



Effects of the Use of Yoruba Language as a Medium of Instruction on Pupils Performance in Science and Mathematics

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ABSTRACT

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The purpose of this study was to find out the effects of the use of Yoruba language as a medium of instruction on pupils performance in Science and Mathematics. The population of the study comprises all primary three schools pupils selected from primary schools in Ibadan, Oyo State. The sample for this study were 40 participants selected from the population. The sampling technique for this study was multi-stage technique. The instrument used for data collection was Academic Performance Achievement Test (APAT). The instrument was validated by researcher's supervisor and other lecturers in the Department for content and face validity. All suggestions and corrections made were effected. The reliability of the instrument was carried out using the test-retest method. A total of 10 pupils from St Michael Primary School, Iyana Iba Lagos who were not part of the population were selected for reliability test. Data collected from the first week administration of the instrument was correlated with the first week questionnaire. The two data collected was analysed with Pearson's Product Moment Correlation Coefficients [PPMCC] which yielded 0.84 coefficient after computation. Researcher with four assistants administered the Academic performance Achievement test (APAT) to the two groups before the treatment. The experimental group was exposed to four weeks teaching in Yoruba language while the control group was not be expose to any treatment. Data collected was analysed with frequency counts and simple percentage for demographic data of respondents while the inferential statistics of t-test was used to test all the stated hypothesis at 0.05 level of significance. Findings from the study revealed that the use of Yoruba language as a medium of instruction had effect on pupil's performance in Science, Mathematics in primary schools in Oyo State. The study also found gender difference on the effect of the use of Yoruba language as a medium of instruction on pupil's performance in Science and Mathematics in primary schools in Oyo state. It was recommended that Teachers in primary school s in Oyo State should use the pupil's mother tongue to teach science based subjects, and Mathematics and should give equal right to both females and male to learn Science and Mathematics in their mother tongue without fear, favour or discrimination.

Keywords:

Academic performance, medium of instruction, mother tongue, and Yoruba

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INTRODUCTION

Communication is an act of transferring - facts, ideas, suggestions, directives, information, requests, and grievances from one person to another. Communication is the process of passing information and understanding from one person to another (Skillyouneed, 2022). Every communication always involves (at least) one sender, a message and a recipient. Communication is a complete and reasonable process; it is only when the recipient of the message has an understanding of the subject matter of communication.

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Language is a means of communication that is used to transfer information, ideas, and feelings from one person to another. Language is also a system of communication based on words and the combination of words into sentences. By using language, people can develop their knowledge and know about something. Language has been divided into four skills; listening, speaking, reading and writing (Cameron, 2001; cited in Kurniati, 2017). Language also serves as a tool and means of interaction. Also, language is an instrument and tool for interaction and communication. Language has been used as a tool of identity.

Learning a language means learning the Language skills and components. The four skills above are the important aspect of increasing a student's ability in using English fluently. One language skill is listening, it is an important component in human life to communicate because people spend more than 45 per cent of their communication time listening, which is more than any other communicative activity (Kurniati, 2017). Language is an important tool of communication which make human beings different from non-humans it has continually received attention from researchers and experts in the field of linguistics. Further, it is a sign system specifically designed to fulfill the cognitive and communicative functions in the process of human activity (Beka, 2016).

The use of language is many in the 21st century. This is because most economic activities presently require that individuals should learn important international languages. This prompted the use and management of native languages. In African settings, the ability to acquire a native language is perceived as an important way to enhance and sustain the socio-cultural development of the community (Hermenegilde, 2011). There are two ways to describe the term "language", based of functions of language. The first way is that language in education, means, and language as a medium of instruction. The second way is when language is described as language education, which means, it is learnt as a subject in schools. For instance, the English language is taught in all Nigerian Schools.

Everywhere that reference is made to at least two languages, it can be described as language education. In this case, the first language can be referred to as L1 and the second language as L2 (UNESCO, 2003). The complexities in the language of instruction in all educational institutions in societies with many languages have been a matter of concern to all educators and educational planners all over the world. The African situation is well summarized as education and language issues in Africa is very complex due to many ethnic and multiple languages (Ouadaogo, 2000).

Nigerian languages have been grouped into three main languages Yorùbá, Hausa and Igbo, and it is assumed that the average Nigerian should understand at least one language. These language differences in Nigeria has created an opportunity for the English language as the accepted

means of Instruction in Education in Nigeria (Fafunwa, 1990). To appreciate the value of language in the educational system and as a way of preserving the people's culture, the Federal Government of Nigeria considered language as a means of promoting national unity. Each child is expected to learn the three main languages plus his own native language. In view of this, the Federal Government of Nigeria considered the three main languages to be Yoruba, Hausa, and Ibo.

Ogbonyomi (2003), asserts that the language of instruction is the language used formally or informally as a medium of teaching, and to impart knowledge and skills that are aimed at developing the minds and characters of students. In view of this emphasis, the language of instruction should be the language that the teacher used to impart instructional or educational messages to the learners to make a change in the learner's behaviour in a positive outcome (Beka, 2016).

The Yoruba language is one of the languages, of instruction to be used to teach children. The Yoruba language is one of the native languages in Nigeria. It is the native language of the entire population in eight States in Nigeria. The States are Oyo, Ogun, Osun, Ondo, Ekiti., Lagos, and part of Kwara and Kogi States (Abijo, 2009). According to Udodiong, (2019) Yoruba language speakers can also be found in different countries scattered around the world.

Yoruba speakers are located in Togo and Benin Republic, while some are also found in Sierra Leone, Liberia, Ghana and Gambia. They are also spread to North America, the United Kingdom, Europe, the Caribbean Islands and Brazil. It has been confirmed that the Yoruba language could become one of the official languages in Brazil. Yoruba language in Nigeria is now being used as a medium of instruction in lower primary classes as stated in the National Policy on Education (Abidogun, 2012). The compulsorily use of the English Language in the Nigeria educational system has led to the relegation of native languages

Udoji (1974) white paper report recommended that one of the three main native languages in Nigeria should be used as a medium of instruction in all academic environments in Nigeria to enhance learning. (Olaopa, 2013). The National Policy of Education does not support colonial master's aim of education in Nigeria. The colonial masters imposed colonial language in governance and all sectors. (Adedun & Shodipe, 2011). Countries like Canada, Wales Japan, China, Switzerland, Russia and Italy have many languages. These countries made their native languages instruments to promote unity and national development (Daura, 2014).

According to Iyamu and Ogiegben, (2005) native language education creates an enabling environment that can be linked to the home background of the learners that will promote intellectual balance. The mother tongue plays a very vital role in the psychological and social development of a child by providing a more conducive learning environment and linking school learning with the home

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experience. This relationship between the school and the home promotes and guarantees cognitive balance. The ability to speak the native language can promote the growth and development of the child. The child needs to be guided, motivated and practice which are given adequate attention in the traditional society especially when the child is learning in the native language

Despite the importance of the Yoruba language in the socio-cultural life and academic performance of children in Yoruba speaking states in the past and submissions of most notable scholars, the Yoruba language is not being used as a mode of teaching and learning in most primary schools in Oyo State. Also, as stated in the 2013 edition of the National Policy on Education that the mode of teaching in primary school in Nigeria should be the native language of the child for the first three years in primary school

Studies have been conducted by researchers on the use of mother tongue on teaching, learning and academic performance of pupils, but few or none have been conducted on this population whose predominantly Yoruba children. This study therefore intends to fill that gap. In view of the above, it is imperative to examine the effects of Yoruba as a mode of teaching and learning on the performance of public primary schools pupils’ in Oyo State Nigeria, which was the focus of the study.

METHODS AND PROCEDURE

This study adopted pretest posttest control group quasi experimental research design. In this design, subjects were randomly assigned into two groups, (experimental group and control group - R1 and R2), pre-test will be giving to experimental and control group-O1, O2), the experimental group was given treatment –A four weeks of instruction using Yoruba language will be represented by letter T and the control group which received no treatment represented by letter X, post-test was given to the experimental group O1 and the control group O2, results was gathered at the end. The population of the study comprises all primary three schools pupils selected from primary schools in Ibadan, Oyo State. Ibadan is located in Oyo State, Nigeria, and is made

up of largely Yoruba speaking peoples. It is reputed to be the largest indigenous city in Nigeria with a total area of 3,080 sq. kilometers. The sample for this study were 40 participants selected from the population. The sampling technique for this study was multi-stage technique. The instrument used for data collection was Academic Performance Achievement Test (APAT). This instrument comprises of two sections. Section A comprises of the demographic information of children such as gender and religion. Section B comprises of the Achievement test questions. The Achievement Test questions consisted of Science and Mathematics.

The reliability of the instrument was carried out using the test-retest method. A total of 10 pupils from St Michael Primary School, Iyana Iba Lagos who were not part of the population were selected for reliability test. Data collected from the first week administration of the instrument was correlated with the first week questionnaire. The two data collected was analysed with Pearson’s Product Moment Correlation Coefficients [PPMCC] which yielded 0.84 coefficient after computation. Researcher with four assistants administered the Academic performance Achievement test (APAT) to the two groups before the treatment. The experimental group was exposed to four weeks teaching in Yoruba language while the control group was not be expose to any treatment. At the end of the treatment, the two groups were tested with the Academic performance Achievement test (APAT). Data collected was analysed with frequency counts and simple percentage for demographic data of respondents while the inferential statistics of t-test was used to test all the stated hypothesis at 0.05 level of significance.

TESTING OF HYPOTHESES

A total of three hypotheses were formulated and tested at 0.05 level of significance

Hypothesis 1: The use of Yoruba language as a medium of instruction will not have significant effect on pupil’s performance in Science in primary in primary schools in Oyo State.

Table i: t-test analysis on the use of Yoruba language as a medium of instruction on pupils performance on Science

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Control Science Pretest– Exp Science Pretest	.15000	1.03999	.23255	-.33673	.63673	.645	19	.527
Pair 2 Control Science Posttest – Exp Science Post-test	-2.45000	1.43178	.32016	-3.12009	-1.77991	-7.653	19	.000

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Table i showed the groups mean and Standard Deviation of the Pre-test and Post-test scores of participants performance in Science in relation to the effect of the use of Yoruba language as a medium of on instruction. The table showed the group mean pre-test score for science was .15 and group standard deviation was 1.03 while the post-test group mean score was 2.45 and group standard deviation was 1.43. The table further indicate a significant t-value was obtained in respect of performance in Science of participants ($t = 7.66$; $p < 0.05$). The stated hypothesis is hereby rejected indicating that the use of Yoruba language as a medium of instruction had effect on pupil’s performance in Science in primary schools in Oyo State. This finding is in line with UNICEF, (2011) in Vietnam study found that 68% of grade one students in a mother tongue programme achieved the level of excellent compared to only 28% of students not learning in their mother tongue. Walter, and Dekker, (2011) study in the Philippines where children learning in their mother tongue showed statistically significant improvements in all

subjects compared to children who were learning only in Filipino. Seyoum, (2009) posits that use of the first language is a factor in educational achievement and that the educational process in any society ought to be conducted through a language that both learner and teacher command well. Chuo, and Walter, (2011) studies from Cameroon, India, Mali, the Philippines, South Africa, Vietnam, and elsewhere attests to the benefits of learning in a familiar language. Specifically, a recent evaluation of a mother tongue education programme in Cameroon reveals that children who were taught in their mother tongue, Kom, performed significantly better-125% on average-in multiple subjects (including math and English) than a control group of peers who attended schools where English was the medium of instruction.

Hypothesis 2: The use of Yoruba language as a medium of instruction will not have significant effect on pupil’s performance in Mathematics in primary in primary schools in Oyo State.

Table ii: t-test analysis on the use of Yoruba language as a medium of instruction on pupil’s performance in Mathematics

Paired Samples Test

		Paired Differences			95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Control Mathematics Pretest – Exp Mathematics Pretest	-.35000	.81273	.18173	-.73037	.03037	-1.926	19	.069
Pair 2	Control Mathematics Posttest – Exp Mathematics Posttest	-2.80000	1.50787	.33717	-3.50571	-2.09429	-8.304	19	.000

Table ii showed the groups mean and Standard Deviation of the Pre-test and Post-test scores of participants for Mathematics in relation to the effect of the use of Yoruba language as a medium of on instruction. The table showed the group mean pre-test score for Mathematics was .35 and group standard deviation was .812 while the post-test group mean score was 2.80 and group standard deviation was 1.50. The table further indicate a significant t-value was obtained in respect of Mathematics of participants ($t = 8.30$; $p < 0.05$). The stated hypothesis is hereby rejected indicating that the use of Yoruba language as a medium of instruction had effect on pupil’s performance in Mathematics in primary schools in Oyo State. This finding is in line with Walter, and Dekker, (2011) study in the Philippines where children learning in their mother tongue showed statistically significant improvements in all subjects compared to children who were learning only in Filipino. UNICEF, (2011) in Vietnam study found that 68% of grade one

students in a mother tongue programme achieved the level of excellent compared to only 28% of students not learning in their mother tongue. Chuo, and Walter, (2011) studies from Cameroon, India, Mali, the Philippines, South Africa, Vietnam, and elsewhere attests to the benefits of learning in a familiar language. Specifically, a recent evaluation of a mother tongue education programme in Cameroon reveals that children who were taught in their mother tongue, Kom, performed significantly better-125% on average-in multiple subjects (including math and English) than a control group of peers who attended schools where English was the medium of instruction. Mathooko (2009) asserts that mother tongue education enhances the pupils’ skills in singing, drawing, playing, cutting and glueing, playing games, reading nursery and primary stories

Hypothesis 3: There is no significant gender difference on the effect of the use of Yoruba language as a medium of instruction in primary schools in Oyo state.

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Table iii: t-test analysis on gender difference on the effect of the use of Yoruba language as a medium of instruction Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Female Performance Control Pretest – Male Performance Control- Pretest	-.15000	.74516	.16662	-.49875	.19875	-.900	19	.379
Pair 2	Female Performance-Exp Pretest – Male Performance EXP- Posttest	3.25000	2.02290	.45233	-4.19674	-2.30326	7.185	19	.000

Table ii showed the groups mean and Standard Deviation of the Pre–test and Post–test scores of participants on gender difference on performance in relation to the effect of the use of Yoruba language as a medium of on instruction. The table showed the group mean pre–test score for gender difference on performance for control group for female and male was .15 and group standard deviation was .75 while the post–test group mean score for female and male performance was 3.25 and group standard deviation was 2.02. The table further indicate a significant t-value was obtained in respect of written composition ability of participants (t = 7.19; p < 0.05). The stated hypothesis is hereby rejected, indicating that there is gender difference on the performance in relation to the use of Yoruba language as a medium of instruction in primary schools in Oyo State. This finding is in line with Saville-Troike (2005) posits that there is widespread belief in many western cultures that females tend to be better L2 learners than males, but this belief is probably primarily a social construct, based on outcomes which reflect cultural and socio-psychological constraints and influences. van der Slik, van Hout, and Schepens, (2015) study concluded that female students retained their language advantage over a period of 30 years. Female students fared better in writing and language use (i.e. grammatical conventions, expression, and spelling), while small but consistent effect sizes were found for reading and verbal reasoning. Lietz (2006), Rosén (2001), and Wagemaker (1996) studies reported that the existence of a gender gap in many countries around the world, favouring women over men, regarding language abilities.

CONCLUSION

Based on the findings from the study, the following conclusions were made:

1. The use of mother tongue in primary school improves academic performance of pupils in Science
2. Pupils in primary school performed well academically in Mathematics when taught in their mother tongue.
3. Gender difference exist in pupil’s academic performance in Science and Mathematics when taught in mother tongue.

RECOMMENDATIONS

Based on the findings of this study the following recommendations were made:

1. Teachers in primary school s in Oyo State should use the pupils mother tongue to teach science based subjects
2. Teachers in Primary schools in Oyo State should encourage and use the pupil’s mother tongue to teach them Mathematics.
3. Teachers in Oyo State should give equal right to both females and male to learn Science and Mathematics in their mother tongue without fear, favour or discrimination.

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