

**TITLE PAGE**

**EFFECT OF COOPERATIVE PRODUCTION OF LEARNING RESOURCES ON  
STUDENTS' ACADEMIC ACHIEVEMENT AND MOTIVATION IN  
ECONOMICS AT SENIOR SECONDARY SCHOOLS IN ENUGU  
EAST LOCAL GOVERNMENT AREA ENUGU STATE**

**BY**

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PG/M.ED/SD/09/50415**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
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**SEPTEMBER, 2016**

**APPROVAL PAGE**

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## **DEDICATION**

This work is dedicated to my lovely husband Sir Arthur Williams Mbah and my lovely twins Chimdalu and Oluoma Mbah.

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My greatest thanks to God Almighty for granting me guidance and protection throughout the study and for crowning it with success.

The researcher will remain ever grateful and show sincere gratitude to her respectable supervisor Prof. Oby Nwafor who out of her professional competence, patience and constructive suggestions made the completion of the project possible. May the Almighty God continue to bless her and also renew her fountain of knowledge.

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## ABSTRACT

This study is on the effect of cooperative production of learning resources on students' academic achievement and motivation in economics at senior secondary school Enugu East L.G.A of Enugu state. To achieve the major purpose of the study, four research questions were posed and four null hypotheses were formulated. Quasi experimental design involving a pre-test-post-test non-equivalent group design was used for the study. The population for the study was one thousand nine hundred and twenty senior secondary one economics students. Economics Achievement Test (EAT), Economic Essay Test (EET) and Economics Learning Motivation Scale (ELMS) were used for data collection. Mean scores were used to answer the research questions, analysis of covariance was used to test the hypotheses. The findings among others include that students in cooperative production of learning resources group are motivated more than those that were not; that cooperative production of learning resources group achieve higher than those that were not. It was also found that male students achieve higher mean score than female students in economics when exposed to cooperative production of learning resources approach, and that there is no significant difference in the mean achievement scores of urban and rural students taught using cooperative production learning resources approach. It was recommended among others that teachers should expose students to cooperative instructional strategy like the cooperative production of learning resources that promotes and encourages social interaction, active engagement in learning, self-motivation, discovery learning, learning by doing and learning by experience. Also recommended is that further studies be carried out in this area so as to establish further the benefits or otherwise of the cooperative production of learning resources approach. Lastly, trainings and capacity building programmes is recommended for economics teachers so as to equip themselves with the necessary cooperative teaching skills for the overall improvement of the educational system.

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## CHAPTER ONE

### INTRODUCTION

#### **Background of the study**

Naturally human beings are economists because they apply economic principles daily in their lives as persons, family, in business and even in governance. Daily the lives of people revolve around the use or application of the principles and concepts of economics in prioritizing and managing the resources at their disposal properly with a view to save costs and avoiding unnecessary expenditures or wastes (Ikeche, 2004). Lionel Robbin (1957), a foremost economist defined economics as the science which studies human behaviours as a relationship between ends and scarce means, which have alternative uses. Economics is the study of how to use scarce resources to satisfy human unlimited wants. According to Okafor (2007) Economics is a subject that helps individual to be relevant in everyday life and could prepare students for an entrepreneurial career in the future. The general objectives of studying economics in senior secondary school in Nigeria are as follows: To enable students; understand basic economic principles and concepts as tools for sound economic analysis, contribute intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigerians, understand the structure and functioning of economic institution, appreciate the role of public policies on national economy, develop the skills and also appreciate the basis for national economic decisions, become sensitized to participate actively in national economic advancement through entrepreneurship, capital market and so on. Other objectives include; understand the role and status of Nigeria and other African countries in the international economic relationships, appreciate the problems encountered by developing countries in their efforts towards economic advancement (NERDC, 2008).

Deducing from the above objectives for studying economics at the Senior Secondary School level, there is no gainsaying the fact that economics is the bedrock for individual and national development. This implies that knowledge of economic principles and concepts is important to every member of the society and the nation at large. However, the performance of students in Economics has been dwindling over the years (Ogeri, 2009). Research has also unveiled factors responsible for poor academic achievement in Economics. Among the variables identified include; lack and inappropriate application of learning resources and poor teaching method (Kaiadese, 2005, Adetayo, 2006 and Onuoha, 2010). Michael (2002) also noted that poor textbooks and lack of computer technology in schools are also responsible for poor performance of students in Economics. John Dewey emphasized over 100 years ago changes that would move schools away from authoritarian teacher-directed classrooms, to environment in which learning actualizes through active participation and real-life based experiences (Dewey, 1916 cited in Michael, 2002). The attempt to take care of poor achievement and motivation of students in Economics inspired the researcher to use this cooperative production of learning resources approach (CPLRA) to see how it can help to improve the academic achievement of students. In view of this, Cuban (2001) considers teacher as a vehicle for reforming educational practices, to be used as a vital tool in the teaching/learning processes.

According to Onwuka, (1996), teacher is one whose task is to design and guide the learning of a group of students in a classroom setting. Offorma, (2004) observed that a teacher creates learning environment for his students, selects contents, organizes activities, and selects teaching methodology and materials. The teacher interacts with students in the process of carrying out the plans and affects the important dimensions of the students' achievement.

Adeyemi, (2008) described academic achievement as the scholastic standing of a student at a given moment which states individual abilities. Adeyemo further stated that student's academic achievement can be explained in form of grades, obtained from tests, quiz or examination in courses/subjects taken. In Nigeria, the level of student's academic achievement in the senior secondary school is determined mainly through internal and external examinations. Poor academic achievement according to Aremu, (2003) is a performance that is adjudged by the examiner or tester and some other significance as falling below an expected standard.

The academic achievement of students in Economics to a large extent depends on a lot of factors including the teacher and the method of teaching adopted during instructional procedures. The method adopted should be one that can enable the teacher present the lesson effectively and at the same time give students maximum opportunity of participating actively in the learning process (Offorma, 2004). However, the researcher's personal observation indicates that majority of students at the Senior Secondary School level do not show convincing interest and motivation in studying the subject and this could have affected their performance.

The breakdown of May/June SSCE 2010/2011 examination conducted by WAEC indicated an average failure rate of students in economics to be 72%, while that of NECO in 2008, 2009, 2010 and 2011 respectively shows the following percentage failure in economics as 69%, 57%, 78% and 50% respectively (Osuagwu, 2012). Onah (2011) saw the poor academic achievements as sources of worry to researchers, parents and society at large. The WAEC chief examiners report (2006-2011) revealed that students performed poorly in economics. WAEC (2006) analysis of percentage performance of candidate in economics for 2004, 2005 and 2006 revealed 22.26%, 20.20% and 15.71% failure level and the credit level percentage of 37.59%, 36.24% and 49.45% respectively for the years in reviewed.

A pilot survey of some selected government owned secondary schools by the researcher from 2013 to 2014 in Enugu Education zone shown that students performance in teaching and learning of economics is not encouraging when compared with other subjects. The subject by subject performance analysis of the five schools sampled in the education zone revealed poor achievement of students in the subject. Majority of those that passed are within the weak region of C6. This poor achievement may be as result of traditional methods used in teaching the students, which make the students passive rather than active and cooperative participants in the teaching and learning process.

The academic achievement of students in Economics to a large extent depends on the teacher and the method of teaching adopted. Onwuka (1996) regarded teaching method as the vehicle through which a message is delivered. The method applied is very vital in teaching and learning situation. In recent times, emphasis on teaching method has shifted from the teacher-know-all to students-centred approach. Hence educational activities should be centred on the learner for maximum self-development and fulfillment (Federal Republic of Nigeria (FRN) (2004). In the student-centred approaches to teaching, those teaching approaches that foster the philosophy of learning by doing, problem solving through guided experimentation and that which enhances students' participation and creativity are recommended.

Teachers are blamed for the observed poor academic achievement arising from the use of conventional method of teaching like lecture method, descriptive and information discrimination method of teaching, story-telling and dictation method of teaching which makes students lose interest and motivation, and consequently achieve poorly, promote negative attitude and encourage poor retention of learned materials. Blair (2007) argues that lecture method is the commonest method in use by teachers. It does not foster critical thinking, creative thinking and

problem solving. The author opines that lecture method encourages students to cram facts which are easily forgotten. The predominant use of this method could be one of the factors of poor performance in Economics.

One way through which the teacher can promote academic achievement and motivation of students in learning Economics is by the use of the constructivist method such as cooperative learning strategy. Cooperative learning refers to a method of instruction whereby students work together in groups to reach common goals (Nwafor, 2007). Agashe (2004) noted that cooperative learning involves students' participation in group learning that emphasizes positive interaction. It is a strategy by which small teams, each with students of different levels of ability, are engaged in learning activities to improve their understanding of a subject. Cooperative learning as noted by Effandi and Zanaton (2007), represents a shift in the educational paradigm from teacher-centered approach to a more student-centred learning in small groups and it creates excellent opportunities for students to engage in problem solving with the help of their group members. It engages students actively and encourages them to be more motivated and engaged in an activity that is meaningful and relevant to them.

In the classroom situation, learning/instructional resources can be produced by the teachers. It can also be produced by the students cooperatively or individually. The different ways in which students produce, construct and develop learning resources is referred to as instructional resources production. Cooperative production of learning resources refers to organized group of learners who work together to pursue common goals and aspirations (Johnson and Johnson, 1999). It is akin to cooperative learning.

Learning resources/materials which are educational inputs are of vital importance to the teaching of any subject inclusively economics in the school curriculum (Jerayinfa, 2001).

Effective use of these resources in the view of Jakayinfa would make discovered facts glue firmly to the memory of students. Savoury as cited in Jekayimoluwa (2011) added that a well planned construction of visual materials by the students and the imaginative use of these in class should do much to banish apathy and increase students motivation by giving them something practical to do and at the same time helping to train them to think things out themselves. Nwafor (2007) observed that active participation of the learner in the classroom is essential. It is through active participation that the learner acquires new knowledge since there is a shift from learning by rote and rule to learning by doing. Nwafor added that students' active participation in the classroom will to a large extent improve their motivation, retentive capacity and interest towards the subject matter. It will help the learner to understand the principles and concepts being taught, thereby improving their achievement in school subjects.

Learning proceeds more economically and effectively when the learner participates actively in the process. Dewey in Ngwoke (1995) observes that the child learns what he does but forgets what he hears. Indeed, the child learns those experiences he lives. He or she develops a strong retentive capacity and positive attitude towards what he/she does. In the Piagetian psychology, active interaction with the environment is regarded as the most basic requirement for proper intellectual development. In Piaget's view, knowledge is constructed through the learner's actions on the subject of knowledge. In this case, the principle of active participation of the learner in the learning process instructs the teacher to conceive learning as what the learner does and not what the teacher would do to the learner. This is why the teacher is expected to apply appropriate learning resources to teach. (Onasanya et al, 2011). Defined learning resources as those materials, objects, charts, diagrams, etc. that aid/help learners to learn faster. It makes abstract things to become real and easily understood. Olagunju and Abiona (2008) are of the



view that the utilization of learning resources in teaching brings about fruitful learning since it stimulates students' sense as well as motivating them. Mapaderun (2002) and Oni (1995) emphasized that the availability and adequacy of these learning resources promote effective teaching and learning activities in schools while their inadequacy affects students' academic achievement negatively. However, it has been observed by the researcher that the industrially produced learning resources, like computers, television, laboratory equipment and so on, are either in short supply or not available in most secondary schools. Sometimes, teachers produce/improvise some of these resources alone without the involvement of the students. This many a times make the produced materials abstract to the students. This study therefore sets out to find the effect cooperative production of learning resources will have on the motivation and academic achievement of economics students in the study area.

Motivation refers to the dynamics of our behaviour, which involves our needs, desires, and ambitions in life. It is the instigating force of behaviour and anything that urges one into a kind of action. Motivation can be defined as the driving force behind all the actions of an individual. Human beings are said to be extrinsically and intrinsically motivated. Intrinsic motivation is said to be derived internally in the job or activity itself. It is that which occurs while a person is performing an activity in which she or he takes delight and satisfaction in doing. Intrinsic motivation is seen as internal reward while extrinsic motivation is incentive or reward that a person can enjoy after she/he finishes a work or an activity (Tella, 2007). In making students get interested in learning economics, there is need to use methods/approaches and resources/media which will make the learning of the subject active, investigative and adventurous as much as possible. Learning by doing has been adjudged by educational psychologists as the best and most enduring type of learning. Therefore it is the expectation of

the researcher that when economics students are cooperatively engaged in the production of the learning resources they use in learning, they will not only be highly motivated to learn, their performances in the subject will also be greatly improved. Researchers like Broussard and Garrison (2004), Sandra (2002) and Skaalvik and Skaalvik (2006) have found significant positive relationship between academic achievement and motivation.

Ho and Boo (2007) and Onuka and Durowoju (2011) found motivation an important factor that has positive and direct relationship with students' academic achievement in school subjects. Struthers, Menee, Schonwetter, and Perry (2001) are of the opinion that achievement is a fundamental aspect of everyday life, affecting people's work, interpersonal relationships, sense of being, and leisure. Academic achievement could be seen as the level of performance in a particular field of study. Egbule (2004) saw academic achievement as scores obtained by students in an examination. The scores are indices, symbols or marks which characterize the students' achievement. It is an indication of amount or level of knowledge an individual learner possesses in a given subject area as opined by Egbule (2004).

Literature has shown that learning outcomes (academic achievement) have been determined by such variables as family size, society and motivational factors (Aremu & Sokan, 2003; Aremu & Oluwole, 2001). More recently, other emerging dimensions to the determinant of academic achievement is the use of cooperative learning approaches in teaching and learning or production of learning resources by both the teachers and students (Ho and Boo 2007). This implies therefore that when senior secondary school economics students are cooperatively engaged in the production of their learning resources, their motivation to learn in respect of their gender will be high and their expected academic achievement in the subject will greatly improve.

Gender is a range of sex used to distinguish between male and female. Gender is a social construct, it is not biologically determined but a concept equivalent to race or class (Offorma, 2004). This definition suggests that gender is socially or culturally constructed characteristic and role, which are associated with males and females in society. It is different from sex which is a biological distinction in appearance (morphology) and function (physiology) as well as reproductive contributions of men and women. According to Lee (2001), gender is ascribed attribute that differentiates feminine from masculine. The difference in academic achievement due to gender differences is crucial to educationists. Eneja (2013) found that gender has positive significance on students' achievement in financial accounting. Eraikhuemen (2003) in a study of secondary schools in Edo south senatorial zone reported a significant difference in the academic achievement of male and female students in mathematics while Ukwungwu, (2001) shown that boys perform better in physics. Mbaba (2010) found no significant difference in the performance of boys and girls in Introductory Technology. This study would investigate gender differences in economics achievement of students who were involved in cooperative production of their learning materials and alongside with location. This is because these variables are very significant especially in a study of this nature, since it deals on human beings and the way they behave or react to certain situations or conditions.

Location is a particular position, situation or geographical area. In other word, school location means urban and rural school settings and this classification has influence on educational development. Educational opportunities vary from one location to another. While urban schools are known to have enough schools with facilities and teachers, rural schools may not have. Abidogun (2006) stated that rural areas as have greater challenges concerning educational development than the urban centres, due to the peculiar socio-economic and

institutional structures of the rural areas. Some of the challenges according to Anyaegbu (2003) are lack of zeal and interest by teachers due to poor conditions of work. Based on this, Abidogun (2006) reported that many teachers reject posting into the rural areas while those that do, treat their assignment in such areas as part time assignment. This situation can create differences in students' achievement. Ezeugwu (2011) opined that the difference in school location (urban, semi-urban, rural); differences in method of teaching; differences in number and qualities of the teacher; differences in study habits adopted by the students, to mention but a few give rise to the differences in achievements of students in various subject areas including economics. Students' achievement in relation to school location is crucial to educationists. There have been different research reports in the literature; some agree that location affects achievement while others do not. Location achievement study is inconclusive. However a study carried out in Enugu State by Onah (2011) showed that location is a significant factor on students' achievement in Agriculture science. Uzoegwu (2004) and Bosede (2010) found that location is not a significant factor in students' achievement. Eneja (2013) found that location is not a significant factor in students' achievement. Therefore, it is on this background information that the researcher intends to investigate the effect of cooperative production of learning resources on students' motivation and academic achievement in Economics at senior secondary schools in Enugu East L.G.A.

### **Statement of the Problem**

Researches over the years have unveiled that academic achievement of students in Economics at senior secondary school in Enugu East LGA, is dwindling despite its rich content as stated in the curriculum. The result of students' performance in economics as shown in the chief examiners' report of West African Examination Council, 2007, 2010 and 2011 revealed

that the academic achievement of students in Economics is poor and this could be to the extent of students' participation in the learning process, especially their involvement in the production of the learning resources used in teaching and nature of teaching resources applied by teachers in teaching the of the subject. It has been observed by the researcher that there is poor teachers' utilization of instructional resources in teaching, the teachers use already made or improvised materials without the involvement of the students in the production. Therefore, researchers are making great effort to see if there will be improvement on students' achievement and motivation in Economics by adopting cooperative production of learning resources approach (CPLRA). Their aim of using (CPLRA) is because talk- chalk method, lack of appropriate learning resources and innovation in the curriculum have been identified as one of the major reasons for poor achievement of students in Economics. This dwindling performance has become a sort of worry to parents and other stakeholders in education. It is against this challenge of low achievement in Economics that the researcher decided to investigate: "the effect of cooperative production of learning resources approach on students' academic achievement and motivation in Economics in Enugu East Local Government Area of Enugu State. Therefore, the problem of the study put in question form is "what is the effect of cooperative production of learning resources approach on students' academic achievement and motivation in Economics?"

### **Purpose of the Study**

The main purpose of this study is to determine the effect of cooperative production of learning resources approach on students' motivation and academic achievement in Economics. Specifically the study will find the:

1. Effect of cooperative production of learning resources on students' motivation in Economics.
2. Effect of cooperative production of learning resources on students' academic achievement in Economics.
3. Influence of gender on the achievement of students involved in cooperative production of learning resources in Economics.
4. Influence of location on the achievement of students involved in cooperative production of learning resources in Economics.

### **Significance of the Study**

The findings of this study have both practical and theoretical significance. Practically, the study will be of benefit to curriculum planners, students, parent/guidance and government.

From the findings curriculum planners will benefit since they will be provided with information that may be used in recommending effective innovations in teaching strategies. The finding will also provide necessary information that will be used to sensitize the government on the need for workshops, seminars and conference on new teaching techniques like cooperative production of learning resources as an effective strategy for teaching Economics. The government will also benefit by using the knowledge gained to retrain teachers by organizing symposia, workshops and training on the use of cooperative production of learning resources method. Again instructional resources produced can be used to establish a school based Instructional Resources Development Centre. This study will be of help to teachers because they will find the study useful, since it will suggest a better method of teaching and learning Economics with less stress. It will help to transform his lesson into reality. It is the general duty

of the teacher to maximize his learners' learning attainment. To achieve this, he or she should use different forms of instructional resources especially engaging students in their production in teaching economics.

Students will find the study helpful because it will help them to work together as one so as to achieve a common goal and to solve their immediate learning challenges. Students will also benefit a lot from producing different forms of instructional resources for teaching economics such as flip charts, diagrams, pictures, graphs, models etc, because it will help to concretize abstract idea. Lesson becomes very interesting when learners produce their own learning materials either cooperatively or individually. It is assumed that when learners are engaged in the production of their learning resources they will develop team work and thinking skills.

Theoretically, the significance of this study anchors on Bandura's social learning theory and Vygotsky's theory. This social learning theory is based on the principles of observation, imitation and modelling. This theory will enable learners to emulate good attitudes and values among their peers, because cooperative production of learning resources will bring learners to work together for a common objective, since the main aim is to aspire for a common objective or purpose, the stronger ones will help the weaker ones and this helps them to learn from one another in terms of character and learning.

Similarly, Vygotsky's theory of zone of proximal development indicated that there is discrepancy between the student's actual development level (that is independent achievement) and his or her potential level (achievement with the help from a competent partner or a knowledgeable peer). The knowledgeable partner could be the teacher or the peer/work group, the teacher in this case acts as a scaffold who gives support and guidance to the student where it

is necessary. This theory builds background for constructivist theory and cooperative production of learning resources that believes in the students' discovery of principles themselves and this makes learning to be learner centered and promotes participation on the part of the learner.

This study is anchored on these theories because the understanding of this theory in the Nigeria context, especially as it relates to teaching and learning will be of immense reference point for future researchers in the field of social science education in training programmes for the serving teachers on learning resources.

### **Scope of the study:**

This study will be conducted in Enugu East Local Government Area of Enugu State and restricted to only senior secondary school one (SSI) students of Economics.

The content scope of this study will focus on effect of cooperative production of learning resources on students' motivation and academic achievement in Economics. Putting into consideration variables like gender and school location.

### **Research Questions**

The following research questions will guide the study:

1. What is the difference in the motivation mean scores of students participated in cooperative production of learning resources approach and those who were not involved in the production of learning resources?
2. What is the difference in the mean achievement scores of students participated in cooperative production of learning resources approach and those who were not involved in the production of learning resources?



3. What is the difference in the mean achievement scores of male and female students who are involved in cooperative production of learning resources in Economics?
4. What is the difference in the mean achievement scores of students in urban and rural area who are involved in cooperative production of learning resources in Economics?

### **Hypotheses**

The following null hypotheses were formulated for the study and will be tested at 0.05 level of significance:

**HO<sub>1</sub>:** There is no significant difference in the mean motivation scores of Economics students taught with cooperative production of learning resources and those that were not.

**HO<sub>2</sub>:** There is no significant difference in the mean achievement scores of Economics students taught with cooperative production of learning resources and those that were not.

**HO<sub>3</sub>:** There is no significant difference in the mean achievement scores of male and female students of Economics taught with cooperative production of learning resources and those who were not involved in the production of learning resources.

**HO<sub>4</sub>** There is no significant difference in the mean achievement scores of Economics students in urban and rural area who participated in cooperative production of learning resources.

## CHAPTER TWO

### LITERATURE REVIEW

The review of literature related to this study is presented under the following major headings:

#### **Conceptual Framework**

- ❖ Concept of Economics
  - Implementation of Economics Curriculum in Nigeria Current Status
  - The Role of Instructional/learning Materials in the Teaching Senior Secondary Economics
  - The Use of Instructional Resources in the Teaching and Learning of Economics
- ❖ Concept of Cooperative Learning and Cooperative Production of Learning Resources
  - Elements of Cooperative Learning Resources
  - Cooperative Production of Learning Resources: Merits and Demerits
- ❖ Cooperative Production of Learning Resources and Motivation
- ❖ Academic Achievement
- ❖ Concept of Gender and Academic Achievement
- ❖ School Location

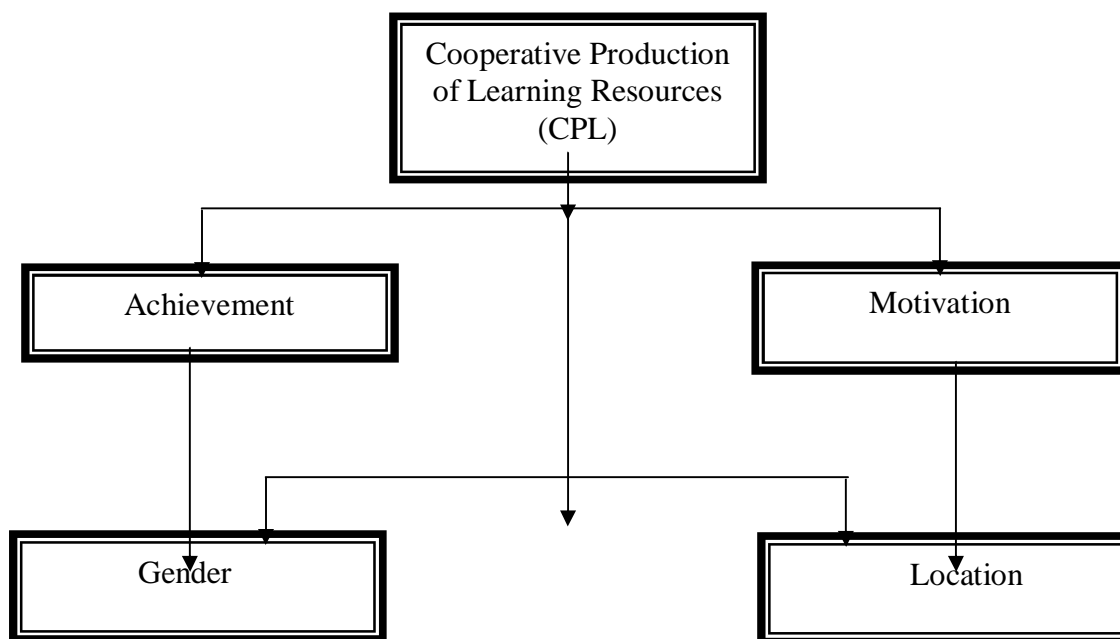
#### **Theoretical Review**

- ❖ Albert Bandura's Social Learning Theory
- ❖ Vygotsky social development theory

#### **Empirical Review**

- ❖ Studies Related to Cooperative Production of Learning Resources and Academic Achievement
- ❖ Studies on Motivation and Academic Achievement
- ❖ Studies on Cooperative Learning, Academic Achievement and Motivation
- ❖ **Summary of Literature Review**

### Schema showing relationship between major and intervening variables in this study



*Fig. 1: CPL: Cooperative Production of Learning Resources (Source: Rubnon (2000) motivation and achievement chart)*

The diagram above shows the link between the main and independent variables in the study. The main variables here are cooperative production of learning resources (CPL), Achievement and motivation while the independent variables are gender and location.

### Concept of Economics

There are many definitions of Economics but according to Lionnel Robbin (1957) in the National Open University of Nigeria (2006), Economics is the science which studies human behaviours as a relationship between ends and scarce means, which have alternative uses. Economics basically concerns itself on the study of how societies use (scarce) resources. Although the traditional emphasis has been on how resources are allocated, attention is increasingly paid to the equity of the distribution of resources and the overall scale of economic activity (Brown, 2011). This has been driven, in large part, by concerns about the environmental

and social impacts of economic decisions. Conversely, our choices in the environmental and economic spheres have economic impacts. Economic development has traditionally required a growth in the gross domestic product (GDP) (Brown, 2011). According to Stivers (1976) as early as 1970s sustainability was used to describe an economy in equilibrium with basic ecological support systems. The Businessdictionary.com defined development as the systematic use of scientific and technical knowledge to meet specific objectives or requirements. The term development in international parlance encompasses the need and means by which to provide better lives for people in countries. It includes not only economic growth, although that is crucial, but also human development or providing for health, nutrition, education and a clean environment. ([www.globalization101.org](http://www.globalization101.org)). Recent United Nations documents according to Soubbotina (2004) emphasized human development measured by life expectancy, adult literacy, access to all three levels of education, as well as people's average income, which is a necessary condition for their freedom of choice. In a broader sense, Soubbotina maintained that the notion of human development incorporates all aspects of individuals' wellbeing, from their health status to their economic and political freedom. Development is really much more than simple economic growth. The understanding of development can differ among countries and even among individuals, but it usually goes far beyond the objective of increased average income to include things like freedom, equity, health, education, safe environment and much more (Soubbotina, 2004).

The concept of sustainable development was formulated by Robert S. McNamara (nd) a former president of the World Bank. It attempted to reconcile economic growth and environmental protection in developing countries ([www.britannica.com](http://www.britannica.com)). Sustainable development is therefore an approach to economic planning that attempts to foster economic growth while preserving the quality of the environment for future generations. Sustainable development is a process for meeting human development goals while maintaining the ability of

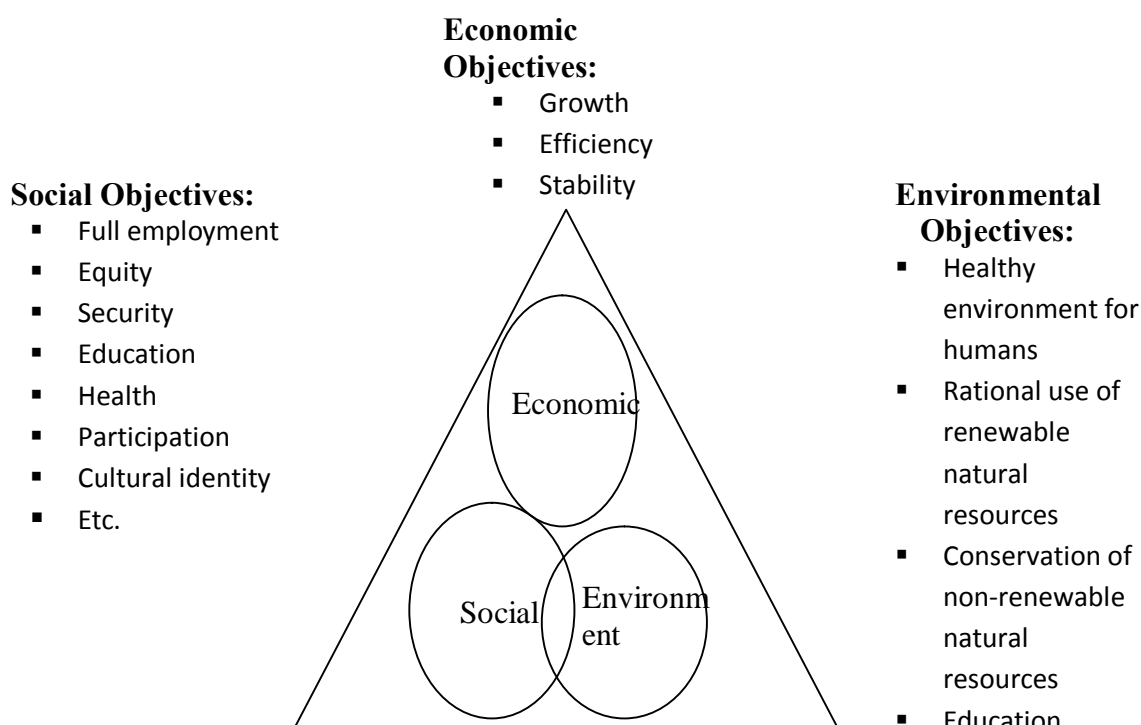
natural systems to continue to provide the natural resources and ecosystem services upon which the economy and society depends (Wikipedia.org.). Aldo (1949) posited that sustainable development is the organizing principle for sustaining finite resources necessary to provide for the needs of future generations of life on the planet. It is a process that envisions a desirable future state for human societies in which living conditions and resource use continue to meet human needs without undermining the integrity, stability and beauty of natural biotic systems. Sustainable development is about longterm conditions for humanity's multi-dimensional wellbeing. The famous Rio Declaration, adopted by the United Nations Conference on Environment and Development in 1992 (also called the Earth Summit, held in Rio de Janeiro, Brazil), maintained that "Human beings are at the centre of concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature".

The United Nations World Commission on Environment and Development in 1987 maintained that development is sustainable if it "meets the needs of the present without compromising the ability of future generations to meet their own needs (Soubbotina, 2004). In order for development to be sustainable in Nigeria therefore, it has to be comprehensive " it has to successfully balance economic goals with social and environmental goals.

The most critical problem of sustainable development as observed by Soubbotina, (2004) is eradicating extreme poverty. This is because poverty is not only an evil in itself. It also stands in the way of achieving most other goals of development, from clean environment to personal freedom. Another problem of sustainable development is establishing and preserving peace in all regions and all countries. War, as well as poverty, is inherently destructive of all economic as well as social and environmental goals of development. These problems are evident in Nigeria today as poverty is ravaging the country coupled with the war-like state of the nation due to the activities of boko haram and other morally debased groups. This state of affairs has indeed affected the economic growth and development of the country. The challenge of sustainable

development therefore is to better understand and anticipate how decisions affect all the three aspects of sustainable development ó environment, society and the economy. The International Institute for Sustainable Development (IISD)) also maintained that the pursuit of sustainable development requires that attention be paid to the interactions among the environment, society and the economy.

The understanding of this interaction among these three factors of sustainable development cannot be achieved without a sound knowledge of the foundation concepts of Economics. More importantly Economics is a social science subject that deals more on concepts which seem to be abstract and therefore requires concrete illustrations using instructional resources like charts, diagrams, graphic representations, etc., for better understanding. For example Figure 1 below shows the objectives and interaction among the three key factors of sustainable development.



*Source: Soubotina (2004) Beyond Economic Growth: An Introduction to Sustainable Development*

The diagram at a glance gives a very clear and vivid understanding of what economics and sustainable development means; the objectives as well as the interactions among the key factors ó economic, social and environmental. Cooperative production of learning resources (CPL) approach will allow for proper understanding and internalization of economic concepts, principles and theories, which are paramount for sustainable development.

### **Implementation of Economics Curriculum in Nigeria: Current Status**

Every subject curriculum has set of objectives to be achieved. The achievement of the objective depends on the implementation of the approved curriculum through teaching and learning. Okafor (2007) maintained that Economics as a subject helps individual to be relevant in everyday life and could prepare students for an Entrepreneurial career in the future. The general objectives of studying Economics in senior secondary school are as follows: to enable students:

- understand basic economic principles and concepts as tools for sound economic analysis;
- contribute intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigerians;
- understand the structure and functioning of economic institution; appreciates the role of public policies on National economy;
- develop the skills and also appreciates the basis for national economic decisions; become sensitized to participate actively in National Economic advancement through entrepreneurship, capital market and so on;

- Understand the role and status of Nigeria and other African countries in the international economic relationships; and appreciates the problems encountered by developing countries in their efforts towards economic advancement (NERDC, 2007).

However, the WAEC chief examiners report (2000-2008) on the performance of students in Economics over the years indicates that students are not doing well in the subject. According to the chief examiner;

*“the standard of the paper compared favourably with those of previous years, the question was straight forward, clearly stated and the marking scheme was quite exhaustive, candidates overall performance was however, below average. This could be attributed to inadequate preparation, poor communication skills in English language and wrong interpretation of questions”.*

The above situation is still being experienced today as observed by the researcher. For students to perform well in Economics, they need to understand the theory very well through practical application. It is only by so doing that there will be proper understanding of economics concepts and principles. Teaching in Nigeria school system has been predominantly teacher-centre, where the process is more of lecture and exposition. This in the view of Nwafor (2007) is not encouraging students to be active participants in the teaching and learning process.

A lot of methods abound for teaching Economics, but the worry is to what extent these methods help in achieving the instructional objectives. Instructional delivery is very complex and involves guiding the learner towards achieving set instructional objectives. It involves teacher's content competence, classroom management competence and the possession essential teaching skills. Therefore the Economics teacher must at all times decide on the best method to be adopted in the teaching and learning process. Some of the methods are as follows: lecture



method, problem solving method, assignments method, demonstration method, discussion method, project method, discovery method and inquiry method.

The lecture method of teaching according to Nwafor (2007) is highly teacher-centered. The teacher assumes to know everything thereby making the students passive listeners without contributing to their learning. The teacher orally presents the content knowledge to the learners who only listen to what the teacher is saying. This method has obvious limitations, which amongst all is that the students are inactive, passive and were not carried along in their own learning by way of their contributions to the learning process either as individuals or as a group.

Uwameiye and Ogunbameru (2005) singled out the expository/lecture approach to be the dominant teaching method commonly used for instructions in our schools. The expository approach is instruction in which the teacher stands most of the time giving verbal explanations in the form of talk-and-chalkboard, while the students listen and write notes from the chalkboard. They further stated that such inadequate and limited teaching methods tend to negatively affect learners' view of practical concepts and associated methods. Danbaki in Eneja (2013) argued that exposition method of teaching is a situation in which the teacher gives both the principles and the problems solution. This method of teaching enables teacher in final form since students are not required to make any independent discoveries. The characteristics of exposition method of teaching according to Cantrell (2004) are lecture, discussion, traditional demonstration, panel discussion, storytelling, guest speaking, and dramatization, reading of textbooks for instance reading of manuals or handouts. However, the researcher is of the opinion that teaching method that are teacher centred , teacher active, learners passive and content emphasis should be replaced with learner centred, learners facilitated, learners active in learning process.

Instructional methods of teaching have been recommended by researchers to improve students' achievement in senior secondary school Economics and other school subjects. One of such methods is the problem based learning and the inquiry/discovery learning approaches. The problem based learning is one of the methods that are student-centred (Nwafor, 2007). It is among the constructivist approaches to learning. Here, students are given problem cases and are asked to provide solution to them either individually or in cooperative learning groups. Students are confronted with a problem and attempt to solve it will lead to discovering of new facts. For example, economics students may be engaged cooperatively in small learning groups to produce charts, graphs, etc, which will be used to explain certain trends in economics and by so doing, they get acquainted to using charts and graphs to analyse basic economic issues and trends. This method makes students to be less dependent on the teacher. The demonstration method is another form constructivist learning approach. It is based on the simple but yet sound principle that we learn by doing (Nwafor, 2007; Okeke, 2006). Students learn physical mental skills by performing those skills under supervision. They learn skills such as speed reading, skills acquisition of the use of tools, machines and equipment that are particularly useful for instruction. This method is highly useful in this study because it gives the students the opportunity to learn more about certain economics topics by simply engaging themselves in the production of the learning resources that would be used in teaching them. This no doubt will improve their learning, motivation as well as achievement in economics.

Nwosu and Okoli (2010) recommend that integrated instructional model should be incorporated in the curriculum in order to enhance students' achievement. Integrated instructional model is a combination of teaching methods like demonstration, stimulation, discussion, question and answers method. The recommendation was because in their study on

effect of integrated instructional model, students who were exposed to integrated instructional model achieved higher than those exposed to conventional method of teaching. Nwosu and Nzih (2011) recommend that instructional scaffolding is a good method of teaching school subjects like Economics. Instructional scaffolding is a teaching strategy whereby the teacher models the desired learning task, then gradually shifts responsibility to the students. The objective is to give the students enough support to help them achieve their learning goals. Literature as posited by Cakir (2006) also suggests that practical engagement of students in the learning process, for example practical production of learning resources has significant effects on students' achievement. Students according to him whose teachers implement inquiry-oriented, problem-solving based and hands-on learning strategies like cooperative production of learning resources gain higher achievement scores on tests than students whose teachers use more teacher-oriented, lecture-based teaching methods/approaches.

In the light of the above, it could be said that the approaches/methods adopted by the teachers in Economics lesson delivery are not yielding the desired results, hence has not helped in the realization of the objectives of Economics curriculum in Nigeria. Therefore, the researcher expects that a change in the teaching/learning approach like the use of cooperative production of learning resources (CPL) approach, where students in cooperative learning groups produce their learning resources (charts, diagrams, graphs, etc.) will help in their proper understanding of Economics concepts, principles and theories, which will not only improve their academic achievement, but will also lead to the realization of the curriculum objectives of senior secondary school Economics, which will no doubt engender sustainable development of the country.

## **The Role of Instructional Materials in Teaching Senior Secondary Schools' Economics**

Instructional materials are resources teachers utilize in the course of presenting lessons in order to make the contents of the lesson understandable to the learner. Popoola, (2008) maintains that instructional resources/materials are the equipment and materials that are used in the process of teaching and learning to bring about effectiveness and efficiency in the teaching-learning process, which promote and enhance the achievement of instructional objectives. They are those resources that facilitate the achievement of goals of education. Instructional materials/resources in the view of Ibe-Bassey (2004) are objects, devices and things that are used by teachers to transmit, to transfer and to share their encoded lessons with their students, who will decode such lessons. Okwor and Ike (1995) define instructional resources/aids as a wide variety of equipment and material that are used in the process of teaching and learning to bring about effectiveness and efficiency in teaching government and invariably, promote and enhance the achievement of its instructional objectives. They (instructional materials) also represent all the alternative channels of communication, which can be used to compress and represent information in a more vivid form to learners (Onyejemezi, 1988).

Educational psychologists have emphasized the importance of instructional resources/materials in the teaching-learning process. Eya (2004) opines that professional teachers should be able to select appropriate instructional materials, utilize them effectively, evaluate, store and retrieve them and above all, every teacher should be able to produce instructional materials for his/her use to facilitate learning. The scholar further to argue that any teaching-learning situation lacking basic equipment will naturally fall back to talk-chalk approach. This implies that no matter how qualified or intelligent a teacher is, his/her teaching is most effective with the use of instructional materials. He enumerates instructional resources/materials to

include, charts, diagrams, graphs, pictures, televisions, computers, placards, textbooks, projectors etc.

The importance of instructional resources/materials cannot be over emphasized as it helps in making Economics concepts, principles, mathematical computations, graphical economic trends etc., more meaningful and concrete in the mind of the learners because as they involve themselves in the production of the instructional resources and materials use in teaching, they will get familiar to some of those topic that seem hard for them to understand. Kinder and Shunst (2001) notes that people generally remember about 20% of what they hear, 30% of what they see, 50% of what they hear and see, 70% of what they say and 90% of what they say and do. Okafor (2007) notes that the ideal learning situation in Economics classroom involves the use of real objects, pictures, charts, diagrams graphs, etc but because of population explosion, explosion in knowledge, constraints of time and money, the real things may not be possible to get, so the alternative is usually resorted to. This alternative is usually the materials/resources improvised to help teachers convey appropriate information meaningfully and effectively so that learners will understand, retain and apply knowledge gained for practical purposes.

The relevance of instructional resources/materials in the teaching and learning of senior secondary school Economics is buttressed in the following popular Chinese saying; I hear-I forget, I see-I remember, I do- I understand, hence the dictum to not just tell them but show them (Okafor, 1999). This brings to the fore, the need to cooperatively involve the students in the production of the learning resources/materials use in teaching them. Consequently, based on the fact that many researchers (Effiong and Odey, 2012; Nwana, 1990; Popoola, 2008 and Moronfola, 2009) have indicated that teachers' use of instructional resources/materials while teaching have influence and relationship with students' motivation and achievement in school

subjects. Despite the observed importance of instructional resources in the teaching of school subjects, especially senior secondary school Economics, teachers in most cases produce/improvise these resources all alone without involving the students, and when teachers are not able to produce or improvise learning resources, they teach without them. This situation has resulted in classroom instructions looking abstract to the students and also has led to students' poor understanding of examination questions and subsequent poor performance at external examinations. (WAEC, 2007).

Okwo and Ike (1995), Nwafor and Ugwu (2000) classified instructional materials into the following broad divisions:

1. Visual Materials: Teaching materials that appeal to the sense of sight example pictures, diagrams, wall charts, models etc.
2. Audio Materials: refers to teaching materials that appeal to the sense of hearing. Example, language laboratories, tape recorder, radio disc etc.
3. Audio Visual: refers to teaching materials that appeal to both sense of hearing and sight. Example, motion pictures, television, video, recordings etc.

Visual materials are further categorized into two: non projected and projected teaching materials (Nwafor and Ugwu, 2000). Non projected materials do not require projectors e.g. pictures, models, chalk board. Projected materials require projector example motion images like drawing. Non projected material is divided into two; two dimensional instructional materials are visual materials that have length and breadth but no thickness e.g. pictures, charts, posters etc. Three dimensional instructional materials are materials that have length and breadth with thickness. Examples models, specimens, templates, dioramas etc. In Economics lesson delivery, the following instructional resources could be used for effective lesson delivery: charts, graphs,

diagrams and pictures. The use of instructional resources as mentioned above in Economics lesson delivery has the potential to help the teacher explain new concepts in Economics clearly, resulting in better students understanding of the concepts being taught. In a subject like Economics, instructional materials are very essential because a high percentage of what is learnt are abstract contents and are better explained through the use of instructional resources (Olumorin, Yusuf, Ajidagba & Jerayinfa, 2010). Using instructional resources/materials in teaching according to Kadzera (2006) has several advantages for both the teacher and the students and they are useful for the following reasons; It motivates students to learn. When students are intrinsically motivated, they will have the desire/drive to perform tasks simply for the pleasure and satisfaction that accompanies their actions. Kadzera (2006) remarked that the use of instructional resources/technologies, which students can easily manipulate to obtain a required end product, can generate the desire to learn and do more. This therefore implies that when students, especially Economics students are engaged cooperatively in the production of their learning resources, they will be motivated to learn the subject.

The use of instructional resources/materials also aid in capturing students' attention. Instructional resources as observed by Kadzera (2006) capture and sustain students' curiosity and attention throughout their learning. This concentration by the students on what is on the instructional resource helps them to follow the lesson and learn whatever concepts being explained. Such attention also helps the teacher sense the readiness of students to understand what is being taught. Instructional resources also could be used by the teacher to explain concepts that would be difficult to elaborate orally. When students see the material, its mechanism, functions and necessary explanations explicitly presented, teachers are saved the hard explanation and students will easily understand. The use of instructional resources also

helps students acquire listening and observational skills that assist in their understanding of complex concepts especially in a highly demanding subject like Economics.

Olumorin et al (2010) outlined the following as the advantages of using instructional materials:

- They are cheaper to produce or buy.
- They can present objects and models in either 2 or 3 dimensional views.
- They can be used to teach large classes.
- Instructional resources encourage class participation.
- They motivate learners through the participatory activities during production (i.e. cooperative engagement of learners in the production of their learning resources).

From the above views and observations, there is no gainsaying the fact that if Economics students are engaged cooperatively in the production of their learning resources ó charts, diagrams, pictorials as well as graphical representations of economic concepts, trends, etc., their motivation and academic achievement will greatly increase, hence this study is undertaken to establish empirically the effect of cooperative production of learning resources on the motivation and academic achievement of Economics students.

### **The Use of Instructional Resources in the Teaching and Learning of Economics**

The WAEC Chief Examiner's reports over the years have indicated that part of the problems that contribute to students' poor performance in economics is as a result of their poor understanding of questions. This could be due to the extent of students' participation in the teaching and learning process, especially their non-involvement in the production of the learning resources used in teaching them and nature of teaching methodology adopted by teachers in



teaching the subject, (Kadzera, 2006). Predominantly lecture method, dictation method or storytelling, which do not foster critical thinking, creative thinking and problem solving skills are common among the teachers (Nwafor, 2007). The teaching of Economics in Nigeria as indicated by the National Open University of Nigeria (NOUN) (2006) is characterized by many inadequacies. One of such inadequacies is that Nigerian secondary school teachers of economics have few instructional materials on the teaching of economics to work with. Some of these instructional materials are either not available in sufficient quantity or what is available is usually inappropriate. With the exception of a few, the economics textbooks written in Nigeria according to NOUN (2006) are badly written, sketchy, and lacking in in-dept for economic analysis. Nwachukwu (2014) found in a study that economics teachers in secondary schools in Shomolu L.G.A. of Lagos State made use of available instructional resources, but most of the available economics instructional resources were not adequate for use by the teachers. He also found that the teachers seem to lack the knowledge in selection and utilization of these instructional materials/resources

Another factor is that due to dwindling state of the education system in the country generally, training and re-training programmes are hardly organized for teachers. It is through such training programmes that economics teachers will acquire the needed knowledge and skills that will enable them improvise some of these instructional materials that are very much needed, but are lacking, using local materials. Another factor that has contributed to the low usage rate of instructional materials in teaching is the interest of the teachers. Most at times as observed by the researcher, economics teachers are less interested in using instructional materials during teaching. They rather prefer using already prepared lesson notes, which they usually write on the chalkboard for the students to copy or in most cases dictate the notes while the students write.

This has made the students passive learners, who do not make any contribution in the learning process. Mapaderun (2002) and Oni (1995) emphasized that the availability, adequacy and use of these resources promote effective teaching and learning activities in schools while their inadequacy and non-usage affects students' academic achievement negatively. Nwachukwu (2014) also opined that for learners to benefit maximally in learning economics content, the practically-oriented integrative inquiry/problem-solving approach should be adopted in the classroom. These according to Ali (2010) rely heavily on the quality and ample provision and utilization of learning materials/resources. On the basis of the above views and observations, the researcher expects that there should be an effect of cooperative production of learning resources/materials on students' motivation and academic achievement in Economics.

### **Concept of Cooperative Learning and Cooperative Production of Learning Resources**

Learning is acquiring new or modifying and reinforcing, existing knowledge, behaviors, skills, values, or preferences and may involve synthesizing different types of information. The ability to learn is possessed by humans, animals and some machines. Progress over time tends to follow learning curves. Learning is not compulsory; it is contextual. It does not happen all at once, but builds upon and is shaped by what we already know. To that end, learning may be viewed as a process, rather than a collection of factual and procedural knowledge. Learning produces changes in the organism and the changes produced are relatively permanent (Schacter, Gilbert & Wegner, 2011). Iroegbu, Chukwudire, Nkwocha and Onyemerekeya (2003) are of the view that there is no consensus about one definition for learning, but there is a consensus about the attributes of learning. Some of the attributes in their view are:

1. Learning involves change in behaviour.
2. The change is not temporary. It is enduring or permanent.
3. There are internal and external conditions which must exist for learning to take place.
4. Learning results from environmental experiences.

Since learning is a process and results from environmental experiences, it is therefore pertinent that approaches that will encourage and motivate learners to learn are utilized in the teaching and learning process. Such approaches that lay less emphasis on teacher-centred but on students-centred activities like the cooperative learning approach, is therefore imperative for student result-oriented learning. When students are cooperatively engaged in the learning process, either in solving group assignment or engaging in group activity like producing their learning resources, they will be intrinsically motivated to learn.

One of the major objectives of teachers is to effectively use instructional strategies and resource is to motivate and improve students' cognitive, affective and psychomotor outcomes. The mode of delivery of lessons in Nigeria education system is by exposition (Nwafor, 2007). The expository method is teacher-centred, student-peripheral teaching approach in which the teacher delivers a pre-planned lesson to the students with or without the use of instructional resources/materials. Engaging students in teaching-learning process requires students actively involved in their learning. One of the ways through which this can be achieved is through the use of a more student-centred learning approach like the cooperative learning approach (Nwafor, 2007).

Cooperative learning is the umbrella term for a variety of educational approaches involving joint intellectual effort by students and teachers together (Wendy, 2005). Akinbobola (2009) opines that cooperative learning being a new strategy for teaching in Nigeria has not been

frequently used by teachers. Cooperative learning according to Slavin (2011) comprises instructional methods in which teachers organize students into small groups, which then work together to help one another learn academic content. Polloway, Patton and Serna (2001) describe cooperative learning method as an activity that increases the students' class participation, academic achievement and motivation towards learning. It requires a small number of students to work together on a common task, supporting and encouraging one another to improve their learning through interdependence and cooperation with one another (Larry and Harman, 2002). On the composition of a cooperative learning group, Sarah, (2006) and Wendy (2005) are of the view that groups usually comprise of two to five students in a group that allows everyone to participate in a clearly designed task. Students in small groups' cooperative learning are encouraged to share ideas and materials and divide work when appropriate to complete the task. A number of researchers (Doymus, Karacop & Simsek, 2010; Avcioglu, 2012; Hwang, Shadiey, Wang & Huang, 2012; Tan, Wen, Jiang, Du & Hu, 2012; Tran, 2012) as Simsek, Yilar and Kucuk, (2013) note, define cooperative learning as a learning approach that students help learn from each other creating a small mixed groups towards a common purpose in an academic subject in both classroom and other environments, increased self-confidence and communication skills of individuals, strengthen the power of problem-solving and critical thinking and students participate actively in the process of education.

In the traditional classroom setting as Tran and Lewis (2012) opine, emphasis is on lower-order thinking competencies such as memorization, comprehension and application skills rather than in a cooperative learning setting where higher-order thinking such as analysis, synthesis and evaluation skills has been emphasized, and this has been argued to be inappropriate to students learning. In order to encourage Economics and other students to work together rather

than compete, to improve their achievement and knowledge retention, motivation and interest, an alternative to traditional lecture-based teaching and learning could be cooperative learning (Magnesio & Davis, 2010; Mehra & Thakur, 2008). Cooperative learning strategy enhances more positive relationship between participants (Johnson & Johnson, 2005); it develops self-esteem, motivation (Abass, 2000), cohesiveness and learning skills (Sahin, 2010; Slavin, 2011).

On why use cooperative learning instructional approach, Abass (2000) lists the following as the advantages of the approach:

1. It promotes individual student learning. As a result, students learn how to think critically as they work through the specific steps required to achieving a given task.
2. It encourages greater effort among students as they are striving for the mutual benefit of the group. Consequently, the students gain from each other's efforts and this creates greater productivity, long-term retention and intrinsic motivation in them. In addition, students can share their strengths and also develop their weaker skills.
3. It helps students develop their oral skills. By interacting with each other, students promote each other's success by orally explaining how to solve problems, teaching one's knowledge to others and by discussing together the concepts being learned.
4. It enhances students' satisfaction with their learning experience. As students are learning together, this process increases their retention and this helps to increase their self-esteem and this ultimately motivates them.

The primary objective of embarking on every teaching and learning experience is to improve the learning outcome of students. Cooperative learning as a student oriented learning approach has been identified as one of the approaches that could really impart positively on the learning outcomes of the students as indicated by the observations and findings of scholars. Also

this learning approach has been found to be beneficial in the overall development of the students. On the basis of the above findings and observations, this researcher believes that engaging students in cooperative learning groups to produce their learning resources will not only improve their hands-on learning experiences but will to a great extent effect positively to their motivation in learning Economics as well as their academic achievement in the subject.

### **Elements of Cooperative Learning Resources**

Tran & Lewis (2012) assert that cooperative learning consists of five basic elements. These include positive interdependence, promotive interaction, individual accountability, teaching of interpersonal and social skills and quality of group processing. However, Johnson & Johnson in Nwafor (2007) and Kagan and Kagan (2009) elaborate the list of the five basic elements of cooperative learning thus:

1. ***Positive Interdependence:*** Each group member has a unique contribution to make and the success of the group is dependent on each member's efforts. Group members have to be aware that their efforts not only benefit themselves individually but the whole group. Doing so creates a commitment to the success of group members as well as one's own and this is the heart of cooperative learning. If there is no positive interdependence, there is no cooperation.
2. ***Face-to-face Interaction:*** Students need to do real work together in which they promote each other's success by sharing resources and helping, supporting and encouraging each other's efforts to achieve. Students are shown how to help each other overcome problems and promote each other's success.
3. ***Individual and Group accountability:*** Each member of the group has to make a significant contribution to achieving the group's goal. The group has to be clear about its

goals and what the members have to do to achieve them. Each member of the group is responsible not only for learning but also for helping other members of the group to learn, thus creating an atmosphere of achievement.

4. ***Interpersonal Skills:*** students need to know how to interact with one another and as such, direct instruction in social skills and group communication skills Cooperative Learning and Motivation are necessary. For example, assigning students with roles such as reporter or writer so as to teach them leadership and decision skills.
5. ***Group Processing:*** Group members discuss the progress of their project and how they are maintaining effective working relationships. How the group is working out and other problems they might be facing can also be addressed. Group members need to recognize that they all share the same fate and what affects one member of a group affects them all.

The above listed elements of cooperative learning shows that the approach is highly student-centred because it ensures that each group member makes contribution in a unique manner for the group's success; by working together, they develop healthy communication and interaction skills; individual learning goal is as same as that of the group, therefore the main aim is to help each other to learn; since the failure of the group is to be blamed on all the group members, they always maintain good working relationship in order to see to the success of their group's project. It is therefore the expectation of the researcher that adopting the cooperative production of learning resources (CPL) approach in Economics will lead to motivation of the students as well as an improvement on their academic achievement.

### **Cooperative Production of Learning Resources: Merits and Demerits**

Learning by doing has been adjudged by educational psychologists as the best and most enduring type of learning. Cooperative learning according to Wendy (2005) is the umbrella term

for a variety of educational/instructional approaches involving joint intellectual effort by students and teachers together. Slavin (2011) opined that cooperative learning comprises of instructional methods in which teachers organize students into small groups, which then work together to help one another learn academic contents. It is a strategy by which small teams, each with students of different levels of ability, are engaged in learning activities to improve their understanding of a subject.

Instructional/learning resources or materials can be produced by the teachers. It can also be produced by the students cooperatively in learning groups under the supervision of the teacher. Instructional resources production, especially by students refers to the different ways students produce, construct and develop their learning resources. Therefore conceptualizing cooperative production of learning resources, the researcher sees the approach as the organization of learners into small learning groups, with the task of producing instructional materials related to their content of study. This approach makes students to be interdependent of each other thereby creating greater cooperation and collaboration among participating students.

The following researchers have submitted in their studies some of the benefits/ merits of using cooperative learning approach thus: cooperative learning develops self-esteem and motivation of students Johnson & Johnson (2005); cooperative learning approach encourages cohesiveness and improves students' learning skills Abass (2000), Sahin (2010) and Slavin (2011). However, in addition to the above observations and findings, the researcher identifies the following as the merits or benefits of using the cooperative production of learning materials approach:



- 1.) Cooperative production of learning materials approach creates in the students the spirit of teamwork and thinking skills, which are vital generic skills needed for effective learning and development of the students.
- 2.) When students are involved cooperatively in the production of their learning resources/materials, it makes them develop sense of belonging. This makes them to have that intrinsic motivation to be active participants/contributors towards the accomplishment of their group task/activity.
- 3.) By being active participants in a cooperative production learning group, students avail themselves of the privilege/opportunity of understanding hard to explain abstract concepts. This is because their participation gives them clearer and more simplified understanding of the concepts presented to them.
- 4.) By brainstorming together as a learning group, students are likely to produce good and high quality instructional materials that could be used to make up for the observed insufficient or lack of needed instructional materials in schools as observed by National Open University of Nigeria (NOUN) (2006).
- 5.) Students who participate in cooperative production of learning resources are expected to be high achievers. This is because they are availed the opportunity by virtue of their participation the practical/hands-on knowledge that helps in easy understanding of the content of study.

On the demerits of the cooperative learning approach, the researcher identifies social loafing. This is a situation whereby some unserious group members rely on others for the accomplishment of group task but at the end of the day share in the group's glory. As has been identified above, there are lots of merits accruable when CPL approach is properly applied in the

teaching of senior secondary school Economics, such as improved self-esteem, students' motivation and improvement of learning, teamwork and thinking skills. On the basis of the above observations, the researcher expects that applying the CPL approach will have effect on the motivation and academic achievement of the students involved in this study.

### **Cooperative Production of Learning Resources and Motivation**

Motivation is the basic drive for all of our actions. Iroegbu, Chukwudire, Nkwocha and Onyemerekeya (2003) refer to motivation as the instigating forces of behaviour and anything that urges one into a kind of action. Motivation can be defined as the driving force behind all the actions of an individual. The influence of an individual's needs and desires both have a strong impact on the direction of their behavior. Motivation is based on your emotions and achievement-related goals (Rabideau, 2012). Motivation refers to the dynamics of our behavior, which involves our needs, desires, and ambitions in life. There are different forms of motivation including extrinsic, intrinsic, physiological, and achievement motivation. Intrinsic motivation is defined as the enjoyment of, and interest in an activity for its own sake. Fundamentally viewed as an approach form of motivation, intrinsic motivation is identified as an important component of achievement goal theory (Rabideau, 2012). Most achievement goal and intrinsic motivational theorists argue that mastery goals are facilitative of intrinsic motivation and related mental processes and performance goals create negative effects. Mastery goals are said to promote intrinsic motivation by fostering perceptions of challenge, encouraging task involvement, generating excitement, and supporting self-determination while performance goals are the opposite. Performance goals are portrayed as undermining intrinsic motivation by instilling perceptions of threat, disrupting task involvement, and creating anxiety and pressure (Elliot & Harackiewicz, 1996).

An alternative set of predictions may be derived from the approach-avoidance framework. Both performance-approach and mastery goals are focused on attaining competence and foster intrinsic motivation. More specifically, in performance-approach or mastery orientations, individuals perceive the achievement setting as a challenge, and this likely will create excitement, encourage cognitive functioning, increase concentration and task absorption, and direct the person toward success and mastery of information which facilitates intrinsic motivation. The performance-avoidance goal is focused on avoiding incompetence, where individuals see the achievement setting as a threat and seek to escape it (Elliot & Harackiewicz, 1996). This orientation is likely to elicit anxiety and withdrawal of effort and cognitive resources while disrupting concentration and motivation.

Achievement motivation can be defined as the need for success or the attainment of excellence. Individuals will satisfy their needs through different means, and are driven to succeed for varying reasons both internal and external. It is based on reaching success and achieving all of our aspirations in life. Achievement goals can affect the way a person performs a task and represent a desire to show competence (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997). These basic physiological motivational drives affect our natural behavior in different environments. Most of our goals are incentive-based and can vary from basic hunger to the need for love and the establishment of mature sexual relationships. Our motives for achievement can range from biological needs to satisfying creative desires or realizing success in competitive ventures. Motivation is important because it affects our lives every day. All of our behaviors, actions, thoughts, and beliefs are influenced by our inner drive to succeed.

Among the studies that explore student motivation to learn as a result of cooperative-learning environments was that done by Ho and Boo (2007), which found a strong effect of

cooperative learning on students achievement in aspects of secondary school Physics. Nichols and Miller (1994) also report a study on high school students studying algebra. Their results indicated that cooperative learning treatment produced motivational effects. Wang, Haertel and Walberg (1993) also found a strong correlation between motivation to learn and student achievement. Peterson and Miller (2004) compared the experiences of college students during cooperative learning and large-group instruction and found that the most consistent results of this study related to student motivation, all aspects of which were more positive during cooperative learning. They found that during cooperative learning, students were more engaged. Some of the cooperative learning strategies such as Slavin's methods (TGT and STAD) include a unique scoring system that provides students with maximum opportunity to improve their achievement scores by comparing their present level of achievement to their own previous level, without reference to the scores of other students in the class. This individualised reward system enhances motivation (Sharan, 2002). In the light of the above observations and findings, this researcher expects an effect of cooperative production of learning resources on students' motivation to learn.

### **Academic Achievement**

Teaching and learning process cannot be completed without finding out the extent to which the set objectives are achieved. The essence is to determine progress students made in learning the concept, principles and theories presented to them in the course of teaching. The outcome of the exercise is academic achievement, which represents the extent to which a student, teacher or institution has achieved their educational goals. Academic achievement has become an index of a child's future in this highly competitive world. Academic achievement has been one of the most important goals of the educational process. It is also a major goal, which every

individual is expected to perform in all cultures. Academic achievement could be seen as the level of performance in a particular field of study. Egbule (2004) view academic achievement as high scores obtained by students in an examination. The high scores are indices, symbols or marks which characterize the students' achievement. It is an indication of amount or level of knowledge an individual learner possesses in a given subject area (Egbule, 2004). Crow and Crow (2011) define academic achievement as the extent to which a learner is profiting from instruction in a given area of learning. This means that achievement is reflected by the extent to which skill or knowledge has been imparted to the learner. However academic achievement is a key mechanism through which students learn about their talents, abilities and competencies which are important parts of developing career aspirations (Lent, 2000), academic achievement and career aspirations in adolescence are often correlates (Abu-Hilal, 2000).

Academic achievement, most especially of secondary school students has been largely associated with many factors. In recent time, literature has shown that learning outcomes (academic achievement) have been determined by such variables as family size, society and motivational factors (Aremu & Sokan, 2003; Aremu & Oluwole, 2001), socio-economic status (Ajayi and Muraina, 2011), student interest (Udegbe, 2009), teaching methods (Eniayeju, 2010). In the same vein, Parler, Creque, Harries, Majeski, Wool, and Hogan (2003) noted that much of the previous studies have focused on the impact of demographic and socio-psychological variables on academic achievement. On the basis of the above views and findings, it is the expectation of the researcher that there should be an effect of cooperative production of learning materials on students' academic achievement in Economics.

### **Concept of Gender and Academic Achievement:**

Gender is a broad analytic concept which highlights women's roles and responsibilities in relation to those of men. Gender is the position or place of men and women in the society. It refers to roles and responsibilities ascribed or allowed to either man or woman by society. Imoh (2002), described gender as those cultural constructs or conditioning which are products of nurturing, socio-cultural norms, roles and expectations that vary within and between cultures. It is also referred to as the social attributes and opportunities associated with being male or female. This includes the way in which the difference whether real or imagined have valued, used and relied upon to classify women and men to assign roles and expectation to them. Bossow (1991) view gender as a psychological term describing behaviour and attributes expected of individuals on the basis of being born either male or female. Okeke (2006) explained that gender is socially or culturally constructed characteristic, qualities, behaviours and roles which different societies ascribe to female and males. Unlike sex which is biological, gender expectations, roles and characteristics of its member are made evident in the approved process of socialization is dictated by the society. According to Hawkins (1995) gender is a grammatical classification corresponding roughly to sex. Gender relates to the difference in sex (that is, either male or female) and how this quality affects their dispositions and perception toward life and academic activities (Okoh 2007). Gender is related term that stresses the roles and responsibilities of male and female (Okeke, 1999). According to Lee (2001) gender is ascribed attribute that differentiates feminine from masculine socially. In the words of Obasi (2006) gender is also used to discuss social and psychological aspects that are regarded appropriate to men and women. Thus such term as 'gender-roles', 'gender stereotype', 'gender identities', 'gender disparity', imply that these are subject to social and cultural influences. Gender roles are those functions

that are culturally allotted to individuals on the basis of their gender but are not related to biological functions. The roles are a set of expectations as to what ought to appropriate behaviour for men and women under particular circumstances. It is those functions that can be carried out by a man or a woman. Furthermore the assignment of such roles varies from culture to culture and over a period of time. The function to be carried out by a man or a woman of a particular gender walks, speaks, dresses and relates with others including outsiders is culturally determined. For example, child rearing is allocated to women. It is a female gender role but not a female sex role since a man or a woman can carry out the functions. Also, household chores such as washing plates are allocated to women where as men can also do it. Gender roles contrast with sex roles such as carrying a pregnancy or breastfeeding that are exclusively female sex roles. Sex roles are those functions that a person requires certain biological characteristics in order to perform. It is those responsibilities or biological functions that one needs a particular body organ in order to perform them; such roles carried out only by members of that particular sex. Gender stereotyping is a constant attribution of certain social roles to men or women according to the traditional gender division of labour in a particular society even when such attributions are not built on reality or are discriminatory. Gender stereotyping works to support the existing structural arrangements, which are discriminatory and are in favour of men, this is done to portray such gender roles as natural and normal with women. Gender identity refers to one's conception and perception about self, as being male or female, and consequently the roles one is expected to perform consequent to that positioning. Okeke (1999) describes gender identity as feminine roles and responsibilities in relation to those of masculine. It is one's sense of being male or female and the willingness to strictly observe the roles assigned to that sex in the society. Gender disparity refers to the inequality that existed between men and women in relation to their

access to resources such as social status, income, political position; etc. with regard to achievement, there are established difference between male and females in cognitive and communication skills which affect achievement in school work. Gender roles and identity played important roles in school and provision of educational opportunities for Nigeria children in favour of males. A number causes precipitate the differences.

Gender differences are both similar to and different from culture differences. Certainly there are physiological differences between the sexes, but these do not extend to inherent differences in the ability to succeed at school or work. The effect of gender on learning and achievement is constructed by culture. In western societies, girls are expected to behave more passively than boys. Boys are expected to be active and curious, often to the point of getting into trouble, which is considered normal and acceptable (Schrum & Geisler, 2003). Typically, our culture describes male behaviour as aggressive, assertive and competitive. Female behaviour is described as collaborative and supportive. Boys are encouraged to develop skills in fields like engineering and computer science; girls are often discouraged from participation in these fields. Fields that focus on personal aesthetics (e.g. fashion and interior design) and child development (e.g. elementary education) are considered a female realm.

Gender in relation to achievement has been an issue of interest to researchers in education. The difference in academic achievement due to gender differences is a crucial matter to the educationists. David (2001) opined that one of the areas of bias study that have been particularly dynamic in recent years is scoring differences that correlate with gender. The effect or influence of gender on students' achievement in senior secondary school subjects has been an area of focus by researchers. There are differing opinions on which gender achieves better than the other. There are those that claim that males perform better than the females, yet others uphold



that females achieve better than their counterparts. This is why Buadi (2000) opined that the difference in gender as it affects students' and academic achievement is inconclusive. Probably the most publicized differences are in the area of college aptitude, where test scores are supposed to predict the applicants' subsequent college-level performance. (Kesel & Linn, 1996) found that, in some instances, SAT data may under predict college- grade for women in mathematics. The scores suggest that females' performance in college-level mathematics will be lower than they turn out to be. In another study Oforima (2004) found out that there is no significant difference in students' achievement in French, although male students' have slight mean difference than female students' Odul (2006) reported that gender is a significant factor in students' achievement in mathematics. Girls perform poorly in mathematics than female. Nwosu and Azih (2011) reported that gender had no significant interaction with teaching approach (instructional scaffolding) on students mean achievement in financial accounting. However Ikeche (2004) argued that achievement in financial accounting is gender sensitive because female students are always afraid of calculating figure. This has necessitated the need to find how gender would affect achievement where students are involved in cooperative production of learning resources.

### **School Location**

Location is a geographical place or an area (Benton, 1980). It can also mean a settlement, whether a village, town or city usually occupied by human beings. The status of a location whether urban or rural (in this case, a settlement), depends on the size, infrastructures, population distribution among other things. Usually, considerable human population, infrastructure such as school, good roads and hospital characterizes urban location than rural. By school location therefore it means urban-rural school settings and this classification has influence on educational

development. Educational opportunities vary from one location to another. While some places are known to have enough schools with facilities and teachers, other does not. Abidogun (2006) stated rural areas as having greater challenges concerning educational development than the urban centres, due to the peculiar socio-economic and institutional structures of the rural areas. Some of the challenges according to Anyaegbu (2003) are (1) lack of zeal and interest by teachers due to poor and delayed salaries and poor conditions of work; (2) Frequent strike actions by teachers. Base on these (Abidogun, 2006) reports that many teachers therefore reject posting into the rural areas while those that do, treat their presence in such area as part time assignment. This situation creates differences in students' achievement. Ezeugwu (2011) opined that difference in school location (urban, semi-urban , rural); differences in method of teaching; differences in number and qualities of the teacher; differences in study habits adopted by the students, to mention but a few give rise to the differences in achievements of students in various subject area including financial accounting. Students' achievement in relation to school location is crucial to educationists. There have been different research reports in the literature; some agrees that location affects achievement while others do not. Location achievement study is inconclusive. However a study carried out in Enugu State by Onah (2011) showed that location is a significant factor on student's achievement in Agriculture science. Bosede (2010) and Uzoegwu (2004) show that location is not a significant factor in student's achievement. Adepoju (2001) found that students in urban schools manifest more brilliant performance than their rural counterparts. Also Ogunleye (2002), Ndukwu (2002), Odinko (2002) and Warwick (1992) reported a significant difference in the achievement of students in urban and semi-urban areas. However, Daramola cited in Ogunleye (2002) and Orji (1997) did not find any significant difference in the urban and semi-urban schools. Students in urban areas have better access to

learning resources (human and non-human) and are expected to make better achievement. In using cooperative production of learning resources, would location prove to be a factor?

## **Theoretical Review**

There are two major theoretical perspectives related to cooperative production of learning resources. They include the Social Learning Theory by Albert Bandura and Lee Vygotsky Theory of Social Development.

### **Albert Bandura's Social Learning Theory**

Albert Bandura is the chief proponent of social learning theory. The theory is propounded in (1977) and is based on two main principles.

- ❖ The kind of learning that occurred in a typical social interaction.
- ❖ The influence of a learner on another learner in a group setting

According to Bandura (1977) a learner is a member of the social group and is expected to interact with the environment. The learner can give approval or disapproval in any issue that arises from his group. He identifies with peer group or social group of the immediate environment, and as they meet and interact, learning takes place. Bandura emphasize on social reinforcement as one of the facilitating factors of learning. He pointed out that it could be direct or vicarious. It is direct when the learner is reinforced for his action and vicarious when the learner observes a model being reinforced. This plays vital role in group setting as individual learner anticipates reinforcement for his group success.

Bandura took into cognizance the key agents of the social learning theory such as the teachers, the peers, parents, group leaders and some influential figures in the community who have great influence on the social learning theory; especially the teacher who acts as the role

model, facilitator, director and moderator of learning. The way the teacher presents the lesson will go a long way to determine the extent the learner develops good attitude, motivation, interest and retention in the lesson and this will give value to school learning.

Bandura in Ngwoke (1995) stated that no individual is an Island completely and entirely onto himself in teaching and learning. Group atmospheres influence learning goals, motives and values. In planning any learning enterprise, the teacher will remember that interactive effect of the group will come to bear upon the learning resources, objectives, the contents, the methodology and the learning outcomes.

### **Vygotsky's Social Development Theory**

Vygotsky's social development theory was propounded in 1978, the theory explained social intellectual development under the following principles:

- i. Intellectual development takes place within social and cultural context
- ii. Intellectual development is a continuous life process
- iii. The zone of proximal development explained the gap of what the learner currently know or can do or capable of doing.
- iv. The role of more knowledgeable teacher

Vygotsky (1978) has the opinion that intellectual development of a child starts from his environment and can be influenced by the cultural back ground and the child social interaction. Vygotsky believed that children learn through joint interactions with adults and more capable peers. On cooperative projects, children are exposed to their peers, this method not only makes the learning outcome available to all students, but also makes other students' thinking process available to all. Vygotsky noted that successful problem solvers talk themselves through difficult problems. In cooperative model building, children can hear inner speech out loud and can learn

how successful problem solvers are thinking through their approaches. Vygotsky emphasized on the idea that children learn best the concepts that are in their zone of proximal development together, each child is likely to have a peer performing on higher cognitive level, exactly within the child's Zone of Proximal Development (ZPD).

Vygotsky also believed that social interaction is necessary for learning because higher mental functions such as reasoning, comprehension and critical thinking originate in social interactions and are then internalized by individuals. Children can accomplish this mental task with social support before they can do it alone.

These theories are greatly relevant to this study in the sense that students will be engaged in a cooperative way in producing the instructional resources/materials used in teaching them topics in senior secondary Economics. This involves engaging students in groups of about five, who are intrinsically motivated in practical activities that involve drawing of charts and diagrams, plotting of graphs and production of other instructional resources used in teaching the topics. The understanding of this theory by teachers in Nigeria context will bring improvement in learners' achievement.

## **Empirical Review**

This section presents empirical review of related and relevant studies on cooperative learning and academic achievement, cooperative learning and students' motivation to learn and cooperative learning, academic achievement and use of instructional resources. It is important to note that to the best knowledge of the research and also through extensive review of literature, there has not been any major research carried out in this area of cooperative engagement of

students in the production of their learning resources in teaching economics. However, there are some related works and they are reviewed below.

### **Studies Related to Cooperative Production of Learning Resources and Academic**

#### **Achievement**

Bello (2011) undertook a study to investigate the outcomes of using group instructional strategy on learning of Physics in senior secondary schools in Nigeria and also determined whether group instructional strategy will improve the performance of below average ability students. By the use of purposive sampling, 365 senior secondary school year one Physics students were selected from a school of science, in Ile-Ife, Osun State, Nigeria for the study. The study design was pre-test-post-test control experimental. A validated Physics achievement test consisting of ten theory items was used for data collection, and the data collected were analyzed using t-test. The study revealed that those exposed to group instructional strategy performed better than those exposed to individual learning treatment; the below-average students exposed to group instruction have gain score over what they scored when not exposed to this method, which shows that there was improvement in their performance hence, more understanding of the Physics concept. Also, there is a significant difference in the collective work done by students exposed to group instruction and their performance individually revealing that the students gained better when they worked assignments together than when it is done individually. Furthermore, the individual who submitted class work in the group learning treatment did better than their counterparts in the individual learning treatment. The present study will adopt the same design used in the reviewed study. Here students will be involved in producing their learning materials/resources themselves. The study also will not group students in ability levels,

rather they will work together, and in so doing help each other to learn. Moderating variables like gender and school location will rather be used to group the students.

Bukunola and Idowu (2012) undertake a study to investigate the effectiveness of cooperative learning strategies on Nigerian Junior Secondary students' academic achievement in basic science. Quasi experimental pretest ó posttest ó delayed posttest control group design was used by the researchers to carry out the study. The treatments were at two levels: cooperative learning strategies (learning together and jigsaw II) and conventional lecture method, which was the control group. The moderating variable was anxiety (high and low). Total number of one hundred and twenty students (120) obtained from the intact classes of the three selected Junior Secondary Schools in South-west Nigeria participated in the study. Achievement Test for Basic Science Students (ATBSS), and Basic Science Anxiety Scale (BSAS) were the main instruments used to collect data from students. Descriptive statistics and Analysis of Covariance (ANCOVA) were used to analyze the data collected. Also Multiple Classification Analysis (MCA) was used to determine the magnitude of the mean achievement scores of students exposed to the different treatment conditions. The results of this study indicated that there were significant main effects of treatment on all the dependent measures. There were also significant main effects of anxiety on the students' post and delayed-post academic achievement scores in basic science. Furthermore, there were significant interaction effects of treatment and anxiety on the academic achievement of students at the posttest and delayed-posttest levels. This study revealed that students in the two cooperative learning strategy (Learning Together and Jigsaw II) groups had higher immediate and delayed academic achievement mean scores than the students in the conventional-lecture group. Learning together and Jigsaw II cooperative teaching strategies were found to be more effective in enhancing students' academic achievement and retention in basic

science more than the conventional-lecture. When friendliness is established, students are motivated to learn and are more confident to ask questions from one another for better understanding of the tasks being learnt. The present study will also adopt a quasi experimental design, involving a pre-test-post-test but not a delayed posttest. Also the moderating variables are gender and location. Only Analysis of covariance will be used to test the hypotheses, there will be no multiple classification analysis.

Onasanya and Omosewo (2011) carried out investigation on the effect of students' improvised instructional material and standardized instructional materials on secondary school students' academic performance in physics in Ilorin, Nigeria. Quasi-experimental research design, pre-test-posttest non randomization was adopted in the study. A total population of twenty five senior secondary schools was used. Purpose sampling was used to select these schools. The instrument for data collection used for the study was forty multiple choice questions developed by the researchers based on the unit of instruction. Students were made to select correct answer based on the four options. It was observed that students taught using improvised materials performed significantly better than those taught with standardized materials. In addition to what this researcher did, the present study will investigate if students' involvement in the production of learning resources cooperatively will influence their motivation to learn. Also moderating variables such as students' gender and school location will be introduced.

Tran and Lewis (2012) investigate the effects of jigsaw cooperative learning on the achievement and retention of 80 final-year comprising 32 females and 48 males, from two mathematics classes in the Faculty of Education at An Giang University in Vietnam Vietnamese mathematics students, as well as reporting their attitudes toward this form of learning. These tertiary students were divided into two matched groups of 40 to be taught by the same lecturer. In



the experimental group, jigsaw learning was employed, while in the control group, lecture-based teaching was used over the six weeks of instruction. Five research hypotheses were formulated and tested in the study. One-way analysis of variance (ANOVA) was used to test the hypotheses. The results showed that students in the experimental group, who perceived their instruction as more cooperative and more student-centered, had significantly greater improvement on both achievement and retention measures than did the students in the control group. The study revealed favourable responses toward jigsaw learning. The major findings of this study support the effectiveness of jigsaw learning for students in Vietnamese higher education institutions.

Abu and Flowers (1997) studied the effects of cooperative learning methods of achievement, retention and attitudes of home economics students. The purpose of this study was to determine the effects of the cooperative learning approach of Student Teams-Achievement Divisions (STAD) on the achievement of content knowledge, retention, and attitudes toward the teaching method. Cooperative learning was compared to non-cooperative (competitive) learning classroom structure using a quasi-experimental design. An achievement test, consisting of items from the state competency test-item bank for the course, and an attitude questionnaire were administered immediately following instruction on the unit of special nutritional needs. A retention test was administered three weeks following the achievement test. California Achievement Test scores and first semester grades in home economics classes were used as covariates to adjust for possible preexisting differences between the groups. Multivariate analysis of covariance showed no significant difference among the dependent variables (achievement and retention) between the teaching methods used. There was also no significant difference in student attitudes toward the teaching methods.

Okonkwo (1997) carried out a research on the effect of trangram puzzle on students' performance in mathematics. He used group of students that produced trangram model (instructional material) verses lecture method. The population of the study consists of one hundred and twenty six students of senior secondary school class two (SS II). Sixty two (62) students were males and seventy four (74) were females. A pretest posttest equivalent group was used for the study. The 2 x 2 factorial design was employed. An achievement test was conducted between the students that produced trangram puzzle and those taught with lecture method. It was observed that students taught using trangram puzzle performed better than those taught with lecture method.

Omeje (2002) carried out a research on the effects of using instructional model building on students' performance and interest in technical drawing. The total populations of 98 technical drawing students, which served as the sample of the study were used. They were randomly assigned to experimental and control groups. Technical drawing performance test (TEDPERT) and interest scale were administered in pre-and post-test quasi-experimental design to test for the mean performance and interest. The result shows that students taught using instructional model building performed better than those taught using conventional lecture method. This study is related to the present study because both are on instructional strategy and students' academic performance.

A study by Oloyede, Adebowale, and Ojo (2012) sought to find out the relative effectiveness of three classroom interaction strategies which are known to affect students' learning outcomes in Mathematics. 484 senior secondary school three (SSSIII) students randomly selected through judgmental and stratified random sampling from government-owned secondary schools in Ikere and Ado-Ekiti local government areas of Ekiti state participated in

the study. The instrument was a self-constructed one, validated and used for collecting data and titled "Mathematics Achievement Test (MAT)". The experimental treatment lasted for four weeks, and the data collected were analyzed using one-way ANOVA, ANCOVA, two-way ANCOVA, and Turkey HSD post hoc pair wise comparisons analysis. The findings showed that the students' learning outcomes in Mathematics were better promoted by the cooperative and competitive strategies but rather minimally by both individualistic and conventional strategies.

### **Studies on Motivation and Academic Achievement**

Onuka and Durowoju (2011) carried out a study to determine the relationship between motivation and students' achievement, as well as male and female students' cognitive achievement in Secondary School Economics in Ibadan North Local Government Council Area of Oyo State. The population for the study was made up of all Economics students in the Local Government Area. Two-stage sampling was employed to randomly select four schools from forty Senior Secondary Schools in the area and an intact arm of SS11 from each of the sampled schools. The design of the study was ex-post facto, two research questions and hypotheses were formulated for the study. Academic motivation scale (AMS) and Economics achievement test (EAT) were the instruments used for data collection. AMS were rated on 4-point scale of strongly (4), agree (3), disagree (2) and strongly disagree (1) while the EAT is a multiple objective questions. The two instruments constructed and validated by the researchers were administered on the subjects; the resulting data were then collated and analysed using correlation and t-test. Results showed that motivation is positively related with students' cognitive achievement; likewise, gender also has no significant effect on students' cognitive achievement in Economics. The result also showed that there was no significant difference in

the cognitive achievement in Economic on gender basis. Similar instruments for data collection (EAT and ELMS) will be used in collecting data for the present study.

Tran (2013) investigates the effect of motivation using cooperative learning approach on the academic achievement in mathematics and attitudes of 74 9th-grade mathematics students toward mathematics in a high school in Vietnam. Using a pre-test-post-test nonequivalent comparison-group design and t test for independent samples, it was found that after approximately 5 weeks students ( $n = 36$ ) who were instructed using cooperative learning achieved significantly higher scores on the mathematics post-test than did students ( $n = 38$ ) who were instructed using lecture-based teaching. The results of this study also reported that the experimental group had significantly higher scores than the control group on both Enjoyment and Value scales of attitudes toward mathematics. The study concluded that cooperative learning was effective in improving the academic achievement level of participating students, and in promoting the positive attitudes of students toward mathematics in the level of Vietnamese high schools.

### **Studies on Cooperative Learning, Academic Achievement and Motivation**

Ho and Boo (2007) report on the results of an action research to explore the effectiveness of using cooperative learning strategies on students' academic achievement, their understanding of physics concepts and their motivation to learn in the physics classroom. The study involved a secondary four express physics class of 41 students in a neighbourhood school. Various cooperative learning structures were used to teach the topics on 'Current Electricity' and 'D.C. Circuits' over a period of about 8 weeks. During this period, teacher-crafted pre- and post-intervention tests were administered to the class. A questionnaire survey was used to examine students' motivation to learn and perceptions of their learning experiences before and after the

treatment period. A class using traditional method of teaching was also involved in the study as a control. The effects of using cooperative learning on students' academic achievement and their motivation to learn were examined through the analysis of the results of the pre- and post-tests and students' perception surveys, while the extent of using cooperative learning on helping students achieve a better understanding of physics concepts was examined through the qualitative analysis of the students' journals. The results showed that the use of cooperative learning does increase students' academic achievement, helps students to achieve a better understanding of physics concepts and increases students' motivation to learn. Similarly, the present study will be a pre-test-post test experimental design. It will also utilize achievement test (EAT) and questionnaire (ELMS) for data collection.

Having extensively reviewed the accessible empirical studies that relate to the topic under study, it was evident that all the studies reviewed were carried out either in the sciences or mathematics. None of the studies was carried out in Economics. Also the cooperative learning approaches adopted in all the studies did not involve the students in practical production of learning materials of any sort. It is therefore the intention of the researcher to fill these gaps.

### **Summary of Literature Reviewed**

The summary of literature reviewed in this study is presented under conceptual framework, theoretical framework and empirical studies.

The conceptual framework looked at the concept of Economics, Economics curriculum in Nigeria and its implementation. The role instructional materials in the teaching of Economics, instructional resources for teaching and learning of Economics, concept of cooperative production of learning resources, concept of motivation in Economics, concept of academic

achievement, concept of gender and concept of school location in relation to cooperative production of learning resources. Under theoretical framework, Albert Bandura's social learning theory and Vygotsky's Social Development Theory was looked at. Under empirical review, studies related to cooperative production of learning resources and academic achievement, studies on motivation and academic achievement and studies on gender, school location and academic achievement was examined.

. Gaps discovered in the work reviewed were that the studies reviewed did not address the effect cooperative production of learning resources on the academic achievement and motivation of senior secondary students in SS1 Economics in Enugu East Local Government of Nigeria. It is this gap that this study intends to fill.

## **CHAPTER THREE**

### **RESEARCH METHOD**

This chapter presents the procedures that will be used in carrying out the study. It has the following subheadings: the design of the study, area of the study, population of the study, sample and sampling techniques, instrument for data collection, validation of the instrument, reliability of the instrument, experimental procedure and control of extraneous variables, method of data collection and method of data analysis.

#### **Design of the Study**

The design of this study will be a quasi experimental design, involving a pre-test-post-test non equivalent group design. Nworgu (2006) described a quasi experiment design as an experiment where random assignment of subject to experimental and control groups is not possible. This design will be adopted because there will be no randomization of research subjects into groups. This is to avoid disorganization of the school and class arrangement. Intact classes will be used for the study and will be randomly assigned either the experimental and control group.

#### **Area of the Study**

This study will be carried out in Education zone A in Enugu East Local Government Area of Enugu State. The zone has ten public secondary schools. The choice of this area is borne out of the fact that the researcher is familiar with the area as a teacher for about 10 years and the areas has more public secondary schools than other education zones in the state.

### **Population of the Study**

The target population for this study will be made up of entire public secondary schools students of SS1 in Enugu East Local Government Area of Enugu State. Data from the Post-primary School Management Board Enugu State (PPSMB), shown that the total populations of the SS1 students in this area are one thousand nine hundred and twenty (1920). (See Appendices-A)

### **Sample Size and Sampling Technique**

The sample size for this study was 200 respondents purposively drawn out of the population size of 1920.

Multiple stage sampling techniques was employed to select both the respondents and the topics that will participate in this study. The sampling was carried out in three stages namely, local government, school level and subject level. At the local government level simple random techniques was employed to select six schools in the urban and rural area. At the school level the researcher purposively selected mixed schools, two from urban and two from rural secondary schools in the study area to accommodate variables like location and gender.

The criteria for selecting the schools for the study are that the schools must:

1. Have a qualified Economics teacher;
2. Have Economics curriculum for secondary schools which has been in use since 2007.

Two intact classes were used for the study so that all the students can benefit from the lessons. Simple random sampling was used to place the classes in relation to the experimental and control groups in each of the selected schools.



### **Instrument for Data Collection**

The instrument for data collection was a structured questionnaire titled "Economics Achievement Test (EAT)". The instrument has two sections; A and B. Section A for demographic variables of the respondents while Section B is a multiple choice question with 20 items from options (A to D) adapted using a table of specification from WAEC and NECO past question papers based on the new content of senior secondary school economics curriculum published by (NERDC, 2007). The multiple choice questions comprise of fifteen (15) lower order cognitive questions and five (5) high order cognitive questions. Each question carries 2marks totaling 40marks. This means that each correct response was scored three (3) marks. (see Appendix II). The second instrument is the economics essay test (EET) comprising of two (2) lower order cognitive questions and two (2) high order cognitive questions. Each of the questions carries 20 marks each totaling 60 marks. For the table of specifications (see Appendix B).

The multiple choice and essay questions test were used to assess the effect of cooperative production of learning resources by students on their academic achievement on the selected content areas of senior secondary school economics curriculum. (see Appendix VI for the scoring guides).

The third instrument is the Economics Learning Motivation Scale (ELMS). This instrument contains 16 items, structured on a 4 point Likert scale of Strongly agree (SA), Agree (A), Disagree (D) and Strongly disagree (SD) (see appendix IV). This instrument was used to assess students' motivation to learn while cooperatively engaged in the production of the learning materials used in teaching the economics. (see appendix VIII). Other instruments that were used in this study are the teaching instruments, i.e. the lesson notes to be used for both the

experimental and control groups. These lesson notes will be developed in line with approved standards in educational research.

### **Validation of Instrument**

The instruments were subjected to face and content validation. The Economics achievement test (EAT) and Economics easy test (EET) were subjected to content and face validation a table of specification. The instruments were given to three experts for content validation, one from measurement and evaluation department, one from the economics unit of the Social Science Education Department and one from curriculum studies/educational technology Unit, all from the University of Nigeria, Nsukka. The experts were requested to examine the instruments with respect to:

1. Whether the questions correspond to the table of specifications;
2. The structure and clarity of the questions and
3. Whether the answers to the questions tally with the ones in the marking scheme.

Their corrections and suggestions helped in modifying the items to suit the purpose of the study, significance of the study, research questions and hypotheses. The comments, corrections and suggestions of experts on instruments are attached as Appendix IV.

### **Reliability of Instrument**

Trial testing was carried out using 20 selected senior secondary from Nsukka education Zone which is outside the study area. To determine the reliability of the instruments, Kuder Richardson 20 (K-R20) was used. The reliability coefficient of the test is 0.87. For the economics essay test (EET), scorer reliability was employed to determine the reliability of the

essay test. The scripts of the twenty students were given to three Economics teachers for scoring. The agreement among the raters was subjected to reliability analysis using Kendall coefficient of concordance. A coefficient of 0.89 was obtained.

The Economics Learning Motivation Scale (ELMS) was also administered on the same students to establish its reliability. Cronbach's Alpha ( ) method was used to ascertain the internal consistency of the instrument, which produced a reliability coefficient of 0.68. This indicates that the ELMS is reliable. (See Appendix C.).

### **Experimental Procedure**

The data for this study was collected through the administration of pre-test using EAT before the commencement of the experiment and post-test, which will be administered at the end of the four weeks of cooperative learning experiment. Also the ELMS will be administered to the research topics in both pre-test and posttest group at the end of the experiment. This was done with the help of the school Economics teacher who serve as research assistant.

The researcher taught both the experimental and control group in one of the schools while the research assistant will teach both groups in the other school. This lasted for four weeks, one week for each of the topics. The objectives of the study as well as the expectations and the procedures to be adopted in the study are clearly discussed with the economics teacher (Research assistant). Before the commencement of the experiment, pretest was administered to both the experimental and control groups. This is to ascertain the level of achievement of the students before the experiment.

Two sets of lesson plans were prepared and used, one for the experimental group and other for the control group. The lesson plans for the experimental group will incorporate the

involvement of students in the production of learning resources used in teaching selected topics such as graphs, charts, and diagrams while the lesson plans for the control group was written based on the conventional lecture method. Each lesson plan will take 45 minutes (double periods) for both the experimental and control groups for each of the four topics. In essence, the content of instruction was the same for the two groups but what was different is the method of teaching. The teachers used the lesson plans prepared to teach the students during their normal class periods. One group, the group that was involved in the production of the learning resources received economics lessons with the charts, diagrams and graphs which they produced ahead of the lesson using information/data provided by the teacher. They organized in groups of ten and it is strictly for the production of the instructional resources.

The grouping of the students is done with regards to the elements of cooperative learning. Positive interdependence emphasized that each member of the group has unique input to contribute since the success or failure of the group hinges on the effort of the members. Therefore, in grouping the students, effort is made to encourage them to depend on each other so that they can cooperate positively. Students are expected to produce real charts, diagrams, graphs, etc., so they need to relate and interact with one another by sharing their challenges, helping and supporting each other, thereby promoting face to face interaction. The sole aim of cooperative production of learning resources approach is to promote students learning and achievement by grouping students to work together. Therefore, each member makes effort to contribute to the achievement of the group's goal and by extension the individual's own goal. This makes the students feel accountable for the group's success. Also grouping these students in cooperative learning groups encouraged them to be open and communicate with each other. This will help them develop interpersonal and communication skills. Finally, the groups from time to

time appraise the progress of their work, identify their challenges and proffer solutions through sharing of individual views. This makes them to be active in their learning because by engaging themselves in producing these learning resources, they are motivated. This encourages healthy group processing and good working relationship.

The teacher provided cardboard sheets, graph sheets, drawing materials like pencil, eraser and ruler to the students. The students were supervised by the teacher, who will also provide the necessary reinforcements and scaffolds. Each group will be advised to work together and exchange ideas and interact together. After which the teacher used the drawings, charts and graphs produced to teach them those economics topics, while the second group, the conventional method will receive lessons using instructional resources provided by the teacher in the same length of time. The experiment lasted for four weeks. At the end of the research condition, the researcher administered a posttest to the students that will last for one week, after which the researcher collected and grade them for analysis. The motivation test will also be administered to the students along with the posttest. The scores were compared to ascertain if the involvement of the students in producing their learning materials in a cooperative learning approach has any significant effect on their academic achievement and motivation to learn Economics.

### **Control of Extraneous Variables**

The measures were adopted to control some of the extraneous variables in the study, such as qualified Economics teachers were used as research assistants, the researcher did not allow the research assistants to see the instruments that was used for evaluating the students an the discussion of the instruments was not done in the presence of the students. The researcher did not allow the research assistants to see the research instruments or even discussing the

instruments before the students. The variables include the following: variability of instruction situations, Hawthorne effect, experimental contamination, teacher variable, pre-test sensitization and initial group difference.

### **Method of Data Collection**

The researcher and two research assistants personally administered the draft instrument. The research assistants were giving training on the administration and collection of the instruments by the researcher. The researcher directed the research assistant not to give out the ELMS to the students until the EET and EAT has been administer and must make sure the two experimental group submitted their questionnaire on or before three weeks. A period of three weeks was used for the administration and collection of the instruments. Two hundred (200) copies of the questionnaire were distributed to the students in Education Zone A of Enugu East Local Government Area of Enugu State.

### **Method of Data Analysis**

The research questions were answered using mean and standard deviation while the hypotheses were tested using analysis of covariance (ANCOVA) at 0.05 level of significance. The choice of analysis of covariate is to compensate for the initial non-equivalence among the students.

## CHAPTER FOUR

### DATA ANALYSIS AND RESULTS

In this chapter, the researcher presents the results obtained from the data in this study. The results are presented based on the research questions and hypotheses.

#### Research question 1

What is the difference in the motivational mean score of students who participated in cooperative production of learning resources approach and those who were not involved in the cooperative production of learning resources?

**Table 1:** Mean motivation score of students in cooperative production approach and those that were not.

Group	N	Mean	Std.dev
Cooperative production approach	100	46.92	8.76
Conventional approach	100	36.54	3.17

The results presented in Table 1 show the mean motivational scores of students who participated in cooperative production learning approach and those who were not. Students in cooperative approach obtained mean motivational score of 46.92 with a standard deviation of 8.76 while students who were not had a mean motivational score of 36.54 and a standard deviation of 3.17. Comparatively students in the cooperative approach are motivated higher than students who were not. There is mean motivational score difference of 10.38. Therefore, the difference observed in the mean motivation scores reveals that cooperative production learning approach motivate students to learn economics than those who were not involved in the cooperative production of learning resources in the senior secondary schools.

### Research question 2

What is the difference in the mean achievement scores of students who participated in cooperative production of learning resources approach and those who were not involved in the cooperative production of learning resources?

**Table 2:** Mean achievement scores of students in cooperative production approach and those who were not.

Group	N	Pre-test		Post-tests		Gain score
		Mean	Std.dev	Mean	Std.dev	
Cooperative production approach	100	56.83	1.3	70.65	1.3	13.82
Conventional approach	100	36.51	8.19	45.70	6.90	9.19

The result presented in the table 2 above show the achievement mean scores of students who are taught economics using cooperative learning resources (experimental group) and those who are involved (control group). Those who are exposed to cooperative production of learning resources had a mean of 70.65 in the post-test and standard deviation of 1.30. Students who are not had a mean of 45.70 and a standard deviation of 9.19. The achievement mean scores of students who are taught using cooperative learning resources Method are higher than the mean achievement scores of students who are not. For the pre-test, the mean achievement scores of students taught using cooperative learning recourses and students who are not are found to be 56.83 and 36.51 with a corresponding standard deviation of 1.3 and 8.19 respectively.

### Research question 3

What is the difference in the mean achievement scores of male and female students who were involved in cooperative production of learning resources in Economics?



**Table 3:** Mean achievement scores in male and female students in cooperative production learning approach

Gender	N	Mean	Std.dev
Male	50	78.00	1.09
Female	50	63.30	1.17

The table above shows the mean achievement of students in cooperative learning approach according to gender. Male students obtained mean achievement of 78.00 with a standard deviation of 1.09 while their female counterpart had a mean achievement of 63.30 and a standard deviation of 1.17. Comparatively male students perform better than the female students with a mean achievement difference of 14.70. Therefore the difference observed in the mean achievement is an indication that gender causes difference in the achievement means scores of students when taught using cooperative production learning approach.

#### **Research question 4**

What is the difference in the mean achievement scores of students in urban and rural area who are involved in cooperative production of learning resources in Economics?

**Table 4:** Mean achievement scores of urban and rural student in the cooperative learning approach.

Location	N	Mean	Std.dev
Urban	46	76.59	9.8
Rural	54	65.29	1.4

Table 4 summarized the achievement scores of urban and rural student in the cooperative learning approach. Urban students had a mean score of 76.59 and a standard deviation of 9.8 while the rural students obtained a mean of 65.29 with standard deviation of 1.4. The analysis indicates that the mean achievement of students in urban schools (76.59) is higher than their counterparts from the rural school (65.29), thus location of school causes difference in the mean

achievement scores of students in urban and rural area who are involved in cooperative production of learning resources in Economics.

### Hypothesis 1

H<sub>01</sub>: There is no significant difference in the mean motivational scores of economics students taught with cooperative production of learning resources and those that were not

**Table 5:** t-test analysis of mean motivational scores of economics students according to group

Group	N	Mean	Std. Dev	df	t <sub>cal</sub>	Sig	Decision
Cooperative learning	100	46.92	8.76	198	11.14	0.000	significant
Conventional approach	100	36.54	3.17				

The analysis of the result in table 5 shows the significant difference in the mean motivational scores of students taught with cooperative production and those that were not.. The obtain t score of (198) = 11.14 is significant at exact probability value of 0.00 (P<0.05), thus the null hypothesis is rejected and the researcher concludes that there is significant difference in the mean motivational scores of economics students taught with cooperative production of learning resources and those that were not.

### Hypothesis 2

H<sub>02</sub>: There is no significant difference in the mean achievement scores of economics students taught with cooperative production of learning resources and those that were not.

**Table 6:** Analysis of covariance of mean achievement scores of studentsø in cooperative production learning resources and those that were not.

Sources	Type III sum of squares	df	Mean squares	F	Sig
Corrected Model	39611.710 <sup>a</sup>	2	19805.855	273.900	.000
Intercept	4893.938	1	4893.938	67.680	.000
Group	2588.394	1	2588.394	35.796	.000
Pretest	8486.585	1	8486.585	117.363	.000
Error	14245.165	197	72.310		
Total	730723.000	200			
Corrected Total	53856.875	199			

a. R squared = .735(Adjusted R. Squared = .733)

The summary of data in table 6 shows the mean achievement scores of studentsø in cooperative production learning resources and those that were not. The obtained value of  $F(1, 197) = 35.796$  is significant at exact probability value of (0.000) for group effect ( $P < 0.05$ ). The null hypothesis is rejected and the researcher concludes that there is significant difference in the mean achievement scores of students exposed to cooperative production learning resources and those that were not.

### Hypothesis 3

$H_{03}$ : There is no significant difference in the mean achievement scores of male and female students of economics taught with cooperative production of learning resources approach and those that were not.

Table 7: Analysis of covariance of male and female mean achievement scores of students in cooperative production learning resources

Sources	Type III sum of squares	Df	Mean squares	F	Sig
Corrected Model	9840.178 <sup>a</sup>	2	4920.089	58.382	.000
Intercept	3454.897	1	3454.897	40.996	.000
Pretest	4437.928	1	4437.928	52.661	.000
Gender	3939.100	1	3939.100	46.742	.000
Error	8174.572	97	84.274		
Total	517157.000	100			
Corrected Total	18014.750	99			

a. R squared = .546(Adjusted R. Squared = .537)

The summary of data in table 7 shows the mean achievement scores of male and female students in cooperative production learning resources. The obtained value of  $F(1, 97) = 46.74$  is significant at exact probability value of (0.000) for gender effect ( $P < 0.05$ ). The null hypothesis is rejected and the researcher concludes that there is significant difference in the mean achievement scores of male and female students taught using cooperative production learning resources.

#### Hypothesis 4

H<sub>04</sub>: There is no significant difference in the mean achievement scores of economics students in urban and rural area who participated in cooperative production of learning resources.

Table 8: Analysis of covariance of urban and rural mean achievement scores of students in cooperative production learning resources

Sources	Type III sum of squares	df	Mean squares	F	Sig
Corrected Model	6289.155 <sup>a</sup>	2	3144.578	26.014	.000
Intercept	2841.373	1	2841.373	23.505	.000
Pretest	3286.595	1	3286.595	27.188	.000
Location	388.078	1	388.078	3.210	.076
Error	11725.595	97	120.882		
Total	517157.000	100			
Corrected Total	18014.750	99			

a. R squared = .349(Adjusted R. Squared = .336)

The summary of data in table 8 shows the mean achievement scores of urban and rural students in cooperative production learning resources. The obtained value of  $F(1, 97) = 3.210$  is not significant at exact probability value of (0.000) for location effect ( $P > 0.05$ ). The null hypothesis is accepted and the researcher concludes that there is no significant difference in the mean achievement scores of urban and rural students taught using cooperative production learning resources approach.

### Summary of Findings

1. Students in cooperative production of learning resources group are motivated more than those that were not involved in cooperation production of learning resources.
2. Cooperative production of learning resources group achieve higher than those that were not as seen in their mean achievement score in table 2.

3. Male students achieve higher mean score than female students in economics when exposed to cooperative production of learning resources approach.
4. Urban students achieve higher mean score than female students when taught using the cooperative production of learning resources approach.
5. There is significant difference in the mean motivational scores of economics students taught with cooperative production of learning resources approach and those that were not.
6. There is significant difference in the mean achievement scores of students exposed to cooperative production of learning resources and those that were not.
7. There is significant difference in the mean achievement scores of male and female students taught using cooperative production learning resources approach.
8. There is no significant difference in the mean achievement scores of urban and rural students taught using cooperative production learning resources approach.

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

This chapter presents the following: discussion of findings, conclusions drawn from the findings, educational implications, recommendations, limitations of the study, suggestions for further research and summary of the study.

#### **Discussion of the Findings**

The discussions were based on the research questions and hypotheses that guided the study, under the following sub-headings:

5. Cooperative production of learning resources and students' motivation in Economics.
6. Cooperative production of learning resources and students' academic achievement in Economics.
7. Gender of students involved in cooperative production of learning resources and their achievement in Economics.
8. Location of students involved in cooperative production of learning resources and their achievement in Economics.

#### **Cooperative production of learning resources and students' motivation in Economics**

Motivation is the driving force behind all the actions of an individual. It is that force that urges one to a kind of action. The findings of this study indicate that students involved in cooperative production of learning resources approach are motivated more than those that were not. This is in line with the findings of Ho and Boo (2007) who found that the use of cooperative learning approach does increase students' academic achievement, help students to achieve a better understanding of physics concepts and increase their motivation to learn. Tran (2013) investigated the effect of motivation using cooperative learning approach on the academic

achievement in mathematics and attitudes of 74 9<sup>th</sup>-grade mathematics students in Vietnam. The result of the study indicates that the experimental group (cooperative group) had significantly higher scores than the control group enjoyment and values scales of attitudes towards mathematics. A study by Nichols and Miller (1994) also indicated that cooperative learning treatment produced high motivational effects. Peterson and Miller (2004) also found that during cooperative learning, students were more engaged, which indicates that they were highly motivated to learn. These findings are in line with the finding of this present study.

### **Cooperative Production of Learning Resources and Students' Academic Achievement in Economics**

The findings of the study shows a significant difference between the mean achievement scores of students exposed to cooperative production of learning resources approach and those that were not involved in the cooperative production of learning resources. This difference is in favour of the cooperative learning group. This finding is in agreement with the findings of Bello (2011), who found that year one physics students in Ile-Ife Osun State that were exposed to group (cooperative) instructional strategy performed better than those exposed to individual learning approach. Also in tandem with the findings of the study is the finding of the study by Tran and Lewis (2012) on the effect of jigsaw cooperative learning on the achievement and retention of 80 final-year students. The result shows that students in the jigsaw cooperative experimental group, who perceived their instruction as more cooperative and more student-centred, had significantly greater improvement on achievement than the control group. Also in support of the findings of the present study is the finding of Omeje (2002) that students taught using instructional model building (a type of cooperative production approach) performed better than those that were not.



### **Gender and Students' Achievement**

The findings of this study show that gender influences students' achievement in senior secondary school economics. Male students had a higher achievement mean score than their female counterpart. The achievement difference was strengthened by analysis of covariance which shows that there is significant difference in the achievement mean score of male and female students who participated in the cooperative production of learning resources. The study has proven that higher achievements mean score accrued to male students is not by chance. The higher achievement of the male students could be as a result of males' ability to manipulate mathematical problems since female students tend to have phobia for mathematics. The results of the study correspond to that of Eraikhuemen (2003) in a study from secondary schools in Edo South senatorial zone, which reported a significant difference in the academic achievements of male and female students in mathematics. Also this finding is also in line with that of Ukwungwu (2001) who reported significant difference in the academic achievement of students in physics but in disagreement with a study conducted by Onuka and Durowoju (2011) who found that gender has no significant effect on students' cognitive achievement in economics. This current study has been able to show that gender is a significant factor with respect to students' achievement in senior secondary school economics.

### **School Location and Students' Achievement**

The finding of this study indicates that the achievement mean score of students in rural schools is higher than their counterparts from the urban schools. This was proven to be due to a chance factor when analysis of variance of table 8 reveals no significant difference in the achievement mean scores of urban and rural students in economics. The outcome of the result was surprising because, as noted by Abidogun (2006) rural areas have greater challenges

concerning educational development than the urban centres, due to the peculiar socio-economic and instructional structures of the rural areas. This finding of no difference in the achievement mean score due to location could be as a result of students' study habit and self-efficacy. The results of this study supports Uzoegwu (2004) and Bosede (2010) who shows that location is not a significant factor in students' achievement in their subject areas while inconsistent with the findings of Onah (2011) and Ogunleye (2002) whose separate studies have found out a significant difference in the achievement of students in urban and rural areas in their subject areas.

### **Conclusions**

On the basis of the data analysed and findings of this study, the following conclusions have been drawn:

1. Cooperative production of learning resources as a learning approach motivates economics students more to learn than those that were not involved in the cooperative production of learning resources.
2. Cooperative production of learning resources approach equips students with knowledge and skills to achieve higher than those that were not..
3. Gender influences students' achievement in senior secondary economics.
4. Achievement of students who are involved in cooperative production of learning resources is not dependent on the location of the school.

### **Implication of the Study**

The findings of this study have obvious educational implication for teachers, students, ministries of education and education evaluators. Gender was found to influence students' achievement, male students tended to out-perform their female counterpart in academic achievement. This implies that there is need to equalize learning environment for both sexes, since such gender related differences were often attributed to differential socialization of their lives, differential disciplinary measure in the classroom and gender stereotypes in the curriculum and instruction.

The study also revealed that students achieved more while learning as a group. This is evident in the high motivation rate of the students involved in the cooperative production of learning resources and their subsequent higher achievement. The implication therefore is that economics teachers should employ different instructional approaches/methods and variety of learning experience to accommodate students of different learning patterns and ability so as to ensure that everybody (students) benefited maximally in the learning process.

The influence of school location on academic achievement in economics, especially those involved in the cooperative production of learning resources was not significant. This means that government through the ministry of education should ensure that educational facilities in the rural and urban areas are the same since the students are exposed to the same examination at the end of their schooling year and face the same labour market. Government should ensure that the number of quality staff and educational facilities is equitably distributed to schools irrespective of the location of the school for maximum achievement of objective of secondary education and economics curriculum objective in particular.

Cooperative production of learning resources is an approach that will encourage improvisation of lacking but needed instructional materials. It therefore implies that teachers and subject specialists should embrace this approach for the overall good of the students and the educational system in general.

Educational evaluators should from time to time conduct assessment on the adequacy of educational resources in the urban and rural schools with a view to recommending to the government the disparity if any in terms of teaching and non-teaching staff, materials and non-materials resources in the school. This will ensure equitable distribution of learning resources for the maximum achievement of students.

### **Limitations of the study**

The generalizations drawn from this study are subject to the following limitations:

1. Being that this cooperative production of learning resources approach of teaching and learning is somewhat new to the students, there were cases of resistance on the part of the experimental group. It therefore took a long time to convince the students on the need for active participation in the study. This may have affected the result of the study.
2. There may have been the case of loafing in the sense that some unserious students may relied on the efforts of other serious members of their groups. Therefore, these may have affected the result of the study.
3. There was no randomization of the subjects into groups. Instead intact classes were used. This may have affected the result of this study.

However, inspite of these limitations, it is the belief of the researcher that concerted effort was made to overcome these limitations. Therefore the results obtained could be used for generalizations.

### **Recommendations**

The following recommendations are made based on the findings of this study:

1. Further studies using cooperative production of learning resources approach with more participants to generate more evidence on the effects of the learning approach. As no research study has investigated the effectiveness of cooperative production of learning resources approach in secondary education in Enugu state, the findings of this study are not sufficient to decide on the optimal use of cooperative production of learning resources approach at all levels of education in Enugu state. Thus, a series of further studies on cooperative production of learning resources approach at primary and secondary levels of Nigeria education should be undertaken.
2. Teacher should expose students to cooperative instructional strategy like the cooperative production of learning resources that promotes and encourages social interaction, active engagement in learning, self-motivation, discovery learning, learning by doing and learning by experience.
3. Professional associations like Curriculum Organization of Nigeria and Economics Teachers Association should organize periodic trainings in the form of workshops and seminars for economics teachers on the application/use of the cooperative production of learning resources approach for the overall benefit of the students as well as the entire education system.

4. Also teacher should encourage peer/group tutoring by allowing the high ability students to teach the medium and low ability students. This will foster cooperation among students and enhance socialization of students.

### **Suggestion for Further Studies**

Based on the limitations and findings of this study, the researcher has the following suggestions for further study.

1. A replication of this study using a wider geographical area, if possible the whole of Enugu state.
2. A study to ascertain the readiness, attitude and competence of economics teachers towards using the cooperative production of learning resources approach.

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**APPENDIX I: LIST OF SECONDARY SCHOOLS AND ECONOMICS TEACHERS**

<b>S/N</b>	<b>Names of School in Enugu</b>	<b>No. of Economics Teachers</b>
<b>ENUGU EAST</b>		
1	St. Patrick Secondary School, Emene	3
2	St. Joseph Secondary School, Emene	2
3	Community High School, Emene	Nil
4	New Heaven Secondary School, Enugu	2
5	National Grammar School, Enugu	4
6	Girls Secondary School, Abakpa Nike	5
7	Trans Ekulu Girls Secondary School, Enugu	10
8	Annunciation Secondary School, Nkwo Nike	6
9	Community Secondary School Ugwogo Nike	2
10	Umuchigbo Junior Secondary School	Nil
<b>ENUGU NORTH</b>		
1	Queens School Enugu	10
2	Metropolitan Girls Secondary School	3
3	City Girls School	2
4	New Layout Secondary School	2
5	Day Secondary School Independence Layout	2
6	Coal Camp Secondary School, Ogebete	3

7	Community Secondary School, Iva Valley	3
8	Urban Girls Secondary School, Enugu	3
9	Government Secondary School, Enugu	5
<b>ISI UZO LOCAL GOVERNMENT AREA</b>		
1	Ogor Community Secondary, School-Ikem	1
2	Community Secondary School Neke	1
3	Community Secondary School Mbu	1
4	Community Secondary School Ikpakpala	1
5	Community Secondary School, Isikpoloto	Nil
6	Community Secondary School, Umuhu	1
7	Community Secondary Imeora Neke	Nil
8	Community Secondary School Umualor	1
9	Community Secondary School Eha Ohuala	1
10	Community Secondary School Ikem Nkwo	Nil
11	Community Secondary School Isa	Nil

**APPENDIX II: ECONOMICS ACHIEVEMENT TEST (EAT)****Section A: Personal/Demographic data of students**

Name of school: -----

Gender of student: Male [ ] Female [ ]

Location of school: Urban [ ] Rural [ ]

**Section B: Economics Achievement Test**

Instruction: Tick the option appropriate for you

**1. Subsistence farming means producing food**

- a. Mainly for the need of our immediate and extended family
- b. Crops for sale mainly
- c. Crops mainly for export
- d. To feed the community around

**2. Money supply at any given point in time refers to:**

- a. Bank notes, coins and demand deposits
- b. Notes and coins only
- c. Minted money
- d. Hoarded money

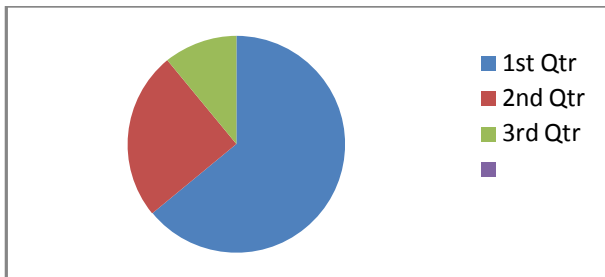
**3. Data presented in tables are usually arranged in**

- a. Charts and table
- b. Rows and columns
- c. Graphs and rows
- d. Pictograms and columns

- 4. Money as a unit of account implies that it can be**
  - a. Counted in units
  - b. Used to facilitate exchange
  - c. Used to measure the value of goods and services
  - d. Used to store goods and services
  
- 5. One major export crop in West Africa is**
  - a. Rice
  - b. Maize
  - c. Palm Kernel
  - d. Cocoa
  
- 6. Money is demanded for which of the following reasons?**
  - a. To meet unforeseen contingencies
  - b. To solve the problem of inflation
  - c. It is easily divisible
  - d. It is portable.
  
- 7. Which of the following tools of economic analysis is used when data contains more than one category?**
  - a. Bar chart
  - b. Component bar charts
  - c. Graphs
  - d. Symbolical statement.



- 8. Agriculture is important to the economy of West Africa Countries because it is the source of**
- a. Power
  - b. Equipment supply
  - c. Industrial input
  - d. technological progress
- 9. Which of the following agricultural systems is mainly for the cultivation of food crops for family consumption?**
- a. Cooperative farming
  - b. Commercial farming
  - c. Subsistence farming
  - d. Plantation farming
- 10. The value of money is generally measured in relation to the**
- a. Interest rate charged on bank loans
  - b. General price level
  - c. Size of a country's gold stock
  - d. Volume of imports
- 11. The diagram below is a**



- a. Bar chart
- b. Pie chart
- c. Ball chart
- d. Histogram

12. Find the median of the following asset of scores 8,9,6,5,10,

- a. 9
- b. 8
- c. 6
- d. 5

13. The role of government in promoting agricultural development includes the following except

- a. Paying the wages of all farmers
- b. Establishing and funding research
- c. Formulation of policies
- d. Provision of rural infrastructure

14. Which of the following is not a reason for holding money

- a. Ostentation
- b. Speculation
- c. transactions
- d. precautionary

15. An arrangement of data in rows and columns is referred to as a (a) graph (b) bar chart

- c) Pie chart
- d. table

16. Which of the following best describes the mode? The

- a. Observation with the highest frequency
- b. Average of two middle numbers
- c. Items that occupies the middle position
- d. Difference of two extreme values

**17. Which of the following features best describes peasant agriculture in West Africa? It**

- a. Specializes in the product of one crop
- b. Involves the use of small farm holdings
- c. Is a capital-intensive system of farming
- d. Is mostly associated with tree crops

**18. Which of the following is not a form of money?**

- a. Coins
- b. Bank notes
- c. bank balance
- d. bank deposit

**19. An agriculture production process which uses more machinery relative to labour is referred to as**

- a. Large-scale farming
- b. capital intensive farming
- c. commercial farming
- d. land intensive farming.

**20. The most frequently occurring value in a given data is the**

- a. Mode
- b. Median
- c. Mean
- d. Range

**APPENDIX III: ECONOMICS EASY TEST (EET)**

1. The data below shows that quantity of fertilizers (in bags) used by 20, farmers in a year  
4,8,10,10,8,16,12,14, 12, 4, 8,10, 12, 12, 14,20, 24. Prepare a frequency table and determine:
- The mean
  - The Mode
  - Use the frequency wire to determine the mode
2. The table below shows the total number of students who offered Economics in SSCE at Abakpa Nike GirlsøSec. School. From 1996-2001

<b>Year</b>	<b>No. of Students</b>
1996	220
1997	400
1998	350
1999	380
2000	450
2001	360

Draw a histogram to illustrate the data

- Discuss any five problems of Agriculture in West Africa.
- Discuss any five similarities and differences between money and other commodities.

**APPENDIX (IV): ECONOMICS LEARNING MOTIVATION SCALE**

S/n	Statements	Responses			
		SA	A	D	SD
1	Like Economics lessons				
2	Like to ask economically oriented questions				
3	Like to ask mathematically oriented questions				
4	Like to learn things that are challenging				
5	Am able to complete Economics homework on time				
6	I enjoy group work				
7	Understand Economics lessons better when I learn on my own				
8	Prefer learning in a group than alone				
9	Group work arouse my interest in learning Economics				
10	Can learn from my group members during group work				
11	My Economics teacher is able to help me learn.				
12	I understand economics concepts and principles better when learn in group				
13	Like answering questions during Economics class				
14	I am not usually happy when there is group assignment. to do				
15	I can pass any examination in economics without sweat				
16	Understand Economics lessons better when learn in a group				

**Appendix V: TABLE OF SPECIFICATION FOR ECONOMICS MULTIPLE CHOICE  
TEST FOR SENIOR SECONDARY SCHOOL ECONOMICS STUDENTS**

Content Areas	Content %	Know 35%	Comp. 15%	Appli. 15%	Analysis 25%	Synthesis 25%	Evaluation 5%	Total
Money	30%	2	1	1	1	1	-	6
Basic tools of economic analysis	25%	2	1	1	1	-	-	5
Measures of central tendency	20%	1	1	1	1	-	-	4
Agriculture	25%	2	1	1	1	-	-	5
Total	100%	7	4	4	4	1	-	20

**APPENDIX VI: SCORING GUIDE FOR THE EAT AND EET**

Scoring guide for EAT

1	A	6	A	11	B	16	A
2	A	7	B	12	B	17	A
3	B	8	C	13	A	18	C
4	D	9	C	14	A	19	B
5	D	10	B	15	D	20	A

**2 marks each = 40 marks**

Scoring guide for EET

**1. To determine mean**

(X)	(f)	F <sub>x</sub>
4	2	8
8	3	24
10	4	40
12	5	60
14	2	28
16	1	16
20	2	40
24	1	24
	<b>F<sub>X</sub> = 20</b>	<b>∑F<sub>X</sub> = 240</b>

5 marks

$$\hat{U}F_X = 240$$

$$F = 20$$

$$X = \frac{\hat{U}F_X}{F_X} = \frac{240}{20} = 12 \quad x = 12 \text{ (5marks)}$$

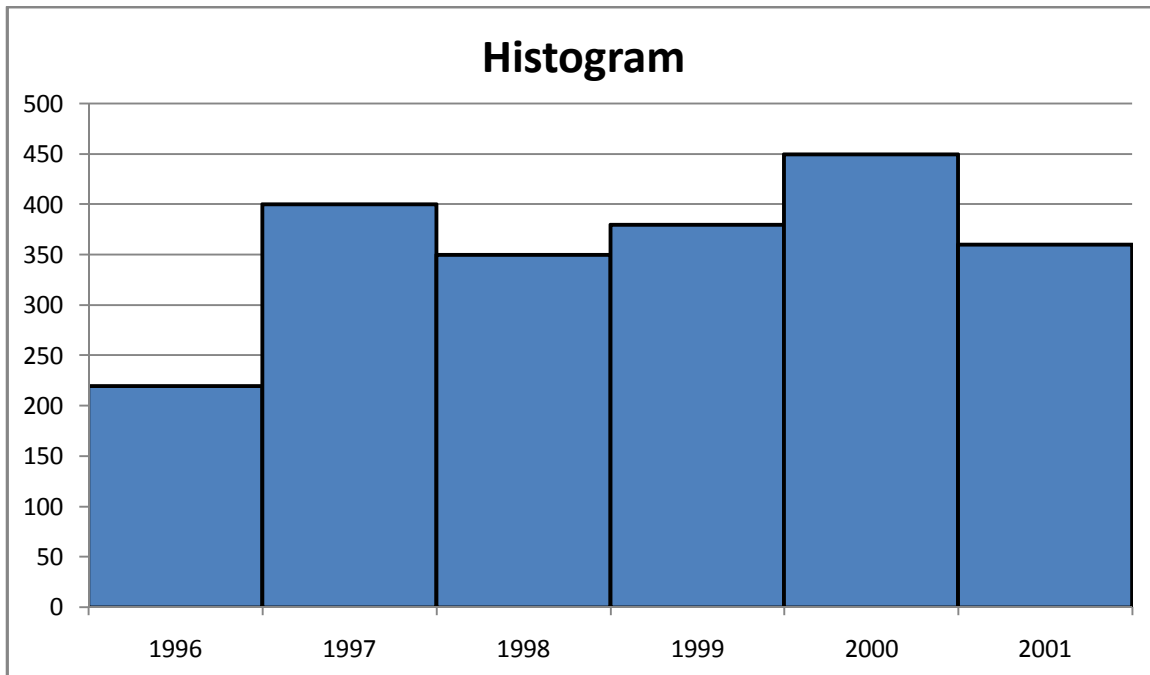
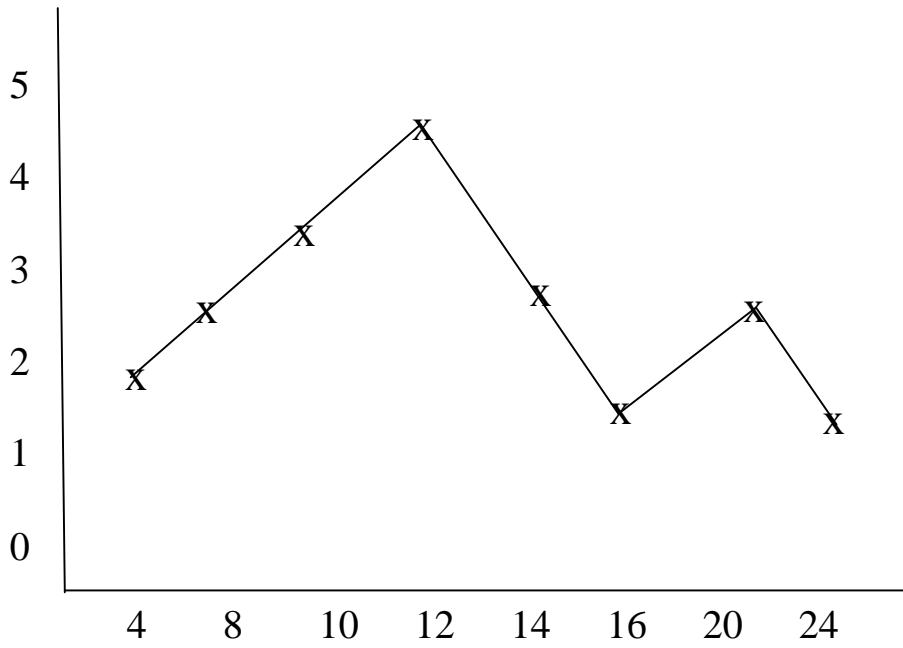
**To determine mode**

X	F
4	2
8	3
10	4
12	5
14	2
16	1
20	2
24	1
	$\hat{U}X = 20$

The mode of the distribution is 12

5 marks

Using frequency curve to determine the mode





### 3. **Problems of Agriculture**

- a. inadequate land tenure system
- b. fluctuating and declining world prices
- c. Inadequate supply and use of modern farm inputs
- d. Inadequate use of modern technology
- e. Inadequate finance /capital
- f. Adverse climatic or weather conditions
- g. Persistent pest and disease attacks

(4 marks each: Mentioning = 2mks, Explanation = 2mks)

### 4. **Similarities between money and other commodities b**

- i. Money and other commodities are assets which can be stored for future use.
- ii. Money and other commodities are demanded for the satisfaction of wants.
- iii. Both have price and value depending on the demand for and the supply of them.
- iv. Both have recognized markets where they can be bought and sold.
- v. They are all commodities.

2 marks each = 10 marks.

### 5. **Differences between money and other commodities**

- i. Money is a medium of exchange while other commodities are not.
- ii. Money is a measure of value and unit of account other commodities are not.
- iii. Money serves effectively as a standard for deferred payments while other commodities do not.
- iv. Money is easily portable while many other commodities are not.
- v. Money is divisible into smaller units while many commodities are not.
- vi. The supply of money does not depend on its cost of production, while the supply of other commodities does.

2 marks each = 10 marks.

## APPENDIX VII: RELIABILITY RESULTS

### Economic Learning Motivation Scale

Scale: ALL VARIABLES

#### Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded <sup>a</sup>	0	.0
	Total	20	100.0

a. List wise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.685	16

#### Item Statistics

	Mean	Std. Deviation	N
VAR00001	2.6500	.58714	20
VAR00002	2.4000	.94032	20
VAR00003	1.6500	.81273	20
VAR00004	2.2500	1.06992	20
VAR00005	2.2000	1.10501	20
VAR00006	2.7500	1.06992	20
VAR00007	2.2000	.95145	20
VAR00008	3.0500	1.05006	20
VAR00009	3.3500	.67082	20
VAR00010	3.0000	.79472	20
VAR00011	3.1000	1.07115	20
VAR00012	2.0500	.99868	20
VAR00013	2.7000	1.26074	20
VAR00014	2.6000	1.04630	20
VAR00015	3.5500	.68633	20
VAR00016	3.6000	.75394	20

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	40.4500	39.418	.045	.691
VAR00002	40.7000	32.853	.590	.632
VAR00003	41.4500	37.945	.149	.685
VAR00004	40.8500	34.555	.349	.662
VAR00005	40.9000	33.147	.450	.647
VAR00006	40.3500	31.397	.630	.621
VAR00007	40.9000	37.253	.167	.685
VAR00008	40.0500	35.945	.242	.676
VAR00009	39.7500	39.355	.034	.693
VAR00010	40.1000	37.463	.206	.679
VAR00011	40.0000	38.000	.072	.699
VAR00012	41.0500	36.576	.209	.680
VAR00013	40.4000	33.937	.311	.668
VAR00014	40.5000	37.000	.157	.687
VAR00015	39.5500	36.471	.380	.663
VAR00016	39.5000	34.368	.583	.642

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
43.1000	40.095	6.33204	16

## COMPUTATION OF KR20 RELIABILITY CO-EFFICIENT FOR EAT

S/n	No. passing	No. failing	Proportion passing(p)	Proportion failing (q)	Pq
1	11	9	0.55	0.45	0.25
2	10	10	0.50	0.50	0.25
3	11	9	0.55	0.45	0.25
4	10	10	0.50	0.50	0.25
5	12	8	0.60	0.40	0.24
6	14	6	0.70	0.30	0.21
7	10	10	0.50	0.50	0.25
8	11	9	0.55	0.45	0.25
9	11	9	0.55	0.45	0.25
10	12	8	0.60	0.40	0.24
11	10	10	0.50	0.50	0.25
12	12	8	0.60	0.40	0.24
13	10	10	0.50	0.50	0.25
14	12	8	0.60	0.40	0.24
15	11	9	0.55	0.45	0.25
16	10	10	0.50	0.50	0.25
17	12	8	0.60	0.40	0.24
18	13	7	0.65	0.35	0.23
19	10	10	0.50	0.50	0.25
20	13	7	0.65	0.35	0.23
					4.85

$$S^2 = \frac{\sum X^2 - (\sum X)^2/n}{n} = \frac{3113 - (225)^2/20}{20} = \frac{3113 - 2531.25}{20} = 29.09$$

$$KR_{20} = \frac{K}{K-1} \left(1 - \frac{\sum pq}{S^2}\right)$$

$$KR_{20} = \frac{20}{20-1} \left(1 - \frac{4.85}{29.09}\right)$$

$$KR_{20} = (1.0526316) (0.833276)$$

$$KR_{20} = 0.8771326 = 0.87$$

## **APPENDIX VIII: VALIDATORS' COMMENTS**

## APPENDIX IX: CASE PROCESSING SUMMARY

### Summarize

[DataSet0]

**Case Processing Summary**

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
pretest * group	200	100.0%	0	.0%	200	100.0%
posttest * group	200	100.0%	0	.0%	200	100.0%

**Case Summaries**

group		pretest	posttest
Cooperative production	N	100	100
	Mean	56.8300	70.6500
	Std. Deviation	1.03280E1	1.34895E1
Conventional approach	N	100	100
	Mean	36.5100	45.7000
	Std. Deviation	8.18535	6.90264
Total	N	200	200
	Mean	46.6700	58.1750
	Std. Deviation	1.37892E1	1.64511E1

**Summarize**

[DataSet0]

**Case Processing Summary**

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
pretest * location	100	50.0%	100	50.0%	200	100.0%
posttest * location	100	50.0%	100	50.0%	200	100.0%

**Case Summaries**

location		pretest	posttest
urban	N	46	46
	Mean	62.2826	76.5870
	Std. Deviation	9.43907	9.82418
rural	N	54	54
	Mean	52.1852	65.5926
	Std. Deviation	8.70713	1.41881E1
Total	N	100	100
	Mean	56.8300	70.6500
	Std. Deviation	1.03280E1	1.34895E1



**Summarize**

[DataSet0]

**Case Processing Summary**

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
pretest * gender	100	50.0%	100	50.0%	200	100.0%
posttest * gender	100	50.0%	100	50.0%	200	100.0%

**Case Summaries**

gender		pretest	posttest
male	N	50	50
	Mean	58.3600	78.0000
	Std. Deviation	9.87836	1.09022E1
female	N	50	50
	Mean	55.3000	63.3000
	Std. Deviation	1.06373E1	1.17703E1
Total	N	100	100
	Mean	56.8300	70.6500
	Std. Deviation	1.03280E1	1.34895E1

**Univariate Analysis of Variance**

[DataSet0]

**Between-Subjects Factors**

	Value Label	N
group 1	cooperative production	100
2	conventional approach	100

**Descriptive Statistics**

Dependent Variable: Posttest

group	Mean	Std. Deviation	N
cooperative production	70.6500	13.48952	100
conventional approach	45.7000	6.90264	100
Total	58.1750	16.45107	200

**Tests of Between-Subjects Effects**

Dependent Variable: Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	39611.710 <sup>a</sup>	2	19805.855	273.900	.000
Intercept	4893.938	1	4893.938	67.680	.000
group	2588.394	1	2588.394	35.796	.000
pretest	8486.585	1	8486.585	117.363	.000
Error	14245.165	197	72.310		
Total	730723.000	200			
Corrected Total	53856.875	199			

a. R Squared = .735 (Adjusted R Squared = .733)

## Univariate Analysis of Variance

[DataSet0]

### Between-Subjects Factors

		Value Label	N
gender	1	male	50
	2	female	50

### Descriptive Statistics

Dependent Variable: Posttest

gender	Mean	Std. Deviation	N
male	78.0000	10.90216	50
female	63.3000	11.77034	50
Total	70.6500	13.48952	100

### Tests of Between-Subjects Effects

Dependent Variable: Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9840.178 <sup>a</sup>	2	4920.089	58.382	.000
Intercept	3454.897	1	3454.897	40.996	.000
pretest	4437.928	1	4437.928	52.661	.000
gender	3939.100	1	3939.100	46.742	.000
Error	8174.572	97	84.274		
Total	517157.000	100			
Corrected Total	18014.750	99			

a. R Squared = .546 (Adjusted R Squared = .537)

## Univariate Analysis of Variance

[DataSet0]

### Between-Subjects Factors

		Value Label	N
location	1	urban	46
	2	rural	54

### Descriptive Statistics

Dependent Variable: Posttest

location	Mean	Std. Deviation	N
urban	76.5870	9.82418	46
rural	65.5926	14.18811	54
Total	70.6500	13.48952	100

### Tests of Between-Subjects Effects

Dependent Variable: Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6289.155 <sup>a</sup>	2	3144.578	26.014	.000
Intercept	2841.373	1	2841.373	23.505	.000
pretest	3286.595	1	3286.595	27.188	.000
location	388.078	1	388.078	3.210	.076
Error	11725.595	97	120.882		
Total	517157.000	100			
Corrected Total	18014.750	99			

a. R Squared = .349 (Adjusted R Squared = .336)

**T-Test**

[DataSet0]

**Group Statistics**

group	N	Mean	Std. Deviation	Std. Error Mean
motivational scores cooperative production	100	46.9200	8.76250	.87625
conventional approach	100	36.5400	3.17000	.31700

**Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
motivational scores	86.666	.000	11.139	198	.000	10.38000	.93183	8.54242	12.21758
			11.139	124.477	.000	10.38000	.93183	8.53572	12.22428