



Effect of Pre-Lesson Assignments on Secondary School Academic Achievement in Some Selected Statistical Concepts in Economics

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ABSTRACT:- The study examined the effect of pre-lesson Assignments on Secondary School Academic Achievement in some selected statistical concepts in Economics. The study adopted a quasi-experimental research design. The population of the study comprised of all the Senior Secondary One (SS1) Students that offered Economics in all the government-owned Secondary Schools in Abia State, Nigeria; from which 116 students were used for the study. Simple random sampling technique was used to select four Secondary Schools in the state that was used for the study. Two each of the four schools were designated as the treatment and controlled groups respectively. Three statistical Economics concepts were prepared and taught to both the treatment and controlled groups for three weeks the treatment group was given some assignments on questions derived from the topics that were to be taught while the control group was not given assignments prior to the teaching. Both groups were tested with the same set of 30-item questions. The research questions posed for the study were answered using mean and standard deviation, while t-test statistic was used to test the null hypotheses at 0.05 level of significance. The result showed that students exposed to pre-lesson assignments had higher mean achievements than those who were not given pre-assignment. Findings also showed that there was no statistical significant difference in the mean achievement of male and female students exposed to pre-lesson assignment in some selected statistical concepts in Economics. Based on the findings it was recommended that Economics teachers should give pre-assignments to students to enhance their achievement in statistical concepts and other difficult concepts in Economics.

Keywords: Pre-lesson, Assignment, Economics and Statistics.

I. INTRODUCTION

Economics in the recent years, has recorded an improved performances of students at the Senior Secondary Schools. For instance, in 2010, 2011 and 2012 about 56%, 59% and 56% of candidates that sat for Senior Secondary School Examination (SSCE) in Nigeria, respectively obtained credit passes of between A1 – C6 (WAEC, 2013).

Despite those improved performances recorded, it could equally be pointed out that it is not commensurate to the high number of candidates that registered and sat for the subject at SSCE (Obemeata, 2010). One of the identifiable reasons for such failure performances in the subject is the fact that students find some Economics concepts difficult (WAEC Chief Examiners Report, 2008). Such concepts according to Ede (2014) are in areas of Economics that involve calculations (Statistics or mathematics). This may be as a result of the general mathematical phobia which students at all levels of education have which may likely have been transferred to Economics since mathematics concepts are in Economics curriculum as mathematical Economics, Economics Statistics and Econometrics.

Economics teachers some times, find it very difficult overcoming those challenges; hence they use various instructional materials and strategies while teaching. A good teaching strategy according to Abakpa and Iji (2012) is capable of providing high achievements among learners while poor teaching strategy yields poor achievements. Such strategies that are often used in teaching Economics include discussions, debates, field trips, Excursions and Assignments.

Assignment in particular according to Instructional Assessment Resources, IAR (2011) means tasks or piece of work assigned to someone as part of a job or course of study. It equally includes activities given to learners by the teacher which is in the school setting and period. It is an individual assignment when tasks are assigned to each member of a class to accomplish while group assignment when members of such a class are paired or grouped (between 3-5) to accomplish an assigned task. While individual assignment assesses the

personal potentials of the individual involved, group assignment assess the intercommunicative and collaborative skills of students (IAR, 2011).

There are various forms of assignments given to students. According to IAR (2011), they include:-

Homework Assignment: This is a form of assignment where teacher assign tasks to students to be completed outside the class.

Essay Assignment: This is a form of assignment that is given to students to assess their comprehension over specific content and ability to explain the material or issues in their own words.

Writing or Research Paper: This is a form of assignment that assesses learner's ability to understand material and as well measures students' innovative abilities.

Oral Presentation: This is a form of assignment that assesses student's oral presentational skills understanding of the content and the ability to organize and structure materials or issues.

Project as a form of assignment assesses Students' creative and innovative abilities. This involves a student being assigned to a task which he does with or without the supervision of the teacher which he tries to find solution to.

Other forms of assignment according to Mondal (2014) include Page-by-page assignment, problem assignment, and Drill assignment.

Assignments given to students are expected to be of good qualities. Such qualities according to Mondal (2014) include:-

- The assignment should be perfectly clear and definite.
- It should be concise but detailed enough to enable learners understand the tasks assigned
- Assignment given should be well understand by the learner
- Assignments should be adjusted to the time available to the learners
- It should have relevance and be able to be part and as well cover the objectives of the subject.
- It should have a connect with the previous lesson or knowledge the learner already had.

Assignments if well administered or assigned to learners have some benefits. Such benefits according to Godlstein and Zentall (1999) include the following:-

- It provokes new insights in the learners and as well reveals things of interest to them.
- It exposes the real or practical aspect of the theory given in the classroom to what are obtainable at the real world.
- Different individuals with varied experiences which learners sometimes consult while doing assignments help in enhancing their communicative skills as well as their interpersonal relationship when team assignment is involved.
- Also when group assignment is involved, it is capable of enhancing learner's leadership skills as well as collaborative and team spirits.
- When it is home assignment, it serves as an intersection between home and school.

Teachers generally give assignments to students either before a lesson is delivered (pre-lesson assignment) or after a lesson has been delivered (post-lesson assignment). Whatever choice of any form of assignment a teacher makes depends on the objectives the teacher wishes to achieve as they all have their inherent merits. According to Mondal (2014), pre-lesson assignment awakens student's curiosity and as well prepares him for up-coming lesson. Post-lesson assignment on the other hand increases student's previous knowledge and improves his abilities to apply what was learnt into real life situations.

Since most teachers prefer giving out assignments to their students before teaching the topics, this study aimed at determining its effects on students' academic performances in some selected statistical concepts in Economics. The study further determined the mean performances of students in Pre-lesson assignment and post-lesson assessment groups when exposed to some selected statistical concepts in Economics.

II. METHODS

The research design adopted for this study was a quasi-experimental study. The population of the study comprised of all the Senior Secondary one (SSI) students that offer Economics in all the government-owned Secondary Schools in Abia State, Nigeria. Simple random sampling technique was used to select four Secondary Schools in the state that were used for the study. Two each of the four Secondary Schools were designated as the treatment and controlled groups respectively. In each of the sampled schools, the number of students were small with one stream class. Therefore, there was no sampling as intact classes were used. The total of 116 students was used for the study. Three statistical Economics concepts were prepared and taught to the sampled schools (both the treatment and controlled group) for three weeks. However, before the teaching took place, the two schools designated as the treatment group were given some assignments on questions derived from the topics that were to be taught while the other groups (controlled groups) were not given any assignment on the topics that were to be taught to them. The topics were then taught to both groups for three weeks. Each group was at the end assessed with the same set of 30-item questions titled Pre-lesson Assignment Test Instrument (PATI).

The PATI was validated by one expert in test and measurement and two Secondary School Economics teachers. The reliability of the instrument (PATI) was established by administering it to SSII students in private schools that had already covered those topics in their previous class (SS1). The instrument was administered twice within two weeks interval. It was analyzed using Pearson Product Moment Correlation (PPMC) and a reliability index of 0.84 was obtained. The three research questions posed for the study were answered using mean and standard deviation while t-test statistic was used to test the null hypotheses at 0.05 level of significance.

III. RESULTS

Research Question 1

What is the difference in the mean performances of students in pre-lesson assignment and post-lesson assessment?

Table 1: Mean difference in the performances of students in pre-lesson assignment and post-lesson assessment

	Pre-lesson assignment	Post-lesson assessment	Difference
Mean	44.16	79.38	35.22
Std. dev.	8.33	5.47	

The Table 1 shows that the mean difference on the performance of students on the assignment before the lesson and assessment after the lesson for experimental group was at 35.22. This indicates a mean gain in their performances after the lesson by the experimental group. The mean gain in their performances might be as a result of their earlier gained knowledge of those concepts while attempting the pre-lesson assignment.

Research Question 2

What is the mean performance of students exposed to pre-lesson assignment and those not exposed to pre-lesson assignment in some selected statistical concepts in Economics?

Table 2: Mean performances of students exposed to pre-lesson assignments and those not exposed to the assignment

Group	N	X	SD
Experimental (A)	60	66.31	8.15
Control (B)	56	49.12	12.22

Table 2 shows that the mean performances of students exposed to pre-lesson assignment (experimental group) is 66.31 with the standard deviation of 8.15 while those students taught statistical concepts in Economic without first being exposed to pre-lesson assignments (control group) made mean performance of 49.12. This indicated that students exposed to pre-lesson assignment made higher mean performance than their counterpart that were not exposed to pre-lesson assignment.

Research Question 3

What is the mean performance of male and female students exposed to pre-lesson assignment in some statistical concepts in Economics?

Table 3: Mean performances of male and female students exposed to pre-lesson assignments

Gender	N	X	SD
Male	49	32.64	6.47
Female	67	31.17	7.81

Table 3 showed the mean performances of male and female students to pre-lesson assignments are 32.64 and 31.17 respectively with a mean difference of 1.47. This indicates that male students had higher mean performances than the female students when exposed to pre-lesson assignment in statistical concepts in Economics.

Hypothesis I

Pre-lesson assignments have no significant effect on the academic achievement of students in some selected statistical concepts in Economics.

Table 4: t-test Analysis on the Effect of Pre-lesson Assignment on students' Performance in Some Selected statistical Concepts in Economics

Group	N	X	SD	Df	t-cal	t-crit	Decision
Experimental (A)	60	66.31	8.15	11.4	8.68	1.96	Sig
Control (B)	56	49.12	12.22				

Table 4 showed that the t-calculated value of 8.68 is greater than the t-critical value of 1.96. Since the t-calculated value is greater than the t-critical value at 0.05 level of significance, the null hypothesis is rejected. Therefore, pre-lesson assignment has significant effect on the achievement of students in some selected statistical concepts in Economics.

Hypothesis 2

There is no significant difference in the academic achievement of male and female students exposed to pre-lesson assignments in some selected statistical concepts in Economics.

Table 5: t-test Analysis of Academic Achievement of male and female students exposed to pre-lesson Assignments in Economics

Group	N	X	SD	df	t-cal	t-crit	Remark
Male	49	32.64	6.47	1.14	0.54	1.96	NS
Female	67	31.17	7.81				

The Table 5 showed that the t-calculated value of 0.54 is less than the t-critical value of 1.96 at 0.05 level of significance. In view of this, the null hypothesis that there is no significant difference in the mean performances of male and female students exposed to pre-lesson assignments in some selected statistical concepts in Economics is accepted.

IV. DISCUSSION

The findings showed that students who were exposed to pre-lesson assignments had higher mean achievement than those who were not exposed to such approach. The results further revealed that pre-lesson assignments enhance students' academic achievement in some selected statistical concepts in Economics. The results agreed with the opinions of Mondal (2014) and Goldstain and Zentail (1999) who stated that pre-lesson assignment as teaching and learning strategy is capable of provoking the learners curiosity and insights in the subject matter, sharpens their general learning skills and as well enhance their general academic achievement. Goldstain and Zentail (1999) further recommended the approach as the best in enhancing the reading, writing, spelling and mathematical skills of learners when they are well guided.

Finally, the result showed that there was no significant difference in the mean achievement of male and female students exposed to pre-lesson assignments in some selected statistical concepts in Economics. This finding agrees with the findings of Kulik and Kulik (1990) that males and females do not differ significantly in academic achievements.

V. CONCLUSIONS

This study has shown that pre-lesson assignments are capable of enhancing students' achievement in statistical / mathematical aspects of Economics at secondary school level. The adoption of this approach to difficulty areas of Economics at Senior Secondary School Economics will increase the achievements in Economics in Secondary Schools in Nigeria.

RECOMMENDATIONS

Based on the findings, the following recommendations were made:

1. Governments and proprietors of schools should from time to time, organize seminars and workshops for their teachers on effective ways of adopting the pre-lesson assignments teaching strategy in teaching.

2. Economics teachers should adopt this teaching strategy to overcome challenges faced while teaching not only statistical concepts in Economics but other areas of the subject which students do find difficult to understand.
3. Curriculum planners and developers should include this teaching approach among other approaches that could be used at Secondary and other levels of Education

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