MONITORING OF LEARNING ACHIEVEMENT (MLA) FOR SENIOR SECONDARY CLASS THREE STUDENTS IN NIGERIA

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Being a Paper Presented 35th Annual Conference of the International Association for Educational Assessment (IAEA) Held in Brisbane, Australia,

13th – 18st September, 2009

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ABSTRACT

The study was designed specifically to measure SS 3 students' level of attainment in two core subject areas (English Language and Mathematics) and determine what school, student and teacher factors promote or impede SS 3 students' performance.

The target population consists of senior secondary schools in Nigeria specially the SS 3 class, all English language and Mathematics teachers and their principals. A multistage stratified random sampling technique at state, school and subject levels was used to select the sample.

In all, the sample involved 18 states and FCT, 285 schools, 570 teachers (of English Language and Mathematics) and 8550 students.

Five instruments were used in the study: English Language achievement Test, Mathematics Achievement Test, Student Questionnaire, Teacher Questionnaire and School Questionnaire. The data from the study were analysed using descriptive statistics and multiple regression analysis.

The results of the data analysis show that SS3 students achievement in Mathematics and English Language were generally poor; amount of government grants to school, age and membership of teachers to professional associations were the three most potent predictors of English Language achievement.

Based on the above findings, the following are recommended among others: the establishment of Parents Teachers Association (PTA) be encouraged; English Language be used as a medium of communication within schools and students be encouraged to speak English Language at home; teachers be encouraged to join professional bodies relevant to their teaching subjects; Government to increase grants to schools; adequate supervision and monitoring of school activities, lesson notes and school records should be ensured.

INTRODUCTION

Development experts are of the view that education is a veritable tool for any meaningful national development (be it social, economic, political, technological and scientific) (Obemeata, 1994). Perhaps, this explains why Nigeria and some other developing countries had insisted on using education as an instrument par excellence for effecting national development. (NPE, 1977 revised in 2004).

The success of educational programmes especially in the school system, hinges upon effective teaching and learning activities going on in the classrooms (Obanya, 1982). This is because the outcomes of any educational enterprise is a function of the quality of instructions being provided in the schools through the help of the Government at local, state and national levels (Okpala 2006,and Okpala and Onocha, 1985b).

Since the Government of any nation is majorly responsible for building of schools, payment of teachers' salaries, provision of teaching and learning infrastructures and materials as well as other investments, there is need for the Government to know the extent to which her investments in education have yielded the desired results or outcomes. These outcomes may be expressed in terms of desirable changes in the students/pupils such as achievement in school subjects, attitudes and skills development. (Onwuakpa, 1998, & Farombi, 1998)

In other to provide comprehensive information on the progress being made in education of any given country, there is the need to develop a monitoring system in the education system (Kellaghan T. and Greaney V., 2002). The monitoring system could be in the form of conducting a National Assessment of the performance of the entire educational system at any level of schooling (e.g. primary or secondary). This kind of assessment provides valid information to ascertain whether the educational system is on course, and if not, provide information that would remedy the situation (Falayajo, 1983 & 1998).

In Nigeria, the National Assessment of Educational performance (NAEP) is one of such. In the U.SA., NAEP has the same meaning as the "The Nation's Report Card" or Monitoring of Learning Achievement (MLA). MLA is supposed to be under the framework of continuous assessment programme introduced in Nigeria in 1985 and designed to assess what a Nigerian child has learnt with the objective of providing dependable indices on the progress being made in the education system.

However, National Assessment of Education Performance (NAEP) is the process of determining what primary school pupils and secondary school students have learnt and the skills they have acquired during the period of their schooling. It is a strategy used for keeping track of the quality of education that is being provided in the country. Through this process, those who are involved in the management of education system are made to be accountable for the money and effort expended on education.

Historically, NAEP otherwise called MLA started in Nigeria in 1997 (Falayajo, et. al 1997) at Primary four level and in 2003 at Junior Secondary Class three level (Falayajo, Ayodele et.al 2003). The two studies were good attempts to monitor learning achievement on a large scale but at lower levels.

The 2006 NAEP in Nigeria was therefore very crucial in two respects. First, it conforms with the demands of the Education For All (EFA) initiative and the Dakar Framework For Action, Goal 6, which calls for the provision of quality education at all levels in all countries. Second, it is the very first assessment of students' performance at the Senior Secondary School level in Nigeria. The study focused on variables related to home, student, school and teacher and their effects on learning outcomes.

OBJECTIVES OF THE STUDY

The general objective of the study was to assess the performance of Senior Secondary class three (SS 3) students in two core subjects (English language and Mathematics).

The specific objectives were to:

- Measure SS III students' level of performance in the core subject areas (English language and Mathematics).
- Determine what school, student and teacher variables relate to SS 3 students' performance in the two subjects.
- Use the findings and lessons learnt from the study for capacity building of the NECO staff (the Research and Publications Unit) in conducting future NAEP in Nigeria.

RESEARCH QUESTIONS

1. What are the students', teachers', schools' and principals' background characteristics?
2. What are the levels of competency attained by students in Senior Secondary Class 3 in English language and Mathematics in terms of curriculum expectations?
3. To what extent do school, teacher and student variables explain achievement in English language?
4. To what extent do school, teacher and student variables explain achievement in Mathematics?

METHODOLOGY

The target population comprised all the SS 3 students, all English language and Mathematics teachers, and all the principals of all senior secondary school in Nigeria. The study adopted a multi-stage stratified random sampling technique which was carried out at three levels: state, school and subject levels.

In all, 285 schools, 285 principals, 285 teachers of English language and mathematics respectively and 8550 SSS 3 students from 18 states of the federation including FCT participated in the study. Their teachers of English language and Mathematics and principals were also involved in the study.

Five instruments were used in this study: English language Achievement Test, Mathematics Achievement Test, Student Questionnaire, Teacher Questionnaire and School Questionnaire

TABLE 2.1: RELIABILITY INDICES OF TESTS AND QUESTIONNAIRES

INSTRUMENT	NUMBER OF ITEMS	RELIABILITY COEFFICIENT
English Language Achievement Test	80	0.830
Mathematics Achievement Test	80	0.850

Student Questionnaire *		
Electronic learning materials at home	7	0.747
Attitude to schooling	9	0.757
Attitude to English language	16	0.791
Attitude to Mathematics	16	0.865
Teacher Questionnaire*		
Availability of teaching materials	6	0.875
Constraints faced by teachers	15	0.892
Types of records kept in schools	8	0.624
Attendance at workshops	6	0.843
Teachers' self-development efforts	6	0.634
Attitude to teaching	10	0.527
Teachers' self-concept rating scale	10	0.712
School Questionnaire*		
Adequacy of facilities	4	0.568
Attendance at workshop	6	0.855
Sources and level of funding	7	0.853
Principal self-concept rating scale	10	0.831

***Note**: The reliability indices for the three questionnaires were determined on subscale basis because the constructs are not the same.

NECO staff, who served as field officers, were duly trained on data collection and the field work lasted for one week. The SPSS software/ programme was used to analyse the data. Statistical procedures used in analyzing the data include descriptive statistics (frequency counts, percentages, means and standard deviation) to describe the student, teacher, principal and school characteristics, while, variable linkages (relational analysis) were performed on the data using the multiple regression analysis.

RESULTS OF THE STUDY

The age distribution indicates that about one-third of the students were over 18 years. Seventy-six percent (76%) reported that they spoke English at home, 19% eat meals before going to school, and 71.4% had nursery education experience and about 55% lived with both parents while attending school. It was also found that 33.8% of the students live more than 2 kilometers away from school.

The result also showed that most of the teachers (87%) had at least a first degree with one or more teaching qualification(s), while 12.6% had NCE. A substantial number of the teachers (up to 70%) had attended at least one training programme in the past five years preceding the study. Eighty one percent (81%) had attended training on classroom management, 87% on instructional

materials production and 84% on library training. Ninety-four percent (94%) attended training on computers and only 45% on teaching methodology which is a core necessity for teachers.

Information on the background characteristics of the schools and their principals reveals that 96% of the sampled principals had university education and 92% of these had teaching qualification. About 82% of the principals indicated not being satisfied with their financial standing relative to their age mates. Similarly, 61% of them reported that the society does not appreciate their job as much as they do the professions of their colleagues who are not teachers.

The analysis shows that schools are poorly funded as there seems to be very low level of income from sources like school fees (14.9%), community levies (3.3%), Government grants/subvention (64.69%), Donor agencies (1.1%), NGO's (0.7%), Old students Association (3.3%) and PTA (12.0%). This suggests that NGO's and donor agencies are not sensitive to the educational needs of Nigerian schools.

TABLE 3.1: SHOWING PERFORMANCE IN ENGLISH LANGUAGE TEST

S/NO	TEST	NO. OF ITEMS	MEAN	STANDARD DEVIATION
A	**Subtest**			
1	Reading	10	4.32(43.2%)	2.04
2	Vocabulary	29	9.36(32.3%)	4.54
3	Continuous writing	15	5.91(39.4%)	2.59
4	Spoken English	14	3.35(23.9%)	1.86
5	Structure	12	3.05(25.4%)	1.81
B	**Cognitive Level**			
1	Knowledge	42	13.14(31.3%)	5.23
2	Comprehension	28	9.33(33.3%)	3.55
3	Higher thinking	10	3.51(35.1%)	2.05
C	Overall performance	80	25.99(32.5%)	9.39

TABLE 3.2: SHOWING PERFORMANCE IN MATHEMATICS TEST

S/NO	TEST	NO. OF ITEMS	MEAN	STANDARD DEVIATION
A	**Subtest**			
1	Number and Numeration	20	5.69(28.5%)	3.97
2	Measuration	8	1.90(23.8%)	1.52
3	Statistics/probability	12	2.58(21.5%)	1.66
4	Algebra	24	6.96(29.0%)	3.95
5	Geometry	6	1.32(22.0%)	1.22
6	Trigonometry	10	2.23(22.0%)	1.81
B	**Cognitive Level**			
1	Knowledge	8	2.94(36.8%)	1.58
2	Comprehension	29	7.70(26.6%)	4.17
3	Higher thinking	43	10.05(23.4%)	5.17
C	Overall performance	80	20.68(25.85%)	9.54

TABLE 3.3: MULTIPLE REGRESSION ANALYSIS OF THE INDEPENDENT VARIABLES ON ACHIEVEMENT IN ENGLISH LANGUAGE

MULTIPLE R	ADJUSTED - R^2	S.E	DF	F-RATIO	SIGNIFICANCE OF F
0.767	0.506	5.108	277	7.128*	0.000*

***Significant at < 0.05**

The results show that:

- Out of 93 independent variables (students, teachers, principals and schools) and one dependent variable (achievement in English language), only 28 were significant at 0.05 level.

- The 93 independent variables jointly accounted for 50.6% (adjusted - R^2) of the total variations in SS 3 Students' Achievement in English language.

- Among the student variables that predicted performance, purchase of newspapers/ magazines by parents (β=0.224) contributed most and was followed by students age (β=0.210) and English language homework given by the teacher.

- The least predictor of students' performance in English language was the possession of nursery education (β=0.288). Findings from research have been inconsistent on the role of nursery education in learning (Reynolds, 1995, Mchana and Temple, 1995 and Reynolds and Temple, 1998). However, the result of this study tend to support the general assumption that exposure to nursery education improves pupils' cognitive development and school achievement (Barnett, 1995 and Lassa, 1995).

- The contribution of PTA (β=0.126) to school funding was the most potent school variable that predicted students' performance and was followed by Government grants (β=0.121). The PTA contribution may have been significant because PTA appreciates the requirements of a school and they raise funds to execute school projects and ensures accountability.

- Membership of professional body (β=0.202) was the most potent teacher variable that significantly contributed to the prediction of students achievement in English Language. Others were preparation of lesson plan (β=0.177); teaching experience (β=0.123) and improverisation of instructional materials (β=0.102).

TABLE 3.4: MULTIPLE REGRESSION ANALYSIS OF THE INDEPENDENT VARIABLES ON ACHIEVEMENT IN MATHEMATICS

MULTIPLE R	ADJUSTED - R^2	S.E	DF	F-RATIO	SIGNIFICANTCEOFF
0.674	0.346	5.351	277	4.162*	0.000*

***Significant at < 0.05**

The results reveal that:

- Out of 93 independent variables (students, teachers, principals and schools) and one dependent variable (students' achievement in Mathematics), only 27 were significant to the prediction.

- The 93 independent variables jointly accounted for 34.6% to the total variations in SS 3 students' achievement in Mathematics.

- Out of the 27 variables that significantly contributed to students' achievement in mathematics, 11 are related to students, 9 to schools/principals and 7 to teachers.

- The significant student-related variables were:

  language spoken at home (β=0.239); student age (β=0.278) have a meal after leaving school (β=0.142); type of people students live with during the school week (β=0.177); distance between school and home (β=0.132); means of going to school (β=0.135); fathers' highest educational qualification (β=0.225); mother's occupation (0.085); mother's highest education qualification (β=0.259); going to the library to read (0.170); and have been in SS III before this session (β=0.171).

- The significant teacher-related variables were:

  teacher highest educational qualification (β=0.123); maximum number of students in the class (β=0.168); doing remedial teaching (β=0.129); engaging in trading/farming (β=0.111); frequency of the use of English in teaching (β=0.147); availability of teaching aids (β=0.214); and constraints to teachers' effectiveness (β=0.189).

- The significant school and principal-related variables were: principal's marital status (β=0.122); rating of the school environment safety (β=0.136); level of school fees (β=0.181); level of Government grants (β=0.283); level of funds from PTA (β=0.124); mode of getting to school by students (β=0.159); average distance covered by majority of students from home (β=0.120); availability of parent teachers association (β=0.147); and number of workshops attended (β=0.204).

- Out of the 27 variables reported to have contributed significantly to students' achievement in Mathematics, Government grants were the most potent (β=0.283) , followed by students' age (β=0.278) and also language spoken at home by students (β=0.239).

- The least among the significant predictor variables were the distance between students homes and their schools (β=0.132). This variable is applicable to those who are day students. This suggests that the farther away a school is to a student, the lower is the achievement in mathematics and the closer a school is to a student, the higher is his achievement in mathematics.

IMPLICATIONS AND RECOMMENDATIONS

- Government grants to schools should be increased since Government grants was found to have positively contributed to students achievement in English language and Mathematics respectively.

- Age of students predicted achievement in English Language and Mathematics respectively. This implies that Government should recommend an approved age of 6 years for children to start school.

- The negative correlation that was observed between students achievement in Mathematics and their language spoken at home demands that parents should endeavour to speak English language with their children at home and those who cannot speak should enroll with Adult literacy centre closer to them.

- Teachers should be encouraged to join professional bodies relevant to their discipline and attend their annual meetings as this would improve upon their professional skills.

- Appropriate teaching aids and preparation of lesson notes and plans were found to predict achievement in English language. It is, therefore imperative that the Inspectorate Division of every State Ministry of Education should supervise and monitor teachers' activities, lesson notes and other school records.

- Homework should be given to students and thoroughly supervised and marked by teachers as this would improve students' learning in Mathematics as well as in English language.

- More classrooms and professional teachers should be employed into the secondary schools. Training and retraining of teachers through in-house workshops and out-door Conferences/workshops should be encouraged by the Government if we want improvement for effective teaching and learning activities in secondary schools.

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