

UTILIZATION OF INDIGENOUS LANGUAGE BY PRIMARY SCHOOL TEACHERS IN THE TEACHING OF MATHEMATICS IN ENUGU NORTH LOCAL GOVERNMENT EDUCATION AUTHORITY OF ENUGU STATE

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Abstract

Language remains an instrument of communication playing crucial roles in teaching and learning. This study was on the utilization of indigenous language by primary school teachers in the teaching of mathematics in Enugu North Local Government Education Authority of Enugu state. Considering the fact that mathematics has been identified as an important subject required by every individual in this technological age, it needs to be taught in such a way that pupils will not only pass the subject but develop interest in reading it. This therefore calls for the use of indigenous language in the teaching of the subject in line with the provisions of the National Policy in Education. The researchers adopted a survey research design. Two research questions and one hypothesis guided the study. Two hundred and eight four (284) primary school teachers were sampled from fifty two (52) primary schools out of the population of six hundred and fifty seven (657) primary school teachers using multi-stage sampling technique. The instrument, a twenty (20) item questionnaire validated by experts with reliability index of 0.73 was used to collect data. Mean was used to answer research questions while t-test was used to test hypothesis. The grand means of 2.62 and 2.53 for Junior and Senior categories respectively show that the use of indigenous language in teaching mathematics in primary schools in Enugu North LGEA was not high. However, the table shows that the level of usage is higher in junior category than in senior category. The t-cal (0.75) is less than t-tab (1.960), the hypothesis cannot be rejected therefore there is no significant difference in the use of indigenous language in teaching mathematics in primary schools by primary school teachers based on categories

Key words: Utilization, Indigenous, Language, Mathematics, Primary, Teachers, School

Introduction

Mathematics, a study of space and number remains crucial for effective human functionality in everyday living. It is needed by everybody to comprehend the world around us and provides the structure for the study of modern disciplines like social science, natural and applied sciences, medicine, agriculture, environmental science, and information and communication technology (Okonta, 2009). There is no doubt that competence in mathematics is needed for enrolment into a wide range of courses/ disciplines in higher institutions of learning in Nigeria (Amadi, 2015). According to Albert (2015), all the pleasurable things and conveniences being enjoyed today by people like cell phones, computers, automobiles, aircrafts, household and personal gadgets, would never have

happened if it were not for this essential tool mathematics applied in communication and technology. It is a known fact that mathematics is an instrument that facilitates the learning of other school subjects especially sciences. Nwagbara, Bassey and Enun (2013) said that where there is no mathematics there is no sciences.

Language, on the other hand is an instrument of communication and it plays crucial role in teaching and learning. It is a medium of information sharing between the learner and the teacher. To facilitate learning therefore, Olagbaju and Akinsowon (2014) suggested that appropriate language which can be understood and interpreted by learners should be used in teaching. Oluwole (2008) posited that a child learns better when he/she is taught in a language he/she can comfortably express himself/herself in. Olagbaju and Akinsowon (2014) reported that learners in Ife Six Year Primary Project (SYPP) achieved better when taught in the mother tongue or the language of the immediate community. The National Policy on Education (2004) states that government should see to it that the medium of instruction in primary school should be initial mother tongue of the immediate community and at later stage, use English. Emenanjo (1998) noted that National Policy on Education (NPE) states that mother-tongue (MT) and/or Language of the immediate community (LIC) should be used as the Language of initial literacy for Nigerian children at the pre-primary and junior, primary levels, and of adult and non-formal education. The NPE further states that all Nigerian languages are meaningful media of instruction in initial literacy, and in life-long and non-formal education. Following this position of NPE, Emenanjo (1998) queried that if the 'Mother tongue (MT) or the language of the immediate community is considered so important at the pre-primary level why should it be "principal" and not "solely" used at this level?' Again, if the mother tongue or the language of the immediate community is considered a very important medium for achieving initial and permanent literacy and numeracy, why should it be only used 'initially' and not throughout the whole of primary education?' Citing STAN (1992) Olagbaju and Akinsowon (2014), found out that Nigerian primary school children came last in world's primary schools competition among the countries of the world, this could be traceable to non-indigenous language use.

Though there is the argument that most indigenous languages in Nigeria are incomplete and under-developed, therefore might not provide all the details needed in teaching certain subjects including Mathematics and Sciences especially at certain levels of education. However, Olagbaju and Akinsowon (2014) quoting Taiwo (1976) argued that languages can be deliberately developed when concerted effort is given to it just as Kiswahili was developed when it became lingua franca for Tanzanians. Therefore for education to be

meaningful, the child should be taught in his/her mother tongue which he/she can understand, read and also write. While concluding in their argument, Olagbaju and Akinsowon (2014) opined that no language is inferior to the other and every language can communicate any information it is assigned to achieve. Nigerian languages and indeed all indigenous languages in Africa can be used in education, for teaching school subjects including mathematics. All that is needed is to properly develop the language to fit the subject and the will power of the authority concerned to develop indigenous language policies to back up such decision.

Essien (2018) noted that mathematics achievement in developing countries is usually low. Atweh, Bose, Graven, Subramanian, and Venkat (2014) buttressed the fact that with worry that there are low performance in numeracy among primary schools in Asia, Africa and Latin America. The poor performance was highly noted among learners who use English less frequently at home. Taylor and Coetzee (2013) in a similar research affirmed that there is a significant disadvantage when teaching is done in English rather than the home language of the child. Premium Times (2019) recently reported some parents, teachers, and students advocated that Science, Technology, Engineering and Mathematics (STEM) subjects be taught in indigenous languages in Nigerian schools. They said teaching STEM subjects in Nigeria's indigenous languages will encourage a better understanding of science subjects. The idea of teaching science subjects in indigenous language was good and would be best practised in villages to achieve good results. Ekwealor (2018) proudly confirmed a teacher using Igbo and Nigerian pidging languages to teach mathematics noted that mathematics is always a feared subject among students.

Having the understanding of the link between languages as a strong vehicle in communication, coupled with findings that the use of indigenous language enhances teaching of mathematics as in other sciences, the study therefore was set to examine the utilization of indigenous language in teaching mathematics in Enugu North LGEA.

Statement of Problem

Mathematics is a core subject both in primary and secondary schools and at the same time a pre-requisite for getting admission and studying almost all courses offered in higher institution of learning. It is expected that judging from the importance of mathematics and the place government and other stakeholders have given the subject, teaching of mathematics should be done with the seriousness it requires. That is why language which is the means of communication has a vital role to play. Indigenous language is the language of the people, spoken and understood by them. If used by teachers in primary schools will give them the

foundation for proper understanding of the subject, achieving high and sustain their interest. The question is “How have primary school teachers in Enugu North LGEA been using indigenous language in teaching mathematics?”

Purpose of the Study

The purpose of this study are:

- To ascertain the level of use of indigenous language in the teaching of Mathematics by Primary School teachers.
- To determine the level of use of Indigenous language in the teaching of Mathematics by school categories.

Research Questions:

The following research questions guided the study:

- 1 What is the level of use of indigenous language by teachers in teaching mathematics in primary schools in Enugu North Local Government Area?
- 2 What is the level of indigenous language usage by teachers in teaching mathematics in primary schools based on school category in Enugu North Local Government Area?

Hypothesis:

This study was guided by the following hypothesis:

There is no significant difference in the level of use of Indigenous language by primary school teachers based on school category.

Methodology:

The study area was Enugu North Local Government Education Authority(LGEA).The predominant language in the area is Igbo.The research design adopted for the study was survey. The population of the study was 657 teachersfrom52 public primary schools in Enugu North Local Government Education Authority. The sample for the study was 248 and was determined using Taro Yamane formula. The sample size was drawn from all the primary schools in the Local Government Education Authorityusing multi-stage stratified sampling technique among the two categories of junior and senior classes. Simple random sampling technique was finally used to drawrespondents from the schools. The sampling was done using proportionate random sampling technique.

The instrument for data collection was a 20 item questionnairewhichwas designed to provide answers to the research questions. Topics included in the instrument were place value,

addition, subtraction, multiplication and division of whole numbers; fractions, measurement-capacity and time, angles and shapes which are taught in Junior and Senior categories in the primary schools. Classes in primary 1, 2 and 3; and 4, 5 and 6 are classified as Junior and Senior categories respectively. The response pattern was a four-point rating scale of Always, Often, Rarely and Never weighted 4, 3, 2 and 1 respectively. The instrument was validated by three (3) experts consisting of two (2) mathematics and one (1) measurement and evaluation experts. The reliability of the instrument was done by administering the instrument on 40 primary school teachers in Enugu South LGEA. The reliability index of the instrument was 0.73. The instrument was administered on the sampled primary school teachers directly by the researchers and collected back. The data collected was analysed. Mean was used to answer the research questions. The decision rule was that any item with a mean value of or greater than 2.5 was accepted otherwise, rejected. The hypothesis was tested using t-test at 5% level of significance.

Results:

Research Question 1.

What is the level of use of indigenous language by teachers in the teaching mathematics in primary schools in Enugu North Local Government Area?

Table 1: Teachers’ responses on the level of use of Indigenous Language by Primary school teachers in the Teaching of Mathematics in Primary schools of Enugu North LGEA.

S/N	Item	Mean	Decision
1	Primary School teachers make use of Indigenous language in teaching multiplication of whole numbers	2.33	Reject
2	Primary school teachers are using Indigenous language in teaching fractions	2.41	Reject
3	Primary school teachers use Indigenous language in teaching division of whole numbers	2.73	Accept
4	Teachers in Primary schools use Indigenous language in teaching measurement (time)	2.64	Accept
5	Indigenous language is used in primary schools to teach shapes in mathematics by primary school	2.47	Reject
6	Teachers in Primary schools use Indigenous language in	2.42	Reject

	teaching angles		
7	Primary school teachers are using Indigenous language in teaching measurement (capacity)	2.58	Accept
8	Primary school mathematics teachers prefer using Indigenous language in teaching place value	2.11	Reject
9	Indigenous language is used in primary schools to teach addition of whole numbers by primary school teachers	3.15	Accept
10	Primary School teachers make use of Indigenous language in teaching subtraction	3.03	Accept
	Grand mean	2.59	Accept

Source: Field data, 2019

Result showed that primary school teachers in Enugu North LGEA use indigenous language to a low extent in the teaching of mathematics in the following specific subject topics; multiplication of whole numbers (2.3), fractions (2.4), shapes (2.47), angles (2.42) and place value(2.11). However, teachers use indigenous language to a large extent in teaching division of whole numbers (2.73), measurement and time (2.64), measurement in capacity (2.58), addition of whole number (3.15) and subtraction (3.03). In all, there is an evidence that while 50 percent of the teachers rarely used indigenous language (IL), the remaining 50 percent of the respondents often use the language to drive the lessons home to enable the children have deeper understanding of the lessons taught in mathematics. (Table 1). The overall grand mean of 2.59 shows that the use indigenous language in teaching mathematics in Enugu North LGEA is not high.

Research Question 2

What is the level of indigenous language usage by teachers in the teaching of mathematics in primary schools based on school category in Enugu North Local Government Area?

Table 2: Teachers’ responses on thelevel of indigenous language usage by teachers in the teaching mathematics in primary schools based on school category in Enugu North Local Government Area?

S/N	Item	Mean Junior	Decision	Mean Senior	Decision
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1	Primary School teachers make use of Indigenous language in teaching multiplication of whole numbers	2.47	Reject	2.19	Reject
2	Primary school teachers are using Indigenous language in teaching fractions	2.56	Accept	2.26	Reject
3	Primary school teachers use Indigenous language in teaching division of whole numbers	3.00	Accept	2.46	Reject
4	Teachers in Primary schools use Indigenous language in teaching measurement (Time)	2.74	Accept	2.54	accept
5	Indigenous language is used in primary schools to teach shapes in mathematics by primary school teachers	2.49	Reject	2.45	Reject
6	Teachers in Primary schools use Indigenous language in teaching angles	2.36	Reject	2.48	Reject
7	Primary school teachers are using Indigenous language in teaching measurement (capacity)	2.43	Reject	2.73	accept
8	Primary school mathematics teachers prefer using Indigenous language in teaching place value	2.15	Reject	2.07	Reject
9	Indigenous language is used in primary schools to teach addition of whole numbers in mathematics by primary school teachers	3.00	Accept	3.30	Accept
10	Primary School teachers make use of Indigenous language in teaching subtraction of whole number	2.97	Accept	3.09	Accept
	Grand Mean	2.62	Accept	2.53	accept

Source: Field data, 2019

The researchers found out that teachers of both junior and senior primary school categories do not use indigenous language to large extent in teaching multiplication, shapes, angles, measurement (capacity), and place value. On the contrary, primary school teachers in the study area often use indigenous language in teaching measurement (time), addition of whole numbers, and subtraction of whole number. Again, table 2 above, shows that 50

percent of the primary school teachers in junior primary school category often use the indigenous language whereas, in the senior category there are six incidences showing that primary school teachers do not use indigenous language to a large extent in teaching mathematics in senior primary schools category in Enugu North LGEA. The overall grand means of 2.62 and 2.53 for Junior and Senior categories respectively showed that the use indigenous language in teaching mathematics in Enugu North LGEA is not high. However, the table showed that the level of usage is higher in junior category than in senior category as shown in Table 2 above.

Hypothesis:

There is no significant difference in the level of use of Indigenous language by primary school teachers in the teachings of mathematics based on school category.

Table 3: Table showing no significant difference in the level of use of Indigenous language by primary school teachers in the teachings of mathematics based on school category.

Category	Mean	Standard Deviation	N	Df	t-cal	t-tab
Junior	2.62	0.85	124	246	0.75	1.96
Senior	2.52	1.22	124			

Since the t-cal (0.75) is less than t-tab (1.960) tested at 5% level of significance, hypothesis was retained. Therefore there was no a significant in the use of indigenous language in teaching mathematics in primary schools by primary school teachers based on category.

Discussions

From this study, it was discovered that teachers of Enugu North LGEA are teaching primary school students of all categories with indigenous language in line with the recommendations made by Olagbaju and Akinsowon (2014) that appropriate language that could be understood and interpreted by learners should be used in teaching them. Emenanjo (1998) also confirmed that National Policy on Education (2004) stated that mother tongues and language of the immediate communities should be adopted as the language of initial literacy. The concern here is that though the teachers in primary schools in the study area are adopting the policy, the extent to which this is effectively implemented generally low. This could have grave implications on pupils’ achievement and interest in mathematics. STAN (1992) cited in Olagbaju and Akinsowon (2014) noted that Nigeria pupils came last in a world

primary schools competition due to non-use of local languages in teaching. Atweh et al (2014) in their findings stated that most children whose parents use less of English language at home perform poorly especially in a school where the teaching language is English. These findings supported the opinion that use of indigenous language created familiarity among the learners and the subject as well as cushioned the obvious language stress on the pupils.

The argument that some local languages are incomplete and under-developed could be a strong factor hindering the effective indigenous language in teaching primary school mathematics. This could be responsible for the low use of the language among primary school teachers in the study area. However, it should be noted that every language was developed and can be re-developed to fit into the use of the people at any moment. What is required to achieve this is to engage the right professionals to intervene to fill all the language gaps in every subject including mathematics.

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