta-cognitive skills as well as live long learning skills are abilities that can only be acquired though the learner's personal performance and interaction with others, ideally a smaller and comprehensive study group. The traditional role of the teacher or instructor is therefore being substituted by the concept of a tutor or facilitator of the student's learning process. Passive learning methods therefore need to be replaced by an active learning pedagogy to prepare learners for their new role as global citizens (Kompa, 2012). Educational systems around the world face formidable challenges that taxing conventional strategies. Fresh approaches are needed to address persistent problems of the past and provide students with education appropriate to the needs of a

modern; information-based global economy. Now, after more than two decades of unfulfilled promises to revolutionized education, computer communication technology are finally able to offer opportunities to significantly improve teaching and learning (Ebe, 2011).

Traditional classroom environment, as a classroom having 20 to 30 children to one teacher. In some cases, that teacher might have a "instructional aid" or an assistant teacher. This is where the disadvantage starts- it is simply impossible for one person to give each student the one-on-one attention or instruction that may be required. Traditional teaching, as most of us have experienced, is classroom-based and consists of lectures and direct instructions conducted by the teacher. This teacher-centered method emphasizes learning through the teacher's guidance at all times. Students are expected to listen to lectures and learn from them (Freelance Article Writer, 2013). In a classroom of twenty to thirty children, there are going to be several children with differing learning styles and academic strengths and weaknesses. A teacher and or teacher's aid is going to be woefully unequipped to handle any and all learning styles or weaknesses. And woe to the teacher who has a couple of students who present themselves as "problem students," a child who is difficult to manage or who disrupts the classroom is also going to take away time that the teacher could be using to help with one-on-one time with his or her students. This brings to light the next disadvantage of a traditional classroom. In a traditional classroom environment, it's not uncommon for children to become bored or frustrated. Some children learn better by visual means, others will learn better with auditory means, and still others are going to learn better with a hands-on approach. Therefore teacher has to be flexible, well equipped with variety of methods and instructional aids as well which will help him in

achieving his/her specific objectives (Michael, 2009). The fact that a traditional classroom environment consists of one teacher and a large amount of students, in and of itself, is a big issue. But another issue that should not be ignored is the fact that children are separated and segregated into classrooms filled with other children only in their own age-range (Michael, 2009). Kompa (2012) admitted that Teacher-centered learning limits itself to a specified content as proposed by the teacher or instructor. The learning process therefore stops upon its expected delivery. The learner acknowledges the authority of the teacher or instructor on any content to be justified as priority. The main critique of this approach is for the learner to merely master limited sets of knowledge, by memorizing content or applying rehearsed formulae, without addressing actual process-skills as needed in professional practice.

Researchers have reported the impacts of different teaching approaches as well as strategies with observed positive results. Giraud (1997), McCarthy and Anderson, (2000) and Hinde & Kovac, (2001), John & Dasgupta, (2005) reported higher test scores in cooperative learning (active learning) classes in comparison with traditional lecture classes. They also observed a higher percentage of students successfully completing the course in the cooperative learning classes. In a study of the comparison of Internet versus lecture instructional methods for teaching nursing research, (Woo & Kimmick, (2000) state that although there were no significant differences in scores or satisfaction, Internet students were significantly more stimulated to learn. In comparing lecture/videotape with multimedia CD-ROM methods for teaching oral medication administration, Jeffries, (2001) observes higher satisfaction and greater cognitive gains for the multimedia group.

CIRTL Network, (2013) outline disadvantages of traditional teaching method as; Places students in a passive rather than an active role, which hinders learning; Encourages one-way communication; therefore, the lecturer must make a conscious effort to become aware of students; problems and student understanding of content without verbal feedback; Requires a considerable amount of unguided student time outside of the classroom to enable understanding and long-term retention of content. In contrast, interactive methods (discussion, problem-solving sessions) allow the instructor to influence students when they are actively working with the material; requires the instructor to have or to learn effective writing and speaking skills.

The traditional classroom environment works well for a large number of children, but there are many others who simply have difficulty learning in this environment, have difficulty interacting with peers that are strictly in their age range, or who require more one-on-one attention and time to grasp certain concepts (Michael, 2009)**.** Chimezie, (2011) revealed that traditional teaching method view of teaching and learning, information was located in the minds of the teachers and in the classroom and library books. Students were receptacles for knowledge and it was the teachers' role to deliver that instruction. Today, it is enough to simply require students to respond with a 'correct answer', we must help students to research, analyze, articulate and create personal knowledge. The growth of communication technology is shrinking the world we in habit, we are living in an era of satellite and aerospace communications, instant television reporting on natural disasters current happenings. Therefore Geography teachers must keep to the pace with the ongoing changes and video advance organizers have such potentialities. (Michael, 2009) posits that it is virtually impossible for a single teacher to accommodate all methods of learning when

he or she is responsible for teaching a large number of children. Thus, children who do not fall into the "traditional learning method" category are far more likely to "fall through the cracks," become bored or discouraged, or to display behaviour problems in the classroom. (Okam, 2009) ague that lecture is used in achieving designs in geography teaching as; provision of some relevant background materials and information which bear on a topic; for introducing a new different topic; summarizing and recapitulating certain generalization; for proving supplementary information beyond what text book have to offer; for explaining certain theoretical principles or points which cannot be easily demonstrated.

Merit and Demerit of Lecture Method

It is psychologically unsound because of its emphasis on the subject matter and does not need requirement of student; it does not develop adequately the mental powers and faculties of students since that they are just passive listeners; it is absolutely contrary to the aims of NCCE (2009) approved curriculum and The demerit of lecture method is time consuming; teacher centred and; students are passive listeners.

Field Method

Field study provided opportunities for the first-hand investigation of people in their environment and as such awakens students to a diversity of environments and cultures, in their local area and beyond. It teaches students to collect, analyze and present data, sharpening their observations, measuring, recording and evaluation skills. As such, field study has important contributions to make geography real and enjoyable and as a result every geography student should be entitled to have a reasonable amount of exposure to field study experience through the geography course. Field study should not be limited to

visits and guided tours, whereby students are involved only in passive activities such as listening, observing and note-taking. Field study should be enquire-based in-line with the aims and objectives of their curriculum. It should involve students in identification of an issue or problem in a specific area, collect, present and analyze data and finally identify possible solutions or strategies (ATLG, 2011). The Merits of Field Study among others include; Fun, even when it done in the rain and learning of skills on the field is highly resourceful. Major demerits of field study are that it is time consuming, difficult to organize and has lots of financial implication.

Practical Method

In many geographical courses/modules you may be required to undertake practical. Practical can be found right across geography but they are most relevant in physical geography and the teaching method of geographical research (e.g Statistic, Cartography Computer-based Methods and GIS). They are usually based in the laboratory of some kind (rather a lecture theatre or seminar room) and last for about 1-3 hours.

Merit and Demerit of Practical Method

They can illustrate a theoretical concept in a real world situation, practical show you how to do research and it trains students on specific skills and the demerits of practical method is time consuming, it cannot take place anywhere except in a specific locations and both academic and Non- academic staffs must be present to instruct or safety.

Each method mentioned above has its own advantages and disadvantages as well; but in this study video advance organizer was used to enhance learning through the use of video advance organizer gadgets. Video advance organizer gadgets whether it is a personal computer, an interactive whiteboard, or a mobile phone influences how students make

sense of their world today and at the same time offers a range of tools to support their geographical understanding. By the use of video advance organizer gadgets teachers have the power to make lessons livelier and enjoyable thus enhancing students' learning motivation. Geography teachers should provide adequate opportunities for their students to apply these in their enquiry-based approach to the teaching of the subject. This is because; video advance organizer provides a range of information sources to enhance geographical understanding; Supports the development of a body of geographical knowledge; Provides images of people, places and environments; helps students develop their ideas using video advance organizer tools to amend and refine their work and enhance its quality and accuracy; helps students exchange and share information, both directly and through electronic media.

Components of geography NCE curriculum courses of geomorphology in NCE I, II and III, According to National Commission for Colleges of Education (NCE, 2009) spelt out that; the philosophy of geography programme aims at studying the earth, including the activities of man. The study involves both descriptive and analytical techniques of looking at geographical phenomena. The phenomena, whether physical, human or environmental are increasingly becoming significant in the planning and management of land and its resources upon which man defends. Consequently the philosophy of the geography programme is to create an opportunity for prospective modern geography student teacher to: learn develop new descriptive, interpretive, and analytical technique of studying the earth and activities of man; develop practical skills and methodologies of understanding geographical features, phenomena and processes; search for explanation in geography, such as why certain processes behave in the way they do; develop skills to impart geographical

knowledge, or information with a view to inculcate better perception of geography and at the same time to promote the learning and teaching of the discipline.

Objectives of Geography as a Course of Study

To develop in the student teachers appropriate skills in the teaching of geography at the primary and post primary levels, using modern tools and methods; To develop and promote the use of basic skills and methods of practical work, both in the field and laboratory. So as to explore new frontiers through better initiatives, independent thinking and group participation in the determination of the geographical phenomena; To try to give an understanding and or account of the spatial distribution of the earth's resources and to take appropriate measures for the sustainable management of the resources by man: there by promoting education for self-reliance; To seek to provide an explanation for the understanding of the spatial distribution and variability of earth's physical and cultural features and processes. To also determine the extent to which man exercises influence over these features and processes; To develop in the student teachers skills of learning basic techniques of carrying out map interpretation and analysis, basic land and air surveys, field and laboratory methods, and to adapt to the use of modern tools and equipment including Information Technology, To seek and provide succor to victims of physical hazards.

In line with realization of such objectives and to overcome the problem of teaching and learning geography, scholars has advocated the use of media in teaching and learning; Balogun and Abimbade, 2002; Chen, 2007; Kumar, 2008; Roseline and Immaculata, (2011); Ogunna, (2013); Casmir and Ukah, (2013); Kompa (2012) Abdullahi (2012). Multimedia teaching embraces the use of visual and audio for its effective delivery.

Multimedia can be used in teaching subjects like geography, Physics, Mathematics, and Biology.

Course Content of Geomorphology

- Composition and Structure of the earth's crust
- Types of rocks (formation, characteristics and their economic importance)
- Endogenic processes- i.e folding , faulting, igneous intrusion-volcanisity
- Exogenic processes – i,e weathering , mass movement, fluvial processes, coastal erosion and sedimentation.
- Impact of population and geomorphic processes on the environment.

2.4.1 Influence of Teaching Strategies on Students' Performance

The introduction of ICT into the educational systems clearly changes the way education is conducted not only is it possible to with distance learning and achieve a closer collaboration between different educational institutions, ICT lays a solid base on the path for a new pedagogical approach, where students are expected to play more active role than before (Egbulu 2013). Many research studies have been conducted to investigate factors affecting students' learning outcomes in science and science related subjects at the different levels of our educational system. Prominent among the factors identified are the method of instruction. Nuruddeen, (2013) identified the need to encourage teachers to acquire the use of instructional strategies that could build positive attitude in science learners, different researchers have reported the positive effect of hyper media/ multimedia and advance organizers instruction on students' affective learning outcomes, interest and retention, these include Lin and Chen, (2006) in English; Chung, (2008) in English; Lee, (2009) in English; Shihusa and Keraro, (2009) in Biology; Wolfson, (2010) in Computer; Oloyede, (2011) in

Chemistry; Chen, (2013) in English; Adedeji, Foloruno and Adedji, (2013) in Englsh; Agnihotri and Sharma, (2013) in Educational Technology. So none of these studies focus on teaching of Geography and specifically geomorphological concepts at NCE level.

Nowadays, computer-based multimedia presentations are considered an alternative teaching tool to traditional methods because of their flexible and varied presentation capabilities (Pucel, Stertz, Aranha, Shettigar and Varghese, 2013). Multimedia presentations are well-designed containing texts, pictures, animation, voices and video (audio and motion), thus providing an interactive environment for the active engagement of students, therefore, students can learn more as compare to traditional methods involving words alone (Sharma and Agnihotri, 2013). Increased availability of lectures, greater control of students to instructional material, more repetition of lecture contents, decreased demand on instructor time, improved ability of students to learn at their own pace are the major advantages of instructional multimedia. In addition three-dimensional relationships or complex topics can be easily described by this alternative technique (Sharma and Agnihotri, 2013). A digital combination of words, graphs, animations, and sound in instruction, always appear to be positive and attract students' visions could stimulate their motivations to learn, and create effective integrated animations in the learning environment Shih-Chuan & King-Dow 2014).

Increasing availability of video technology for classroom use, more and more teachers are turning to video for instruction. Teaching methodology that will ensure the performance of students as well as the total number of students examined becomes important. In order for the acquisition of new knowledge to take place and to be meaningful, prior knowledge or schema needed to be activated within the structures by

means of introductory instructional strategy (Oloyede, 2011). Kaka, (2008:16) stated that there has been "tremendous growth in the popularity of websites focusing on social activities and collaboration"; this would include online applications such as Facebook. Facebook describes itself as a "social utility that connects people with friends and others who work, study and live around them" (Chen, 2013: 31).

Nowadays, Computer-based multimedia presentations are considered an alternative teaching tool to traditional methods because of their flexible and varied presentation capabilities (Pucel, and Stertz, 2005; Aranha, Shettigar and Varghese, 2013). Utilization of traditional teaching method of teaching which involves the use of chalk and talk makes teaching & learning very tedious, boring & uninteresting instead of being more efficient and more productive. As a remedy Akude & Anulobi, (2013) noted that video compact disc can be used as a supplement to traditional teaching method. Making used of video advance organizer also supplement and transform traditional teaching method Akude & Anulobi, (2013). This is why this study was set up to use video advance organizer strategy as a remedy to lecture method.

Being aware of the significant role of video advance organizer in our life, especially in the educational activities, education authorities should be wise enough in implementing the strategies to empower video advance organizer in supporting the teaching and learning process in the classroom. Video advance organizer is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process (Kaka, 2008).

2.5 What is advance organizer

An advance organizer is a very useful tool for teachers to help students understand, retain and remember new learning material.

Advance organizer is a cognitive instructional strategy used to promote the learning and retention of new information

An advance organizer is information that is presented prior to learning and that can be used by the learner to organize and interpret new coming information (Mayer, 2003)

2.5.1Types of advance organizer

According to Wool folk, Winnie, Perry and Shapka (2010) advance organizers are of different types these include:

Expository advance organizer: an expository advance organizer may simply provide students with the meaning and purpose of what is to follow, presents students with more detailed information of what they will be learning especially the information that may be difficult to understand: by given straightforward descriptions of new content emphasizing important content through a graphic organizer that is already filled in at the beginning of a unit to prepare them for what they will learn (inspirational).

Graphic advance organizer: Graphic advance organizer also provides students with guidance on what the important information is in a lesson or unit. They give students direction and also provide a visual representation of the important information. It is easy to see what is important and relationship between the ideas and patterns in the information where they exist

Narrative advance organizer: A narrative advance organizer takes the form of a story. Here the teacher provides essential ideas of a lesson or unit he plans to teach by

telling a story that incorporates the ideas. Such stories should make a personal or real-world connection with the new content like using Power Point to share stories.

Skimming advance organizer: When a teacher asks students to skim, glance or peruse learning materials, he provides them with the opportunity to preview the important information that they will encounter later by focusing on and noting what stands out in headings, subheadings, highlighted information, and captions-highlighted or bold text in expository information. Insert a scanned page from a text book into a power point slide-use pointer tools to circle and teach students what to skim and to skim.

2.5.2 Concept of Video Advance Organizers (VAO)

Advance organizers are intellectual linchpins that connect new learning materials and the existing cognitive experience of learner. Video organizers like cartoon increases the students' understanding by providing a skeletal map that increases students ability to link new concepts with prior knowledge; therefore, increasing retention and recall (Dye, 2000; Hassard, 2005; Moscow, 2005). Ausubel's (2000) theory is concerned with how individuals learn large amounts of meaningful materials from verbal or textual presentations in a school setting. Ausubel was of the opinion that learning is based upon the kinds of superordinate, representational and combinatorial processes that is occurring during the reception of information. Subsumption is the primary process in learning in which new material is related to relevant ideas in the existing cognitive structure on a substantive, non-verbatim basis. The search on how to improve our teaching and learning processes precipitated innovative techniques and user of newer media. Learning today are to some extent different from learners of the previous generations by the virtue of their being aware of the newer technology since learning is an activity that must be performed

by the students. This is the reason why present study is set up to bring out the silent features of video advance organizer strategy on teaching and learning, which is responsible to pave way for students to interact with video learning package and meaningfully subsumed and assimilate the content effectively (Ogunna, 2013). Solomon, Catherine and Okunamiri, (2011) says the convergence of information and communication technologies has turn the whole world into a global village, making it possible to foster interaction with people in remote geographical locations at an unimaginable speed. This phenomenon has also shortened the turnaround period of knowledge such that knowledge becomes obsolete as soon as it is acquired. The result of this development is that teachers are now challenged to be at the cutting edge of knowledge production, modification and application.

Video advance organizer is unique in the sense that even when prior knowledge is already present in the student and they seem having no disabilities in learning, it can still be useful to solve organizational difficulties (Adedeji, Foloruno & Adedeji, 2013). The use of authentic materials such as television and movies has long been established as an effective teaching practice. For a teacher to get maximum benefit out of the integration of media he must systematically plan for it (Akude & Anulobi, 2013). A teacher's attitude toward technological conflict, and their understanding of the relationship between technology, society and the individual, influenced the way they teach technology Williams, (2012). In spite of the appeal that video holds for students, there are arguments that video materials will not necessarily lend themselves to producing positive learning outcomes without some sort of teacher intervention (Herron, 1994; Herron, Hanley, & Cole, 1995; Swaffar and Vlatten, 1997 Chung and Huang, 1998; Chung, 1999) in Lee (2009).

An advance organizer is a kind of cognitive bridge, which teachers use to help learners make a link between what they know and what is to be learnt. Since the introduction of the advance organizer theory, different types of advance organizers have been used in classrooms to enhance reading and listening comprehension. The list of effective advance organizers has included pictures, verbal descriptions, key vocabulary pre-teaching, pre-questioning techniques, and cultural background cues, and recently video has been added to the list, (Lee, 2009). Advance organizers can refer to a relatively short arrangement of material introduced to the learner before the lesson. It is designed to cue the relevant prior knowledge of a learner and it is usually presented at a higher level of abstraction, generality and inclusiveness than that of the planned lesson. Advance organizers are therefore frameworks that enable students learn new ideas or information and meaningfully link these ideas to the existing cognitive structure and improve retention (Shihusa & Keraro, 2009). Video advance organizers are a tool for aiding student conceptual understanding. They are often used for instruction as well as evaluation. Video advance organizers can range from spokes which represent simple linear relationships, to chains which depict consist of the main idea surrounded by supporting details, to nets which are chains where the details are connected to each other. The net is considered to be the most complex of these organizers because it shows more concepts (Kealy, 2013).

Vision provides us with a genuine look with what is going on in the world; it is without a direct touch. The competence of vision has played a critical role regarding all kinds of developmental learning. People derive countless and various meanings and knowledge from what they see and from the ways they interact with the visual environment surrounding them. In recent decades, visual aids or visual organizers have been widely

applied as the “scaffoldings” in the classrooms as well as in the textbooks in order to stimulate students’ interest and performance (Yu-liang, 2006).

It is undeniable that every individual learner has different superior intelligences. In addition, not every individual learner acquires knowledge through the same process. However, countless teachers still insist their own traditional instructing methods and materials, and lead the learning style which they believe is right and better (Yu-liang, 2006). Prior knowledge and background knowledge are themselves parenting terms for many more specific knowledge dimensions such as conceptual knowledge and metacognitive knowledge. Subject matter knowledge, strategy knowledge, personal knowledge, and self-knowledge are all specialized forms of prior knowledge/background knowledge (Strangman & Hall, 2012) in Sharma and Agnihotri, (2013). Direct instruction on background knowledge can significantly improve students’ comprehension of relevant reading material.

Advance organizers work best when there is no prior knowledge involved because an advance organizer becomes the students’ prior knowledge before learning the new material, an advance organizer is material that is introduced before an unfamiliar content so as to facilitate its assimilation. They are, therefore, act as an anchor for the reception of new content (Oloyede, 2011). Advance organizers have been used in the teaching of subjects such as chemistry, mathematics, physics, and biology in the first language contexts and found to be effective (Lin & Tsuiping, 2006). Another study was conducted by Ginther, (2002) in Lin & Tsuiping, (2006) investigate the effect of visuals as advance organizers in facilitating students’ listening comprehension as evaluated by their performance in different types of tasks involving audio–dialogues/short conversations,

academic discussions, and mini-talks. The results indicated that providing visuals that complement the audio portion of the learning task facilitates the performance of that task

Various researches have been conducted on Advance Organizer Model. Ausubel, reported that the difference between means of experimental and control group was significant at 0.01 levels in favour of the group using the advance organizer. Studies of Ausubel and Robinson (1969), Barron (1971), Barrown (1974), Carole (1974), Baylin (1976), Beenard (1976), Goodman (1977), Buddhisagar (1979), Bartel and Heekman (1980), Borer (1981), Chaudhary and Buddhisagar (1981), Mahajan (1983), Borine (1983), Malik (1985), Buddhisagar (1986), Rajoria (1986), Chaudhari (1987), James (1988), Khanand;Siddique (1991), Deshler(1995), Diceco(1995), Saxendell (2003), Bundy,Kalmes 2005), Ausubel(2008) all of them reported effectiveness of Advance Organizer **(**Agnihotri and Sharma, 2013).

Advance organizers make it easier to learn new material of a complex or otherwise difficult nature, provided the following two conditions; the student must process and understand the information presented in the organizer this increases the effectiveness of the organizer itself; the organizer must indicate the relations among the basic concepts and terms that will be used (Woolfolk, Winne, Perry & Shapka, 2010).

Njoro, (2011) says an effective and efficient use of Visual Advance Organizer in instruction can favourably leads to effective as well as efficient learning and retention of landforms concepts, because of its effectiveness to improve meaningful learning. Yu-liang, (2006) reaffirm that videos can be used for many phases of teaching: presenting information, giving background to a topic, playing various forms of dialogues and interactions, lectures, and any output from TV channels. For example, there is a whole

range of documentaries, news programs, dramas, comedies, and shows. The power of television as a medium is duly acknowledged, even if its benefits and disadvantages are a matter of controversy.

In addition, as technology increasingly becomes a natural part of life for students around the globe, instruction must incorporate those resources that students have come to rely on throughout their lives, such as television and the internet, in order to maintain and demonstrate the relevancy and usefulness of learning in the students' immediate and future worlds (Davidson, 2009). The use of video advance organizer is essential in the classroom, as the visual input complements the auditory input such that both reinforce the other, activate multiple strands of prior knowledge, and lead to a deeper understanding of the topic or situation at hand. Yu-liang, (2006) Moving pictures carry even more information. The combination of sound and vision is dynamic, immediate, and accessible. A video's images, speech, movement, and music provide a rich mix of meaning-building cues. The outstanding feature of video films is their capability to present complete communication situations.

Advance Organizers Are: Organizers are cues; Tools that help connect the known to unknown; Frameworks for helping students understand what it is they all be learning

Advance Organizers are Not; A review of what was covered in the previous class session; A simple overview; Recalling what was done last week or last year; Telling the students about tomorrow; Recalling a personal experience and relating it to what will be learned; Stating the objectives of the lesson.

Some Basic Characteristics of Ausubel's Advance Organizers:

Ausubel's theory is based on subsumption principles, concerned with how individuals learn large amounts of meaningful material from verbal/textual or video presentations in a school setting (in contrast to theories developed in the context of laboratory experiments); Learning is based upon the kinds of superordinate, representational, and combinatorial processes that occur during the reception of information, since the primary process in learning is subsumption in which new material is related to relevant ideas in the existing cognitive structure on a substantive**,** non-verbatim basis (Ivie, 1998)***;*** Cognitive structures represent the residue of all learning experiences; forgetting occurs because certain details get integrated and lose their individual identity; They act as a subsuming bridge between new learning material and existing related ideas; The most general ideas of a subject should be presented first and then progressively differentiated in terms of details and specificity (Lin & Chen, 2006); Advance organizers when used as instructional materials should attempt to integrate new material with previously presented information through comparisons and cross referencing of new and old ideas (Mayer, 2000); Advance organizers are non-arbitrary, non-verbatim, substantive incorporation of new knowledge into cognitive structure; They provide deliberate effort to link new knowledge with higher order concepts in cognitive structure (Chen, 2007); Advance organizers provide learning related to experiences with events or objects; They offer affective commitment to relate new knowledge to prior learning; Advance Organizers don't have to be lengthy or complex but should just be clearly understood and related to the material (Chung, 2008); The most general ideas are at the apex while the specific are progressively subsumed; For a new material to be presented effectively, you must increase

the stability and clarity of the learners' cognitive structures; The sequence of the curriculum should be organized so that each successive learning is carefully related to what has been learned before (Ausubel, 2000).

2.6 Steps to Developing Advance Organizers

Begin by Describing the Goal of the Lesson

Define the goal of the lesson and present students with the advance organizer. An advance organizer can be in the form of a handout, but you can also use videos, charts, diagrams, oral presentations, or concept maps. For example, you can provide a concept map to illustrate the interrelationship between complex relationships among many parts. This helps to put the new knowledge into context while helping the students relate the new material to previous knowledge (Ausubel, 2000).

Present the Material:

Maintain attention by presenting the material in a well-organized fashion. Make the order of learning the material explicit. The general ideas are presented first, followed by a gradual increase in detail and specifics.

Use Integrative Reconciliation

Make sure as you create your advance organizer that you remind students of the bigger videos, or picture, while relating new ideas to previously learned content. Repeat precise definitions, and encourage students to use the new vocabulary in discussion groups (online or in-class). Encourage students to think critically about the material by asking for a summary of the major attribute of the new material, and asking them to look for differences between aspects of the material (Chen, 2008).

Promote Active Reception Learning

You may have provided students with a concept map or diagram now ask them to relate the new material to their prior knowledge. For example, have students generate new examples (different from what you've given them) and have them verbalize or write about what they have learned. To promote higher order thinking, ask students to examine material from other points of view and to relate the new material to contradictory material, experience, or knowledge (Mayer, 2003).

Elicit a Critical Approach to Subject Matter:

Ask your students to look for assumptions that may have been made in the new material by reading between the lines. Require that they take an active role in their own learning by judging and challenging any assumptions or inferences to reconcile any contradictions.

Clarify

Rephrase previous information as you add new information to clarify the concepts. Ask students to use the new information by applying it to new problems or examples (Ausubel, 2000).

2.7 Relevance of Video Advance Organizers

In the world of today, students are eager as well as competitive to get the best; this is due to the nature of availability and access to information. Saxendell, (2003), Bundy, Kalmes, (2005) and Ausubel, (2008) stress that today's world is scientific as well as materialistic in nature where every individual especially students are trying to collect maximum possible knowledge from all possible sources. Hence, today's world is sometimes referred to as Information Technology age. With the advancement in the

technology, information explosion has resulted which is greatly affecting the field of education. As a result, it is necessary for an educator to find efficient and effective ways of imparting knowledge to the learner wherein written, text material or multimedia will remain forever as an important source of information.

A lot of emphasis is put on the effectiveness of teaching, more attention should be devoted to the changes occurring in pupils as they increasingly become. Their emergence claims for a reconsideration of ICT based educational innovations putting pupils' new attitudes and expectations, as well as transformed competences of both students and teachers Cabrol and Severin, (2013). Indeed, the use of video advance organizers serves as new technologies of Information and Communication that transforms traditional teaching and assists the adaptation of new curricula and new courses in existing applications. A key requirement for the future is the need to prepare students to participate in the information society, where knowledge is the most crucial factor in the social and the economic development of a country. The adoption of new Information Technologies and Communication has led to significant changes in both the structure and the functionality of education Dimitrios, Labros, Nikolaos, Koutiva, and Athanasios, (2013).

Information technologies call the traditional relation of educators and learners into question. Traditional learning environments are organized by educators; new technologies allow for the creation of environments by learners. New media technologies begin with learner interest, and exist to help learners explore interests as pathways to learning activities (Halverson & Shapiro, 2012). Okorafor, (2011) in Sharma and Agnihitri (2013) suggest that allowing students to interact with video episodes can develop their powers of observation and open new perspectives for their understanding of scientific concepts.

The best way of assisting students to learn is to bring them into face to face with what they are learning. One of the ways of achieving this is exposing students to real life objects when teaching and improvise when the real are not available (Roseline & Immaculata, 2011). In addition Oloyede, (2011) described meaningful learning in terms of reception learning, which was a learning where the content of the learning task is presented to, rather than discovered by the learners. Meaningful reception learning involves the process of subsumption**,** which occurs when information enters a student's cognitive structure and interacts with and is subsumed under more inclusive concept already possessed by the student. For new learning material to become meaningful and ready to be ''subsumed'' into the learners' current cognitive structure, instructors should be actively ''selecting, organizing, presenting, and translating subject-matter content in a developmentally appropriate manner. Advance organizers are of different types and are used to improve the organization of to be-learned material and therefore facilitate learners' understanding of the material (Lin & Tsuiping, 2006).

In the support of the persuasive nature of advance organizers Coffey, (2000) described meaningful learning in terms of reception learning, which was a learning where the content of the learning task is presented to, rather than discovered by the learners. Meaningful reception learning involves the process of subsumption**,** which occurs when information enters a student's cognitive structure and interacts with and is subsumed under more inclusive concept already possessed by the student. Advance organizers work best when there is no prior knowledge involved because an advance organizer becomes the students' prior knowledge before learning the new material. Rasj Rani Agarwal, (2004) in Lee (2009) in a study found that the Advance Organizer and the Concept Attainment and

recall were found more effective than the Conventional Method in fostering concept learning. Probably no other school subject is so much forced to account for its content and practice. For that reason it is important that technology teachers can draw from a sound theoretical basis to defend the position of their subject in the curriculum (Williams & De Vries 2012).

Academic performance as a variable in students' learning environment has been a matter of concerned in the present day research. It could be defined as the level of performance in the subject exhibited by an individual. It could be seen as the exhibition of knowledge attain or skills developed by students in the school subject usually designed by test scores or by marks assigned by teachers which can be low or high. Utilization of instructional media in teaching and learning make student learn more and retain better what they have been taught and that it also promote student interest. It allows learner to discover themselves and improve their abilities to retain concepts (Bello, 2014). Oloyede, (2011) revealed that meaningful learning is explained in terms of retention. Retention is the term used to denote the demonstration that leaning has been maintained over time, It may be displayed through recognition or recall. And He chooses three weeks interval after the post-test, then post-post-test were administered for retention. But for learning is to be effective and permanent, it has to be meaningful and involves learners' active mental processing of relating new knowledge to existing background knowledge which in turn improves retention of the material taught. Davidson (2009) posits that videos can aid learners in developing listening performance and retention of cultural information, providing multi-modal input to illustrate authentic communication.

Learning is all about absorption, processing and retaining that is why it is going hand in hand with interest, because you can never involve yourself on that thing that you may not have interest on it Chauhan, (2001) the introduction of novelty into the teaching /learning process creates interest in the individual when the teacher presents the subject matter in a variety of ways to maintain the curiosity and interest of the students. Video Advance organizer strategies could be used to effectively enhance students' learning and retention of basic science and also promote their interest in the subject (Adedeji, Foloruno & Adedeji, 2013). Recently, multi-media learning environments have been created online with audio, video, graphic and animation to simulate true task environment which can bring tremendous learner interests and motivation Ebe, (2011) found with an extensive literature review, technology can impact student achievement significantly. Studies indicate that technology can accelerate, enrich, deepen basic skills; motivate and engage student learning; helps to relate academics' to the practices of today's workforce; strengthens teaching; and improve interest. For the instructor, on the other hand, online teaching is beneficial in terms of structure and time convenience. Instructors are able to reach out for students regardless of physical boundary, and access expanded instruction and research tools. New educational technologies offered teaching and learning a new horizon (Chen, 2007). Students vary in their interest, strength and their skills. Therefore individual passion and experiences contribute immensely to each student's interest as well as learning approach, teachers who know their students' interest better, are more able to motivate their students and establish appropriate high expectations (ASI, 2014).

Vision provides us with a genuine look with what is going on in the world; it is without a direct touch. The competence of vision has played a critical role regarding all

kinds of developmental learning. People derive countless and various meanings and knowledge from what they see and from the ways they interact with the visual environment surrounding them. In recent decades, visual aids or visual organizers have been widely applied as the "scaffoldings" in the classrooms as well as in the textbooks in order to stimulate the learners to further interests and attention and, at the most, to enhance the understanding and comprehension of concepts. A number of succeeding studies presents a substantial and stimulating argument that visual materials, be they still pictures, video, or graphic organizers, also generally enhance discernment of a concept and improve interest, particularly when learners are at a fairly low level of proficiency (Hadley, 2000).

In the selection of teaching there are so many factors to be considered; learner background, maturity, age, and environment that is why Enobong, (2013) persuasively transcend that teacher should try to diversify his methods bearing in mind the learners environment, his nature etc, and apply multisensory aids direct experience in teaching and learning situation. But above all, to ensure a change in the learning climate, a greater attention should be devoted to learner's interest. Tukur, (2012) reported that using instructional media in teaching and learning makes student learn more and retain what they have been taught and that it promotes and sustain learners' interest, therefore when instructional media are use there is tendency for the classroom interaction to be collaborative more interesting. ASI (2014) concurs with previous scholars and posits that; one of the simplest ways to discover interest is through an interest inventory. Students can check off items that most like them or which interest them most. These types of checklist inventories are a safe risk of students who may not feel comfortable telling others about their private interest.

Technology increase and boost learner morale due to the access to information through the internet, in different forms whether audio, visual, audio visual, graphic. Ebe, (2011) found with an extensive literature review, technology can impact students' academic achievement an interest significantly. Studies indicate that technology can accelerate, enrich, deepen basic skills; motivate and engage student learning; helps to relate academics' to the practices of today's workforce; strengthens teaching; and improve interest. Properly selected and utilized instructional media "can promote academic performance, can give to learners increased conceptualization and understanding that is more than they usually gain from verbal explanation" (Oluwadare 2000:23). Lee (2009) examined the effects of providing summary statements of a video advance organizer on students' listening comprehension of a foreign language fictional narrative video. The results showed that the advance organizer group did significantly better than the control group, confirming the effectiveness of video advance organizers on students' performance. Among the different formats of advance organizers, the concept map, a video advance organizer, has been widely used in classrooms and noted with positive effects on students' performance (Gil-Garcia & Villegas, 2003; Kang, 2002; Millet, 2000). Oloyede, (2011) concluded that pictorial organizer is more effective in enhancing students' performance and retention in chemistry than written organizers. Also, chemistry students taught with advance organizers performed better than those not taught with advance organizers and finally, no significant difference was observed between the performance of male and female chemistry students taught with pictorial and written organizers.

Recent advances in the world of technology have led to significant changes in every aspect of life and common practices of human beings have been in a constant flux of

change as a result. Especially, with the availability of the Internet, information technologies have gained rapid acceleration and the emergence of various innovative tools has influenced several practices in the field of education since then. Being among the latest contributions of these emerging technologies, three-dimensional (hereafter 3D) virtual worlds provide numerous opportunities for language teachers and learners in cyberspace and challenge our understanding of what comprises the ideal educational and online classrooms for the last few decades, Virtual Worlds have been serving as interactive learning applications for language teachers and learners all around the world (Varli, 2009) in Enobong, (2013). Setting at the dawn of a new cyber era, offering unique learning opportunities for Information and communication technology has the potential for not only introducing new teaching and learning practices, but also for acting as a catalyst to revolutionize the education system. It can empower teachers and learners and promote the growth of skills necessary for the 21st century work place (Edith, 2013). And today most of our main method of teaching (up till now) remains the talk and chalk in spite of curricular changes, scientific and technological inventions including ICT.

ICTs offer new teaching and learning experiences to both teacher and student since it provides easy access of information and enables visualization of educational materials in an innovative and realistic way (Rebecca and Paul, 2013). Using digitization, instructors and researchers have been able to record and display high-quality audio and video in the classroom, giving students access to authentic audio and visual materials that were not previously available, or that were of much lower quality (Casmir and Ukah, 2013). To help the teacher achieve this effective instructional delivery, the teacher must tap the potentials of new technology which manifests itself in the new information and communication

technology, because instruction and teaching are all about communication (Edith, 2013). Chen, (2007) posits that the biggest benefit for ICT is convenience.

Online learning provides students with time and location flexibility. Students can access learning materials virtually at any time and any place. Also, the Internet brings expanded resources to the learners at a very low cost or even free of charge. Recently, multi-media learning environments have been created online with audio, video, graphic and animation to simulate true task environment which can bring tremendous interests and motivation to learners (Ogar and Upula, 2013). For the instructor, on the other hand, online teaching is beneficial in terms of structure and time convenience. Instructors are able to reach out for students regardless of physical boundary, and access expanded instruction and research tools. New educational technologies offered teaching and learning a new horizon. Both students and instructors perceive that online learning provides major benefits to both teachers and learners. (Casmir and Ukah, 2013) ICT has the potential for enhancing the tools for learning as it allows materials to be presented in multiple media, motivates and engages students in the learning process; fosters inquiry and exploration; and provides access to worldwide information resources. However researchers have been inconclusive on the expectations regarding the value of ICT. ICT can be relevant in the teachers' professional development, to make them guides to sources of knowledge Ebe, (2011). Teachers in contemporary knowledge society require large, rich and easily accessible knowledge base which can be provided through ICT technologies that support teacher professional development. Teachers need to be lifelong learners to keep abreast of new knowledge, pedagogical ideas and technology relevant to successful implementation of

Nigeria educational reforms; hence the need for them to be competent in the use of ICT (Nyenwe & Ishikaku 2013).

The quality of students' learning will be enhanced through their access to the needed content through ICT facilities. Information and communication technology can enhance learning by doing, and increase the information available to learners, thereby engendering collaborative learning (Tunde, 2013). (Rebecca and Paul, 2013) ICT provides new frontiers for providing access to basic education for disadvantaged children and youth excluded from the formal school system. As modern ICTs are attractive to children and youth, they provide unmatched learning opportunities for them to learn within and outside the formal school system. They are powerful motivational tools for learning through games, exploration, collaboration, and learning work-related skills (Egbulu, 2013). This is to say that ICT can provide opportunities for individuals with disabilities to have access to quality education in conventional and distance education settings. Information and communication technology can assist in evaluation at both macro (national objectives) Meso/Intermediate (institutional or school level) and the micro (classroom) levels of the Nigerian education system. Through ICTs research, results of educational institutions can be centralized and disseminated for national or specific contextual application. Technology-based training is becoming increasingly prevalent in organizational settings (Ogar and Upula2013).

Visualization has a long history in instructional material and previous research has shown that simply adopting a new technology does not necessarily improve learning (Lin & Chen, 2007). But it can empower teachers and learners and promote the growth of skills necessary for the 21st century work place. Information and communication technology

(ICT) is therefore the combination of networks, hardware and software as well as the means of communication, collaboration and engagement that enable the processing, management and exchange of data, information, idea and knowledge. In order words, ICT includes the use of GSM Mobile phones, personal computer (PC) and internets which have been central tools that gave impetus to the most radical changes known today (Edith, 2013). Olaide and Ugoma, (2013) are of the opinion that teaching media provide realistic imagery and substitute experience to enrich teaching learning process.

The ICT has been developing very rapidly nowadays. Therefore, in order to balance it, the whole educational system should be reformed and ICT should be integrated into educational activities; the influence of ICT, especially internet (open source tool) cannot be ignored in our student' lives Ofoegbu and Asogwa (2013). So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. In this case the widely use of internet access has been an unavoidable policy that should be anticipated by schools authorities; the presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. The students cannot be exterminated from this case. They can have and do with it wherever and whenever they want. Schools, as a matter of fact, do not have enough power and time to prevent or stop it after school times.

Meanwhile, most parents do not have enough times to accompany and control their children Olayinka, (2008). So, the students have large opportunities to do with multimedia games or online games or browsing the negative and porn sites. Having been addicted, the students will have too little time to study, and even do not want to attend classes; the implementation of ICT in education has not been a priority trend of educational reform and

the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the schools and the government institutions to enhance ICT implementation at school; the teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification Olaide & Ugoma, (2013).

Research in best practices for online education emphasizes the importance of promoting interactivity, encouraging student-instructor and student-student interchanges as well as building online learning communities (Bangert, 2005; Bannan-Ritland, 2002; Dennen, Darabi, and Smith, 2007; Kennedy, 2004) in Lee, (2009). Recent contributions to the field of web-based distance education state that interactivity and communication are key components required for successful online teaching and learning (Fabry and Schubert, 2009; Mahle, 2007; Moore, 2001; Tobin, 2004) in Ishikaku and Upula, (2013). Citing results from a recent study on the importance of interaction to student learning within web-based online learning programs, Sher, (2009) in Nyenwe, & Ishikaku, (2013), (2013 notes that, "Student-instructor interaction and student-student interaction were found to be significant contributors of student learning and satisfaction (Fabry, 2013) in Shih-Chuan & King-Dow (2014). Olaide and Ugoma, (2013) relates that the concept of image and identity is one that can capture the imaginations of young people and inspire their creativity.

According to Salaberry (2001) the general objectives stressed that information technology must be used to; empower the youth with IT skills and prepare them for global competitiveness; integrate IT into the mainstream of education and training; establish new

multi-faceted IT institutions as centres of excellence to ensure Nigeria's competitiveness in international markets.

Researchers have reported that issuing laptops to teachers, or helping them purchase laptops, can empower them to teach better, increase lesson planning and preparation productivity, gain a more positive attitude about their work, and improve efficiency of management and administration tasks White Paper (2012). The advancement in technology has introduced diverse Information and Communication Technology (ICT) tools that are useful in the development process of the education system more especially in our contemporary society (Nyenwe, & Ishikaku, 2013).

Ofoegbu and Asogwa (2013) some of the benefits of ICT as a teaching and learning resources as; helps to present information in many forms; makes learners to be more confident in learning process; makes learners to communicate effectively on any process; makes students to become independent learners and good beginners; helps to increase students writing skills; gives rise to greater problem solving and critical thinking; develops in the learners the spirit to interact with their fellow students; helps students to work collaboratively.

Computer assisted instruction (CAI), subsumes the concept of tutorial instruction drill, and practice presentation of tutorial instruction to the learner, accepting and judging responses from the learner and providing feedback and altering the flow of subsequent instructional content on the basis of the learner's responses. The use of computer system to deliver instruction directing to learners by allowing them to interact with lessons programmed into the system is known as Computer Assisted Instruction, CAI. In computer programming, the computer and the associated software or packages are the objects of

instruction. Also, in computer operations, the learner's ability to manipulate the software and hardware becomes paramount (Casmir and Ukah, 2013).

The main purpose of the Strategy for Information and Communication Technology Implementation in Education is to provide the prospects and trends of integrating information and communication technology (ICT) into the general educational activities (Kaka, 2008). Therefore Schools should use computers and related technologies to help students who are poorly served, or not served at all, by the current technology of education that is, by the schools most of us grew up with. In addition, elementary and secondary students ought to use computers, the Internet and other digital tools directly, not necessarily through a school. In these ways, schools, students and families will help promising computer-based technologies grow and improve. The schools can pay a huge price for not changing in time to accommodate new technologies (Cabrol & Severin, 2013). Ebe, (2011) in his research discovered that secondary school students who are exposed to video-based instructions in science had significantly better results than those who were taught using the conventional method.

Advances in information communication technology (ICT) have generated interest amongst educators and researchers to utilize the technologies for the teaching purposes. Hartman, Dziuban and Moskal, (2000) sees that the biggest benefit for ICT is convenience. Online learning provides students with time and location flexibility. Students can access learning materials virtually at any time and any place. Also, the Internet brings expanded resources to the learners at a very low cost or even free of charge. Nowadays the role of Information and Communication Technology (ICT), especially internet in the education sector plays an important role, especially in the process of empowering the technology into

the educational activities. Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Technology (internet) in another side can be the most effective way to increase the student's knowledge (Kaka, 2008).

The major goal of the Teacher Education programme is to produce competent professionals who will be capable of making learning easier for students. The teacher's ability to evaluate the level of effectiveness of any instructional media for teaching and learning is based on his ability to use them effectively (Tunde, 2013). To achieve a maximum instructional delivery especially in tertiary institution, it becomes imperative to develop high level educational technologist and qualified teachers to cope with recent trends in scientific and technological advancement.

The introduction of ICT into the educational systems clearly changes the way education is conducted not only is it possible to with distance learning and achieve a closer collaboration between different educational institutions, ICT lays a solid base on the path for a new pedagogical approach, where students are expected to play more active role than before. (Egbulu, 2013). A digital combinations of words, graphs, animations, and sound in instruction, always appear to be positive and attract students' visions, could stimulate their motivations to learn, and create effective integrated animations in the learning environment (Shih-Chuan and King-Dow 2014).

Oloyede, (2011) recently, viewed that, with the increasing availability of video technology for classroom use, more and more teachers are turning to video for instruction. Teaching methodology that will ensure the performance of students as well as the total number of students examined becomes important. In order for the acquisition of new knowledge to take place and to be meaningful, prior knowledge or schema needed to be

activated within the structures by means of introductory instructional strategy (Ausubel, Ivie, Joyce and Weil, Kalmes, 2005 & Postrech, 2002). Thus, Ausubel, developed the new strategy that he termed video advance organizers. By stimulating schema to enable students to link prior knowledge with new concepts, video advance organizers provide a kind of mental scaffolding to learn new information (Hassard, 2005). Thus, the new information is easier to understand, learn, retain and recall

Abbitt (2007) stated that there has been tremendous growth in the popularity of websites focusing on social activities and collaboration would include online applications such as Facebook. Facebook describes itself as a "social utility that connects people with friends and others who work, study and live around them" (Chen, 2013).

Utilization of traditional teaching method of teaching which involves the use of chalk and talk makes teaching and learning very tedious, boring and uninteresting instead of being more efficient and more productive. As a remedy Anulobi, (2009) noted that video compact disc can be used as a supplement to traditional teaching method. Making used of video advance organizer also supplement and transform traditional teaching method. Akude and Anulobi, (2013). That is why this research employed video advance organizer as a remedy to lecture method.

Being aware of the significant role of ICT (internet) in our life, especially in the educational activities, education authorities should be wise enough in implementing the strategies to empower ICT in supporting the teaching and learning process in the classroom. ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process (Kaka, 2008).

From the foregoing, these researchers found that advance organizers are very effective in helping learners to meaningfully understand the content very well.

Gap that exist in sub-Saharan Africa, and out-of-school children, more of whom are girls, deprived opportunity to gain any ICT related knowledge and skills in school. African women have the lowest enrolment rates in the world in science and technology education at all levels. A study conducted in four African countries established that women are less confident than men in their computer skills and this may result in incompetence of using computer as an instructional media in the classroom (Ogar & Upula 2013). Chen (2007) claims that females are different from males but not deficient in abilities in mathematics, which in turn, is a prerequisite to taking science and technology. But Oloyede (2011) in his findings showed that there was no significant difference between the achievements of male and female chemistry students taught with pictorial and written organizers.

In a similar vein, Obeka, in Chen, (2009) conducted a research on EOODEWALAD and power simulation games on geographical and environmental education. His findings, among others, revealed that gender was a significant factor in students' achievement in environmental education concepts of geography with male students performs than their female counter parts. He says the influences of students' gender in their academic performance had been a concern to researchers in education, yet no consisted result had emerged. These situations therefore sustain the curiosity of researchers, making it necessary for the need to understand how students' performance is influence by gender on instructional package. Ogunojemite and Omodara, (2013) reveals that there was no significant difference in the impact of mass media among male and female adult which

shows that there was poor relationship between the usage of media by both gender. This was justified by the outcome of Saunders, Mantgomes and Berchman, (2000) in Kaka (2008) in their research that female genders spent about three hours per day watching television viewing to stay informed to access news, that great percentage of female adult consider themselves to be most influence by television. Conversely, Udosen, (2006) in Lee, (2009) reported gender is not a significant factor to be associated with students' performance.

2.8 Empirical Studies

The issue of Video Advance Organizers as a teaching strategy has greatly attracted the attention of many researchers and a number of studies were conducted on the effectiveness and suitability of advance organizers in teaching and learning. Adedeji, Folorunso, Adedeji, (2013) on their study on the effectiveness of advance organizer as narrative simulation in secondary school with 126 students. One-way analysis of ANOVA and post hoc multiple comparison tests was used, the findings revealed advance organizer strategy enhanced students' performance and retention.

Sharma & Agnihotri (2013) investigate effectiveness of advance organizer model for teaching educational technology to B.Ed students, t-test was used and the findings revealed that B.Ed students at pretest and posttest differ significantly meaning that instructional material based advance organizer was effective in increasing students' performance.

Oloyede, (2011) conducted a study on the effect of video advance organizer on chemistry students' performance and retention. The sampled used for the study is 138 students. The data collected was analyzed using t-test analysis of covariance (ANOVA).

The findings revealed that advance organizer was found most effective in improving students' performance.

Brown and Cady (2011) conducted research on a topic, Effects of Graphic Organizers on Student Achievement in the Writing Process. The writing survey also indicated students' better understanding of their cognitive abilities and their direct correlation to the importance of the writing process. When asked if they felt graphic organizers were helpful, 52 percent stated yes on the pre-writing survey. On the post-survey, 89 percent stated yes. When given a choice of what they struggled with the most in writing, students listed expressing ideas, structuring ideas, editing, and writing sentences as the highest. When what teachers asked could do to help improve their writing, students on average answered providing practice time and detailed instruction the highest. Providing extra time and graphic organizers rated the second highest from the survey. This data indicates the students were able to reflect on their learning and writing performance. They understood the need for explicit instruction in writing.

Wolfson (2010) investigated the effect of computer-Based instruction as advance organizer with 120 students. MANOVA was used for the analysis of data. The result revealed that those subjects exposed to computer-based as advance organizer performed significantly higher.

Lee (2009) in his research on the effectiveness of advance organizer on secondary students' performance in which he uses 100 students as sample and employed descriptive statistics. The findings revealed that those group exposed to advance organizer was found to performed more significantly higher.

Chung (2008) compared listening comprehension rates for video texts using a variety of techniques: advance organizers; captions; a combination of both; and none of the foregoing. The results showed that more effective comprehension occurred among 170 students when advance organizer was combined with captions. The theoretical framework for the study is based on cognitivism. The findings were found not effective on students' cognitive ability.

Chen (2007) conducted research on the effect of advance organizer on learning and retention, with 166 students. He employed a repeated measure ANOVA. And result revealed that advance organizer influence students learning and retention.

Lin & Chen (2007) conducted a study on text Visualization as advance organizers on university students with 115 students, two-way analysis of variance (ANOVA) were used. The major findings of the study can be summarized as follows. First, dynamic visualization used to complement verbal information contained in the authentic material was no more effective than static material.

Tseng, Wang, Lin, and Hung (2002) administered one experiment on computerized advance organizers designed with Macromedia Flash and Microsoft PowerPoint. In this study, 276 six graders were divided into two learning environments; one using computer assisted learning systems and the other using traditional teaching mode. In each learning environment, subjects were further divided into one control group and two experimental groups, respectively, using organizers designed with multimedia computer software, Macromedia Flash and Microsoft PowerPoint. The results of the study suggest that the students who used computerized advance organizers evidently demonstrated higher learning achievements than those who used none.

Zittle (2001) continued the research on participatory organizers. He compared the use of a text organizer, a completed concept map, and a structured concept map in a study with distance based education. All three groups read the problem text first. Then three instructional strategies were administered. The text group studied the key points of the problem in text form. The concept map group studied the same points in the form of a teacher-constructed concept map. The third group filled out a partially-blank concept map by themselves. The dependent variable was the number of hints required for solving the second problems. The result indicated that participants using a participatory organizer required significantly fewer hints to correctly solve the problems than either of the other two groups.

McManus (2000) conducted a study in a Web-based hypermedia learning environment with a population of 159 college students in a southwestern university. He integrated short prose paragraphs as expository organizers to link the new lesson with students' preexisting knowledge structure. The study, utilizing a 3x3x2 repeated-measure ANCOVA with co-variables, was designed to search for possible interactions between nonlinear presentation, advance organizers and learner self-regulation in an introductory level technology class. The means and standard deviations on learning for both the experiment and control groups. The results show no significant main effects or interactions.

From the foregoing, most of the studies conducted on advance organizers were in countries like Florida, Colorado, Taiwan, southern and Northern Nigeria as well. Also it revealed that the studies conducted were mostly in subjects like English, Mathematics, Biology, Computer and Chemistry, and in all levels of education. Therefore a similar study is here by undertaken in Geomorphology in USCOEGA. Subsequently this is the gap that

this research work filled in this study, specifically "Impact of video advance organizer on NCE students' interest, performance and retention in geomorphological Concepts in USCOEGA Yobe State, Nigeria.

2.9 Summary of Reviewed Literature and its significance to this study

From the literature reviewed in this study it could be said that there are many empirical works that has been conducted in the area of advance organizers as a teaching strategy. The major concerns found from the review is that, most of our teachers' adopted pedagogy is teacher centred activity, which is inadequate to immediately capture students' interest, retain and subsequently recall with much ease, which subjected majority of our students to mere passive listeners and prone to forgetfulness.

This has provided an empirical data on the video advance organizer as an ICT strategy that enhance effective teaching of Geomorphological concepts and other earth science related subjects in our classrooms. The studies proven the integrity of video advance organizer with a focus on students' interest, performance and retention. This is why this study investigated the impact of video advance organizer on NCE students' interest, performance and retention in geomorphological concepts in Yobe State, Nigeria. To ascertain its efficacy the studies highlighted the use of ICT as a strategy in teaching which this study explores during treatment. The summary of the reviewed literature shows a degree of agreement, disagreements as well as the differences in the present and previous researches: Adedeji, Foloruno & Adedji (2013) in their work discovered that advance organizers improve students' performance and retention this in line with the findings of this research work. But the present research worked on both students' interest and gender respectively. Sharma and Agnihotri (2013) found that an advance organizer was effective

in increasing students' achievement. This agreed with findings of present research that video advance organizer improve students' performance and retention but it does not affect interest. Tseng, Wang, Lin, and Hung (2002) suggest that students who are exposed to computerized advance organizer demonstrated high level of achievement; this is in consonance with present work that revealed the suitability of video advance organizer in improving students' performance and retention. Oyelede (2011) found that pictorial advance organizer is more reliable in improving students' performance than written advance organizer and non-advance organizer group was found to be the least in improving students' academic performance. Therefore present research differs only with Oloyede in measuring students' interest and retention. Chen (2007) in his research on the effectiveness of advance organizers on learning and retention. The result shows significant different in both learning and retention. Therefore his work differs with present research only on students' interest. Lin and Chen (2006) found that advance organizer is not effective in improving students' performance. But in present research, it is found that video advance organizer improved students' performance. Wolfson (2010) in his research revealed that older students tended to perform worse than younger adults and that does not age significantly predicted recall performance. This is in contrary with present research which also predicted significantly the effectiveness of video advance organizer in terms of performance, retention and differs in interest. Chung (2008) reported that were not effective on students cognitive ability but present research argued that video advance organizer improve students' performance and retention. Lee (2009) in work found that advance organizers do not improve academic achievement this is in disagreement with present research that revealed the effectiveness of video advance organizer.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focused on the method employed in the conduct of this study, the following formed the major sub-headings, namely: Research Design, Population of the study, Sample and Sampling Technique, Instrumentation, Reconnaissance, Validation of the Instruments, Pilot Study, Reliability of the Instruments, Procedure for data collection, Treatment Procedure and Procedure for data analysis.

3.2 Research Design

This study employed a one sample experimental design involving pretest, posttest according to Thyer, (2012). Subjects were pretested before the treatment. After six weeks of treatment the subjects were also post tested to ascertain the impact of video advance organizer.

3.3 Population of the Study

The population of this study is 234 which consist of all NCE II (2013/2014) students' intake of Umar Suleiman College of Education Gashu'a (USCOEGA), Department of Geography. The distribution was shown in the Table 3.1.

Table 3.1: Population of the Study

	Programme	Male	Female	Total
1.	N.C.E. II	194	40	**234**

Sources: Departments of Geography USCOEGA (2014)

3.4 Sample and Sampling Technique

A sample of 30 NCE II students was purposely selected for the study. The reason for the choice of this sample was as a result of the nature of this study.

Table 3.2: Sample of the Study

	Variable	Male	Female	Total
1.	Subjects	15	15	**30**

Sources: Departments of Geography USCOEGA (2014)

3.5 Instrumentation

Two instruments were developed by the researcher to generate data for this study. Geomorphic Performance Test (GPT) and Geomorphic Interest Test (GIT) were developed on topics in Geomorphological concepts and consist of multiple choice questions, fill in the blank or true or false, see appendix I and V.

The individual responses collected for Geomorphology Performance Test (GPT) from the respondents was scored as continuous data 0 - 100%, each response scored as one mark, making the total of (25) marks each. The Geomorphology Interest Test (GIT) had 30 items and was scored in ranks namely; Strongly Agreed (SA), Agreed (A), Undecided (UD), Disagreed (DA), Strongly Disagreed (SD).

The answers to the Geomorphology Interest Test (GIT) were scored using a Five (5) point Likert rating scale of:

- Strongly Agreed (SA) - 5 points
- Agreed (A) - 4 points
- Undecided (UD) - 3 points
- Disagreed (DA) - 2 points

- Strongly Disagree (SD) - 1 points

Recorded video of 5minutes was used as video advance organizer on some selected geomorphology features; Flood plain, Lateral erosion, Sand bars, River valley, Gullies, Vertical erosion, Inselberg, Rock pedestal, Barchan, and oasis.

3.5.1 Validity of the instrument

To ascertain the validity of the instruments used for the research; Geomorphology Interest Test (GIT) and Geomorphology Performance Test (GPT), the supervisors as experts in the field of instructional technology and geography as well, they have established the appropriateness, statement clarity and content validity of items in the test and in the questionnaire.

The experts checked for possible errors in the instruments and certify if the questions are appropriate for the level under study. They also validate and corrected some errors noted. Some items that were irrelevant were also removed with overall adjustments for the questions to measure what is set up to measure.

3.5.2 Pilot Testing

A pilot test was conducted on geomorphological concepts in Umar Suleiman College of Education Gashu'a Yobe State and the participants are NCE I students in the department of Geography Umar Suleiman College of Education Gashu'a, which are no longer part of the research, this is done in order to ascertain the suitability and reliability of the instrument to measure what is purported to measure. To determine the reliability of Geomorphic Performance Test (GPT) and Geomorphology Interest Test (GIT) 30 students were pretested and their results were collected for compilation. After an interval of two weeks the same instrument was re-administered to the same group of students for Retention

test (RT), as justified by Tuckman (1972). Who resist that those two weeks interval is enough for retention.

3.5.3 Reliability of the Instrument

The reliability coefficient of Geomorphology Performance Test (GPT) instrument was established using Pearson Product Moment Correlation (PPMC). GPT and RT were tested for r-coefficient using Spearman's Correlation Index. The coefficient value of r determines their levels of reliability for use in data collection. The overall reliability was established at 0.80 and 0.87 respectively which is very reliable for the study of this nature. As for Geomorphic Interest Test (GIT) it was administered to (30) students and their results were divided into two, odd and even number, and then finally correlated using Spearman Rank Correlation, from the result obtained r was found to be 0.98 which indicate strong positive relationship, thus, the instrument is reliable to measure students interest.

3.6 Procedure for Data Collection

The tests was administered to the respondents by the researcher, with help of one research assistant, after receiving training on how to conduct the research work. During the experimentation the researcher applied two different treatments to the subjects. Subjects were pretested and post tested using two different treatments. The content and lesson objectives of the two treatments are centred on geomorphological concepts. The subjects were pretested with Geomorphology Interest Test (GIT) and Geomorphology Performance Test (GPT) this is done to determine students' interest on geomorphology concepts and their equivalent performance on video advance organizer. Then subjects were exposed to advance organizer gadgets which are very rich with variety of geomorphological videos learning package as video advance organizer strategy for six weeks. The posttest was

administered for the subjects after treatment to measure students' post-interest and post-performance with GIT and GPT respectively. Two weeks later retention test was administered to the subjects to measure students learning retention (RT). As for the gender, the result of GPT treated with video advance organizer strategy was computed for male and differences in performance. The weekly activities that took place within the time frame are as follows:

Week 1 The students were pretested for both performance and interest.

Then later in the same first week within group A was exposed to Flood plain and Lateral erosion using video advance organizer strategy.

Week 2 Experimental group was exposed to Sand bars, River valley (both annual and perennial) and Core stones using ICT oriented strategy as video advance organizer.

Week **3** Exposure to Gullies and Vertical erosion using video advance organizer strategy.

Week 4 Exposure to inselberg and rock pedestal using video advance organizer strategy.

Week 5 Barchan (including their types) and oasis was taught using video advance organizer strategy.

Week 6 in the sixth week posttest was administered for both academic performance and students' interest. Then Two weeks after the posttest, post-post-test was administered for retention.

Camcorder and Digitalized Camera was used to record Geomorphological features in the arid zone of Yobe State, the recorded videos were then synchronize with audio to become audio-visual by the used of Capture Card. The recorded DVD plate (Digital Video Device) was played with Computer which is directly connected to Multimedia Projector using powerful USB Cable, and then signals were sent/projected directly to the White

board. Microwave speakers was attached to Computer purposely to amplify sound, while the Projector Stand serves as tripod/carrier to the projector, this is to avoid shaking and uninterrupted projection. The Pointer was used to point out specific geomorphic feature on the White board.

3.6.1 Reconnaissance survey

The researcher visited the arid zone of Yobe State, specifically those areas selected and employed by a purposive sampling technique to survey, identity features of geomorphic significance for the study. This is shown in table 3.3.

Table 3.3: Reconnaissance Survey Sites and Features

S.NO	Local Govt. Area	Locality	Observed Geomorphic Features
1.	Bade	Gashu'a	Sand bars, Flood plain, Lateral erosion, River valley (both annual and perennial
2.	Jakusho	Jakusko	Gullies and Vertical erosion
3.	Machina	Machina	Inselberg, Rock Pedestals, Core stones
4.	Yusufari	Tulo-Tulo	Barchan, Sand dune and Oasis

Source: Field Survey (2014)

Prominent geomorphic features identified during the reconnaissance exercises are attached as appendix viii (page 107-116).

3.7 Procedure for Data Analysis

The research questions were answered descriptively using mean and standard deviation of students' interest, performance and retention. Hypothesis one was analyzed using Wilcoxon Signed Ranked Test, hypotheses 2 and 3 was analyzed with paired t-test, hypothesis four was tested using t-test independent, with the aid of SPSS package at $P \leq 0.05$ significant level.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The data collected for this study were analyzed using appropriate statistical package.

4.2 Answers to Research Questions

Here the analysis of mean and standard deviation were used to answer the questions raised for the study. Mean scores were compared to observed the significant effect of the experiment on students' interest, performance and retention.

Research Question One: What is the difference in the interest levels of students taught geomorphology concepts using Video Advance Organizer strategy before and after treatment?

The mean scores of pretest and posttest were compared to observed the significant effect of the treatment on students' interest before and after the treatment. The distribution of scores was shown in Table 4.1.

Table 4.1: Students' Mean Interest Scores in Geomorphology Before and After the Treatment

Variable	N	Mean of Rank	Sum of Ranks	Mean of Rank
Before treatment	30	17.12	291.00	
				1.12
After treatment	30	16.00	128.00	

Statistics in Table 4.1 show that the mean score of students' interest exposed to video advance organizer strategy before treatment (Pretest) is 17.12 which is higher than the mean score of those students after experimentation with 16.00 and a mean difference of 1.12. This revealed that students' interest is higher even before treatment. Therefore video advance organizer does not affect students' interest.

Research Question Two: What is the difference in the mean score performance of students taught geomorphology concepts using video advance organizer strategy?

When the mean scores of students' performance before and after treatment were compared the following was observed as shown in 4.2

Table 4.2: Mean Test Scores of Students Performance Before and After Treatment

Variable	**N**	**X**	**SD**	**SE**	**Mean difference**
After treatment	30	14.50	4.56	0.83	
					3.33
Before treatment	30	11.17	4.43	0.80	

Statistics in Table 4.2 revealed that the mean score of students' performance in the treated group; (14.50) is higher than the scores of students before treatment, (11.17) and with a mean difference of 3.33. The difference signifies that the treatment of students using video advance organizer strategy improved their performance in the geomorphology test.

Research Question Three: What is the difference in the retention score performance of students taught geomorphology concepts using video advance organizer strategy after treatment?

When the posttest and post-posttest mean scores of students were compared, advance organizer group retain geomorphology concept better. The distribution of retention scores was shown in Table 4.3.

Table 4.3: Students' Mean Retention Scores in Geomorphology at Post-Post Test

Variable	N	X	SD	SE	Mean difference
Experimental	30	16.27	4.65	0.84	
					3.5
Control	30	12.77	4.22	0.77	

Statistics in Table 4.3 shows the mean score of students learning retention in geomorphology after posttest treatment that is post-post-test. Students in the experimental group have (16.27) as mean score of retention score. While the control group has 12.77 with a mean difference of (3.5), the result indicates students in the experimental group have a higher retention level of geomorphology concepts than those in control group.

Research Question Four: What is the difference between the performance of male and female students taught geomorphology concepts using video advance organizer strategy?

Posttest mean scores of male and female students exposed to video advance organizer strategy was tested and found that male students have performed better than the female students. The distribution of male and female test scores was shown in Table 4.4.

Table 4.4: Performance Test Scores of Male and Female Students after Treatment (Posttest)

Variable	N	X	SD	SE	Mean difference
Male	15	15.00	4.29	1.11	
					1.00
Female	15	14.00	4.91	1.27	

The test scores in Table 4.4 shows that the mean score of male students (15.00) is higher than the female students (14.00) and a mean difference of 1.00. This signifies that male students performed better than female students when exposed to the same treatment.

4.3 Hypotheses Testing

Hypothesis One: There is no significant difference between the levels of students' interest taught using video advance Organizer strategy before and after treatment.

Here Wilcoxon signed rank test was used to compare the pretest and posttests scores of Students' interest, significant difference was observed as shown in Table 4.5.

Table 4.5: Wilcoxon Signed Rank Test of Students' Interest Level Before and after Treatment

Groups	N	Mean Rank	Sum of Rank	W_value	P_value	Remarks
Before treatment	30	17.12	291.00			
				1.93	0.05	Significant
After treatment	30	16.00	128.00			

Significant at the P $\leq$ 0.05 level

Statistics in Table 4.1b shows a significant difference in the students' interest before and after the treatment; W = 1.93; p = 0.05. The level of students' interest between those treated and non-treated subjects is insignificant. Therefore the null hypothesis one is hereby rejected. And that, video advance organizer does have influence on students interest before and after the treatment.

Hypothesis Two: There is no significant difference between the performances of students Taught video advance organizer strategy before and after treatment.

Paired t-test was used to compare the pretest and posttest scores of students' performance exposed to video advance organizer, significant difference was observed as shown in Table 4.6.

Table 4.6: t-test Analysis of Mean Performance in Geomorphology of Students Before and after Treatment

Groups	N	X	SD	SE	df	t_value	p_value	Remarks
Posttest	30	14.50	4.56	4.6				
					29	3.33	0.002	Significant
Pretest	30	11.12	4.43	4.2				

Significant at P $\leq$ 0.05 levels

Statistics in Table 4.2b shows a significant difference between the performance of students in geomorphology; t (29) = 3.33, p = 0.002. The performance of students in the two different treatments was significantly different because the observed P value is less than 0.05.

Since the performance of students in the treated within-subject group is significantly different before and after treatment null hypothesis two is thereby rejected. And that video advance organizer has influence over students' performance.

Hypothesis Three: There is no significant difference between the retention level of students taught video advance organizer Strategy before and after treatment.

Paired t-test was used to compare the posttest and post-posttest of students learning retention, significant difference was observed as explained in Table 4.7.

Table 4.7: t-test Analysis of Students Retention on Geomorphology at Post-Post-Test

Groups	N	X	SD	SE	df	t_value	p_value	Remarks
Posttest	30	16.27	4.56	0.84				
					29	2.86	0.008	Significant
Pretest	30	12.77	4.22	0.77				

Significant at the P ≤ 0.05 levels

From the statistics in Table 4.7 show that, the level of students retention differ significantly before and after treatment t(29) = 2.86; p = 0.008. This statistically testifies that, the ability of the two groups to retain geomorphological concepts differ significantly. Since p ≤ value (0.008) is less than 0.05 level of significance. Therefore hypothesis three is there by rejected subjects retention score in geomorphology concept has improved when exposed to the use of video advance organizer.

Hypothesis Four: There is no significant different between the performance of male and female students taught using video Advance organizer strategy after treatment.

Here independent sample t-test was used to measure the quantity of male and female students performance taught geomorphology concept using video advance organizer no significant difference was observed in their performance. The distribution of their test scores was shown in Table 4.8.

Table 4.8 t-test Analysis of Male and Female Performance in Geomorphology after Treatment

Groups	N	X	SD	SE	df	t_value	p_value	Remarks
Male	15	15.00	4.29	1.11				
					28	0.594	0.790	Not Significant
Female	15	14.00	4.91	1.27				

Significant at the P ≤ 0.05 leve

Results from Table 4.8 shows no significant difference between males and females performance exposed to video advance organizer strategy with t(28) = 0.594; p = 0.790 in the posttest treatment. Statistically since the P value 0.594 is greater than 0.05 then males and females performance not significantly different. Therefore the null hypothesis four is retained and that video advance organizer strategy does not have any effect over gender difference in learning geomorphology.

4.4 Summary of Findings

The following are the summary of findings:

1. The study revealed that video advance organizer has influence on the students' interest. It is also evident that video advance organizer does influence students interest (W = 1.93;

p = 0.05).

2. The study found that video advance organizer strategy improved students' performance. This was also shown in the hypothesis testing that video advance organizer enhance students ability to understand geomorphology concept better (t (29) = 3.33, p = 0.002).
3. The study revealed that there was significant improvement on students learning retention after exposure to the use of video advance organizer as a strategy. Hence it was found that video advance organizer influence students ability to retain geomorphology concept longer (t(29) = 2.86; p = 0.008).
4. The study showed that male and female students if given equal opportunity female can perform academically as the male do, this is against the notion that females are weak and are subjected to many interpretations. Therefore, video advance organizer has no effect on gender difference in learning geomorphology concepts (t(28) = 0.594; p = 0.790).

4.5 Discussions

The analyzed data are collected based on students interest, performance, retention and gender with Geomorphology Performance Test (GPT) and Geomorphology Interest Test (GIT) on geomorphological concepts in within-subjects groups.

The findings of this study showed significant difference exist between students' interest in the subjects exposed to video advance organizer strategy; therefore video advance organizer strategy does have influence students' interest in learning geomorphology.

The findings of this study revealed that there is significant difference in the mean performance of students. The subjects exposed to video advance organizer strategy performed better in the test. This is due to the suitability, clarity, stability and appropriateness of anchoring

ideas that the video advance organizer strategy provided in the cognitive structure of the subjects exposed to geomorphology concept using video advance organizer strategy. This study is in conformity with the findings of Adedeji, Folorunso and Adedeji (2013); Sharma and Agnihotri, (2013); Oloyede (2011); Lee, (2009); Lin, & Tsuiping, (2006); and Mayer, (2003) that VAO strategy enhance students' performance and facilitate meaningful learning. Meyer, (2003) reported an advance organizer is information presented by an instructor that helps the student organize new incoming information.

Concept maps and video advance organizer strategies are an excellent way to integrate the parts of the learning process thus developing understanding of the concepts and their relationships to each other more importantly in geography (Assaraf & Orpaz, 2010). A study by Nyabwa, (2005) has demonstrated the effectiveness of using advance organizers in the teaching of mathematics in secondary schools. The use of video advance organizer is essential in the classroom, as the visual input complements the auditory input such that both reinforce the other, activate multiple strands of prior knowledge, and lead to a deeper understanding of the topic or situation at hand Yu-liang, (2006). Ebe, (2011) in his research discovered that secondary school students who are exposed to video-based instructions in science had significantly better results than those who were taught using the conventional method.

The findings of this also study showed that there was a significant difference among students learning retention taught video advance organizer strategy. And that video advance organizer strategy improves students' ability to retain Geomorphological concept longer. This might be due to the fact that video advance organizer strategy have the potentiality to make students remember more conceptual ideas and able to relate the previous concepts with present concepts. This is consistent with the findings of Sharma & Agnihotri, (2013); Adedeji,

Folorunso & Adedeji, (2013); Mayer, (2002); Lee, (2009); Lin & Tsuiping, (2006); Yeh and Lehman, (2001); Mayer, (2000); that VAO strategy facilitate meaningful learning and retention. Video organizers like cartoon increases the students' understanding by providing a skeletal map that increases students ability to link new concepts with prior knowledge; therefore, increasing retention and recall (Hassard, 2005). Advance organizers are therefore frameworks that enable students learn new ideas or information and meaningfully link these ideas to the existing cognitive structure and improve retention. Njoro, (2011).says an effective and efficient use of video advance organizer in instruction can favourably leads to effective as well as efficient learning and retention of landforms concepts.

This study finding revealed that there is no significant difference in the mean score of male and female students exposed to video advance organizer strategy. The non-significant difference in the performance of male and female students agreed with findings of Adedeji, Folorunso and Adedeji (2013); Oloyede, (2011) who found insignificant difference in their research and that, the performance of males and females in the experimental group is almost equal. Similarly when males and females were giving opportunity to participate and compete among themselves, females have the capacity to perform very wonderful as their male counterpart. This is against the notion that females are weak and are subjected to many interpretations. Therefore, this study proved that if given equal opportunity female can perform academically as the male do.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter was focus on crucial aspects making the last part of this work these are; Summary of the major findings, Conclusion, Recommendations, Limitations and Suggestion for Further Studies.

5.2 Summary

The study investigated the impact of video advance organizer on NCE students' interest, performance and retention on geomorphological concepts in Yobe state, Nigeria. The research design employed was one sample experimental design with pretest, posttest and post-post-test according to Thyer, (2012). In which all participants are exposed to more than one treatment in the same group of subjects. The pretest and posttests are for students' performance and interest respectively, while post-post-test is for retention on geomorphological concepts. Purposive sampling technique was used to select the sample group; 30 NCE II students were selected from the Department of Geography Umar Suleiman College of Education Gashu'a (USCOEGA). The content to be taught for this study centered on geomorphological concepts. Students were taught for eight weeks. Six weeks for teaching the subjects and administration of posttest on students' interest and performance. The remaining two weeks is for retention (post-post-test). The research instrument used was Geomorphology Performance Test (GPT) and Geomorphology Interest Test (GIT). Hypothesis 1 was tested using Wilcoxon Rank Test, hypothesis 2, 3 was tested using paired t-test and hypothesis 4 was computed using independent sample t-test. All hypotheses were tested at $P \leq 0.05$ level of significance. The findings revealed that, the students interest before and after the treatment differ which indicates significant

difference. Subjects exposed to video advance organizer strategy performed significantly higher. Subjects exposed to video advance organizer strategy retain geomorphological concepts better. A males and females performance in the subjects does not significantly differ after treatment. It is therefore recommended that, teachers should use video advance organizer strategy in teaching earth science courses for its adequacies to improve the cognitive ability of the students and strengthen their capacity to retain meaningful information for future recall.

5.3 Conclusion

This research work concluded that; there is significant difference in the levels of students' interest before and after the treatment. Therefore video advance organizer strategy does have influence over students learning interest. Based on the findings of this research, it is concluded that, students exposed to video advance organizer strategy performed significantly better on geomorphological concepts. Video advance organizer strategy has the potentials of improving students learning retention. In relation to gender difference, video advance organizer strategy revealed that there is no significant difference in the performance of males and females students exposed to video advanced organizer strategy and this proved that females have the capacity to compete with males when exposed to same instructional strategy, this is an indication that Gender is not a factor in teaching and learning provided that, the environment is conducive for learning to take place.

5.4 Recommendations

Based on the findings from this study, the following recommendations are preferred:

1. It has been proven that video advance organizer gadgets have positive effective on students learning interest, and that learning starts with stimulation of interest, therefore, for learner to understand concept faster there is need for these gadgets to be available in our classroom. To achieve this; Federal Ministry of Education and State Ministry of Education nationwide, should made these gadgets obtainable in our various schools nationwide.
2. The use of video advance organizer strategy enhanced students' performance, making learning to be more flexible and real. Therefore the use of this strategy should be encouraged in colleges of education for teaching Geography. To achieve this Government should encouraged teachers through capacity building by organizing workshops and seminars on the importance of video gadgets because of its capacity to connect previous knowledge and to be learned concepts for performance and retention to prevail. In addition, Government and NGOs should as a matter of fact contribute video advance organizer gadgets to all levels of education because these gadgets when utilized effectively, reduces teachers activity such as verbalization and give room/opportunity to learners' participation and dominate the whole classroom activity.
3. It has been proving in this research that; learning is measured in terms of retention; this is due to the power of video advance organizer in equipping, motivating and enhancing students to recall future events. Therefore Yobe state Government as matter of agency should adopt this new strategy due its effectiveness in order improve retention, so that future events will be recall with more ease and by implication it improve performance. To achieve Yobe State Ministry of Education

should equip our tertiary institutions with video gadgets for advance organizer and train teachers for the task ahead. Because Yobe state is one of the educationally backward state in Nigeria, so there is need for this new strategies to be implemented in order to improve and sanitize the entire educational sector.

4. The notion that males performs better than females counterparts does not come to way in this study, here gender is not a determining factor for students general performance. Therefore, it has been proved that females can compete with males if equal opportunity and conducive environment was given. Since video advance organizer strategy has proving to be gender friendly then Yobe state Government should pave way for the adoption and utilization of these video advance organizer gadgets for the improvement of students cognitive ability to understand concepts faster with much of fairness since it is gender friendly.

5.5 Limitations

The following are the limitations of this study:

1. The study is limited to geomorphology concept, hence advance organizer is very broad concept generally therefore, video as advance organizer cannot be used to make generalization.

2. It is also limited in scope, because colleges of education guide lines were used for the study, therefore it cannot be applicable to all tertiary institutions.

3. It is also limited since university students were not incorporated and therefore the findings were limited to colleges of education.

4. There are peculiar areas to be visited as scheduled for reconnaissance more importantly Gujba and Gulani Local Government Areas, but as at that time the

above mentioned Local Governments are no go areas in Yobe State due to security challenges.

5.6 Suggestion for Further Studies:

1. Studies similar to this can be conducted with wider scope, like entire North Eastern Nigeria since the present research is limited to state own college of education Yobe State.
2. There is need for similar studies in universities with aim of capturing students' attitudes and attention with different advance organizers.
3. Research should also be carried out on the influence of graphic advance organizer as scaffold on students' perception.
4. Similar study can be conducted with numerous advance organizers.

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APPENDIX I
GEOMORPHOLOGY ACHIEVEMENT TEST (GAT)

SECTION A: BIODATA

ID No: ……

Gender: Male [ ] Female [ ]

SECTION B

Instruction

1. Use HB pencil provided for the examination.
2. Write your identification number and gender in the space provided.
3. Read each question carefully.
4. Go to your answer sheet and shade correct option/letter/alphabet.
5. Shade only one alphabet on each question
6. Please shade the correct option appropriately
7. If you change your mind please erase the first choice

ATTEMPT THE FOLLOWIG QUESTIONS

1. All the following are removal of top soil by running water except……
   a. Gulley erosion b. Lateral erosion c. Sheet erosion d. Weathering
2. The eroding of the river valley side by running water is called……
   a. Weathering erosion b. Sheet erosion c. Vertical erosion d. Lateral erosion
3. Are irregular shaped mountain with alternate horizontal layer is known as ……
   a. Rock Pedestal b. Boulder c. Isenberg d. Yardang
4. A rock that is exposed to the surface through removal of the top soil is called…
   a. Knoll b. Isenberg c. Valley d. Core Stone (Castle)
5. ……..…is only point in the desert that support vegetation
   a. Sand Dune b. Oasis c. Rock Pedestal d. Valley
6. A moon shaped landform produced as result of wind deposition is known as……
   a. Erg b. Seif c. Reg d. Barchans

7. Hill or a Ridge of sand formed as a result of sand deposition by wind action is known as……..

a. Whale – bar b. Sand Stone c. Sand bar d. Sand dune

8. A Running water creates its paths by eroding the softer top soil is known as ……

a. River Regime b. River Bank c. River Valley d. River Floor

9. ……...……Is not a problem of gulley erosion

a. Distraction of farmland b. Destroying top soil c. Improving farm condition d. Destroying soil structure

10 ……...…….is caused by lateral erosion

a. Increase in width of a river b. Increase in volume of a river

c. Increase in depth of a river d. Increase in velocity of a river

11. Rock pedestal is an example of desert landform produced by ……..……

a. Water erosion b. Water deposition c. Wind erosion d. Soil erosion

12. Inselberg is an example of a feature found in ……...……

a. Arid zone b. Forest zone c. Polar areas d. Temperate areas

13. …..……is a feature that exposed water table closer to the surface in a desert

a. Inselberg b. Oasis c. River valley d. Wet land

14. Barchan is an example of landform produced by ……..…

a. Water erosion b. Water sedimentation c. Wind erosion d. Wind deposition

15. The areas where river discharges its water after it fills its valley is known ……..……

a. Flood plain b. River valley c. River estuaries d. Water Shed

16. ……..….. Serves as a source of water in the middle of the desert

a. River b. Well c. Oasis d. Lake

17. Inselberg is an example of feature produced by……...……

a. water erosion b. Wind deposition c. Running water d. Wind erosion

18. The people of Gashu'a used River Yobe for the following purpose except……...

a. Energy b. Irrigation c. Fish d. Domestic

19 ……use to destroy farmlands and at times it may even claimed the whole land

a. Water flow b. Yardang c. Zeugen d. Soil erosion

20. A landform feature produced by continued long chain accumulation of sand is called

a. Oasis b. Rock Pedestal c. Inselberg d. Sand dune

21. The River that maintains water in its valley throughout the year is known as……..…

a. Seasonal River b. Perennial River c. River confluence d. River Regime

22. Potash is mined in arid land in the ……...…… landform

a. Well b. River c. Oasis d. Lake

23 ……..…….. is the method of controlling soil erosion

a. Planting cover crops b. Continuous Cultivation c. Deforestation d. Irrigation

24 All the following cannot be produced in the Oasis region except…….

a. Sugar cane b. Sweet Potato c. Date Palm d. Yam

25. One of the major environmental problems affecting Tulo-Tulo village of Yobe State is……..

a. Flooding b. Air pollution c. Earth Quake d. Deforestation

APPENDIX II

MARKING SCHEME OF GEOMORPHOLOGY ACHIEVEMENT TEST (GAT)

1. D

2. D

3. A

4. B

5. B

6. D

7. D

8. C

9. C

10. A

11. C

12. A

13. B

14. D

15.A

16. C

17. D

18. A

19. D

20. D

21. A

22. C

24. D

25. D

APPENDIX III

ANSWER SHEET FOR GEOMORPHOLOGY ACHIEVEMENT TEST (GAT)

SECTION A: BIODATA

ID No: ……

Gender: **Male [ ]** **Female [ ]**

SECTION B

Please shade the correct option appropriately

1. =A= =B= =C= =D=

2. =A= =B= =C= =D=

3. =A= =B= =C= =D=

4. =A= =B= =C= =D=

5. =A= =B= =C= =D=

6. =A= =B= =C= =D=

7. =A= =B= =C= =D=

8. =A= =B= =C= =D=

9. =A= =B= =C= =D=

10. =A= =B= =C= =D=

11. =A= =B= =C= =D=

12. =A= =B= =C= =D=

13. =A= =B= =C= =D=

14. =A= =B= =C= =D=

15. =A= =B= =C= =D=

16. =A= =B= =C= =D=

17. =A= =B= =C= =D=

18. =A= =B= =C= =D=

19. =A= =B= =C= =D=

20. =A= =B= =C= =D=

21. =A= =B= =C= =D=

22. =A= =B= =C= =D=

23. =A= =B= =C= =D=

24. =A= =B= =C= =D=

25. =A= =B= =C= =D=

APPENDIX IV

ANSWER SHEET FOR GEOMORPHOLOGY RETENTION TEST (GRT)

SECTION A: BIODATA

ID No: ……

Gender: Male [ ] Female [ ]

SECTION B

Please shade the correct option appropriately

1. =A= =B= =C= =D=

2. =A= =B= =C= =D=

3. =A= =B= =C= =D=

4. =A= =B= =C= =D=

5. =A= =B= =C= =D=

6. =A= =B= =C= =D=

7. =A= =B= =C= =D=

8. =A= =B= =C= =D=

9. =A= =B= =C= =D=

10. =A= =B= =C= =D=

11. =A= =B= =C= =D=

12. =A= =B= =C= =D=

13. =A= =B= =C= =D=

14. =A= =B= =C= =D=

15. =A= =B= =C= =D=

16. =A= =B= =C= =D=

17. =A= =B= =C= =D=

18. =A= =B= =C= =D=

19. =A= =B= =C= =D=

20. =A= =B= =C= =D=

21. =A= =B= =C= =D=

22. =A= =B= =C= =D=

23. =A= =B= =C= =D=

24. =A= =B= =C= =D=

25. =A= =B= =C= =D=

APPENDIX V

GEOMORPHOLOGY INTEREST TEST (GIT)

SECTION A: BIODATA

ID No: ……

Gender: **Male [ ]** **Female [ ]**

SECTION B

Instruction

Tick (√) the appropriate column that suits your interest:

S/N	ITEMS	SA	A	UD	DA	SA
1	Landform concepts need to be taught right from primary school for the students to be conversant with their immediate environment.					
2	I am interested in listening to my teacher teaching landform concepts development using computer based strategy.					
3	Studying landform concept is difficult to me.					
4	ICT gadgets can be used to enlighten people on the dangers of landform concepts.					
5	The feature sand dune taught to us, i really understand it very well.					
6	Sand dunes are wonderful features of desert.					
7	I will like my department to introduced ICT in order to supplement classroom activities.					
8	I like to study geography in future because of its consciousness about environment.					
9	Geography teachers need to use simple instructional material like chart, maps and globes.					
10	I don't want to miss geography class at all more importantly if the teacher is using ICT to teach.					
11	ICT Gadgets has the capacity to bring firsthand experience.					

12	I don't like geography class when there is landform concepts concept in it.					
13	I want to study geomorphology in future.					
14	I am very interested in the lecture attended on landform concepts.					
15	I am always enjoying reading landform concepts in text books.					
16	Computer based teaching improve meaningful learning.					
17	Study of landform concepts concept is no longer useful to me and my environment.					
18	I like participating in geographical associations because of their consciousness on landform concepts.					
19	As teacher-trainees i don't like teaching with computer and multimedia projectors.					
20	The best way of teaching is through lecture method.					
21	Computer-based teaching is the best					
22	I appreciate the way how my teacher explained the concept of river valley.					
23	I believed that ICT based class will be interactive.					
24	I am persuaded by the lecture oriented class.					
25	Because of my interest in geomorphic concepts i always read notice board in the Geography Dept.					
26	I like watching and listening to television always if there is report on landform concepts					
27	I am not interested in observing the effect of landform concepts in my locality.					
28	It is waste of time to listen to landform concepts related broadcast in media					
29	I will not study any landform concept course in the university.					
30	I am not interested in discussing the effect of landform concept development.					

APPENDIX VI

SAMPLE LAND FORMS OF THE STUDY AREA

Plate 1: Sand dune, Tulo-Tulo (Long. 11°01’67”Lat. 13°36’66”) Yusufari L.G. Yobe State

Plate 2: Oasis, Tulo-Tulo (Long. 11°01’67”Lat.13°36’66”) Yusufari L.G. Yobe State

Plate 3: Barchan, Tulo-Tulo (Long. 11°01’67”Lat.13°36’66”) Yusufari L.G. Yobe State

Plate 4: Rock out crop, Machina (Long. 10°05’00”Lat. 13°13’33”) Machina L.G. Yobe State.

Plate 5: Gully Erosion, Jakusko ((Long. 10°60’66”Lat. 12°36’66”) Jakusko, L.G. Yobe State.

Plate 6: Vertical Erosion, of a fixed sand dune: Jakusko (Long. 10°60’66”Lat. 12°36’66”) Jakusko, L.G. Yobe State.

Plate 7: Lateral Erosion, of a stream in Gashu'a, (Long. 10°05'00"Lat. 12°40'60") Bade, L.G. Yobe State.

Plate 8: River valley, Gashu'a, (Long. 10°05'00"Lat. 12°40'60") Bade, L.G. Yobe State.

Plate 9: Rock Pedestal, Machina (Long. 10°05’00”Lat. 13°13’33”) Machina L.G. Yobe State.

Plate 10: Flood Plain, Gashu'a, (Long. 10°05'00"Lat. 12°40'60") Bade, L.G. Yobe State.

APPENDIX VII

Table 1.1: Student's Performance in Geomorphology from 2009-2014

Year	No of Students	A Grade	B Grade	C Grade	D Grade	E Grade	F Grade
2009	51	02	01	09	07	10	22
2010	158	05	09	17	22	59	44
2011	94	00	04	04	14	47	25
2012	72	02	01	10	08	21	30
2013	177	16	25	39	16	40	41
2014	234	09	14	45	44	71	51

Sources: Umar Suleiman College of Education Gashu'a 2013/2014

APPENDIX VIII

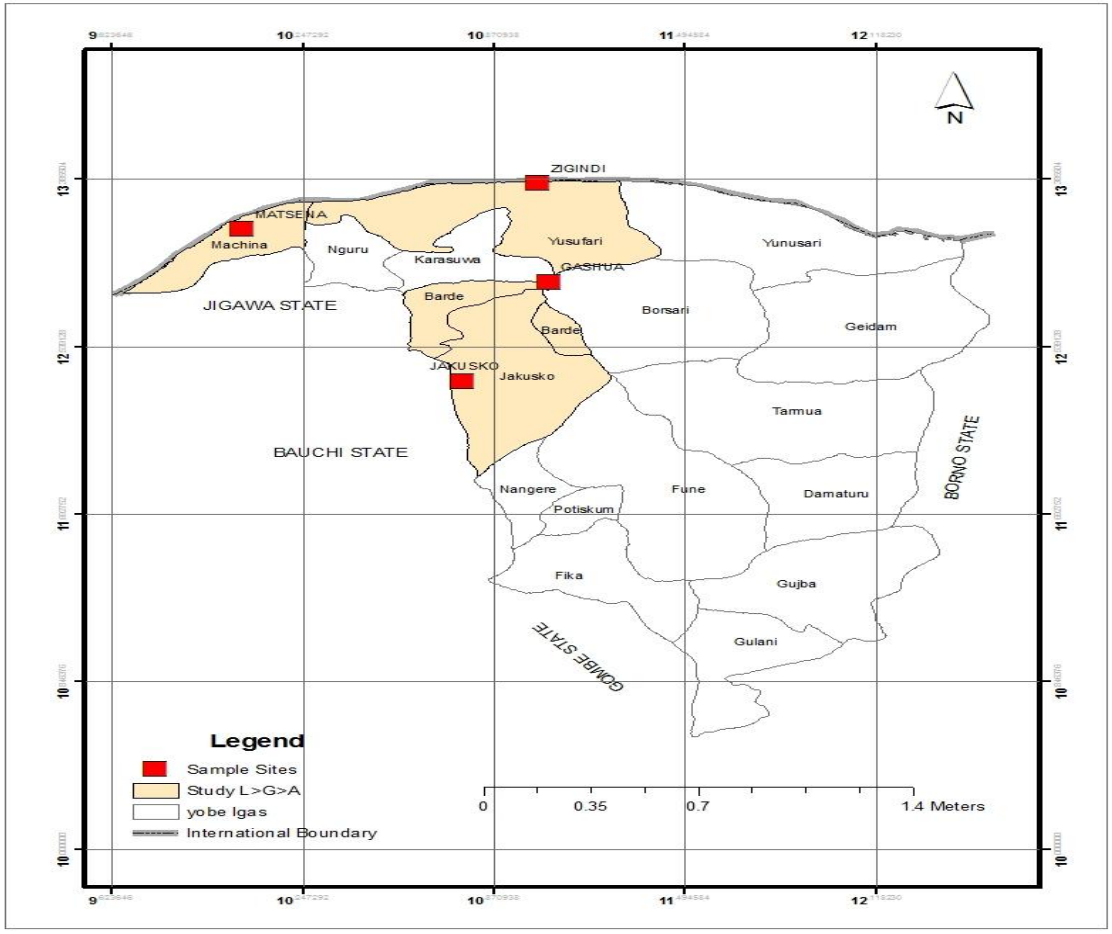
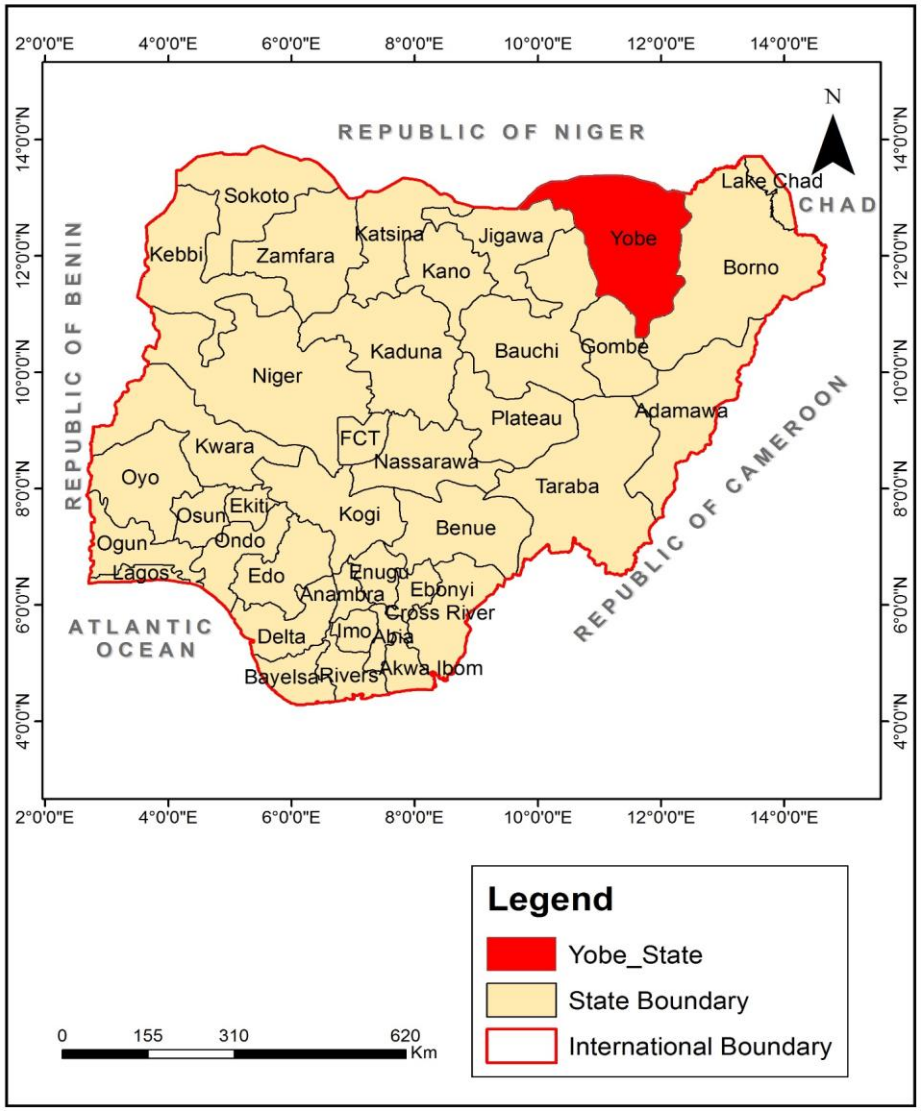


Figure 3.4: Yobe State Showing Study Area.

Sources: Yobe State Ministry of Land and Survey (2015)

APPENDIX IX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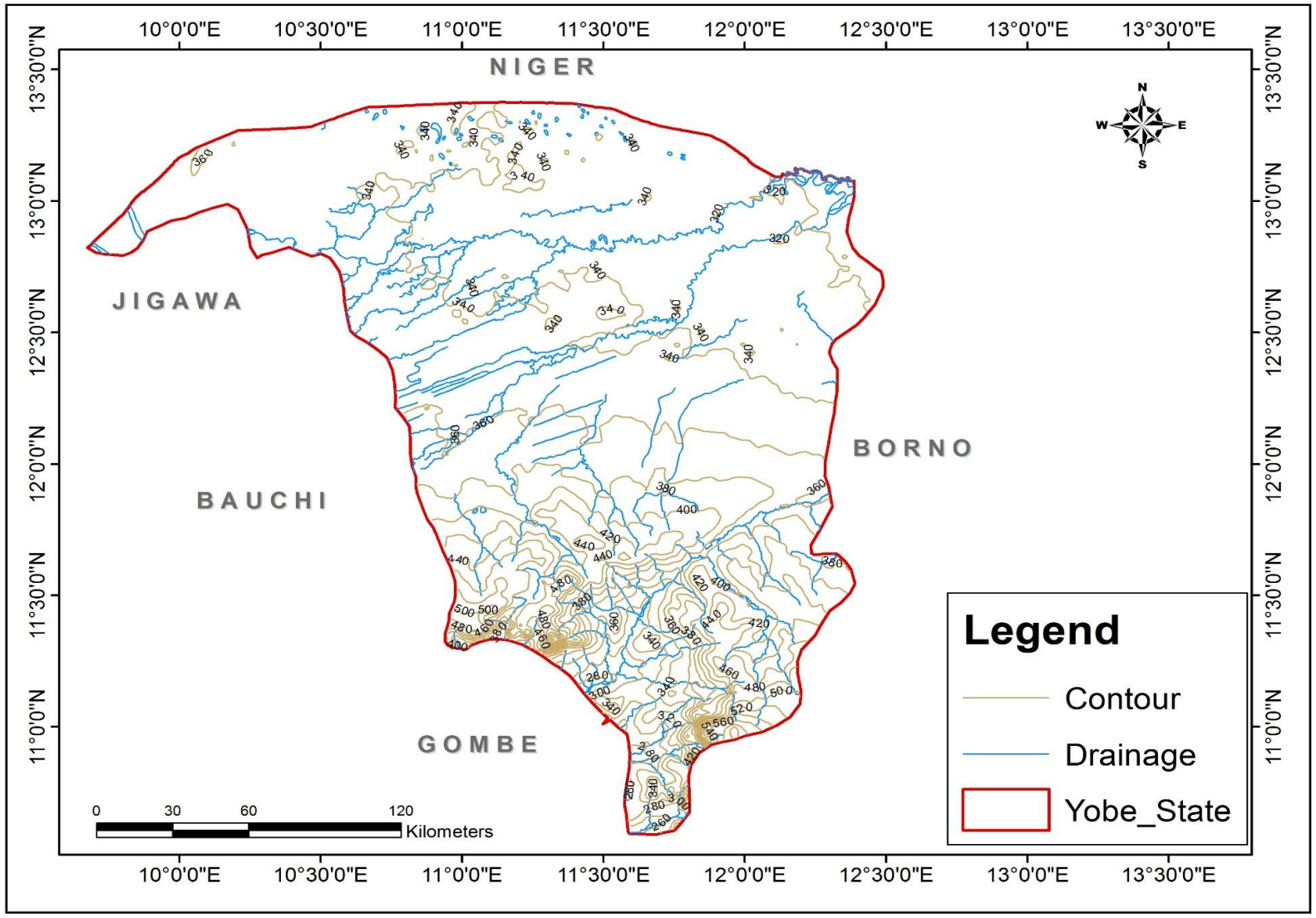
4°0'0"E
6°0'0"E
8°0'0"E
10°0'0"E
12°0'0"E
14°0'0"E
14°0'0"N
12°0'0"N
10°0'0"N
8°0'0"N
6°0'0"N
4°0'0"N
N
REPUBLIC OF NIGER
REPUBLIC OF BENIN
REPUBLIC OF CAMEROON
CHAD
ATLANTIC OCEAN
Lake Chad
Sokoto
Kebbi
Zamfara
Katsina
Jigawa
Yobe
Borno
Kano
Kaduna
Bauchi
Gombe
Niger
Plateau
Adamawa
FCT
Kwara
Nassarawa
Taraba
Oyo
Osun
Ekiti
Kogi
Benue
Ogun
Ondo
Lagos
Edo
Enugu
Anambra
Ebonyi
Cross River
Delta
Imo
Abia
Bayelsa
Rivers
Akwa Ibom
Legend
Yobe_State
State Boundary
International Boundary
0
155
310
620
Km

APPENDIX X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12°30'0"N
12°0'0"N
11°30'0"N
11°0'0"N
NIGER
JIGAWA
BAUCHI
BORNO
GOMBE
N
W
E
S
0
30
60
120
Kilometers
Legend
Contour
Drainage
Yobe_State

LIST OF APPENDIX XI

APPENDIX