

# Effect of Graphic-Advance-Organizer on the Motivation of Senior Secondary School Students Towards Economics in Gashua, Yobe State

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**Abstract**— This study investigated the effect of Graphic Advance Organizer on Motivation and Academic Achievement of Senior Secondary School Economics students in Gashua, Yobe State, Nigeria. A total of 167 students selected from two Secondary Schools in Gashua Metropolis were involved as the sample from a population of 1002 students from ten secondary schools. The two schools selected were found to be academically equivalent. One of the schools served as control group (N=78) and the other served as the experimental group (N=89) which were exposed to Lecture and Graphic Advance-Organizers methods for period of eight weeks. Pretest, posttest, quasi experimental control group design was adapted. Two Research Instruments were developed by the researcher, validated and used for data collected namely: Economics Motivation Questionnaire (EMQ) with a reliability coefficient of 0.88 and Economics Achievement Test (EAT) with a reliability coefficient of 0.86. Four research questions and eight hypotheses were formulated to guide the study. The four research questions were answered using descriptive statistic that is mean and standard deviation, while eight hypotheses were analyzed using t-test for dependent and independent sample and ANCOVA at  $p \leq 0.05$  significant levels. The major findings from the study revealed that students taught Economics Concept using Graphic Advance-Organizer had high learning, motivation ability and were significantly better in their academic Achievement as compared to those taught using lecture method: and that the use of Graphic Advanced Organizer is gender-friendly. Recommendations made from the findings of the study were that secondary school teachers should be trained and retrained to use Graphic Advance Organizer in order to enhance and boost students' learning, motivation level and academic achievement in Economics concepts.

**Keywords**— Academic achievement, Economics, Graphic Advance-Organizer, Motivation.

## INTRODUCTION

Economics is a social science concerned with the production, distribution and consumption of goods and

service. It studies how individual's business, government, and nations make choice on allocating resources to satisfy their wants and needs trying to determine how these groups should organizer and ordinate effects to achieve maximum output. Economics can generally be broken-down into macroeconomics which concentrates on the behavior of the aggregate economy and microeconomics, which focuses on individual consumers and businesses (Jim, 2019).

Economics is one of a precise subject taught in the higher secondary school level. Teachers are likely to understand why economics is taught so that they can plan the classroom activities effectively". The details of opinions would also help in understanding the content topics and subtopics and why they are included in the curricular contents. The aims of teaching economics at the higher secondary stage are: making students to understand some basic economic concepts and to develop economic reasoning, and thus learners can apply to their daily life as citizens, workers and consumers. This is also to enable learners to realize their role in country building and sensitize them to the economic issues that the nation is facing today, to equip learners with the basic tools of economics and statistics to analyze economic issues. This is pertinent to even those who may not pursue this course, this course of the higher secondary stage is to develop an understanding among students so that there can have more than one view on any economic issue and to develop the skills to argue logically with reasoning (NCERT, 2005). Yusuf (2012) asserted that understanding of economics is a prerequisite for good citizenship which involves the ability to make rational decisions on important economic issues with a good basis for doing so. It is a subject of direct utility which prepare a student for a wide range of career options, ranging from business to government such as in industries and other professional areas like banking, accounting and planning. Despite the importance and the crucial role played in our daily life, studies shown that students' performance in economic has been persistently poor.

Alaka and Obadara (2013) noted that there has been persistent poor performance of students in senior secondary certificate examination (SSCE). This poor performance of students in economics, a subjects that aids in developing students' critical and creative thinking is very disheartening. (See the table of students' performance in SSCE 2011-2015 in appendix A1) The result shows that students' achievement in economics from 2011-2015, less than 40% of all the candidates who sat for economics examination passed at credit level. But majority of the students' score below average or acceptable mark. Nwanna (2008) said that the personality of teachers has significant influence on students' achievement, the proper application of teaching materials is very important in studying of economics. The quality of teaching materials used in teaching and learning appears to affect greatly the teaching and learning of economics.

The teachers' attitudes discourage students from studying the subject. This is so, if the students are not properly guided, they become scared of the teachers and the subject resulting in lack of motivation and poor performance of students. Hence there is need for teachers to change their pattern of teaching, for instance, in the course of classroom interaction, teachers fail to combine lecture method with other strategies which are very effective in improving students learning, achievement and motivation. Usman (2008) and Obeka (2010) agreed that persistent use of lecture method make students passive rather than active learners and that, it does not promote insightful learning and long-term motivation of some abstract concepts. Olatoye and Adekoye (2010) noted that some methods of conveying knowledge like conventional approaches such as lecture and recitation tend to be relatively ineffective on the student's ability to master and retain important concepts and on enhancing critical thinking and collaborative problem solving among students. Thus there is need to use advance organizers as an enrichment of lecture teaching techniques when students lack subsuming or prior knowledge. Also, it should be in mind that most concepts in economics are abstract, very wide and students tend to forget when learning massive amount of concepts, it will be of great important if teachers use advance organizers to make teaching and learning more meaningful.

Atomatofa (2013) described advance organizers as extremely well designed and thought unit outlines, presented before the actual topics to be learned. It is also notable that advance organizer is designed to prepare students on how to think about the lessons to come,

giving some details about terminology and connections but not giving the entire unit content. Advance organizers provide principles and ideas to the students' cognitive structures directly, and also help the learners to integrate new materials with what they already know; it "prepares" the learners for new information (Bency & Nagarajan, 2015). Advance organizer provides principles and ideas to the students. "Cognitive structures directly also help the learners to integrate new materials with what they already know". It prepares the learners for new information (Bency & Nagarajam 2015). Graphic organizers are visual representations of a text, map or a topic. Organizer provides templates or frames for students or teachers to identify pertinent facts to organizer information and to record relationship between facts and ideas within a learning task. The graphic organizer has its roots in schema theory" when students learn something new, they must be able to retain the information for later use. Graphic organizers make it easier to link new information to existing knowledge and help students build the schema they need to understand new concepts (Guastello, Baasley & Sinalva 2000). If prior knowledge is activated, the schema will be able to provide a framework to which new information can be attached; learning and comprehension will be improved. Difficult concepts can be simplified and arranged so that the representation of content is organized in a meaningful way with use of graphic organizer to link newly learned information to an existing knowledge.

Learners according to Blair (2012) posited that 21st century learners at all levels are capable of using all kind of technological gadgets which are highly relational and demand quick access to new knowledge. Thus as noted by Blair, with the world literally at their fingertips, today students need teachers and administrators to re-envision the role of technology in the classroom. Learner's existing cognitive structure, however, is the foremost factor, which determines whether new material will be meaningful and how well it can be acquired or retained (Ugbe & Dike, 2012); hence, when this change occurs in the development of the learner's thinking, it helps him or her to relate concepts previously learned to the new materials, enabling him or her to quickly organize his or her thoughts. The research work tries to determine whether graphic organizer has any effect on the motivation and academic achievement of senior secondary school economics students in distributive trade.

Motivation is a psychological feature that causes an organism to act towards a desired goal, elicit controls

and sustains certain goal-directed behavior(s). It can be considered as a force which is a psychological force that compels or reinforces an action toward a desired goal. Motivation could be either extrinsic or intrinsic, Extrinsic motivations are those that arise from outside of the individual and often involve rewards such as trophies, money, social recognition or praise. Intrinsic motivations are those that arise from within the individual (Kendra, 2014). There are three major components to motivation which are activation, persistence and intensity. Activation involves the desire to initiate behavior, such as enrolling in a class. Persistence is the continued effort put towards achieving a goal even though obstacles may exist, such as reading for courses in order to earn better grades; it requires an investment of time, energy and resources. Finally, intensity can be seen in the concentration and energy that goes into pursuing a goal. For example, one student might excel without much effort, while another student will study regularly, participate in discussions and take advantage of research opportunities outside of class.

Furthermore, Gender difference has become a global problem for educational scope. Another factor that could influence students' achievement in economics is gender. Gender involves the biological, psychological, social and cultural properties of being a male or female (i.e. Boy or Girl). According to Ewumi (2009) noted that gender involves the psychological and socio-cultural dimension of being male or female. Gender is one of the personal variables that have been related to difference found in academic achievement appears to centered generally on the extent to which females and males perform differently in different subjects. Alaka and Obadara (2013) in their study on scholastic performance of student at west African senior secondary certificate examination in Nigeria found that, the overall performance of female students was better than their male counterparts in WASSCE from 2001-2005. Still in favors of female, Nasri and Ahmed (2006) found out that female students perform better than the men counterparts in college of business and economics at United Arab Emirates University. Falch and Naper (2004) noted that the observed gender gap in students 'achievement in favor of girls is often explained by increased share of female teachers. However, some scholars have opposing views as it relates to gender achievement in economics. Mc Carly, Padghan and Benneth (2006) observed gender difference in students' performance in principles of economic in favor of male noted that the difference could be explained by higher number of male professors in economic than female professors. Ballard and Johnson (2006) observed that

women have low expectation about their ability to succeed in principles of economics courses, with a major factor being women relatively low level of competency in mathematics which forms some basic parts of economics. Some have suggested that the reason for gender gap in economics as noted by Jensen and Owen (2013) is that the mainstream economics curriculum excludes topics and methodology of interest to women while others have focused on a classroom environment that is unfriendly to women. Other reasons for the gender gap in economics classes are poorer mathematics preparation of female students' poorer relative performance in economics classes and less overall interest in the topic due to different career aspirations (Jensen & Owen 2013). Even though gender gap remains inconclusive in economics, it is believed that males are prone to learning and showing interest in economics than females. Jensen and Owen (2013) on the issue of concept mapping and gender, Nekang and Agwajah (2010) found that male students had higher achievement means scores than their female counterparts. This study therefore examines the effect of graphic advance organizers on motivation, and academic achievement of senior secondary school students in economics in Yobe state Nigeria.

### **RESEARCH QUESTIONS**

The following research questions were set to guide the study;

- What is the difference between the pretest and posttest mean motivation scores of the students taught Economics using graphic advance organizers and those taught using lecture method?
- What is the difference between the post-test mean motivation scores of male and female students taught Economics using graphic advance organizer at senior secondary school?

### **HYPOTHESES**

Based on the research questions, the following hypotheses were formulated and tested at 0.05 level of significance

1. There is no significant difference between the pretest mean motivation scores of students taught Economics using graphic advance organizer and those taught using lecture methods
2. There is no significant difference between the post-test mean motivation scores of male and female students taught Economics using graphic advance organizer.

**METHODOLOGY**

The research design employed in this study was pre-test post-test, quasi-experimental and control groups design as proposed by Kerlinger (1973) involving two groups (the treatment and a control) on students’ motivation and, achievement in Economics. Intact Economics classes were used since it was not easy to complete randomization of the subjects, since it would disrupt school organization. The two intact classes were used as the control and experimental groups. The experimental group (X1) was taught using graphic advance organizers while the control group (X2) was taught using conventional lecture method. The population for the study consisted of 1002 private senior secondary school students (SSII) within Gashua metropolis Yobe state. The Population comprised of 623 males and 379 female’s economics students).

The instruments for data collection are the Economics Motivation questionnaire (EMQ) and Economics Achievement test (EAT) items were based on the topic Economics and its process which will be the focus point of this study.

The instrument of Economics Achievement Test EAT was given to two senior educational experts (lecturers) in social science education department university of Jos Nigeria with the qualification of Ph.D., three senior secondary school economics teachers with the

qualification of B. Sc. (Ed.) in Economics to be able to examine the items of the instrument. The experts are expected to check whether the instrument is ambiguous in nature, are in conformity with the economics and it process specification and whether the instrument test what it is meant to measure in Economics and it process. The modification and corrections will be effected in producing the final version of the EAT. The reliability coefficient was found to be 0.976, which shows the instrument is reliable. The reliability of the instrument was determined using Kuder- Richardson (K-20) method for the multiple choice items. The test was administered once to thirty (30) students within a week as recommended by Gall, Borg and Gall (2006). The result of co-efficient gave a value of 0.968 for the test which indicated high reliability. The result obtained therefore showed the suitability of the test items for the study. This was done to determine the effect of the treatment. The mean motivation scores of the groups were completed statistically using t-test to test the hypothesis as  $P \leq 0.05$  alpha level of significant. The teacher presented the Graphic Advance organizer to the students to link their prior knowledge (what the learner already known) with the new task.

**RESULT AND DISCUSSION**

The result obtained from the study was analyzed using t-test statistics. The results obtained are presented in table 1 and 2

**Table 1: Result of t-test Analysis of the mean motivation scores of Experimental and control Groups.**

Group	N	$\bar{x}$	SD	DF	t-value	P-value
Experimental	40	62.80	18.43	68	-1.71	0.093
Control	30	71.17	22.58			

Table 1 reveals the result of t-test for dependent sample conducted on the pretest mean motivation scores of students taught Economics using graphic advance organizer and those taught using lecture methods. From the result, no statistically significant difference exists in the pretest motivation mean scores of experimental and control groups. The pre-test mean score for

experimental group (Mean = 62.80; SD = 18.43) was lower than that of control group (Mean = 71.17; SD = 22.58). The result also yielded  $t(68) = -1.71, P > 0.05$ , since the P-value of 0.093 was greater than the 0.05 level of significance, the null hypothesis was retained. It indicates that the pretest motivation mean scores of the experimental group was not statistically significantly different from that of the control group.

**Table 2: Results of t-test Analysis for Difference between Post Motivations Mean Scores of Male and Female Students in the Experimental**

Group	N	$\bar{x}$	SD	DF	t-value	P-value
Male	22	91.09	8.27	38	8.31	0.000
Female	18	58.22	16.19			

The Economics motivation data were subjected to analysis using t-test of independent sample to determine the difference between the post-test mean motivation scores of male and female students taught Economics using graphic advance organizer. The main effect of gender; male/female on Economics students motivation yielded, male ( $M = 91.09$ ;  $SD = 8.27$ ) and female ( $M = 58.22$ ;  $SD = 16.19$ );  $t(38) = 2.37$ ,  $p < 0.05$ . Since the p value of 0.000 is less than the 0.05 level of significance the null hypothesis was rejected. This indicates that the motivation mean score of male students in Economics do significantly differ from that of female in favour of male students.

### DISCUSSIONS

The result in table1 of the findings on the difference in the mean motivation of students taught Economics with graphic advance organizer and lecture method revealed that those taught using graphic advance organizer method had a higher motivation mean score in Economics than their counterparts in the control group who were taught Economics using the lecture method. This implies that the motivation mean scores of the students can be improved by using graphic advance organizer to teach the Economics rather than using the lecture method. This conforms to the findings of Ogbaba and Agernor (2016) whose study reported that the use of graphic advance organizer enhances motivation and learning of learner, raises the level of concentration, improves performance, achievement and enhances learning because it is “fun” and innovative. In addition, other reasons behind enhancement and increase in students learning when taught with graphic advance organizer could be that students who learned with graphic advance organizer were more attentive and engaged in learning, participated more actively in the classroom and interacted much more with the teacher. The significant difference showed in students’ learning towards the difficult concepts of Economics, lies in the way teaching was handled, if better methods like graphic advance organizer was used it could have probably made the subject less difficult than it had seemed previously. The result in table2 of the findings on the difference in the mean motivation scores of male and female students taught Economics with graphic advance organizer method revealed that male students in the experimental group had a higher mean motivation score than their female counterparts. This finding is contrary to that of Oloyede (2011); Ugbe and Dike (2012); and Atomatofa (2013), who in their separate studies in various disciplines found that the use of graphic advance organizer treatment on a mixed gender school population improves the motivation ability of the students irrespective of their gender. Increase in the

motivation abilities of both male and female SSII Economics students observed can be attributed to the use of lecture method with graphic advance organizer which increases motivation abilities without being biased to gender as stated by Okey and Avwiri (2014). In agreement, Agbenyeku (2012) reported that even though, the use of graphic advance organizer enhances learning of both male and female students, yet the strategy is more male friendly than female. However, the empirical evidence in this study indicated that their learning was similar, therefore showing that the use of graphic advance organizer increases learning and motivation ability towards Economics concepts because it bridges the gap of what the students already know with the new materials to be learnt, thereby making the learning concrete, more interesting and less boring.

### CONCLUSION

Based on the findings of this study, it was concluded that graphic advance organizer has the potential of boosting/increasing senior secondary school economics students’ learning level, enhanced motivation ability and academic achievement and is gender friendly. It also showed that students’ achievement and motivation does not depend on gender but instructional strategies.

### RECOMMENDATION

Based on the findings of this study, the following recommendations were made:

1. Economics teachers should adopt the use of graphic advance organizer in teaching Economics concepts because it boosts learning, academic achievement and Motivation in students and is gender friendly.
2. Heads of Department of Economics at senior secondary school level should encourage the use of graphics advance organizer since it has an ability of visualization and reorganization of social science facts in handling concepts.
3. Curriculum planners and curriculum development bodies in Nigeria like NERDC should design programme and policies that will incorporate the use of graphic advance organizer in teaching and learning of Economics concepts, since it has the potential of bringing about meaningful learning and improved academic achievement.
4. Workshops and seminars should be organized by Secondary Education Board, STAN, NERDC and all stakeholders of education in order to train teachers for effective implementation of the use of graphic advance organizer.

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