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(SSBA) FOR COGNITIVE LEARNING IN SENIOR
SECONDARY SCHOOL ECONOMICS.**

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SYSTEMATIC SCHOOL BASED ASSESSMENT (SSBA) FOR COGNITIVE LEARNING IN SENIOR SECONDARY SCHOOL ECONOMICS. ABSTRACT

This Study was designed to find out if the use of Systematic School Based Assessment (SSBA) could engender cognitive learning outcome in Senior Secondary Economics in Nigerian Schools, using Okene Local Government Area of Kogi State, Nigeria as sample.

Three hypotheses were formulated to address the problem of this investigation. Six senior secondary schools out of the twenty senior secondary schools in the area were randomly selected intact SS classes (1-3) were randomly chosen for the study.

Three synthesized teacher-made tests validated by the researcher were with reliability (test-retest) and validity (internal consistency) coefficients of 0.8, 0.73 and 0.68; and 0.66, 0.82 and 0.79 correspondingly for SS1 to SS3 respectively for both pre-test and post-test in the respective classes. Findings in the study include the fact that SSBA engendered significant improvement in the cognitive learning of students in SS Economics; assists students to master the art of examination and thus likely to help in reducing the incidence of examination malpractices; keep the students busy with their study and also helped both teachers and students to discover their areas of strengths and weaknesses and to take steps either meant to strengthen their areas of strengths and ameliorate their weakness for better teaching effectiveness and performances in cognitive learning. It was thus recommended that SSBA should be adopted and encouraged in secondary schools to engender improved learning, all stakeholders in the education industry should support the use of SSBA in our secondary schools, teachers should be trained in evaluation techniques among others.

INTRODUCTION

Assessment is primarily geared towards gathering the appropriate data on organizational or individual goal attainment, as no organization can exist without a goal (Afemikhe, 2005). Falayojo (2004) sees national assessment as describing the level of the achievement of the whole system or a clearly defined part of it and not just students. While USAID (2003) sees Continuous Assessment as a measure designed to ascertain the level of attainment of certain traits by learners with regards to knowledge, understanding and skills. However, a number of scholars agreed that school based (or continuous) assessment, if effectively carried out, can lead to improvement of learning outcome (of which cognitive achievement is a part) (Onuka, 2005, Onuka and Oludipe, 2005; Afolabi 2005; Adeoye and Okpala, 2005). Kola and Ojo (2005) posit the following as forms of school based assessment, which Adeoye and Okpala (2005) regarded as systematic assessment: class work; home work; practical work, assignments/projects; class texts; mid-term

examination, end of term examination and end of year (session) examination. It is widely believed by these scholars that school based assessment, as we like to call this form of assessment, is a useful and veritable tool of engendering improved student academic performance particularly the cognitive achievement, while Azcutia (1999) believes that assessment leads to the improvement of the assessed programme Umoru-Onuka (2005) sees systematic school based assessment as a variant of what is popularly called Continuous Assessment in Nigeria since it is a form of formative evaluation that would normally lead to correcting the individual student's deficiency in his academic pursuit as training progress. He also sees Continuous Assessment (CA) as measuring student's performance beyond the cognitive to include the affective and the psychomotor domains of learning as well. However, the scope of SSBA in the context of this study does not include the other domains apart from the cognitive. Ojerinde (2005) concludes that the fear of the public examining bodies in Nigeria about CA is the fact that CA's are not properly administered and honestly scored. The examining bodies therefore, have to standardize the scores sent to them from schools. If SSBA is carried out at the end of every topic, it is believed that it will drive seriousness into the students while the workload of accumulating topics before administering CA would be minimized and the mechanism of self correction and self-improvement gradually becomes the lot of the students as well as the teacher. Honestly in addition the scoring of CA or SSBA also becomes easier to handle.

Inefficient assessment has been identified as one of the obstacles to educational development not only in the West African sub-region but also in countries like Kenya and Hungary (Wosyanju 2005 and Matrai and Lukacs, 2005). However, in the training of teachers in Nigeria, only a little or next to nothing emphasis is placed on assessment or evaluation. The result is that most teachers are not versed in the science and art of assessment or evaluation, particularly in developing the appropriate instrument and in assessing appropriately (Okpala and Adeoye, 2005, Afolabi 2005 and Onuka, 2005). Nevertheless, as weak as the teachers are, Onuka (2005) found out that when assessment is carried out regularly, irrespective

of how weak the instrument is, it will lead to the improvement of the achievement of learning objectives. Therefore, the necessity to carry out further study cannot be over emphasized.

Assessment and Examination Malpractices

Examination malpractice has become a nauseating phenomenon in the Nigerian education system, thus posing a great threat to the standard of examinations in Nigeria and the acceptability of the worth of the certificates resulting from them. Examination malpractice, according to Adedokun (2003), may be defined to include misconduct or any other act not in consonance with the rules and regulations guiding the examination with a view to obtaining good result by fraudulent means. Examination malpractice has been a cause of great concern to the society to the extent that there had to be an enactment of the Examination Malpractices Act 33 of 1999 to deal with its societal menace. The West African Examinations Council also has kept a yearly record of cases of examination malpractice to buttress its prevalence in the polity.

Examination malpractice can be sub-divided into three: pre-examination, during examination and post examination. In the pre-examination category is the procurement of question papers prior to the date of examination. Malpractices during examination include, copying from another candidate with or without permission, impersonation, collusion by interested parties with invigilators and supervisors, intimidation of timid invigilator and supervisors, substitution of scripts of registered examinees with those done by mercenaries e.t.c. Others are bringing of unauthorized materials into the examination hall. These include cell phones. Watches with calculators, receivers linked to external transmitters hearing aid and external assistance from invigilators, supervisors, or hired persons. Post examination malpractices on the other hand include those traced to the full-time staff of the examinations council: like invigilators and supervisors unearned scores are substituted with earned ones, inflated scores are produced etc. Candidates with such ill-gotten grades get admission to the universities and other institutions of

higher learning where they are found to perform below expectation.

Examination malpractices has placed question mark on the quality of the Nigerian education system and thus its certification. Thus Uwadiae (1997), Bolarin (2002), Awanbor (2003) and Joint Admissions and Matriculation Board (JAMB) (2003) opined that the great emphasis on certificate as a means of employment or progress from one point to the other makes students more desperate to acquire certificates by all means thus culminating in examination malpractices. Ubhenin (2002) observed that either students cheat or parents help them to engage in examination malpractices because they want admission at all cost. While Souza (2004) was of the view that since teachers are poorly remunerated they are not interested in their work. This result in improper teaching, making the 'not-properly' taught candidates engage in examination malpractices.

Some studies on the subject in Nigeria, indicate that there are many causes of examination malpractices in the country, among which are students laziness, poor study habit and ill- preparedness for examinations, indolence on the part of parents, teachers, and the students themselves, and premium placed on certificates at the expense of actual skills acquisition non – completion of the syllabi (Awanbor, 2004; Onuka and Obialo, 2004; and Shonekan; 1993). Findings of some other past studies include the fact that classroom over-crowdedness lowers the output of the teachers, Insufficient number of qualified teachers and poor teaching method also lead candidates to participate in examination malpractices (Obemeata, 1991 and 1995; Olujuwon, 1999; Abe; 1999; Fafunwa. 1997; and Awanbor, 2003). Some other studies reveal that inadequate learning aids in schools, inadequate space, anxiety, fear and lack of confidence due to history of repeated failures are causes of examination malpractices in the country (WAEC, 2004; Program of Action, 1992; and Adedokun, 2003).

Umar (2004), JAMB (2003) and Taiwo (2004) observe that deteriorating societal values and peer influence as well as parents involvement in purchasing of live questions for their wards and

attempts to alter their wards' scores have aggravated malpractices in Nigeria. Yet other causes of examination malpractices is inadequacy of library books and/or lack of library at all as well as inadequate provision of textbooks for students by relevant stakeholders (WAEC, 2003). However, Ehon (2002) opines that some of the solutions to examination malpractices are improved commitment of parents and teachers to the students' educational development. The Daily Times Editorial (2003) suggests that improvement and expansion of infrastructures in schools, proper funding and improvement in teachers' remuneration and conditions of service will reduce examination malpractices in Nigeria. But Onyechere (2003) calls for harsher punishment on examination fraud sponsors, syndicates and centers involved in not only aiding and abetting examination fraud by students but also the beneficiary stating the need for the application of the relevant provisions of examination malpractices Decree 33 of 1999 on erring people as deterrent. This was also the contention of Onuka and Oludipe (2004), adding that with the political will to execute the commensurate punishment, exam malpractices would be a thing of the past. While Awanbor (2003) calls for the recruitment of people of high integrity and transparency as invigilators and supervisors as well as retraining of teachers on proper orientation of the students towards examinations.

Thus all hands must be on deck, all brains at work and all stakeholders at attention to be able to curb examination malpractices. In order to achieve this, Project Learning (PROLEARN) (2003) advocated intensive public enlightenment on issues relating to honest work and qualitative education. Awanbor (2003) recommends the organization of seminars and conferences, where the consequences on individuals, families, schools and the nation would be highlighted.

Assessment and Large Class Size

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 doubt 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 assessment and to everything that facilitate the process.

Thus, Anikweze (2005) opines that assessment methods could be improved for better schooling and learning. As such there is the need to device 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 as impetus for learning because this three – stage in the final analysis provides 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 subsequently on 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. 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. 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) found that Systematic School Based Assessment (SSBA) facilitates learning and the subsequent performance of the student. Umoru-Onuka (2005) felt that if the learning process neglects assessment it does so at its peril. Hence there is the 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 student learning and the subsequent achievement in junior secondary school Mathematics and English Language.

Feedback and Remediation of Poor Performance

The obvious purpose of formative evaluation is the academic

development of the students through the system of feedback mechanism. Some scholars (Yoloye, 2003; Umoru-Onuka, 2003; Hayman and Rodney, 1975) believe that feedback identifies the discrepancy between what ought and what is, and tell the nature of the difference between what ought and what is, as well as being meant to help to improve the educational system. Furthermore, Yoloye (2003) is of the opinion that formative evaluation, which is done systematically in order to remediate poor performance, is the obvious source of feedback. In a recent study, Umoru-Onuka (2004) reported that students were found to have tremendously improved, when feedback, which is the application of evaluation for improvement, was applied.

Feedback in essence, therefore, is the application of evaluation result for correcting any detected anomalies in students' performance. Feedback mechanism is multifaceted in the sense that it is given not only to the student, but also to parents or guardian as well as other stakeholders, including the proprietors of schools (the government or individual) for improving the entire school system. Feedback, according to Damachi (1978) is a system of control; it could in fact be used as a quality control system. There is no doubt, therefore, that feedback can certainly cause remediation to take place, since remediation is a corrective system intended to enhance and improve performance. The objective of this investigation was to find out the extent to which feedback mechanism resulting from formative evaluation could remediate student's poor academic performance in secondary schools using Mathematics and Economics.

Feedback on Students' Performance in Economics

Evaluation, according to Umoru-Onuka (2003), is a process that provides feedback for programme improvement and accountability. Hayman and Rodney (1975) opined that evaluation provides feedback with which goals can be compared to outcomes of a programme. According to them, feedback identifies the goals of a programme and indicates the nature and the actual outcome. Koontz, O'Dannell and Weirich (1980) see feedback as follows: Information

input into a system, transmitting messages of the system operation to indicate that it is operating as planned or otherwise or information concerning any type of planned operation relayed to the person responsible for the system improvement. However, Damachi (1978) posits that the object of feedback is to control a system output.

Ehindero (1986), Ray –Macaulay (1988) and Umoru-Onuka (2003) all contend that evaluation is a feedback mechanism. Yoloye (2003) supports this assertion when he argues that formative evaluation is done progressively in order to improve the educational system. He further states that tools of academic feedback are actually the data (information) provided by Continuous Assessment, tests and the measurement of attitude of individual students. Feedback would be a mirage if the data obtained by the use of the tools from evaluation enumerated above are not utilized to improve the students' performance academically. Thus, feedback mechanism is meant to improve outcomes including better student academic performance. In normal situations, a guidance counsellor would be expected to use such data to assist the students to improve their total beings. Thus, evaluation of students' achievement and the resultant feedback are geared towards enhancing students' performance and the guidance counsellor must use it to assist him in helping to improve him. It might be advisable that if there is no guidance counsellor, responsible teachers should be designated to do the job for effective feedback application, so as to enhance the achievement of educational objective as predetermined by stakeholder in the industry.

When there is discrepancy between intended and actual occurrence, one needs to find out, what went wrong, the outcome of such investigation, which is then put back into the system for the purpose of improvement. Such feedback is then regarded as feedback. When there are set national educational goals, evaluation and the resulting feedback reveals whether or not these set goals are being achieved. Here information concerning any type of planned instruction is relayed to the teacher responsible for executing such planned instructions in order to help achieve such goals as well as improve the educational system. It implied here that feedback is a systematic

process whereby, periodic data is provided on how a system had fared or operated. In the school system, feedback shows how effectively or otherwise the educational system has operated. It reveals whether or not the intended outcome of teaching/learning is the actual outcome. It also shows what went wrong as the cause of the discrepancy, and how this can be ameliorated. Thus, testing a new method of teaching and learning is a feedback on the workability of the new method. According to Wiggins (1998) feedback is neither encouragement nor criticism, but a piece of information on the result of one's action.

Umoru-Onuka (2003) asserts that feedback can be described as a process of coupling parts of an output of a system, because a unit output of a process at one stage becomes an input to the next stage of the process and can thus be used to improve the latter stage. For Keith and Gubelleni (1975), feedback is the capacity of a machine (or system) to evaluate its own performance and then use the result to correct it wherever a deviation from plan has been observed. Thus, feedback implies that an output could return to the system as input for corrective purpose. Oneitan (Umoru-Onuka, 1996) contends that feedback from past products of an educational programme form basis for course/curriculum development in educational programme. Wiggins (1998) also views feedback as an essential part of a complete learning system. Feedback mechanism is therefore a system which compares outcome with a given criterion. Damachi (1978), and Jha, Ghosh and Hehfa (2006) contend that the object of feedback mechanism is control, and control leads to system improvement since the need to know about feedback and its use would enhance its effectiveness. Therefore, a feedback mechanism can be described as a means whereby provision is made for self-corrective measure to improve the system.

According to Yoloye (2003), there are two main types of evaluation: formative and summative. The former is carried out as a programme progress in order that a corrective measure could be taken to rectify any deviation from original plan. The latter is carried out at the end of a course or project or programme for appraisal purpose and of course to pass judgment on the worth of the programme. Yoloye (2003)

defines formative evaluation as an evaluation carried out at the beginning, progressively and at the end of a unit of a course, a project or programme. He further asserts that it is used to effect correction where error had occurred and for modification of the programme if necessary. Continuous assessment, which is a series of tests, designed to assess the students' cognitive achievement at regular interval is the most readily used tool for formative evaluation in education. This is a means of feedback mechanism. Evaluation is carried out in every aspect of an educational programme: planning and execution of curriculum, instructional, strategies, facilities as well as the instruction itself to keep them on track. This is done through the resultant feedback from the evaluation process. The importance of feedback mechanism cannot be overemphasized as it keeps the teachers and the learners on their toes and makes them work harder. Abe (1999) defines formative evaluation as one undertaken during the developmental process of a programme for the purpose of guiding and assisting programme improvement. He states that it could be used to monitor students' progress during classroom instruction (a situation whereby the teacher questions the students in order to ascertain level of absorption of the content taught), to pace the students' learning Programme/activity (as in the case of Continuous Assessment) and to control the quality of the educational product. For Abe (1999), Summative Evaluation, on the other hand refers to all evaluation, which aims at determining the worth of a programme when completed. The purpose of summative evaluation, therefore, is decision making about a programme's future. The major tool for feedback is formative as defined above.

Economics, which is the study of human behaviour in relation to the production and distribution of scarce resources, has become a subject that almost every student in Nigeria registers for in the SSCE every year. It is increasingly becoming popular. It is, thus, important that study to improve students' performance in subject be carried out especially that it is required for many social and business sciences at the tertiary institutions (UME, 2006). Onuka and Oludipe (2004) found that feedback given to students on their performance can remediate poor performance in economics. The West African

Examinations Council Chief Examiners' Report (2003) indicates that although performance in Economics had been just fair, yet it could have been better if the candidates could do better in the mathematical / statistical aspect of the subject. The report also indicates that the candidates are unable to draw and label diagrams well and that they often misinterpret questions. An undated WAEC statistics on student performance in Economics show that credit passes recorded from 1994 to 2004 were: 27.9%, 15%, 19.6%, 14%, 22%, 21.7%, 35.4%, 28.2%, 22.3%, 42.98% and 38.2% respectively. This result implies that much is still left to be desired in the performance of students in SSCE Economics, unless the performance level was improved. These students' shortcoming could be ameliorated if they are tested regularly and given feedback on their performance. It is the contention of authors, that feedback to students on such development would assist them to work harder to overcome the detected weakness. Xun and Susan (2003) are of the view that scaffolding and social interaction, a consequence of feedback, influences learning by the educand. Jha, Ghosh, and Mehta (2006) posit that feedback does promote learning, thus agreeing with the argument of Balogun and Abimbola (2002) that group learning, which could result from feedback mechanism, does assist to facilitate higher student achievement. It is the contention of these scholars that feedback promotes student learning in any subject. Hence, the need to further establish the claim of scholars on the influence of feedback and academic performance of students particularly in economics. A careful synthesis of the studies above proved that Systematic School Based Assessment could help in better assessment of large classes.

Statement of the Problem

The objective of this investigation was to find out whether or not continuous or systematic administration of school-based assessment would be a good tool for improving the student's cognitive achievement in Senior Secondary Economics.

Hypotheses

The following hypotheses were posed to provide answers to the problem of the study:

- H₀₁: There is no significance difference in the cognitive achievement of the Systematic School Based Assessment (SSBA) students group and those in the control group SS1 Economics.
- H₀₂: There is no significant difference in the cognitive achievement of the SSBA student group and the cognitive achievement of the control group SS2 Economics.
- H₀₃: There is no significant difference in the cognitive achievement of the SSBA student group and that of the control group in SS3 Economics.

METHODOLOGY

The design for the study was the pretest-post-test experiment-control groups' research. This was done for each of the subject area investigated by this inquiry.

Sampling and Sample

Random sampling technique was used to select six senior secondary schools from the twenty Senior Secondary Schools in Okene Local Government Area (LGA) of Kogi State, Nigeria. All Senior Secondary Classes (one to three) were respectively (one of these classes) randomly selected for the study in order to find out how the students were systematically adequately equipped in the study of Economics. Thus, there were three experimental and three control groups respectively. This is depicted in the following table.

Table 1: Sample

School	Class	Subject	Sample size	Remarks
A	SS II B	Economics	58	Experimental
	SS II E	Economics	57	control
B	SS II A	Economics	60	Experimental
	SS II F		62	Control
C	SS II A	Economics	60	Experimental
	SS II D	Economics	52	Control

- Classes were used intact.

Instrument

Guided teacher-made tests in Economics were synthesised by the researcher which was then validated with reliability (test-retest) and validity (internal consistency) coefficients of 0.8, 0.73 and 0.68; and 0.66, 0.82 and 0.79 correspondingly for SS1 to SS3 respectively for both pre-test and post-test in the respective classes. The researcher trained the teachers in the principles of test construction and simple but accurate test scoring system. He also supervised the administration of the tests with the assistance of his doctoral student in the field of evaluation.

Treatment

The experimental grouping each school was placed on Systematic School Based Assessment treatment in the subject taught in that school. They were taught a topic for each week for six weeks and were equally assessed on each topic in the week that it was taught. While the control groups were taught the same topics but not assessed on weekly basis. Both groups had pre-test in the subject of interest in the school with no treatment. In each of the schools the same teacher taught the same topics in both classes. Having been trained on how to develop and administer tests, the teachers developed, administered and scored the students on their test. At the end of the six weeks a post-test was administered on each group as appropriate also by the

teachers. The researcher collated these various results before statistically determining the gain or otherwise of the experiment.

Data Analysis

Data collected was analyzed using means, standard deviation and t-test statistics.

PRESENTATION OF THE RESULTS

Table 2: Interest comparison of the students on pre-test/post test and gain series

Test	Treatment group	N	Mean	SD	T-value	School	Remark
Pretest	(a) Experimental	58	51.80	3.32	1.44 NS	A	Economics
	(b) Control	57	51.70	3.11			
Post test	(a) Experimental	58	61.20	3.61	10.25*	A	Economics
	(b) Control	57					
Pre-test	(a) Experimental	60	51.70	3.01	2.45N	B	Economics
	(b) Control	62	49.91	3.21			
Post test	(a) Experimental	60	81.30	4.01	14.54*	B	Economics
	(b) Control	62	56.01	4.11			
Pre test	(a) Experimental	60	49.51	4.10	2.01NS	D	Economics
	(b) Control	52	51.87	4.21			
Post test	(a) Experimental	60	79.77	3.91	16.31*	D	Economics
	(b) Control	52	53.28	4.01			

NS = NOT SIGNIFICANT * = SIGNIFICANT

Table 4.1 shows that for each of the subject and school there was significant difference between the cognitive achievement of the SSBA (experimental) group and the cognitive achievement of the control group in each SS1 Economics, SS2 Economics, SS3 Economics.

Table 3: Achievement gain by each group up

School	Treatment	N	Mean	SD	T-value	Subject
A	(a) Experimental	58	3.33	1.15	14.987*	Economics
	(b) Control	57	1.97	1.03		
B	(a) Experimental	60	4.55	1.91	15.071*	Economics
	(b) Control	62	4.01	1.91		
C	(a) Experimental	60	4.51	2.01	13.898*	Economics
	(b) Control	62	3.01	1.07		

Achievement gain by the experimental groups over the control groups in the study is significant as shown in table 4.2. The gain by each of the experimental group was found to be significant while the gain by each of the non-experimental was not significant.

DISCUSSION

Results in table 2 and 3 show that there were significant differences between the cognitive achievement by the experimental groups and those of the students in the control groups who did not receive the SSBA treatment in all the subjects and schools involved in the study. This implies that SSBA application can significantly affect cognitive achievement of students 'centeris paribus'. The implication of these results is that all the null hypotheses were rejected while the alternative hypotheses that the differences would be significant were accepted. These differences in cognitive achievement between both groups, which are significant, confirms the finding of Adeoye and Okpala, (2005) that impact of systematic assessment procedure on physics achievement was significant, and also the conclusion of Osunde (2005) that assessment is relevant in promoting learning. It also conform to the view of USAID (2003) that it helps to determine level of attainment, which could lead to ameliorating deficiency Onuka and Oludipe, (2005). These results also conform to an earlier finding by Umoru-Onuka (2005) that CA facilitates the improvement of student's academic performance. The results also corroborate the assertion that CA exercises build up the student towards facing examinations confidently (Naaleh, 2002), if the scores are not

arbitrarily awarded (Chikewe, 2002) and reduces examination malpractices (Onunkwo, 2002). But SSBA is more systematic and being restricted to the cognitive domain, it will facilitate the confidence building process and will in turn build up the student in the affective as well. It could thus be inferred from the results of the study that SSBA programme in the schools especially the Senior Secondary Schools in Nigeria would be effective in achieving learning objectives in the cognitive domain, and thus form the baseline for transition from the second level of education to the next level. Therefore, the programme can prepare the students for future educational endeavour, where they would be required to engage in more self-educating exercise. This is so because SSBA result would have given them feedback in their areas of strengths, which they could further develop, or of weaknesses, which they will strive to overcome. SSBA results will also assist the teachers to detect their own strengths and weaknesses for further strengthening or amelioration. This would culminate in making them better teachers in order to improve the entire school system and by extension students' cognitive achievement. It will thus assist in reducing the incidence of examination malpractices in the Nigerian school system as well as the examination process of the nation.

Implications

The implications of these findings are that in spite of the heavy workload involved in implementing CA or in the reformed sense SSBA (Kolo and Ojo, 2005), it is a very useful way of keeping both the teacher and the student on their toes. This, in turn, facilitates achieving the objectives of cognitive learning. Also implied in the findings is the fact that its implementation requires heavy capital outlay in terms of amount of stationeries and time such exercise would consume. It is equally sure to spread the workload over a longer period of time, as it is expected to be done for topic taught, because of its systematic nature, which eliminates accumulation of workload. It builds up the student's confidence towards examination as practice culminates in perfection. More fund is required to execute the programme in the Nigerian school system.

Summary of the Findings

The main findings of this study include:

The fact that there was significant improvement in the performances of the three experimental classes where the treatment was given to the students compared to the control groups.

Students were kept busy because the feedback resulting from SSBA assisted them to discover their areas of strengths and weaknesses, which they either strove to strengthen or ameliorate.

Teachers also discovered their own areas of strengths and weaknesses, which they also strove to improve or ameliorate.

The SSBA programme if pursued with all seriousness that it deserves will positively promote cognitive learning outcome.

Implementaion of the SSBA programme implementation can assist in reducing the incidence of examination malpractices very significantly, as students become more used to techniques of answering questions and are also prepared for the purpose the implementation of SSBA.

SSBA will assist teachers to discover both their strengths and weaknesses and to either improve them or assist to improve their areas of strengths for more teaching effectiveness.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study has shown that SSBA programme could be a veritable instrument of improving cognitive achievement of the students and in turn could engender good teaching and learning to facilitate improved learning and thus the production of the appropriate manpower for the sub-region. In fact regular administration of SSBA

would reduce truancy, which is often rampant in the school system. What is obviously needed to make the SSBA programme work effectively well is honesty on the part of the main implementers of the programme, proper funding of the school system, adequately trained personnel and school managers who are devoted to duty as well as high level of commitment to the programme by all other stakeholders.

Recommendations

Therefore, the following recommendations were made:

All stakeholders should place high premium on SSBA programme, by getting committedly involved in its evolution and implementation.

By implication, funds must be made available to the sector to execute the SSBA programme in all schools not only in Nigeria but in all of the West African sub-region.

Evaluation which include measurement and assessment must be made a substantial part of the teacher education curriculum in Nigeria and indeed in all of West Africa.

All teachers must undergo a course of study in evaluation as well as regularly attend courses/seminars in evaluation to constantly keep abreast with new development in the field and thus update their knowledge of assessment.

Teachers should be given all the necessary inducement to carry out SSBA programme in their schools as commitment to this exercise would take much of their private time.

Computation of SSBA scores should be done by a programmer employed for that purpose only. This will relieve teachers of some of their burdens and free them to concentrate on other aspects of teaching.

That all stakeholders must be educated on its essence, while parents should be advised to encourage their wards to participate fully in the programme in order to realize its objective of improving cognitive achievement and other educational outcomes.

Policy makers should evolve a workable plan for sincere and committed execution of the programme.

The examining bodies should evolve a uniformed method of standardizing scores arising from SSBA for incorporation into final school results at that level.

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