



Peer Learning Strategy and Students' Academic Achievement in Economics in Imo State

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Authors' contributions

This work was carried out in collaboration between all authors. Author AUOA designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors NLP and CA managed the analyses of the study. Author CI managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

This study examined the effect of Peer Learning Strategy on students' academic achievement in Economics in Imo State. It has been observed that there has been a decline in the academic achievement of students in Economics, especially in Imo State. Scholars attribute this recent development to the use of wrong pedagogy in the classroom. The researcher, therefore, wonders if improvement of classroom instructional method through the use of Peer Learning Strategy will stimulate and also improve students' academic achievement in Economics. Quasi-experimental, Pretest-posttest design was used for the study. The population of the study consisted of all the senior secondary school II (SS2) students from all the public secondary school in Imo state. The sample of the study comprised of eighty (80) SS2 students drawn from two public schools within the population. Purposive sampling techniques were used to select the schools while random sampling

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technique was used to assign the school to experimental groups. Intact classes were used for the study in the sample schools. The instrument for data collection was a teacher-made Economics Achievement Test (EAT) and Economics Instructional Package (EIP). The validity of the instrument was established by two experts in Measurement and Evaluation, one Economics teacher and two Educational Psychologists who fine-tuned them, and after the correction, declared them fit for administration. The instrument had reliability coefficient of 0.75, established using the Pearson's Product moment correlation. Descriptive statistics (mean and standard deviation) were used to answer the two research questions, while the Analysis of Variance (ANOVA) was used to test the two hypotheses at 0.05 level of significance. Findings indicated that Peer Learning Strategy improved student's achievement in Economics. Based on the findings, some recommendations were made which includes that Peer Learning Strategy should be encouraged in the classroom so that the bright students who may be fast in understanding classroom instructions might help others to comprehend quicker. Also, Government should sponsor teachers for workshops and training towards using Peer Learning Strategy to improve students' achievement in Economics.

Keywords: Peer learning; academic achievement; economics.

1. INTRODUCTION

Peer learning in its broadest sense is seen as students learning from and with each other, in both formal and informal ways [1]. It is an instructional strategy in which groups of children under the guidance of the teacher work together through a given instructional assignment with brilliant child, the peer teacher; providing assistance and instruction to others [2]. It is a student-centred approach and a total shift from the teacher-centred or lecture method of teaching. The emphasis is on the learning process, including the emotional support that learners offer each other, as much as the learning tasks itself [3]. In peer teaching the roles of teacher and learner are fixed, whereas in peer learning they are either undefined or may shift during the course of the learning experience. The proposal points to the child's ability to profit from interaction with more competent peers [4]. It is important to consider who the "peer" in peer learning is. Generally, peers are other people in a similar situation to each other who do not have a role in that situation as teacher or expert practitioner. They may have considerable experience and expertise or they may have relatively little. They share the study as follows learners and they are accepted as such. Most importantly, they do not have power over each other by virtue of their position or responsibilities. There are mainly two types of peer tutoring namely incidental peer tutoring (IPT) and structured peer tutoring (SPT). Incidental peer tutoring often takes place, either at school or while students are playing after school or when they are socializing. Structured peer tutoring, on the other hand, refers to peer tutoring implemented in specific cases and for specific

subjects, following a well structured plan prepared by the teacher [5].

The teacher who adopts the peer learning strategy will identify the high, middle, and low achievers amongst the students. The high achievers are used as the peer teachers and middle/low achievers are assigned in their small numbers to the peer teachers for instruction and assistance. The teacher prepares the lesson plan and reviews it for the peer teachers in sequential order. He also trains the peer teacher on how to inform, reward and relate to the students [6]. Nelson in [7] formalized that peer learning can help students learn effectively. It enables learners to develop analytical skills necessary for problem solving in various situations they encounter in life [8]. At a time when school resources are stretched and demands upon staff are increasing, it offers students the opportunity, to learn from each other. It gives them considerably more practice than traditional teaching and learning methods which according to [9] does not give attention to individual differences and that there is no-in-built mechanism to measure the level of the students' interest in and appreciation of the lecture. For peer learning to be effective, the teacher must ensure that the entire group experience positive interdependent-face to face interaction, group processing and individual and group accountability. Positive interdependent emphasizes the importance and uniqueness of each group members efforts while important cognitive activities and interpersonal dynamics are quietly at work. As students communicate with one another, they inevitably assume leadership roles, acquire conflict-managing skills, discuss and clarify concepts, and unravel the

complexities of human relationships within a giving context; this process enhances their learning outcomes [10]. Peer learning encompasses several different types of learning techniques both in and out of the classroom. In both areas, partners or groups of students can be used to facilitate student-based learning. In each, there are aspects of teacher guidance at varying levels. The major peer learning strategies used in the last decade are; peer or student tutoring, group-based discussions or group projects, and student-led classes or online discussions. All of these strategies have advantages and disadvantages depending on their group dynamics and the way they are executed [11].

According to [12], with respect to student dynamics, peer learning strategies foster student relationships and help students develop a greater multicultural understanding and acceptance. When students are put into groups where they can talk freely, they can bring in aspects of their background and beliefs, potentially leading to more understanding among the members of a group. Students also learn to interact with a group of people that they may not generally work with and can engage in conversation even if it is outside of their comfort zone.

Economics is one of the Social Sciences subjects taught in senior secondary school. As an elective subject, it is concerned with human behaviour such as how people earn their living and make choice between alternatives to satisfy their wants. According to [13], Economics is the study of how society decides what, how and for whom to produce goods which are physical commodities such as steel and strawberries and render services which are activities such as message or life concerts consumed or enjoyed only at the instant they are produced. He went further to say that the question of what, how and for who to produce is either answered by a central planning agency or the price mechanism depending on the economic system practiced by a country. [14] goes further to outline the specific objectives of Economics as to include equipping students with the basic principles of Economics necessary for useful living and higher education; preparing and encouraging students to be prudent and effective in the management of scarce resources; and raise students respect for the dignity of labour and their appreciation of economic, cultural and social value of the society.

1.1 Statement of Problem

It has been observed that Economics students, especially in Imo state, fail to gain mastery of Economics subject matter. Students who as a result of its enticing name register for the subject at the external examination, eventually lose interest as the subject is viewed as difficult and ambiguous in nature. This has led to a drastic decline in the academic achievement of students in the subject.

In an attempt to provide instructional strategy which will remedy the issue of low academic achievement as a result of the abstract and uninteresting nature of teaching Economics, the research, therefore, investigates the effect of Peer Learning Strategy on students' academic achievement in Economics in Imo State.

1.2 Aims and Objective

The aim of this study was to examine the effect of Peer Learning Strategy and students' academic achievement in Economics in Imo State. The Specific objectives were to:

1. ascertain the effect of Peer Learning Strategy on the academic achievement of students; and
2. evaluate the impact of gender on the academic achievement of students in Economics.

1.3 Research Questions

The following research questions guided this study:

1. What is the effect of Peer Learning Strategy on the academic achievement of students?
2. What is the impact of gender on the academic achievement of students in Economics?

1.4 Hypotheses

For the purpose of this research, the hypotheses were formulated and tested at 0.05 level of significance.

- H_{01} : There is no significant difference between peer learning and the academic achievement of students at pretest and posttest.

H₀₂: Gender has no significant impact on the effects of peer learning on the academic achievement of students in Economics at posttest.

2. METHODS

The design for this study was quasi-experimental, pretest-posttest design. The quasi-experimental design is symbolically presented as follows in the Table 1.

Table 1. Quasi-experimental design

Group	Pre-test	Treatment	Post-test
Treatment 1	R ⁰¹	LM	R ⁰²
Treatment 2	R ⁰¹	PLS	R ⁰²

R⁰¹=Pre-test, R⁰²=Post-test, LM=Lecture Method, PLS=Peer Learning Strategy

2.1 Population and Sampling Technique

The population of study comprised of all the senior secondary school 2 (SS2) students in Imo State which were thirty four thousand, one hundred and thirty eight (34,138), from two hundred and eighty five (285) Government Secondary Schools in Imo State. The researcher's choice is based on the fact that SS2 students are the next set to write the West African Examination Council and other external examination and would be enthusiastic to use any learning method which will improve their academic achievement in Economics. The sample of the study comprised eighty (80) SS2 students drawn from two public schools within the population. Intact classes were used for the study in the sample schools. Purposive sampling techniques were used to select the schools while random sampling technique was used to assign the school to experimental groups. Purposive sampling was preferred because it is a non-probability sampling technique which will give leverage for the exploration of certain characteristics in the population which is needed for the study.

2.2 Research Instrument

The instruments for data collection were a Teacher-made Economics Achievement Test (EAT) and Economics Instructional Package (EIP). The EAT was divided into two sections, (A and B). Sections A sort the biodata of the respondents while sections B consisted of thirty (30) multiple choice questions. The researcher

divided the procedure for data collection into three phases; Phase 1: Pre-test, Phase two: treatment, and Phase three; Post-test. The researcher used these two intact classes in order not to affect the school timetable and activities. Simply random sampling technique was used to assign the two classes to experimental groups using the toss of a coin. The first group was treated using Lecture Method (LM) while the other group was treated using Peer Learning strategy (PLS). The researcher trained the Economics teachers in the two schools used as research assistants, before the commencement of the experiments. The students were pretested with the help of the research assistant using the EAT. The EAT was then reshuffled and administered to the students after the treatment procedure as posttest. The experiment lasted for six (6) weeks. The validity of the instrument was established by two experts in Measurement and Evaluation, one Economics teacher and two Educational Psychologists who fine-tuned them, and after the correction, declared them fit for administration. The instrument had reliability coefficient of 0.75 established using the Pearson's Product moment correlation. Descriptive statistics (mean and standard deviation) were used to answer the research questions while the Analysis of Variance (ANOVA) was used to test the hypotheses at 0.05 level of significance.

3. RESULTS AND DISCUSSION

Research Question 1: What is the effect of Peer Learning Strategy on the academic achievement of students at pretest and posttest?

Table 2 reveals that students treated with PLS had 14.75 mean score and a standard deviation of 2.36 at posttest and those treated with LM had 11.85 mean score and a standard deviation of 2.01 at posttest. Therefore, there was a mean gain of 2.9 at posttest in favour of students treated with PLS relative to their counterparts that were exposed to LM.

Research Question 2: What is the impact of gender on the academic achievement of students in Economics?

From Table 3, on PLS treatment package, Females had mean score of 15.6 while male had 14.2, Meaning that females benefitted from the treatment more than males.

Table 2. The effect of peer learning strategy on the academic achievement of students at pretest and posttest

Instructional approach	Pretest mean	Posttest mean	Pretest Stdev	Posttest Stdev	Number
PLS	6.85	14.75	2.13	2.36	40
LM	5.45	11.85	1.99	2.01	40
Gain Score	1.4	2.9	0.14	0.35	

Table 3. The impact of gender on the academic achievement of students in economics

Gender	Numbers	PLS	Mean total
Male	40	14.2	14.2
Female	40	15.6	15.6

Table 4. ANOVA summary showing the significant difference between peer learning strategy and the academic achievement of students in economics at posttest

Source of variation	Sum of squares	Df	Mean squares	Ratio	Table
B/N	10368.63	2	5184.3	12.35	3.23
w/n	23928.10	57	419.79		
Total	34296.73	59			

Table 5. ANOVA summary showing the impact of gender on the effects of peer learning on the academic achievement of students in Economics at posttest

Source of variation	Sum of squares	Df	Mean squares	Ration	Table
B/N	13618.80	2	6809.40	52.51	3.23
w/n	7391.80	57	129.68		
Total	21010.60	59			

Hypothesis 1: There is no significant difference between Peer Learning Strategy and the academic achievement of students at posttest.

From Table 4, the F-ratio is 12.35, while the F-tabulated is 3.23, since the F-ratio or F-calculated was more than the F-tabulated, we rejected the null hypothesis. Therefore, there is a significant difference between the mean achievement scores of those exposed to PLS and those exposed to LM at posttest.

Hypothesis 2: Gender has no significant impact on the effects of peer learning on the academic achievement of students in Economics at posttest.

From Table 5, the F-ratio is 52.51, while the F-tabulated is 3.23, since the F-ratio or F-calculated is more than the F-tabulated, we reject the null hypothesis, therefore gender has significant impact in the effects of peer learning on the academic achievement of students in Economics at posttest.

3.1 Discussion

The results from analysis indicated that students exposed to Peer learning strategy improved academically as they had 2.9 mean gain unlike those exposed to lecture method. This is because peer learning strategy provided an opportunity to actively participate in the learning process making comprehension of Economics subject matter easier, interesting and retainable. This is in line with the findings of [15] on the effects of peer tutoring on the academic achievement of University students in Georgia. Findings from that study indicated that those exposed to peer learning performed better than those that were not. This is also in line with the findings of [16] on Impact of Peer Tutoring on the academic achievement of science among secondary school students within Bauchi Metropolis. It reported that peer tutoring instructional method enhanced academic achievement of students in Bauchi metropolis. Findings also revealed that female students benefitted more from the treatment package.

This may be because females are generally more eager to use any new method which they are exposed to. It is in line with the findings of [17], on effects of peer tutoring strategy on academic achievement of senior secondary school students in technical drawing in Nigeria. The result indicated that females had more mean achievement scores than males exposed to treatment. From the result of the Analysis of variance (ANOVA) on the significant difference between Peer Learning Strategy and the academic achievement of students in Economics at posttest, it was deduced that there was a significant difference in the mean achievement scores of students exposed to PLS at post test. This is in line with the findings of [18], on Effect of peer tutoring method on student's academic achievement in Home Economics which revealed that there was a significant difference in the mean achievement scores of subject exposed to treatment at posttest. The result, also, from the ANOVA showing the impact of gender on the effects of peer learning on the academic achievement of students in Economics at posttest indicated a significant impact in the effects of peer learning on the academic achievement of students in Economics at posttest, which is against the findings of [19], on cooperative learning in English language achievement amongst senior secondary school students in Delta State, which revealed that there was no significant interaction effect between gender and experimental groups.

4. CONCLUSION

Peer Learning Strategy has been proven, not only to improve student's achievement in Economics but also increased the rate of class participation, active involvement in class activities and also positive attitude towards Economics irrespective of gender. It has also been adjudged to foster sound relationship among students in senior secondary school in particular. As an activity based learning strategy, its implementation in teaching and learning is needed to achieve classroom objectives at all academic levels.

5. RECOMMENDATIONS

Based on the findings, these recommendations are made that:

1. Peer Learning Strategy should be encouraged in the classroom, so that the bright students who may be fast in

understanding classroom instructions might help others to comprehend quicker.

2. Also, Government should sponsor teachers for workshops and training towards using Peer Learning Strategy to improve students' achievement in Economics. Teachers should strive to change from the traditional method of instruction and avail themselves of the opportunity to learn new technology of teaching.
3. Both male and female students should be assisted and encouraged by their parents, teachers and the society to develop their untapped intellectual resources, so as to improve academically.
4. Regular workshops and conferences on improved methods of teaching should be organized so as to equip teachers with modern and improved learning strategies such as Peer Learning for the actualization of classroom goals.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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