

**THE PERCEPTION OF SENIOR SECONDARY SCHOOL  
STUDENT ON CONTINUOUS ASSESSMENT MATHEMATICS  
IN MINNA, NIGER STATE**

BY

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**ABSTRACT**

*This paper examines mathematics at senior secondary school level in Minna, Niger State. The study also looked at the importance of continuous assessment in the teaching of mathematics. An instrument used for the study was opinion questionnaires consisting 20 validated questions. The instrument has reliability coefficient of 0.7. The questionnaires were administered on 100 randomly selected students from five purposive sampled secondary schools in Minna, Niger State. From the findings of these responses ninety five percent (95%) of the students sees continuous assessment as very important to their studies while 15% sees it as not important to their studies. Sixty percent (60%) of the students were favourably exposed to the use of continuous assessment while 40% were not. The study offers recommendations for the improvement in the use of continuous assessment in mathematics achievement.*

**Introduction**

Mathematics is one of the core subjects in the Junior and Senior Secondary School curriculum in Nigeria. In everyday living, we need numbers to prepare simple account particularly in places of work and for personal use. When we are given any information or data, we want to analyse and interpret such data objectively and probably use such interpretation to take some vital decisions. Such inclusion justifies the recognition of Mathematics as being essential in the development of Mathematics which has not been very encouraging. There are many more of such Mathematics in our personal life. Mathematics has long become basic tool of science and technology. In recent years, Mathematics method of investigation have made deep ways to such field of knowledge as physics, chemistry, biology, economics, geology, agricultural science, linguistics, medicine, teaching of philosophy, archaeology, law and military affairs. There is hardly any profession or vocation where the knowledge of mathematics is not being used. The builders of houses, bricklayers, carpenters want to know when the walls are straight and when they are at right angle. Allen (1981) added to the

importance of Mathematics by observing that those who required advance level mathematics in their undergraduate courses are principally those going for career in sciences. The engineers, scientists, doctors and other professions also use Mathematics in their profession. This is why Mathematics is a core subject and compulsory for all students at secondary level. In fact, without Mathematics the much-talked about technology advancement for any nation will be an unrealistic dream.

Education assessment provides necessary feedback we require in order to maximize the outcome of educational efforts. The assessment of learners learning provides objective evidence necessary in the decision-making process in education. As opined by Cone and Poster (1981), a good measurement resulting in accurate data is the foundation of sound decision-making. The major problems of assessment of learners have however been in the approaches or methods. Learners assessment particularly examination at the end of a learning programme or year are perceived by some as contribution to the problems in educational system, particularly in Africa. Thus findings support numerous research

studies (Little, 1982; Myeni, 1985; Oxenham, 1983). A content analysis of public examinations Primary and Secondary in some countries also showed that:

- (a). there was high degree of achievement of cognitive skills
- (b). most examination items measure achievement at a low taxonomy level of knowledge recall and (recognition of factual knowledge)
- (c). there was very little concrete real life reference to be found in examination (Little, 1982).

One wonders the efficiency of an examination administered just in two to three hours after one to six years of study. In Nigeria, this is true of examination bodies like WAEC, Grade II, Junior WAEC and many others. Where single examination are administered at the end of the course. In a small survey of eighty new graduate of Manchester University, 72% express a preference for assessment being carried out by course work and unseen examination. Only 8.6% would opt for assessment by examination only. Kellagham (1992) with examination only students complaint of constant anxiety that reach panic level due to time constraints, inability to think clearly with results I severe organizational problem as well as general feeling of under achievement and dissatisfaction at the style produce. It is very difficult to grade a learner who took ill and could not write the final examination, with proper assessment such type of problems can be rectified most especially in Mathematics which is assumed to be most difficult subject of all by students.

#### **Continuous Assessment and Student Performance in Mathematics**

Continuous assessment is a method of finding out what the pupils have gained from learning activities in terms of knowledge, thinking and reasoning, character development and industry. Various tools such as test assessment, project, observation, interviews and questionnaires may be used to find out the outcome of these learning activities. In respect of this, Black and William (1986) defined assessment broadly to include all the activities that the teachers and the students undertake to get information that can be used

diagnostically to alter teaching and learning. Baker and Stites (1991) opined that continuous assessment should involve a formal assessment of learners' effective characteristics and motivation, in which they will need to demonstrate their commitment to task over time, there work-force readiness and their competence in team or group performance contexts.

From these definitions one could infer that continuous assessment is an instrument assessing various components of learning not only the thinking processes but including behaviours, personality traits and manual dexterity. This begins with the decision the teachers and administrators make on the learners regarding end of the year grading and promotion.

The National Policy on Education (1988) also stressed the importance of continuous assessment at all levels as follows:

- (i). Give the teachers greater involvement in the overall assessment of his or her pupils
- (ii). Provide a more valid assessment of the child's overall ability and performance
- (iii). Enable teachers to be more flexible and innovative in their instruction.
- (iv). Provide a basis for more effective guidance of the child.
- (v). provide a basis for the teacher to improve his/her instructional methods.
- (vi). reduce examination malpractices.

The use of continuous assessment is very vital, it reinforces learning in Nigeria situations. Babatundé (1998) says "It serves the twin function of being an actual teaching device and a teaching reinforcement. The National Policy on Education (2004) states that educational assessment and evaluation shall be realized by their being based I whole or in part on continuous assessment of the progress of the individual. It went further to say that the Junior School Certificate (JSC) shall be based on continuous assessment and examination conducted by state and federal examinations boards. The Senior School Certificate (SSC) shall be based on continuous assessment and a National Examination.

Tafida (2004) concluded that continuous assessment had great impact on the performance of students in English language. Mathematics teaching just like other teaching subjects requires constant practices of the subject rules as well as the exercises that might go with them.

Therefore if there is frequent assessment given to students, their will be constant practice, and whenever there is constant practice the phobia of students on Mathematics will reduce because Mathematics like other science subjects needs constant practice.

evolved to ensure that the records of the child from one school can be transferred to another without removing those records from the first school, since there is uniformity in the record keeping.

#### Research Questions

Problems of Continuous Assessment		The study seeks to find answer to the following questions:
National Policy on Education shows that government is aware that implementation of the policy of the continuous assessment poses certain significant problems for the educational system in general and teachers in particular. The policy therefore advocates rigorous training programmes (both pre-service and in-service) for teachers who in the final analysis have to implement continuous assessment. The two major problems are:	(i).	What role does continuous assessment play in enhancing students performance in mathematics?
(i). <b>Comparability of students:</b> The single national examination provides some basis for comparing the quality of students performance across schools. Under a continuous assessment situation, such comparison becomes extremely difficult due to the difference of quality of tests and other assessment instruments used in different schools. The difference in the procedures for scoring and grading the various assessment instruments in various schools. If the quality of tests and scoring procedures and grading is uniform in all schools most especially in mathematics, students problems in the subjects will be minimized.	(ii).	What role does continuous assessment play in assisting the students to identify their problems in mathematics?
(ii). <b>Record keeping and the continuity of records:</b> For the continuous assessment to be meaningful, there has to be meticulous keeping of accurate records of each pupil. Since these records are expected to be cumulative from class to class and from school to school. There is need for uniformity in the kind of records kept and the format for keeping such records. That a child even within the same level of the same education may move from one school to another for example, if the parents were transferred to another town, demands that a mechanism be	(iii).	To what extent do large classes have impact on student performance in mathematics?
	(iv).	What forms of continuous assessment are students exposed to in learning of mathematics?
	(v).	How frequent are students exposed to continuous assessment test and what percentage of the total mathematics score does continuous assessment constitute?
	(vi).	How has the use of continuous assessment helped to minimize examination malpractices?
		<b>Research Instrument</b> The instrument used for the study is an opinion questionnaire consisting twenty (20) validated items in which the respondent answer yes/no. The draft copies of the questionnaires were critique and vetted by expert, evaluators, mathematics educators and experienced mathematics teachers, and it was found to have a reliability coefficient of 0.7
		<b>Sampling and Sampling Techniques</b> Five purposive secondary schools were randomly selected for the study. The sample size consist of 110 randomly selected students from these five secondary schools. In each school, a total of 22 students were randomly picked from SS III (comprising 11 male, 11 female). Only 100 questionnaire was retrieved and used for data analysis due to some students failure to return the questionnaires.

### Method of Data Collection

A total number of twenty (20) questions were administered on 110 students from five selected schools in Minna. One hundred (100) questionnaires

were retrieved and used for data analysis of the study. This was aimed at finding out the views on the use of continuous assessment in mathematics teaching

### Results and Discussion

**Table 1.0: Analysis of responses for the items 1, 2, 3, and 6**

S/N	ITEM	RESPONSE	FREQUENCY	PERCENTAGE
1.	Continuous assessment is important to your study	Yes	95	95%
		No	05	05%
2.	Continuous assessment is affected by large class	Yes	40	40%
		No	60	60%
3.	Continuous assessment help in identifying your problem in mathematics	Yes	100	100%
		No	0	0%
4.	Continuous assessment improves your academic performance	Yes	85	85%
		No	15	15%
5.	Continuous assessment minimizes examination malpractices	Yes	85	85%
		No	15	15%

From the table 1.0, 95% of the students agreed that continuous assessment is important while 5% sees continuous assessment as not important. Also, 60% of the students disagreed that large classes affect continuous assessment and 40% agreed that large classes affect continuous assessment. The table also shows that 100% of the students agreed that continuous assessment identify problems e exam malpractices.

in mathematics, none of the students disagree with that statement. 85% of the students admitted that continuous assessment helps to improve their academic performances while 15% disagree with that. Finally 85% of the of the students agreed that continuous assessment minimizes exam malpractices while 15% said it does not minimiz

**Table 2.0: Analysis of Responses for the items 4 and 5**

S/N	ITEM	FORMS/ NO OF TIMES	FREQUENCY	PERCENTAGE
1.	Forms of continuous assessment you are expose to	Test only	05	05%
		Assignment only	30	30%
		Class work only	05	05%
		Quiz only	00	00%
		Test Assignment and class work	60	60%
2.	Number of times you are expose to continuous assessment in a term	Once	10	10%
		Twice	10	10%
		Thrice	65	65%
		More than three times	15	15%

The table 2.0 shows that students are expose to three forms of continuous assessment (Test, Assignment and class work) because 60% admitted that they are expose to three forms continuous assessment while 5% said they are expose to test only, 30% assignment only, 5% class work only and none was exposed to

quiz. The table also shows the numbers of times the students are expose to continuous assessment. 65% of the students said they are expose to continuous assessment three times in a term and 10% once, 10% twice and 15% more than three in a term.

### Summary of the findings

From the results presented in this study, the following findings have been made:

- (i). Continuous assessment is regarded as a very important exercise since it constitutes about 40% of their total score for the term or session.
- (ii). Students are exposed to different tests, assignment, class work and many others which make up the continuous assessment. This is expected to improve their academic performance.
- (iii). Continuous assessment is very important as it helps students and teachers to identify their problems in the course of teaching and learning. It could also help to minimize examination malpractices.
- (iv). Continuous assessment is also expected to enhance students academic performance not in mathematics alone but also other subjects of the school curriculum.

The results of these findings agreed with other studies (Tafida, 2004; Black, P. and William 1998; Little, A. 1982).

### Conclusion

This study was to find out how continuous assessment facilitates students academic

Performance in mathematics. This was successfully done through the review of related literature and administration of questionnaire to randomly selected number of students drawn from five schools in Minna. Therefore, the use of continuous assessment should not be limited to secondary schools alone but all levels of education. This is because transformation of assessment is essential to the transformation of curriculum. Continuous assessment in mathematics is one response of new global realities as they shape the classroom. Therefore, continuous assessment is the key to all academic success, so it means to be taken very seriously of education most especially in mathematics which is the bedrock of all sciences.

### Recommendations

The following recommendations are important for the use of continuous assessment in our schools:

- (i). The National Examination Bodies such as WAEC, NECO, TCII and others should make use of continuous assessment to compute their candidates final scores.
- (ii). Questions given as continuous assessment should be well validated in order to encourage effective teaching and learning of the subjects.
- (iii). Teachers of mathematics should be committed and give numerous forms of assessments irrespective of the class size so as to enhance students' interest in the subject.
- (iv). Teachers should adequately address the problem areas identified through the continuous assessment given to the students. To enhance participation and understanding during teaching and learning process.
- (v). The use of continuous assessment should be made compulsory at all levels of education.
- (vi). Activities given as continuous assessment should be varied, for example, test, assignment, class work, and so on. This will take care of the individual differences in the class.
- (vii). Continuous assessment in most cases constitutes 40% of the total examination score for a term. This should be the same irrespective of education.

### References

- Alen, S.O. (1985). *Essential of Basic Mathematics Studies and Teaching*. Ibadan. University Press.
- Babatunde, S.T. (1998). A Functional View of Teaching and Testing of Writing Skills in Large Classes. In Otagboruagu, E.J. (ed) *Common Frontiers in Communication Skills: Focus on the Nigerian University System*. National University Commission. P47-52
- Baker, E.L. (1991). Trends in Testing in the United States of America. In S.H. Forthman and Malen (eds). *The Politics of Curriculum and Testing* P. 139-159.
- Black, E and William, D. (1998b). *Assessment and Classroom*

Learning. Assessment (in Education 5(1), 7-74.

Cone, J.D. and Foster, S.L. (1991). Training in Measurement: Always the Bridesmaid American Psychologists. 46(6). Pp 653-654.

Federal Ministry of Education (1985). A hard book on Continuous Assessment. Ibadan: Johnmote Printers.

Federal Ministry of Education (2004). National Policy on Education. Federal Government Press Lagos. (Revised).

Kelleghan, T. (1992). Examination in Africa Between Internationalization and Indigenization. I Eckstein M.A. and Noah, H.J. (ed); Examination Comparative and International Studies. Oxford: Paragon Press. Pg 124-144.

Alabi, S.O. (1987). Essential of Basic Mathematics Studies and Techniques. Ibadan. University Press.

Babarinde S.T. (1998). A Functional View of Testing and Testing of Writing Skills in Large Classes. In Ogunbayo, E.L. (ed) Common Frontiers in Examination Skills: Focus on the Nigerian University System. National University Commission. Lagos. Pp 7-21.

Baker, E.L. (1991). Trends in Testing in the United States of America. In: 2-4. Folstein and Miller (eds). The Politics of Curriculum and Testing. Pp 134-152.

Black, P. and William D. (1998). Assessment and Learning in Schools. London: Falmer.

Little, A. (1992). The role of Examination in the Promotion of Paper Qualification Syndrome. In Paper Qualification Syndrome and Unemployment Sub-regional Study. Addis Ababa International Labour Office 158-215.

Myen, A.D. (1985). Standardization and Junior Certificate Programme SIER Bulletin. 6,30-40.

Oxham, J. (1983). What Examination Test and Emphasize: Analysis of Lesotho Primary and Junior Examination in the Education Secondary Sector Survey Annexes to the Report of the Task Force, Masuru, Lesotho, Government of Lesotho.

Tafida, G.A. (2004). Continuous Assessment: A Panacea for Improved Academic Performance in English Language. Multidisciplinary Journal of Empirical Research Vol. 3 No. 2 (July 1).

Black, P. and William D. (1998). Assessment and Learning in Schools. London: Falmer.

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Recommendations

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