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# Teacher-Initiated Student-Peer Assessment: A Means Of Improving Learning-Assessment In Large Classes

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## Abstract

*This paper evaluated the effect of using teacher-initiated student assessment strategy as a means of enhancing student learning achievement and by extension as tool for minimizing examination malpractices that are so phenomenal in the education sector of Nigeria. The paper reviewed relevant literature on assessment and achievement as well as on examination malpractices - which has become a cankerworm and also cast doubt on the quality of education in the country. The research was carried out adopting the pre-post test quasi-experimental/control design. The data were analysed using the t-test. Results show that the strategy facilitated significant improvement in student achievement in both Mathematics and English language respectively with the following t-values of 20.4 and 15.94 @ 0.05 significant levels. Also it was found that the experimental groups respectively made a mean gain of 5.9 and 5.3 as against 1.7 and 2.0 in these respective subjects. Another discovery was the fact that those who had the treatment were found not to have been involved in examination malpractices while some of those in control groups were involved in malpractices in the subsequent school examinations. Based on these findings, it was recommended that since most classes in the zone have more than forty students and in some cases up to 80, this strategy be formally introduced in the schools where there are more than 40 students in a class and that teachers be given relevant training in evaluation methods and that record-keeping be a co-operative and a team work, to make the system more effective.*

## Introduction

Assessment has been viewed by a number of scholars, to be an effective tool of promoting student achievement (Onuka and Oludipe, 2006, Frempong, 2005, Afolabi, 2005 and Adeoye and Okpala, 2005). Therefore, the role of assessment in engendering teaching-learning process cannot be over-emphasised. There is no doubting the fact that assessment is a means to measuring teaching and learning effectiveness especially in the cognitive domain of learning (Onuka and Oludipe, 2004). Anikweze (2005) posits that learner's assessment is the means of knowing what kind of learning has taken place during schooling process and as such can be rightly regarded as a basic demand of school accountability. Definitely, large classes pose problem not only to teaching and learning but also to everything that facilitate the process including assessment.

Thus, Anikweze (2005) opines that assessment methods could be improved for better schooling and learning. As such there is a need to devise a co-operative –assessment which

involves the teacher and the students in an assessment programme initiated and guided by the teacher. It is a fact that measurement, assessment and evaluation process serves an impetus for learning because these three – stage in the final analysis provide a feedback to the concerned. This, in turn, results in gearing efforts towards improving one's performance in any of the three domains of learning: affective, cognitive and psychomotor. In fact, a study had proved that assessment is the source of poor-performance remediation (Onuka and Oludipe, 2004 and 2006). Oberholzer (2005) infers that there is a positive correlation between good assessment and life-long learning in South Africa. In other words, assessment and learning vary in the same direction. In other words, a good assessment procedure does in almost cases lead to improved learning.

Anikweze (2005) observes that assessment takes place after learning. However, Teacher-initiated and guided student –per assessment has come up after one lesson, before the next class takes place. This Onuka and Oludipe (2006) in their study on whether systematic school-based assessment (SSBA), which takes place after each lesson, can assist in improving student achievement found that SSBA made a tremendous positive impact in improving learning and the subsequent student achievement. It is, however, well known that there is overcrowding in many classrooms in Nigeria. Thus, there is no doubt that such situation does not make for easy assessment and except a participatory assessment mode is devised; the assessment process and indeed effective classroom interaction become a mirage. It thus becomes an exercise in futility. The teacher-initiated and guided-student-peer-assessment can be viewed as a test that the teacher gives to the students in class, gives them time to do the test, collects the papers, and then works out the solutions on the chalkboard, and in a guided distributes these papers to the students making sure that no student gets his/her own paper. He then supervises the scoring them. He takes records of the scores. Wiggins (1998) lists to peer-assessment and self-assessment as some forms of assessment that can be employed to assess educational progress of the educand.

Onuka and Oludipe (2006) find that systematic school based assessment (SSBA) (a variant of continuous assessment) facilitates learning and the subsequent performance of the student. Umoru-Onuka (2005) feels that if the learning process neglects assessment it does so at its peril. Hence, there is a need to find a way to chart a reliable assessment/testing system that can assist in effective teaching and learning in the school system, especially as sufficient number of classrooms cannot be built over night. Wosyanju (2005) posits that assessment of large classes when well-managed can improve, even though it is an onerous task because of magnitude involved, learning and the subsequent performance. Thus, in essence, this investigation examined how teacher-initiated/guided-student-peer-assessment can facilitate learning in large classes, where the student population is unwieldy large that the teacher finds it difficult to effectively assess student achievement, and therefore, use teacher-initiated/guided student peer-assessment to enhance students' learning and a subsequent achievement in junior secondary school Mathematics and English Language.

### **Hypotheses**

The following hypotheses were formulated in order to find answers to the problem of the study stated above:

**Ho<sub>1</sub>:** There is no significant difference in the achievement in Mathematics of students of large classes with teacher-initiated/guided –student-peer-assessment and those without the treatment.

**Ho<sub>2</sub>:** There is no significant difference in the achievement in English Language of students of large classes with teacher-initiated/guided –student-peer-assessment and those without it.

## Methodology

### Research Design

The research was carried out adopting the pre-post test quasi-experimental/control groups design.

### Sampling and Sample

Cluster sampling was used to select four secondary schools out of the 65 secondary schools in Kogi Central Zone at the time of this study. Two of which were used as the quasi-experimental groups while the remaining two served as the control groups for the two subjects involved in the study respectively. One intact junior secondary two class was randomly chosen from each of the four schools, the Mathematics or English Language teacher in the class was used in the study either as teacher in the experimental or the control group (English Language or Mathematics). 280 students were involved in the investigation, containing 70 students each.

Table 1:

Sample sets

School	Class	Subject	Sample set	Remarks
A	JS 2D	Maths	70	Experimental group
B	JS 2C	Maths	70	Control group
C	JS 2A	English Language	70	Experimental group
D	JS 2E	English Language	70	Control group
4 Schools			280	

### Instrumentation

Two instruments employed in the study were designed by the researcher with two research assistants who are experts in Mathematics and English Language respectively. These instruments are namely Onuka Mathematics Achievement Test and Onuka English Language Achievement Test.

The two instruments were designed by the researcher, and pilot tested using a similar but non-participatory sample of 30 each for the two subjects.

The exercise resulted in obtaining reliability co-efficient of 0.79 and 0.81 for the English Language and Mathematics respectively using the test-retest method, and this in turn culminated in pruning the pool of items from 70 to 50 items for each of the English Language and Mathematics Achievement tests. Each of the two tests was then administered on another two equivalent samples of 30 each which yielded validity co-efficients of 0.77 and 0.76 utilizing cronbach alpha analytical method.

### Data collection strategy

The research was conducted by giving treatment to the experimental groups while control groups were not given any treatment. At beginning of each lesson a short test was given on the previous lesson, collected the scripts were and redistributed to the students after he/she had worked the solutions on the board, however, ensuring that no student got and marked his/her paper. The teacher worked out the solutions on the chalk or whiteboard and then requested the student to randomly exchange their notebooks and mark strictly under his supervision with

assistance of the research the help. The results were later collated and recorded at the end of the lesson. The teacher then proceeded to teach. The exercise lasted for eight weeks and did take place during prep in the afternoon. A pre-test was given to each subject groups (experimental and control) at the beginning of the investigation. At the end of the eight weeks, a post –test was administered to find out whether or not the treatment had any effect on the students’ performance in the respective subjects. A pre-test was given to each subject group (experimental and control) .The data were analysed using the t-test statistic to test for differences in the achievement of the treatment group and the control group.

### Results and Discussions

**Table 1: t-test comparison of experimental /groups’ achievement in pre- and posts in Maths and English Language**

Test	Treatment group	School/N	Group mean	S. D.	t-value
Pre-test	Experimental Maths	A (70)	56.4	1.9	20.40*
Post-test			62.1	2.4	
Pre-test	Control Maths	B (70)	58.2	3.1	
Post-test			59.9	3.6	
Pre-test	Experimental English Language	C (70)	55.6	2.8	15.94*
Post-test			60.9	2.3	
Pre-test	Control English Language	D (70)	55.9	3.3	
Post-test			57.9	4.0	

\*Significant @ 0.01

Table 2 shows the results of the study indicating that in the two experiments of this study, the experimental groups achieved better results than the control groups in both Mathematics and English Language respectively. There were increases in the achievements by all the groups after the treatments of teacher-initiated and guided-student-peer assessment and traditional instructional methods. The experimental group in Mathematics had a mean increase rate of 5.7 in achievements (from 56.4 to 62.1 mean rates in the pretest and post-test respectively), while the control group recorded mean achievement rates of 58.2 and 59.9 respectively in Mathematics culminating in a difference (an increase) of 1.7 in mean rate of achievement between their achievement in pretest and post-test respectively. This shows that the rate of performance by the experimental group is higher than the performance of the control and thus provided answer to hypothesis 1. The table also shows that the difference between the achievements of both is significant at 0.01 level of probability with a t-value of 20.40

The experimental group in English Language had a mean increase rate of 5.3 in achievements (from 55.6 to 60.9 mean rates in the pretest and post-test respectively), while the control group recorded mean achievement rates of 55.9 and 57.9 respectively in English Language, resulting in a difference (an increase) of 2.0 in mean rate of achievement between their achievement in pretest and post-test respectively. This result depicts the fact that the rate of performance by the experimental group is much higher than that of the control group and thus provides answer to hypothesis 2. The table also shows that the difference between the

achievements of both is significant at 0.01 level of probability with a t-value of 15.94. These results provide answer to hypothesis 2 above.

**Table 3:**  
**Mean achievement gain by each group**

School	Treatment group	N	Group mean gain	SD	
A	Exp.(Maths)	70	5.7	0.5	20.49*
B	Control (Maths)	70	1.7	0.5	
C	Exp (Eng Lang)	70	5.3	-0.5	16.04*
D	Control (Eng Lang)	70	2.0	0.7	

\* Significant

Table 3 presents the changes that took place in the levels of students' achievement as a result of the treatment that was given to them during the period of this study. The changes portend the fact that the treatment can be a veritable vehicle for improving students' achievement

### Discussion

The results of this study as presented above aptly demonstrate that teacher-initiated and guided student – peer assessment can contribute immensely to improving student and consequently his/her cognitive learning outcome. The results of this study agree with the findings of Onuka and Oludipe (2004; 2006) that feedback, which is an outcome of evaluation, and systematic school based assessment (a variant of continuous assessment) do assist in remediating student poor performance and in achieving cognitive learning objectives respectively. The findings as reported earlier in this study are in consonance with the views of Wosyanju (2005) who states that assessment of large classes when well-managed can improve, even though it is an onerous task because of magnitude involved, learning and the subsequent performance in Kenya.

They also conform to inference of Oberholzer (2005) that there was a positive correlation between good assessment and life-long learning in South Africa. Put differently, assessment and learning vary in the same direction. In other words, a good assessment procedure does in almost cases lead to improved learning. These positive changes in the achievement of both experimental groups in the study as against low positive changes in achievement recorded by the control groups can be attributed to several factors among which are: the students had participated in peer-assessment of their own work; the transparency attendant to this system of assessment; the release the teacher had to concentrate on other forms of preparation and the fact that the assessment always took after the lesson had taken place, thereby confirming the observation of Anikweze (2005) that assessment takes place after learning had taken place, which process in itself enhances the learning process outright.

More importantly the treatment might have assisted both the teacher and the taught to quickly detect both their strengths and weaknesses as well as discover the areas of threats to their achieving their learning objectives and the opportunities for improving in both teaching and learning styles. This development, according to Onuka and Oludipe (2006), promotes healthy process of teaching and learning and thus improving learning performance. Therefore, the process would definitely lead systemic improvement of the entire education system of any nation with large classes as the process gives the teacher some relief from the onerous task of carrying out the continuous assessment which because of the large population involved and



the enormity of the burden thrust on the teacher by continuous assessment and other administrative duties.

The implication/thrust of this system of assessment is the fact that it allows the teacher more time to prepare for the next topic and classes instead of trying to do much within a short period of time and still be expected to be very effective in the discharge of their duties. Unlike the case of implementing continuous assessment or its less cumbersome systematic school based assessment that require heavy capital outlay, this strategy does not involve much capital in compiling and keeping its record because the students' involvement has reduced both the many hours needed and amount of energy the teacher would have spent on assessment. It further implies that savings are thus made in terms of time, energy and capital outlay that would have been needed for the execution of assessment of this type. There is also the fact that the student becomes more serious because he is a part of the assessment of his own achievement. It also shows that the process is a teacher/student co-operative teaching which is a form of management by objectives in a classroom, which, of course is a result-oriented management approach. This is so because it brought the students into a sort of decision-making and execution process.

### **Conclusion and Recommendations**

The study has clearly demonstrated that if teacher-initiated/guided student – peer assessment is well planned, utilized and recorded, it provides immediate feedback to the student and possibly his/her parents/guardian. This, in turn, allows the student to address his weaknesses and then improve on his/her strengths almost immediately. It has also been proved in the study that apart from the fact that Teacher-initiated/guided student – peer assessment (TISPA) improves teaching and learning, it saves time, energy and fund and it is a teacher/student co-operative teaching and learning method.

Consequently based on the outcome of the study as presented above, the following recommendations are made: Teacher – initiated/guided student-peer assessment should become part and parcel of instructional strategy in the education system in Nigeria, particularly in a large class situation.

Teachers should be given the necessary training that would facilitate implementation of the incorporation of this form of assessment into the various instructional strategies in use in the Nigerian education system. Further study should be carried out in a more global form in order to confirm the efficacy or otherwise of the strategy. The student should also be given orientation on the conduct and utilization of this assessment strategy. Immediate feedback on students' performance should be taken seriously and utilized to engender students' learning and achievement, particularly in the cognitive domain of learning.

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