AVAILABILITY OF INSTRUCTIONAL MATERIALS: IMPLICATIONS ON TEACHING AND LEARNING OF MATHEMATICS IN SENIOR SECONDARY SCHOOLS IN AKWA IBOM STATE

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Abstract

The availability of Mathematics instructional materials: Implications on teaching and learning of Mathematics in senior secondary schools of Akwa Ibom State. A total of twenty two (22) schools were sampled from the three Senatorial Districts of the state. Simple Random Sampling Technique was used to select forty (40) Mathematics teachers and two hundred and sixty (260) students from the sampled schools. Three research questions were formulated and three hypotheses were tested. T-test statistics were used to determine the extent of availability at 0.05 level of significance. The instrument for data collection was Mathematics Instructional Materials Checklist (MIMCL), with the reliability coefficient of 0.78. The result of the research indicates that there is a deficiency in availability of Mathematics instructional materials. The result of the research also revealed that there is a significant relationship between availability of Mathematics Instructional materials in the teaching and learning in Akwa Ibom State. The recommendations are that mathematics teachers should make the materials available for effective teaching in secondary schools. Government should provide enough instructional materials for teaching and learning in secondary schools.

Keywords: Availability, Mathematics instructional materials, Learning, Teaching, Senior Secondary Schools.

1.0 Introduction

Effective teaching and learning of any subject depends on the availability of suitable instructional materials. This is mostly noticed in many secondary schools subjects such as Mathematics. Aboula (2003) stated that instructional materials are major part of the teaching and learning process and that the aims and objectives of education are achieved primarily on the effective utilisation of instructional materials.

National Teachers Institute (2002) defined instructional materials as those resources which promote the effectiveness of instruction. Also, Umar (2004) stated that materials which promote the effectiveness In the same vein, Olubor (2008) stated that instructional materials are the resources that both teachers and students use to influence the effectiveness of teaching and learning process. In other words, for teaching of Mathematics to be effective and efficient, but is compulsory for teachers to make use of varieties of instructional materials. Adekuole (2011), stressed that there was no adequate instructional material in teaching and learning process in Ogun State. Similarly, Liman (2004), observed that in post primary school in Bida, 70% of students said that mathematics teachers did not have adequate instructional materials in the teaching and learning. Thus, mass failure as reported by some researchers could be traced to non-availability of the instructional materials.

1.1 Statement of the Problem

The performance of students in SSCE over the past few years in the study has not been impressive. It is still worrisome the level of failure considering the importance of Mathematics to the development of the country. The country is in economic recession and needs educators that can stand up to the task of calculating certain economic indices that will help salvage the current economic situation of Nigeria.

The study must be taken seriously by students and teachers in secondary schools as it is needed in all facets of life. Consequently, the teaching of the subject should be directed to its methods using adequate instructional materials to support teaching process (Silas, 2016). It is from this premise that the researcher concludes that there is need to study the availability of mathematics instructional materials for teaching and learning in secondary schools.

1.2 Purpose of the Study

The study sought to:

i. Determine the extent of availability of Mathematics instructional materials in secondary schools in Akwa Ibom State.
ii. Find the extent of which the instructional materials are available in private and public schools in Akwa Ibom State.
iii. Determine the extent of which the Mathematics instructional materials are available in urban and rural schools.

1.3 Research Questions

i. To what extent are the instructional materials available in senior secondary schools in Akwa Ibom State?
ii. To what extent are the instructional materials available in private and public secondary schools?
iii. To what extent are the mathematics instructional materials available in urban and rural schools?

1.4 Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance to guide the study.

Ho_1: There is no significant difference between the mean ratings of teachers and students on the extent of availability.

Ho_2: There is no significant difference between the mean rating of private and public schools on the extent of availability.

Ho_3: There is no significant difference between the mean rating of urban and rural school on the extent of availability.

2.0 Methodology

The design of this research work is a descriptive survey that was conducted to find out the availability of mathematics instructional materials in senior secondary schools in Akwa Ibom State.

The researcher used combinations of stratified, simple random sampling as well as purposive sampling techniques to get the sample of respondents for

the study. Stratified sample were used to select schools. The categories are senior secondary two (SS11) students and mathematics teachers from the sampled schools in Akwa Ibom State. These helped reduced bias in the selection of schools. Simple sampling technique using balloting method was use to select the 22 secondary schools in the sample area. The researcher selected 40 Mathematics Teachers and 260 students from the sampled schools. This enables both teachers and students to have equal opportunity to participate in the study.

3.0 Data Presentation and Results

Hypothesis One

Ho_1: There is no significant difference between the mean ratings of teacher and students on the availability of mathematics instructional materials.

Table 1: t-test analysis on the difference between mean ratings of teachers and students on the extent of availability of instructional materials

Respondents	N	X	SD	t-cal	df	t-crit	Remarks
Teachers	40	1.53	0.27	3.48	298	1.96	Significant
Students	260	1.38	0.72				

Hypothesis Two

Ho_2: There is no significant difference between the mean rating of private and public school students on the extent of availability.

Table 2: t-test analysis of the difference between mean ratings of private and public school students on the extent of availability of instructional materials.

Respondents	N	X	SD	t-cal	df	t-crit	Remarks
Private school Students	84	1.85	0.16	10.00	258	1.96	Significant
Public school Students	176	1.66	0.12				

Hypothesis Three

Ho_3: There is no significant difference between the mean rating of urban and rural school students on the extent availability.

Table 3: t-test analysis on the difference between the mean rating of Urban and Rural School students on the availability of mathematics instructional materials

Respondents	N	X	SD	t-cal	df	t-crit	Remarks
Urban School Students	140	1.90	0.12	6.40	258	1.96	Significant
Rural School Students	120	1.80	0.13				

4.0 Discussion of Findings

- One salient finding was the fact that the extent of availability of instructional materials was low. It was also observed that the condition of the mathematics instructional materials in public schools is poor and shabby.
- It was observed that the type of school influences the availability of instructional materials. This is because out of twenty two schools, instructional materials were available in five private schools and only two public schools.
- The result also shows that instructional materials are available in schools in the urban location than schools in the rural location in Akwa Ibom State.

5.0 Conclusion

Based on the study findings, it was observed that, the availability of instructional materials influences students' achievement.

It has also been discovered that availability of instructional materials has significant influence on academic achievement of students. Actively participating in concrete examples are retained longer than abstract symbols.

Furthermore, for effective teaching and learning to take place, learners must have access to adequate instructional materials.

Hence, adequate instructional materials in senior secondary schools enhance good academic achievement.

6.0 Recommendations

The following recommendations were made.

- The teachers should to make the instructional materials available for effective teaching and learning.
- Government should ensure the adequate employment of dedicated and qualified teachers to teach the subject in all secondary schools.
- Recommended text books should be made available to all secondary schools.
- Teachers should attend conferences, seminars and workshop on availability of instructional materials.

References

Aboula, J. U. (2013). Factors affecting academic performance in Nigerian schools, paper presented at the *6th annual conference of school of education*; Federal College of Education Zaria.

Adekuole, M. (2011). Instructional materials and students' academic achievement in physics: Some policy implementation. *European Journals of Humanities and Social Science, 2* (1), 121-138.

Liman, A. (2004). Availability and utilization of print and non-print instructional materials in technical and vocational school in Sokoto State. *Unpublished M.Ed Thesis*. Amadu Bello University, Zaria.

National Teachers Institute (2002). *The need of instructional materials in tackling and learning in our schools*, (3rd Ed). Felix, B. E.

Olubor, R. O. (2005). Management demand for universal basic education programme and current issues in educational management in Association for Educational Administration and Planning (NAEAP), 48-50.

Silas, A. U. (2016). Availability and utilization of laboratory facilities for teaching biology in secondary schools in Ikot Ekpene Education Zone. *Unpublished PG Thesis*. MOUAU.

Umar, A. F. (2004). *Mathematics instructional materials: Types, principles and selection*. Refaith Press.