

A COMPARATIVE ANALYSIS OF THE USE OF IGBO AND ENGLISH LANGAUGES ON BASIC SCIENCE ACHIEVEMENT OF PRIMARY SCHOOL PUPILS IN IMO STATE

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Abstract

This study investigated the comparative effect of using language of the environment and English language media instruction on science processing skills of primary school pupils in Ihitte-Uboma Local Government of Imo State. Two research questions were posed and two hypotheses formulated. The design of the study was correlational survey. The sample of the study was 60 primary School Pupils from 54 primary schools in Ihitte-Uboma Local Government Area of Imo State. Two instruments were used in data collection namely: Classroom Teacher Basic Science Continuous Assessment Test (CTBSAT) and Basic Science Concept Assessment Test (RBSAT). The reliability of the instruments was determined to be 0.81. The data collected were analysed using descriptive statistics and T-test of mean difference for the hypothesis testing at 0.05 Level of confidence. The finding of the study showed that the pupils taught in Igbo language obtained a higher mean score at Post-test assessment more than pupils taught in English language. Based on the finding the researcher impliedly derived a conclusion that Igbo language may lead to improved science processing proficiency among primary school pupils.

Keywords: Science, Processing, Skills, Pupils, Primary, Teachers.

Introduction

Language is a cultural phenomenon in human societies and therefore monitors and regulates individual consciousness and societal norms (Ojiugo, 2016). At different Levels of education it is used for instruction even when the tide and performance of learners connote adverse impact. English Language is officially used in every sector of the Nigerian economy. It is used immensely in the print and electronic media, in the judiciary, police, the armed forces, legislature, in commerce and in politics. Against the run of play, the language of instruction in basic one to three in primary schools in Nigeria is stipulated to be the language of the environment. This is therefore a factor of where learning is taking place (NPE, 2013).

The goals of education are not achievable without a language of instruction. The process of imparting knowledge has to be carried out through the use of language (Nnadozie, 2017). Language is the surest way through which a people can retain, hold onto, and interpret knowledge effectively (Ntagu, 2010). Language is the means of preserving the people's culture. Language unites a people and regulates their activities extensively. Realizing the positive impact of using the language of the environment in creating lasting impression on children at the formative stages, NPE (2013) encouraged the use of the language of the environment in delivering instruction to pupils in primary one to three; while English language should be taught as a subject. Language of the environment is the mother tongue. Igbo is one of the major languages spoken by one of the major ethnic groups in Nigeria. The Igbos are in the South-East geopolitical zone of Nigeria. The Mid-western Igbos in Delta North Senatorial District, Ikwere in the present Rivers state and the Igbankes in the present Edo State, all in Nigeria, speak the Igbo dialect. Igbo is widely spoken in Nigeria as many people from South East travel extensively because of their business culture. It is evident according to Adeyanju (2020) that no record has shown that the use of mother tongue in primary schools in Nigeria is being implemented. One reason for this according to Edegu in Dorgu and

Igbo Jinwaek (2016) is that using mother tongue or language of the environment to teach entails much more than knowledge and knowing how to speak the language of the environment. Using language of the environment requires sound knowledge of phonics, grammar and structure which can only be inculcated in teachers through regular retraining exercise. These regular trainings are largely ignored therefore allowing inexperienced teachers to handle core subjects such as integrated science in primary one to three using English language instead of the language of the environment for instructions. Even those using English language at this level of education are not proficient according to Adejere in (Laloo, 2017). There is wide spread perception that the level of proficiency in English language in the country is increasingly declining. The above concerns have not yielded any result as examination reports are still talking about massive abysmal failures in First School Leaving Certificate Examination in Imo state (Njoke, 2021).

Duruji (2012) asserts that both languages have problems because of the method of delivering instructions by teachers who do not seem to have majored in either Igbo or English language during their teacher training period. Akanwa (2017) opined that much is needed to make learning better in our primary schools because the teacher's role in solving the existing problem is greatly undermined through the inadequate training given to them at teachers training institutions, and the petty motivation most teachers often receive. They are unmotivated, lowly regarded; teach in depressing circumstances which among other things lack the enabling working condition for effective performance. In the views of Orié and Ibekwe (2014) the noise made on the downward decline in English language proficiency at the secondary school level would have precipitated at the formative stages where the aberration of teaching with English language rather than indigenous Language was formulated, despite the guidelines of the National Policy on Education (NPE 2013). According to Nnadozie (2017) language structures are interconnected hence good understanding of Igbo

Language at cradle stages would foster better understanding of English language as a subject at later stages (SS 1-SS3)

The confusion according to Nkwocha and Akanwa (2017) is the inconsistency in the language of instruction. Many teachers handling Basic One to three pupils combine both languages (Igbo and English) in teaching pupils, thereby creating unnecessary confusion. Similar problems are experienced at home were parents heighten the confusion by using English Language to communicate to their wards, indirectly professing the superiority of English language to their mother tongue (Igbo). Research shows that education in the mother tongue is a key factor for inclusion and quality learning and it also improves learning outcomes and academic achievement of pupils. This is crucial to avoid knowledge gaps and speed of learning and comprehension. According to Nnadozie (2017) there is still a long way to go before guaranteeing all learners their right to education in their mother tongue. In most countries such as Nigeria, the majority of students are taught in a language other than their mother tongue which comprises their ability to learn effectively. UNESCO (2014) estimated that 40% of the world's population does not have access to an education in a language they speak or understand very well. There are about 7,000 languages spoken around the world today, but linguistics diversity is increasingly threatened as more and more languages disappear at an alarming rate.

According to Njoke (2017) globally, progress is being made in multinational education based on mother tongue with growing understanding of its importance, particularly in early schooling (Basic 1-3) and committed to its development in public life. When remote learning content is not available in student's mother tongue, it increases the risk of learning loss, dropouts and exclusion. UNESCO (2014) asserts that Learning based on mother tongue should be incorporated in education systems in wider perspectives for all learners especially those from linguistic minorities to access education during school closures and beyond. Philip (2021) opined that education in mother tongue is a key factor for inclusion and quality learning and it also

improves critical thinking, reflection and evaluation in children who are more accustomed to things around them in mother tongue, enhancing a child's integration with nature.

The abysmal performance of candidates who sat for the Senior Secondary School Certificate Examination in 2021 according to Onyeka (2023) cannot go un-noticed. The reasons issued by many authors for their mass failure must be substantiated through research for effective response to be expected from concerned authorities. The present study is therefore set to determine the influence of mother tongue on the academic achievement of students in basic sciences among pupils in primary 3. The gradual decline to extinction of indigenous languages in prints, especially textbooks for primary schools in Imo state seem to reveal the discrimination extended to pupils mother tongue as vehicle through which learning takes place. The National Policy on Education section 4g dictates that the medium of instruction in the primary school shall be the language of the environment for the first three years. During this period English language shall be taught as a subject. The importance of mother tongue cannot be over stated because it is a vehicle through which children bond with their immediate environment and make meaning out of them (Basic 1 to 3).

The progressive effect of this misnomer may be felt but the abysmal performance of students in sciences at Senior Secondary School Certificate Examination as acclaimed by (Fajolu, Ahmed and Ojiugo, 2016). The present study intends to ascertain the influence of the language of the environment on Basic Science concept of primary school pupils in Ihitte/Uboma L.G.A of Imo state. The main purpose of the study was to determine the comparative influence of the language of the environment and English Language on the Basic Science concepts of primary school pupils in Ihitte/Uboma Local Government Area of Imo State. The study specifically sought to:

1. Determine the achievement mean scores of pupils taught Basic Science concepts in Igbo Language

2. Ascertain the achievement mean scores of pupils taught Basic Science concepts in English Language

Research Questions

The research was guided by two research questions:

1. What are the achievement mean scores of pupils taught Basic Science concepts in Igbo language at post-test?
2. What are the achievement mean scores of pupils taught Basic Science concepts in English language at post-test?

Hypothesis

There is no significant difference in the achievement mean score of pupils taught Basic Science concepts in Igbo and English languages at post-test assessment.

Methodology

The design of the study was quasi experimental adopting pre-test, post-test control group arrangement. The population of the study was 1355 primary school pupils in Ihitte/Uboma LGA. The sample of the study was 60 primary school 3 pupils in 54 primary schools in Ihitte/Uboma Local Government Area of Imo State. This number was purposively selected from their schools. Instruments used in data collection were: classroom teacher basic science continuous assessment test: Pupils cumulative mean scores were used at pre-test. Researcher made basic science concept Assessment Test (RBSAT) was the second instrument. The instrument was constructed through primary 3 modules which specified the science concepts that pupils are expected to master before progressing to basic four. These concepts were categorized into three: farm implements; cooking utensils and fruits of nuts found in the surrounding environment. These three categories were adopted in comparison to their foreign counterparts. Locally produced farm implements and their foreign counterparts were set apart for identification with their correct names in Igbo and English

Languages attached. Pupils were asked to identify each implement using their Igbo names and English names. Pupils were equally told to explain what those implements are used for in the farm. The same process was used for the domestic cooking utensils and fruits/nuts.

Two groups were created by the researcher namely, treatment group and control group. From a total number of 60 pupils, 30 primary three pupils were drafted into treatment group called Group 1 and control group called group 2. Group 1 known as the treatment group pupils were taught Basic Science concepts in Igbo, whereas the control group pupil were taught Basic Science concepts in English language. The treatment period lasted six weeks. The seventh week was used for rehearsal and post-text assessment to determine the interaction effect of the two languages on primary 3 pupils’ Basic Science concepts. The number of questions was 40 numbers hence each question mark carries 2.5 marks. The data collected were analysed using mean and standard deviation for the research questions and T-test of mean difference in testing the hypothesis. The ceiling mark was 100 marks. Every correct score attracted 2.5 marks

Results

Research Questions 1&2. What is the achievement mean score in Basic Science of pupils exposed to instructions in Igbo and English languages post-test assessment period?

Table 1: Descriptive statistics analysis on the achievement mean score of pupils’ treatment group control at pre-test and post-test assessment.

Variable	N	Pre-test score	Std Dev	post term	Std Dev.	Gain
Igbo Language	30	48.00	1.03	68.7	0.96	20.07
English language	30	47.00	1.01	49.011.04		2.01

Table 1 revealed that pupils in the treatment group taught in Igbo language had 48.00 as means score at pre-test. After the treatment, pupils in group 1, who were taught in Igbo language, obtained a mean score of 68.07 and standard deviation score of 1.03. Similarly, participants who were taught in English language obtained 47 points at pre-test with a standard deviation of 1.10, and 49.01 and standard deviation of 1.04 at post-test. Participants who were taught in Igbo language made a gain of 20.07 while those taught in English language made a gain of 2.01. This shows that those who were taught in Igbo language had a better understanding of what was taught them than those taught in English language.

Hypothesis 1: There is no significant difference in the post-test scores in Basic Science concepts of pupils taught in Igbo Language and English language.

Table 2: T-test analysis on the post-test difference in scores of pupils taught Basic Science concepts in Igbo language and English languages (treatment of control group).

Variable	N	Post-test	Std	df	LS	Tcal	Tcrit	Remark
Treatment Group 1	30	68.07	0.96					
	58.005	0.05	16.15	1.960	HO1:Sig			
Control Group 2	30	49.01	1.04					

Table 2 shows the post-test scores in Basic Science concepts of pupils in treatment group 1 and control group 2. From the table, the post-test scores are as follows: 68.07 and SD 0.96 degree of freedom 58.0, level of significance 0.05, calculate, 16.15 and table T 1.960. Similarly, the post-test mean score of pupils in group 2 was post-test 49.01 and standard deviation of 1.04. Interpretation of the result is that the difference in mean score between Group 1 and group 2 was significant.

Discussion

The result of the study was that pupils in group 1 who were taught Basic Science concepts in Igbo language acquired higher scores at post-test assessment than pupils in group 2 taught in English language. The result showed that instruction in Igbo language benefited pupils in Group 1 than English language benefited pupils in group 2.

The reason for his result seems obvious. Pupils in group 1 who were taught in Igbo language understood the Basic Science concepts better because the concepts were known to them in their mother tongue while bonding with their environment; they had interactions with the concepts through physical contacts in natural form. Similarly, concepts in English language were alien to them and were not registered in their names sub-consciousness. They may memorized their names but forget easily when called upon to identify them. Knowledge is retained better through contact and manipulation than memorization, which was what happened to pupils exposed to Basic Science concepts in English language. The result shows that mother tongue (language of the environment) has a great influence in acquisition of knowledge at every stage (primary, secondary and tertiary). The result of study is supported by the findings of Nnadozie (2017).

Summary/Conclusion

Conferences that led to the National Policy on Education (NPE, 2013 Rd) were well convened with the interest and growth of education at heart. Researches have shown that children within the age bracket of 6-12 understand more when their instructions are carried out in their mother tongue. The present study backs this claim.

A further study is needed to determine whether language sound systems of mother tongue are developed in such a way as to encourage acquisition of vocabulary, development of sounds and letters. The finding may help experts in Igbo language to become proactive in developing Igbo language further to the benefit of educational advancement of pupils in primary schools in Imo state.

Recommendations

The findings of this study necessitated the following recommendations. The government should promote the use of mother tongue in teaching pupils at the Basic 1–3 levels through playing supervisory roles in the implementation of section 4g of the National Policy on Education (2013). The Ministry of Education in Imo State should make sure that teachers posted to primary schools majored in Igbo language in their teacher training programme. This will encourage the effective use of the Igbo language for primary 1 to 3 instructions as directed by NPE (2013).

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