

## **AFRREV STECH**

An International Journal of Science and Technology  
Bahir Dar, Ethiopia

Vol. 2 (1) January, 2013:125-144

ISSN 2225-8612 (Print)

ISSN 2227-5444 (Online)

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### **Information and Communication Technology and School Based Assessment: Challenges for Sustainable Development**

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#### **Abstract**

*Information and Communication technology and school based assessment (SBA) is practice that broadens the form mode, means and scope of assessment in the school using modern technologies in order to facilitate and enhance learning. This study sought to ascertain the efficacy of Information*

*and Communication Technology (ICT) in SBA. The study was a descriptive survey carried out in Anambra State. The sample comprised 110 head-teachers, 45 staff of local government authority and 660 teachers, giving a total of 815 respondents. Stratified random sampling due to location and nature of job were used to select the sample. Four research questions and three hypotheses guided the study. The instrument used was a 41-item questionnaire developed by the researchers. The instrument was validated. Internal consistency was computed using Crombach alpha for the four sections thus; section A = 0.83, section B = 0.91, section C = 0.88 and section D = 0.79. The instrument was administered and data collected. The instrument was used to collect data. The data collected were analysed using means for research questions and analysis of Variance (ANOVA) for hypotheses at 0.05 level of significance. The result showed among others that ICT is very useful in SBA and all primary schools be provided with ICT facilities and that teachers should be computer literate for sustainable development.*

**Key words:** Information and Communication Technology; E-Assessment; Continuous Assessment; School-Based Assessment (SBA) and Sustainable Development

### Introduction

Assessment is a process by which the attainment of completeness and skills that a subject or course of study is designed to foster in learners is determined. Assessment is defined by Ugodulunwa and Dadugghum (2003) as a systematic process of determining the extent to which teaching has influenced the behaviour of learners. This definition is applied mostly at the classroom level. According to Onunkwo (2002), three things are considered in classroom assessment: These are:

- i. Ways students perform different tasks in different things;
- ii. Meaning of students' performance in terms of the total functioning of each student; and
- iii. Likely explanation for the observed performances

Educational assessment at the three levels of education is very important because of sustaining good educational standards. The demand is that teachers should perform their duties in a manner that would yield results acceptable to the public for justifying the huge investment in education.

Primary education is the foundation on which secondary and tertiary levels of education are built. Adequate care should be taken to lay a solid foundation in primary schools with regards to teaching and learning processes to produce intellectuals at this level for continuity.

The education sector in Nigeria is faced with a number of reforms. Assessment is no doubt a unique part of this reform. There is need to evolve new, effective and more practical ways of measuring, evaluating and reporting students' progress towards the various targets and learning goals particularly those contained in the Education for all (EFA) document, the Millennium Development Goals (MDGs) and as enunciated in the Universal Basic Education (UBE) policy.

Most of the existing literatures on the assessment of pupils' performance indicate that it is unfair to assess pupils using only one shot examination, which often comes at the end of a learning cycle (Ifeakor and Anekwe, 2008). Credit should be given for learning outcomes expressed in multiple ways and formats. Pupils' achievement should also be assessed at various stages of the learning cycle. It is in recognition of this significant role of assessment that the National Policy on Education entrenched School-based assessment (SBA) and stipulates that it forms 40 percent of overall assessment.

Assessment is a systematic process of determining the extent to which instructional objectives are successfully imparted on pupils, this could be formally or informally. It is implicit to human. Good and bad, white and black, long and short, positive and negative are pointers to assessment. SBA is a comprehensive, systematic, continuous, diagnostic and integrative teacher-integrated assessment procedure which originates from the classroom situation requiring active participation and involvement of pupils, with emphasis on learning, rather than excessive dependence on scores and grades. Its main objective is the assessment of students to facilitate learning (Oviawe and Ojo, 2008).

Continuous Assessment (CA) is a form of SBA (National Teachers Institute (NTI), 2007). Here, students are assessed several times and at intervals in the three domains of learning – cognitive, affective and psychomotor using any of the following techniques: tests, projects, observations, questionnaires and interviews. For the purposes of decision – making about an individual and guidance, results of these assessments are recorded and continuously kept. It

provides the teacher the opportunity for identifying the needs of each pupil and how these needs can be satisfied. The combination of CA and end of course assessment results gives a more detailed picture of the abilities and characteristics of pupils.

SBA could also be seen as an assessment practice that broadens the form, mode, means and scope of assessment in the school in order to facilitate and enhance learning. Since the ultimate purpose is to promote learning, the assessment base is broadened to include not only the teachers but also all significant others that impact on the child's readiness, capacity and interest to learn. These include the subject teachers and other teachers, class peers, parents, relevant education agencies (such as school inspectors) and of course, the child. All these people are incorporated into the assessment process to support, motivate and encourage the child on what to learn and how to steadily make learning progress (NTI, 2007).

The other major component of SBA is the expansion of the mode and means of assessment. While written test in its different formats still play a prominent role, more attention is given in SBA to assignments, homework, projects, group work and portfolio. All the elements of continuous assessment such as planning, previous assessments, providing pupils prompt feedback and use of variety of tests (oral, written and performance) are incorporated into SBA.

Trends in SBA espouse the continuous exploration and uses of computers in assessment. Traditionally, computers were used to score tests, analyse test results and report scores. Today, they are being used to construct and administer test as well as to present different assessment formats for learners in a multimedia setting, maintain and monitor learning progress. With the rapid advances in technology, assessment practices are different from the traditional paper and pencil tests.

Information and Communication Technology (ICT) is a new concept that adopts the use of technology for development. It is defined by Beeka (2004) as the computing and communication facilities and features that variously support teaching, learning and a range of activities in education. The ICT activities include broadcast materials; microcomputers and other devices to teach literacy and writing; devices to facilitate effective communication skills; electronic toys to develop spatial and psychomotor skills; e-mail to support writing of letters and resources sharing; integrated learning system to

teach basic numeracy; communications technology to enhance administrative and assessment data. ICT comprises the functions of developing concepts, acquiring, testing, implementing and maintaining of systems such as database application and procedure used by organizations or schools to capture; store goods and services, retrieval, transfer of knowledge to others and information dissemination (Ugboduma and Obenobe, 2006).

Computer can be used to manage the instructional process, administer diagnostic test, score, prescribe the appropriate next steps, monitor the progress of each student and keep records. Computer has multi-purpose uses, versatile, creative, flexible and programmable. It can be used in typing and printing out question papers for assessment. Computer with optical mark reader can be used in scoring multiple choice items. As an examination question bank, it is capable of storing examination questions for future use. It can be used in transmission of examination materials among and between centres. This helps in checking leakage of question papers (Dimson, 2007).

Sequel to the above and the introduction of SBA in primary schools, computers are used for test construction; e-assessment; record keeping; provision of e-portfolios, e-marking and the monitoring of learning progress. According to NTI (2007), computers can be used to construct, print analyse and score tests. Computers can aid test construction through item banking. An item bank is a collection of test items of various formats and difficulty in different subjects' area. Item banking involves storing test item files in the computer which are retrieved for preparing classroom tests at a later date.

E-assessment involves on-line administration of tests or other forms of assessment on respondent. Primary school pupils can be presented with test items by using the keyboard accordingly. Computers can be used for the assessment of different learning abilities. E-assessment could also utilize the various assessment tools and techniques (essay, short answer, multiple choice, projects, work portfolios). After administering the test, the computer can still be used to score the test and arrange the scores in different ways. Electronic scoring would go a long way to help a teacher from the time consuming task of scoring test responses.

Underscoring the import of the use of ICT in SBA, Ifeakor , Njelita and Udogu (2008) note that e-portfolio work is one which allows both teachers and pupils the ability to save samples of writing, artwork, projects, mathematical solutions and so on in a multimedia format (text, pictures,

sound and video) along with learners' reflection and self-evaluation of end products. Primary school teachers could source for and use e-portfolio for assessing classroom instruction and learning. Some of these programmes are interactive and include writing samples, oral communication skills and standardized achievement tests of varied abilities, levels and competencies.

With the introduction of CA and its subsequent SBA, record keeping is a big burden for teachers where a teacher has to assess over 45 children in ten or eleven subjects, as is presently the case in our primary schools. This burden can be cushioned by the use of specialized computer records keeping programme (e.g. e-grade books) that can store many types of information about learners. E-grade books are designed to store pupils' test scores, project grades, homework, assessment profiles and teacher judgements. The programme can assign weights to the different assessment components – cognitive, affective, psychomotor – and compute the pupils' overall score based on a given formula. Parents who have appropriate computer knowledge can have access to their children's grades and teachers' comments. This can be possible where e-grade book programmes have parent access options.

Further, Ezendu (2006) states that e-marking ensures originality and ease of marking. Large classes can be assessed and with web-based assessment, results are released in a very short time. This will make pupils receive feedbacks about their success or failures within a short time. All stakeholders of education ought to facilitate provision of enabling environment for effective implementation of e-marking procedures in Nigerian primary schools. The infrastructural facilities (both hardware and software) for the implementation should be put in place ICT when adequately applied in SBA with all the facilities needed would invariably enhance assessment, feedback and educational outcomes and subsequently bring about sustainable development.

Sustainable development can be broadly defined as the ability of the economy to support the needs of the people of a country over time, taking into consideration the economic, social and ecological constraints of the country. Underlying this concept is a "sustainability requirement", demanding that the fulfilment of the needs of the present generation should not compromise the ability of future generations to meet their own needs.

Education for sustainable development represents a catalytic process for social change that seeks to foster through education, training and public awareness the values, behaviour and lifestyles required for a sustainable future (Ogunleye, 2007). It is about the learning needed to maintain and improve our quality of life and the quality of life of generations to come. Also, it requires equipping individuals, communities, groups, business and government to live and act in a sustainable manner as well as giving them an understanding of the environmental, social and economic issues involved. In a prevailing world of information age, we must ensure that our primary school teachers and pupils know how to access and effectively use ICT. By so doing, we would have succeeded in building a sustainable primary education using ICT in SBA.

In other to ensure the use of ICT in SBA, teaching and learning should be restructured to be in line with the global trend (Akudolu, 2002). This paper has therefore set out to identify ICT applications in SBA and to ascertain the efficacy of ICTs in SBA. It might be that the primary school teachers in Anambra state are still using one short examination for pupils' assessment. Perhaps, many teachers do not have the wherewithal in the use of modern technologies in SBA. Again, the researchers are skeptical whether the primary school teachers are also fully aware of the strategies for tackling the constraints to the use of ICTs in SBA.

It is against the above background that this study desires to examine the efficacy of ICT in SBA in Nigerian primary schools and how this would ensure sustainable development. The pertinent question at this point is: What are the efficacy of ICT in SBA and the constraints of the use of ICT in SBA? Providing answers to these questions are the thrust of this study.

### **Purposes of the Study**

The general purpose of the study is to ascertain the efficacy of ICT in SBA in primary schools and the constraints to the use of ICT in SBA. Specifically, the study seeks to:

1. Identify the probable and most needed areas of ICT applications in SBA
2. Ascertain the efficacy of ICT in SBA
3. Determine the constraints to the use of ICT in SBA

4. Identify the strategies for tackling the constraints to the use of ICT in SBA

### **Research Questions**

This study is guided by the following research questions:

1. What are the responses of supervisors of schools, head teachers and teachers application of ICT in SBA?
2. What the responses of supervisors of schools, head teachers and teachers to efficacy in the use of ICT in SBA?
3. What are the responses of supervisors of school, head teachers and teachers to constraints in the use of ICT in SBA?
4. What are the responses of supervisors of schools, head teachers and teachers to the strategies for tackling the constraints to the use of ICT in SBA?

### **Null Hypotheses**

The following null hypotheses are formulated and tested at  $p < 0.05$ .

- H<sub>01</sub>: There is no significant difference in the responses of supervisors of schools, head teachers and teachers on probable and most needed areas of applications of ICT in SBA.
- H<sub>02</sub>: There is no significant difference in the responses of supervisors of schools, head teachers and teachers on the efficacy of ICT in SBA
- H<sub>03</sub>: The mean responses of supervisors of schools, head teachers on the constraints to the use of ICT in SBA would not differ significantly.

### **Research Methodology**

#### *Design of the study*

The study adopted a descriptive survey research design which sought information from respondents without the manipulation or any variable.

#### *Area of study*

The study was carried out in the 21 local government education authorities (LGEAs) in Anambra State.

#### *Population of the study*



The target population consisted of 12,540 primary school teachers, 979 head teachers and 279 supervisors of schools in the 21 LGEAs of Anambra State (ASUBEB, 2008).

#### *Sample and sampling techniques*

The sample comprised 660 primary school teachers, 110 head-teachers and 45 supervisors of schools in the LGEAs giving a total of 815 respondents. Stratified random sampling due to location and nature of job were used to select the sample.

#### *Instrument for data collection*

The instrument for data collection was a 41-item questionnaire developed by the researchers. The instrument comprised four sections. Section A is designed to elicit responses on the areas of application of ICT in SBA: Section B is on the efficacy of ICT in SBA, Section C is on the constraints to the use of ICT in SBA and Section D is on the strategies for tackling the constraints to the use of ICT in SBA. The respondents are required to state their degree of agreement or disagreement on the item statements. The weight of the responses are Strongly Agree = 4; Agree = 3; Disagree = 2 and Strongly Disagree = 1.

#### *Validation of the instrument*

The instrument was face validated by two lecturers in measurement and evaluation from Nnamdi Azikwe University, Awka Anambra State. The lecturers, after examining the instrument, made some corrections on precision of items and ambiguity of statements. These corrections were effected in the final draft of the instrument.

#### *Reliability of the instrument*

The reliability of the instrument was computed using the responses from four supervisors of schools, ten head teachers and 30 teachers from Ideato North LGEA of Imo State. Data collected were computed using Cronbach alpha. Internal consistency of the instrument was obtained as: Section A = 0.83; Section B = 0.91; Section C = 0.88; and Section D = 0.79. The reliability coefficient values were considered appropriate for the study.

### *Method of data collection*

The researchers were assisted by six research assistants to distribute questionnaires to the supervisors of schools, head teachers and teachers. The questionnaires were collected on the spot thereby ensuring 100 percent retrieval.

### *Method of data analysis*

Mean scores were used to answer the research questions. The acceptable level of mean score was 2.50 and above. The hypotheses were tested at 0.05 level of significance using analysis of variance (ANOVA) statistics.

## **Results**

The results were presented according to the research questions and hypotheses in Tables 1, 2, 3, 4, 5, 6 and 7.

Table 1 shows that all the respondents agree the areas of application of ICT in SBA. All the items scored mean of 2.50 and above. It shows that in SBA, ICT could be used, among other things, to administer test, scores tests, monitor and encourage students' learning habits, keep and transfer information about assessment to schools.

Table 2 reveals that all the items were rated 2.50 and above by all the categories of respondents. This indicates that ICT is capable of producing the right result in processing storage and retrieval of information. ICT gives immediate feedback; unveil strengths and weakness of both teacher and pupils. Amongst all, the speed with which information is processed and the accuracy of using ICT in SBA were also considered as efficacy of ICT in SBA by the respondents. The application of ICT in SBA if fully implemented would bring sustainable development in the primary education system.

Table 3 indicates that the respondents agreed to all items as constraints to the use of ICT in SBA. By this, the respondents considered lack of computers and Internet connectivity; lack of fund, lack of computer literacy, lack of steady power supply among others as the impediments to the use of ICT in SBA.

**Table.1: Mean Responses of supervisors of Schools, Head Teachers and Teachers Application of ICT in SBA**

Areas of Application of ICT in SBA	Supervisors of Schools $\bar{X}$	Head Teachers $\bar{X}$	Teachers $\bar{X}$
Administer all types of tests including diagnostic test.	2.88	2.71	2.91
Process pupils scores	2.91	2.92	2.74
Monitor the progress and study habits of each pupil.	3.45	3.32	3.65
Keep records of pupils' assessment	3.91	3.81	3.65
Marking of pupils' scripts.	3.15	3.25	3.45
Used in typing and printing question papers for evaluation	3.29	3.24	3.39
Computer with optical mark reader can be used in scoring multiple choice items	3.70	3.89	2.56
As an examination question bank, it is capable of storing examination questions for future use.	3.70	3.89	2.56
ICT is very useful in transmission of information about assessment to different schools.	3.49	3.69	3.75
Computer can also be used to detect impersonator through cross matching the photograph and thumb print of the suspects in examination malpractices	3.87	3.71	3.54
With Internet information about the evaluation of instructional outcomes could be accessed through scratch card.	3.96	3.98	3.88
<b>Grand Mean</b>	<b>3.42</b>	<b>3.39</b>	<b>3.31</b>

**Table 2: Means Respondents on the Efficacy of ICT in SBA**

The Efficacy of ICT in SBA	Supervisors of Schools $\bar{X}$	Head Teachers $\bar{X}$	Teachers $\bar{X}$
ICT gathers information about each pupils' performance.	3.69	3.54	3.80
Processes the data of SBA	3.80	3.88	3.00
Storage of results, e-portfolio in SBA	3.70	3.69	3.56
Retrieval of information when needed as well as effective way of reporting pupils' performance to parents and other stakeholders	3.35	3.68	3.74
Gives immediate feedback about pupils' performance to students, teachers and parents.	3.91	3.87	3.71
Helps to unveil the effectiveness of teaching and learning, strengths and weaknesses as well as provide remedial actions which lead to better results	3.90	3.16	3.54
ICT helps to create objectivity in scoring	3.47	3.65	3.54
ICT is very useful in reports on pupils' achievement and development, hence provides basis for guidance and counselling	3.00	3.21	3.49
ICT is relevant for security and confidentiality of SBA records.	2.66	2.82	2.74
ICT helps in the analyses of collected data using database	2.66	2.87	2.94
Rapidity of operation, i.e. the speed at which ICT performs saves a lot of time for teachers especially with large classes.	3.37	3.49	3.64
There is high level of accuracy in using ICT facilities for SBA	3.16	3.54	3.62
<b>Grand Mean</b>	<b>3.39</b>	<b>3.43</b>	<b>3.45</b>

**Table 3: Means of Respondent on the Constraints to the Use of ICT in SBA**

Items	Supervisors of Schools $\bar{X}$	Head Teachers $\bar{X}$	Teachers $\bar{X}$
Lack of computers in most primary schools	3.70	3.80	3.41
Lack of Internet connectivity in most primary schools	3.90	3.56	3.44
No ICT centre or laboratory	2.99	3.00	3.25
Lack of understanding of the rationale of ICT in SBA by primary schools teachers.	3.50	3.56	3.81
Lack of computer literacy among primary school teachers	3.44	3.54	2.69
Lack of competencies in the use of ICT facilities for data analysis by primary school teachers	3.82	3.78	2.98
Lack of awareness of the importance of information from data in planning and decision making	3.44	3.20	2.87
Lack of adequate funding of primary schools for the provision of ICT facilities and Internet connectivity.	3.18	3.96	3.40
Lack of steady power supply or standby generators.	3.67	3.82	3.94
Lack of steady monitoring and supervision of teachers and school activities to ensure quality of products.	2.61	2.71	2.59
<b>Grand Mean</b>	<b>3.43</b>	<b>3.49</b>	<b>3.24</b>

**Table 4: Means of Respondent on the Strategies for Tackling the Constraints to Use of ICT in SBA**

Items	Supervisors of Schools $\bar{X}$	Head Teachers $\bar{X}$	Teachers $\bar{X}$
The teacher is the most important of all the resources needed in SBA, therefore the teacher should be computer literate.	3.47	2.78	2.72
Workshops, seminars, conferences should be organized by government for teachers on the use of ICT in SBA.	3.44	3.21	3.56
Teachers should be sponsored to avail themselves of attending staff development trainings.	2.98	3.49	3.68
Rationale for ICT in SBA should be adequately x-rayed	2.96	2.97	3.98
Improved competency for the use of ICT in SBA.	2.74	2.81	2.77
Adequate fund for the provision of ICT facilities and Internet connectivity.	3.95	3.97	2.98
Steady power supply or standby generators	3.52	3.75	3.95
Adequate monitoring and supervision on the use ICT in SBA for quality products.	3.56	3.41	2.66
<b>Grand Mean</b>	<b>3.43</b>	<b>3.49</b>	<b>3.24</b>

Results from Table 4 reveals that the respondents found the under listed essential measures for tackling the constraints on the use of ICT for SBA. Prominent among all the sponsoring teachers to avail themselves of attending staff development trainings, steady power supply, the provision of adequate found for computers and Internet connectivity, teachers to be computer literate and adequate monitoring and supervision in the use of ICT for SBA. The provision of all these facilities would cushion the impediments of assessment in primary schools and hence, bring about sustainable development.

In Table 5, the F-calculated of 20074 is less that the F-critical of 3.00 at 0.05 alpha level connecting that the null hypothesis should be accepted. Therefore,

there is no significant difference between the mean ratings of supervisors of schools, head teachers and teacher to the application of ICT facilities in SBA.

Results in Table 6 show that the F-calculated is 2.045 while f-critical is 3.00. Since the F- calculated is less that the F-critical, the null hypothesis is not rejected. Hence, there is no significant difference between men ratings of supervisors of schools, head teachers and teachers on the efficacy in SBA.

**Table 5: AVOVA of Means Ratings of Respondents on the Areas of Application of ICT in SBA**

Source of Variation	Sum of Square	Degree of Freedom	Mean Square	F-cal	F-crit	P<0.05
Between groups	0.2553	2	0.1276	2.074	3.00	Not significant
Within groups	49.930	812	0.0615			
Total	50.1933	814				

**Table 6: AVOVA of Means Ratings of Respondents on the Efficacy of ICT in SBA**

Source of Variation	Sum of Square	Degree of Freedom	Mean Square	F-cal	F-crit	P<0.05
Between groups	0.2508	2	0.1254	2.045	3.00	Not significant
Within groups	49.7778	812	0.0613			
Total	50.0286	814				

**Table 7: AVOVA of Means Ratings of Respondents on the Constraints to the Use of ICT in SBA**

Source of Variation	Sum of Square	Degree of Freedom	Mean Square	F-cal	F-crit	P<0.05
Between groups	0.2614	2	0.1307	2.135	3.00	Not significant
Within groups	49.7167	812	0.0612			
Total	49.9781	814				

Regarding the constraints on the use of ICT in SBA, Table 7 reveals a no significant effect. The F-calculated (2.135) is less than F-critical (3.00), therefore the null hypothesis is accepted.

### Discussion of findings

The respondents (supervisors of schools, head teachers and primary school teachers) indicate that ICT are used in all the areas of teaching and learning including assessment. ICT facilities are used in SBA for test construction, e-assessment, records keeping, provision of portfolio, e-marking and the monitoring of learning progress. This finding is in line with the report of NTI (2007), Dimson (2007) and Ugbo-duma and Obenobe (2006) who states that ICT could be used in SBA to facilitate assessment and educational outcomes to boost sustenance in education. The hypothesis with respect to this reveals that there is no significant difference in the mean response of the respondents to the application of ICT in SBA.

The findings in Table 2 reveal that the efficacy of ICT in SBA could be seen in all facets of assessment in schools. ICT generally gathers information about each pupil's performance, processes data, retrieval of information, gives immediate feedback to pupils, teachers and parents and creates objectivity in scoring. As Ifeakor, Njelita and Udogu (2008) state there is need to apply ICT in SBA to reduce learning redundancy, increase perceptually the people of the teacher, motivate the learner by making learning easier, more interesting and challenging, provide the teacher with some reflective time for improvement and make record keeping and evaluation easier. In respect to hypothesis 2, there was no significant difference in the mean ratings of the respondents on the efficacy of ICT in SBA.

The result in Table 3 reveals that despite all the benefits and areas of application of ICT in SBA, there emerged some constraints in the use of ICT in SBA. These could be seen in non-availability of computers in primary schools, teachers' inability to use ICT facilities, lack of steady power supply and poor monitoring and supervision of teachers to ensure good quality of educational outcomes. Ifeakor (2008) observes that ICT facilities are not available for teachers' use in secondary schools not to talk of primary schools. Null hypothesis three affirms that there is no significant difference between the mean ratings of supervisors of schools, head teachers and teachers on the constraints to the use of ICT in SBA.



Results in Table 4 indicates that that despite all odds there must be a way forward in order to facilitate and enhance learning at primary school level. This could be done when ICT is used in SBA. All the respondents appeared to be optimistic that these measures, when put in place would make learning in primary schools more effective and interesting hence producing high quality educational outcomes. This result is in line with Akudolu (2002) who notes that the use of ICT devices in teaching and assessment is the hallmark of an ICT-driven education.

### **Challenges for Sustainable Development**

School-based assessment is a practice that broadens the form, mode, means and scope of assessment in the school in order to facilitate and enhance learning. It is an integral and important aspect of any school curriculum. It could be used to determining what the pupils have learnt, how well they have learnt and what further needs to be learnt. The aim of assessments is to ascertain that pupils can apply what is learnt in solving life's problems in varying situation (Ifeakor, Osegbo and Enemo, 2008). In Nigerian primary schools and Anambra state in particular, teachers are responsible for implementing any curriculum. To lay a solid foundation in primary schools in order to produce intellectuals for sustainable development, teachers should be trained in the use of ICT in assessment. To achieve the new technologies of this age, ICT facilities should be integrated into the Nigerian primary school classrooms.

For sustainability of our educational outcomes, adequate attention should be given to the provision of computer and Internet connectivity, enough funds should be provided to primary schools while the school authorities should extend their managerial potentials to proper supervision of what teachers are doing in the classrooms to ensure proper teaching and assessment. It is worthy of note that the problem of education in Nigerian primary schools is certainly not a quantitative issues but quality. It is only through the use of ICT is SBA that this quality education could be achieved in our primary schools.

### **Conclusion**

The production of intellectuals at the primary school level would be a mirage without the integration of ICT in SBA. This could be done by restructuring teaching and assessment to be in line with the global trend. To achieve this, there should be computers and Internet connectivity, in all the primary

schools. Teachers should be computer literate and have the capability of using database system for assessment. This calls for government and all stakeholders of education to equip the primary schools to meet the demands of globalization. When these are achieved, the products of our primary school system would meet up with the nation's dream of sustainability in education.

### **Recommendations**

To provide the primary school child with basic tools for further educational advancement through the use of ICT in SBA, the following recommendations are made:

- i. There is need for all the primary school teachers to be adequately trained in the use of ICTs for SBA. When teachers have the wherewithal in ICT usage for SBA, definitely, teaching and learning must have been restructured to be in line with the global trend.
- ii. The federal and state government should occasionally organize awareness campaign on the rationale and efficacy of ICT in SBA. This arrangement will help the primary school teachers to be fully aware of the potentials of ICT in SBA and the most probable and needed areas of ICT application in SBA.
- iii. There should be serious improvement in the provision of ICT facilities in all the primary schools in Anambra state and in Nigeria in general. Without, adequate provision of computers and internet connectivity in primary schools, the use of ICT for SBA will be doubtful.
- iv. The primary school authorities should be organising teachers forum where they will be brainstorming on the strategies to adopt for the application of ICT in SBA and the benefits accruable from using this modern method. This forum should be used to highlight the facts that ICT in SBA should reduce learning redundancy, increase perceptually the scope of the teacher, motivate the learner by making learning easier, more interesting and challenging and make record keeping and evaluation easier.

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