BEST: International Journal of Humanities, Arts, Medicine and Sciences (BEST: IJHAMS)
ISSN (P): 2348–0521, ISSN (E): 2454–4728
Vol. 9, Issue 1, Jun 2021, 153–164

EFFECT OF TIV LANGUAGE ON PUPILS' ACADEMIC PERFORMANCE IN BASIC SCIENCE AND TECHNOLOGY IN EDUCATION ZONE B, BENUE STATE, NIGERIA

DANIEL BUNDEPUUN ORHII[1], PROF. JOSIAH OGBEBA[2] & ZAM JULIANA AFA[3]

[1,2]Department of Science and Mathematics Education, Benue State University, Makurdi, Nigeria.

[3]Department of Science Education, Federal University of Agriculture, Makurdi, Benue State, Nigeria.

ABSTRACT

The study examined the effect of Tiv language on pupils' academic performance in Basic Science and Technology in Education Zone B of Benue State, Nigeria. The purpose of the study was to find out the effect of Tiv language on pupils' academic performance at Lower Basic five in Basic Science and Technology. The study was guided by two research questions and three null hypotheses. Quasi-experimental pretest posttest non randomized group design was adopted. The target population of the study was 20,895 Basic five pupils from 1,840 government approved Basic mixed sex schools in the seven local government areas of Zone B of Benue State. A sample of 390 pupils was drawn from 14 primary schools across the seven local government areas using a multistage sampling technique. Out of the 390 sample, the experimental group comprised 180 pupils while the control group comprised 210 pupils. Within 180 pupils in the experimental group, 86 were males while 94 were females. Data were collected using Basic Science and Technology Performance Test (BSTPT) with the reliability of 0.88 using Kuder-Richardson 21 formula. Mean and standard deviation scores were used to answer research questions while the null hypotheses were tested at 0.05 level of significance using Analysis of Covariance (ANCOVA). The findings shows that pupils who were taught Basic Science and Technology using Tiv language had significant high academic performance scores than those who were taught using English language F= 144.182, Sig(0.00<0.05). No significant difference between the mean academic performance scores of male and female pupils taught Basic Science and Technology using Tiv language F= 0.504, Sig(0.48>0.05). There was no interaction effect of Tiv language and gender on pupils' academic performance F=1.304, Sig(0.26>0.05). It was recommended among others that even though, Basic Science and Technology is not taught in Tiv language but since this study confirmed that if used as a medium of instruction in the classroom it would help improve pupils' academic performance. Therefore, the Federal Ministry of Education through the Benue State Government should employ people who have the requisites qualifications to train teachers in the use of Tiv language for teaching and learning of Basic Science and Technology at the lower Basic level of education in the study area.

KEYWORDS: Tiv Language, Pupils, Academic Performance, Basic Science and Technology, Education Zone B

INTRODUCTION

In Education Zone B of Benue State, Nigeria, Tiv language is a mother tongue. Mother tongue is the language that the child learns first from his/her parents or in his/her own immediate environment before going to school. In a classroom, the teacher tries to provide instruction to learners through verbal communication. Verbal communication is a powerful tool that is used to transmit science concepts to the learner. It is the vehicle of teacher-pupils' interaction in the classroom teaching and learning process (Ezeudu, 2013). Science generally contains a number of concepts that are difficult to

understand. Using second language (English language) to explain them creates its own problem. This is particularly not easy for learners at the basic level studying in their second language which is the case of the Nigerian child; having to gain proficiency in English language which is not their mother tongue but the lingua franca of the nation before understanding science concepts. Difficulties associated with the learning of Basic Science and Technology may be traced to language difficulties and not lack of intellectual capacity of learners to cope with the learning situation (Adekunle, 2008). Hence using the first language "the Mother-Tongue" that is well developed for that purpose could provide some solutions aimed at improving verbal communication in the classroom (Nura, 2015). However, communication can become a paradoxical barrier when pupils have little or no understanding of the language of communication that is used in their classroom (Malone, 2012).

Using mother tongue as medium of communication makes teaching and learning more effective (Begi, 2014). Learning could be more effective when both learners and teachers speak the language of instruction effectively (Walter, 2010). Walter added that developing countries have continued to use colonial language as primary language of education from the earliest years of formal school. Teachers in such countries are also poor in the language and children speak little of the language or not at all by the time they have started school. This is the same situation in Nigeria. In supporting the Nigerian National Policy on Education, the United Nations Education Scientific and Cultural Organization (UNESCO, 2008) maintains that the use of first language (mother tongue) as a medium of communication in the classroom will boost children's confidence and academic performance. As such, it is recommended as a means towards achieving high academic performance in pupils. It therefore means that children who started acquiring education in their mother tongue will have a good start, and may perform better than those who start school in a foreign language.

Omonyi and Olabade (2013) attributed the continued retention of English as Nigeria's official language to colonial mentality. The authors further stressed that children should be given early education in their mother tongue. This is because it will last longer in their memory than any other tongue. Children will excel more when taught in their local language (UNESCO, 2008). The language that a child knows best should be the language of education and training which is capable of opening communication barriers that otherwise would have cause pupils' learning difficulty leading to poor academic performance in Basic Science and Technology at lower basic levels.

There is growing realization that poor academic performance of pupils may be related to inability of pupils to understand and comprehend the language of instruction used by teachers in the classroom (Andortan, 2015). Here, the worry is whether Basic Science and Technology is taught in such a way that pupils will understand and comprehend. Pupils may find it difficult to understand scientific concepts at lower basic level of education due to unfamiliarity with the language of instruction since they have to master the language before struggling with the scientific concepts. This could lead to poor academic performance.

Ezeudu (2013) asserts that language and culture are inseparable and any attempt to separate a child from its language and culture at early years of education is to make that child have no regard for his/her culture. The author maintains that the use of another language other than the mother tongue as a medium of communication in the classroom may impair the development of the child's personality and understanding.

In order to avoid the child's educational problems and make teaching and learning easier, the Federal Republic of Nigeria (FRN, 2013) in her National Policy on Education (NPE, p.11) states that the medium of instruction at primary schools level shall be principally the mother tongue or language of the immediate community at lower basic education. To

that end, government will develop the orthography of many Nigerian languages and produce textbooks in Nigerian languages, while English language shall be taught as a subject. This is probably because a child that is taught in his/her mother tongue may stand a better chance of having higher understanding of the subject matter and may improve their learning experiences than his/her counterpart taught in English language (Igbojinwaekwu & Dorgu, 2015).

Gender is another factor that could influence pupils' academic performance in school subjects (Ofoha, 2013). It is a variable that plays a significant role in learning situation. Gender is the socially constructed characteristics of women and men such as norms, roles and relationships of and between groups of women and men (World Health Organization, 2017). It is a term that varies from society to society and can be changed. It is a sense of awareness of being male or female and the roles that are attached to each group in the society. In language development, the gender difference shows a difference in verbal ability between male and female is still a matter of concern to individuals, groups and organizations (Wyk & Mostert, 2016). The reason for the differences is still a matter of controversy.

Furthermore, language processing is more abstract in girls and more sensory in boys (Northwestern University Research, 2008). The implication of the statement "language processing is more abstract in girls and more sensory in boys" to the current study could mean that a particular gender group may not be comfortable with a particular language of instruction used in teaching science subjects. Either male or female gender group may be having difficulty in understanding scientific concepts when taught using a particular medium of instruction (English language) thereby hindering their understanding ability to perform well. Hence, the need for the use of mother tongues to improve pupils' understanding of the scientific concepts that could in turn improves their academic performance in Basic Science and Technology.

Using a familiar language in delivering instruction in schools could at times help to bridge the gap in academic performance between male and female pupils such that each pupil could contribute meaningfully in the classroom lessons and it will enhance their performance (Ofoha, 2013). Considering the importance of Basic Science and Technology in science education and sciences in general, it should be taught in such a way that it will bridge the gap between the academic performance of male and female pupils. The importance of Basic Science and Technology in science education cannot be over emphasized. This is because Basic Science and Technology is the sole foundation to which all other science subjects and courses including other science related disciplines are built upon. Basic Science and Technology as a subject in the Nigerian curriculum comprises of Basic Science, Basic Technology, Physical and Health Education and Computer Studies/Information and Communication Technology. The importance of Basic Science and Technology is that, it enables learners to apply scientific and technological knowledge and skills to meet contemporary societal needs; it enables learners to acquire basic knowledge and skills in science and technology and to become prepared for further studies in the area of science and technology among others.

In spite of the importance of Basic Science and Technology among pupils and society at large, pupils' performance at lower basic school levels had been poor. However, the declining quality of Basic Science and Technology education in Nigerian education system has prompted many educators to raise concern on the future of science and technology education in the country. The abysmal performance of pupils in Basic Science and Technology, therefore, in their First School Leaving Certificate examinations conducted by various schools is a clear testimony that the education industry in Nigeria is in problem (Bashir, 2012).

It was observed that the academic performance of pupils in their First School Leaving Certificate (FSLC)

examination between 2014 to 2018 in Basic Science and Technology in some selected basic schools in Zone B is very poor. The performance has no particular pattern. In the year 2014, 124 pupils sat for the examination, 52% passed while 48% failed. In 2015, 138 pupils sat for the examination, 49% passed while 51% failed. In 2016, 182 pupils sat for the examination, 46% passed while 54% failed. In 2017, 227 pupils sat for the examination, 53% passed while 47% failed. In 2018, 198 pupils sat for the examination, 56% passed while 44% failed. The performance is in such a way that the percentage number of pupils that passed the examination in 2014, 2017 and 2018 is almost the same with the number of pupils that failed. In the year 2015 and 2016, the number of pupils that failed the examination is more than the number of pupils that passed. The average percentage pass result of pupils is not encouraging.

This poor academic performance of pupils could primarily be linked to the fact that the concepts taught are not retained by learners. Hence attempt to find out if the use of familiar language or mother tongue-based instruction (Tiv language) could bridge the gap between the academic performance of male and female pupils in Basic Science and Technology. Regardless of gender (male or female), could the use of mother tongue be one of the reasons why developed countries like China, India, Brazil, Taiwan, Holland, Germany, Japan, Russia, and Arab countries are highly advanced in the area of science and technology? These countries employ mother tongue for the teaching and learning of science subjects especially at lower level of education (Eze & Eze, 2008 in Ezeudu, 2013). In this case, the issue of language interference or barrier is no more. As such, teaching and learning in sciences has been made easy for pupils to understand a bit of everything that is expected of them to acquire in order to construct independent knowledge.

The language of the immediate environment or mother tongue in this study is Tiv language. Tiv language is the fourth largest ethnic group in Nigeria that is spoken by the majority of the people of Benue State, Nigeria. It is the only language spoken by all Tiv people in Benue State and beyond. Tiv language is a Southern Bantoid language spoken in Nigeria, with some speakers in Cameroon (Atonde, 2016).

It is also worthy to note that in the course of communicating learning experiences in the classroom, the language that is used may combine with gender to cause an effect on pupils' academic performance resulting to what is known as an interaction effect. An interaction effect may arise when you are considering the relationship among three or more variables to describe a situation in which the effect of one causal variable on an outcome depends on the state of a second causal variable. Interaction effect represents combined effects of factors on the dependent measure. It is therefore imperative to investigate the effect of Tiv language on pupils' academic performance in Basic Science and Technology and its interaction effect.

Statement of Problem

Despite the importance of Basic Science and Technology as a major foundation for further studies in sciences and other science related disciplines as well as a key for the development of any nation in the world, the persistent poor level of pupils' academic performance in their First School Leaving Certificate examination in Basic Science and Technology has become a source of public concern to stakeholders in the educational sector in Benue State and Nigeria at large. A review of pupils' results for the past five years in some selected schools in education Zone B of Benue State, between 2014-2018 is a clear indication that pupils' academic performance in Basic Science and Technology is drastically going declining every year.

Therefore, more research efforts are needed in science education at lower level of education because if this ugly

trend is allowed to continue, the future of science education in Benue State and Nigeria at large will be at stake. Because of this poor academic performance, the study investigated the effect of Tiv language on pupils' academic performance in Basic Science and Technology in Education Zone B of Benue State, Nigeria.

Purpose of the Study

The purpose of this study was to investigate the effect of Tiv language on pupils' academic performance at Lower Basic five in Basic Science and Technology in Education Zone B of Benue State, Nigeria. Specifically, the study:

- Investigated the effect of Tiv language on pupils' academic performance in Basic Science and Technology.
- Investigated the difference in the use of Tiv language between male and female pupils' academic performance in Basic Science and Technology.
- Investigated the interaction effect of Tiv language and gender on pupils' academic performance in Basic Science and Technology.

Research Questions

The study was guided by the following research questions:

- What is the difference between the mean academic performance scores of pupils taught Basic Science and Technology using Tiv language and those taught using English language?
- What is the difference between the mean academic performance scores of male and female pupils taught Basic Science and Technology using Tiv language?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

- There is no significant difference between the mean academic performance scores of pupils taught Basic Science and Technology using Tiv language and those taught using English language.
- There is no significant difference between the mean academic performance scores of male and female pupils taught Basic Science and Technology using Tiv language.
- There is no interaction effect of Tiv language and gender on pupils' academic performance in Basic Science and Technology.

RESEARCH METHOD

The design for this study was quasi-experimental pretest posttest non randomized group design. The design was deemed fit because it was not possible for the subjects of the research to be randomized as in true experimental study design. Thus intact classes were used in order to avoid disrupting normal school schedules. However, the classes were randomly assigned into experimental and control groups. The experimental group was taught using Tiv language whereas the control group was taught using English language. The population of the study was 20,895 Basic five pupils from 1,840 government approved Basic mixed sex schools in the seven local government areas of Zone B of Benue State, Nigeria. A sample of 390 pupils was drawn from 14 primary schools across the seven local government areas using a multi-stage

sampling technique. First stage: purposive sampling technique was used to select schools where Tiv language is taught as a subject; where pupils in the class are made up of only Tiv speaking group and where the school is a co-educational system (male and female mixed). The second stage involved simple random sampling technique to select two schools in each local government area in the zone. Out of the 390 sample, the experimental group comprised 180 pupils while the control group comprised 210 pupils. Within 180 pupils in the experimental group, 86 were males while 94 were females. Basic Science and Technology Performance Test (BSTPT) containing 40 items developed by the researchers was used to collect data. The instrument was developed using the contents in Basic Science and Technology curriculum. The instrument and the lesson plans were validated by five experts. Two experts were in the Department of Science and Mathematics Education. The other one in Language Education all in the Faculty of Education, Benue State University, Makurdi, Nigeria. The other two experts were Basic Science and Technology teachers in Primary schools. The reliability of BSTPT was established at 0.88 using Kuder-Richardson 21 formula. Mean and standard deviation scores were used to answer research questions while the null hypotheses were tested at 0.05 level of significance using ANCOVA.

RESULTS

Research Question 1

What is the difference between the mean academic performance scores of pupils taught Basic Science and Technology using Tiv language and those taught using English language?

Table 1: Mean and Standard Deviation Scores on Academic Performance of Pupils Taught Basic Science and Technology using Tiv Language and those Taught using English Language

Group	Pre-test	Post-test	$\bar{x}\delta$	$\bar{x}$	δ	Mean Gain
Tiv language	180	8.16	2.83	30.33	3.08	22.17
English language	210	9.06	3.05	24.25	6.22	15.19
Mean difference	**0.90**		**6.08**			**6.98**

The results in Table 1 shows that the pretest mean scores for Tiv language and English language groups are 8.16 and 9.06 with the standard deviation scores of 2.83 and 3.05 respectively. The posttest mean scores for Tiv language and English language groups are 30.33 and 24.25 with the standard deviation scores as 3.08 and 6.22 respectively. The mean gain difference between the two groups is 6.98 in favour of the Tiv language group who are more homogeneous than those taught in English language. This implies that pupils who were taught using Tiv language had higher mean academic performance scores than those taught using English language.

Hypothesis 1

There is no significant difference between the mean academic performance scores of pupils taught Basic Science and Technology using Tiv language and those taught using English language.

Dependent Variable: Post-Test

Table 2: **ANCOVA Tests for Significant Difference between Academic Performance Scores of Pupils Taught Basic Science and Technology Using Tiv Language and Those Taught Using English Language**

Source	Type III Sum	df mean Square	F	Sig	Partial Eta of Squares	Squared
Corrected Model	3629.336[a]	2	1814.668	72.204	.000	.272
Intercept	28157.868	1	28157.868	1120.37	.000	.743
Pretest	45.317	1	45.317	1.803	.180	.005
Group	**3623.672**	**1**	**3623.672**	**144.182**	**.000**	**.271**

Error	9726.307	387	25.133			
Total	298909.000	390				
Corrected Total	13355.644	389				

a. R Squared = .272 (Adjusted R Squared = .268)

The results in Table 2 indicates that F(1,389) = 144.182; Sig= 0.00<0.05. This significant value of 0.00 is less than the alpha value of 0.05 level of significance. Hence, the null hypothesis was rejected. It implies that there is a significant difference between the mean academic performance of pupils taught basic science and technology using Tiv language and those taught using English language in favour of the experimental group. It therefore means that Tiv language as a medium of instruction enhanced the academic performance of lower basic five pupils in Basic Science and Technology more than English language.

Research Question 2

What is the difference between the mean academic performance scores of male and female pupils taught Basic Science and Technology using Tiv language?

Table 3: Mean and Standard Deviation Scores on Academic Performance of Male and Female Pupils Taught Basic Science and Technology using Tiv Language

Group N	Pre-test	Post-test	$\bar{x}\delta$	$\bar{x}$	δ	Mean Gain
Male	86	8.66	2.69	28.83	4.23	20.17
Female	94	8.44	2.67	28.29	4.44	19.85
Mean difference	**0.22**		**0.54**			**0.32**

The results in Table 3 shows that the pretests mean scores for male and female pupils are 8.66 and 8.44 with the standard deviation scores as 2.69 and 2.67 respectively. This means the groups were homogeneous before treatment. The posttest mean academic performance scores for male and female pupils are 28.83 and 28.29 with the standard deviation scores as 4.23 and 4.44 respectively. The mean difference of both genders is 0.32 in favour of male pupils. This implies that male pupils performed slightly higher than their female counterparts in Basic Science and Technology when taught using Tiv language.

Hypothesis 2

There is no significant difference between the mean academic performance scores of male and female pupils taught Basic Science and Technology using Tiv language.

Dependent Variable: Post-Test

Table 4: ANCOVA Tests for Significant Difference between the Mean Academic Performance Scores of Male and Female Pupils Taught Basic Science and Technology using Tiv Language

Source	Type III Sum	df mean Square	F	Sig	Partial Eta of Squares	Squared
Corrected Model	219.340[a]	2	109.670	6.160	.003	.065
Intercept	10041.637	1	10041.637	564.011	.000	.761
Pretest	206.324	1	206.324	11.589	.001	.061
Gender	**8.967**	**1**	**8.967**	**.504**	**.479**	**.003**
Error	3151.305	177	17.804			
Total	150032.000	180				
Corrected Total	3370.644	179				

a. R Squared = .065 (Adjusted R Squared = .055)

The results in Table 4 indicates that F(1,179) = 0.504; Sig= 0.48>0.05. This significant value of 0.48 is greater than the alpha value of 0.05 level of significance. Hence, the null hypothesis was not rejected. This means that there is no significant difference between the mean academic performance scores of male and female pupils taught basic science and technology using Tiv language. It therefore implies that Tiv language as a medium of instruction in the classroom enhanced equal academic performance of male and female pupils in Basic Science and Technology.

Hypothesis 3

There is no interaction effect between Tiv language and gender on pupils' academic performance in Basic Science and Technology.

Dependent Variable: Post-Test

Table 5: ANCOVA Tests for Interaction Effect between Tiv Language and Gender on Pupils' Academic Performance in Basic Science and Technology

Source	Type III Sum	df mean Square	F	Sig	Partial Eta of Squares	Squared
Corrected Model	102.276[a]	2	51.138	5.672	.004	.060
Intercept	15395.049	1	15395.049	1707.641	.000	906
Pretest	86.442	1	86.442	9.588	.002	.051
Tiv Lan*Gender	**11.752**	**1**	**11.752**	**1.304**	**.255**	**.007**
Error	1595.724	177	9.015			
Total	167318.000	180				
Corrected Total	1698.000	179				

a. R Squared = .060 (Adjusted R Squared = .050)

Table 5 revealed F(1, 179) = 1.304; sig=0.255>0.05. The Sig value of 0.255 is greater than the alpha value of 0.05 level of significance. Hence, the null hypothesis was not rejected. This means that there is no interaction effect of Tiv language and gender on pupils' academic performance in Basic Science and Technology. Therefore, there is no need for separation of the medium of instruction for male and female pupils since Tiv language can be successfully used for the two gender groups.

Findings

This study investigated the effect of Tiv language on pupils' academic performance in Basic Science and Technology in Education Zone B of Benue State, Nigeria. Findings of this study revealed that there is a significant difference between the mean academic performance scores of pupils taught Basic Science and Technology using Tiv language and those taught using English language. Pupils who were taught Basic Science and Technology using Tiv language had significant higher academic performance scores than those who were taught using English language. This finding agrees with Anyagh, O'kwu and Imoko (2016) who found that Tiv language enhanced the achievement of students in Mathematics in Benue State, Nigeria. They found that students who were taught Mathematics using Tiv language achieved higher than those taught using English language. This Finding also supports Nura (2015) who found that students who were taught Physics concepts in Hausa language performed better than those who were taught in English language. In addition, the finding agrees with Charanchi (2011), Omonyi and Olabade (2013), Ethe, Andrew and Monday (2016), Maina (2016), Usman and Safo (2018) who in their different studies found that the use of mother tongue as a medium of instruction in the classroom enhanced students/pupils' academic performance more than English language.

The finding also showed that there is no significant difference between the mean academic performance scores of

male and female pupils who were taught same concepts in Basic Science and Technology using Tiv language as a medium of instruction. This finding supports Ezeudu (2013), Usman and Safo (2018) who reported in their studies that gender has no significant effect on students' achievement in Basic Science and Mathematics when they are taught using their mother tongue. The finding also agrees with Udosoro (2011) and Nzewi (2011) who in their different studies found that gender has no significant effects on students' academic performance in sciences. Therefore, there is no need to separate the medium of instruction for male and female pupils since Tiv language enhanced the academic performance of both male and female pupils in Basic Science and Technology.

In addition, findings of this study revealed that there is no interaction effect of Tiv language and gender on pupils' academic performance in Basic Science and Technology. This finding corroborates with Ezeudu (2013) who found no interaction effect of Igbo language and gender on students' achievement in Basic Science in Enugu State, Nigeria. The finding is also in line with Ofoha (2013) who found no interaction effect of Igbo language and gender on pupils' achievement in Agriculture in Imo State, Nigeria. This means that Tiv language as a medium of instruction is most preferable irrespective of gender in fostering pupils' academic performance.

CONCLUSIONS

Based on the findings, it was concluded that Tiv language enhanced pupils' academic performance more than English language. Tiv language also enhanced the academic performance of both male and female pupils in Basic Science and Technology more than English language. Therefore, it is not gender biased. There is no interaction effect of Tiv language and gender on pupils' academic performance in Basic Science and Technology.

RECOMMENDATIONS

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

- Even though Tiv language has not been used in teaching Basic Science and Technology but this study has proven that its use can improve pupils' academic performance. Therefore, the Ministry of Education through the Benue State government should employ people who have the requisites qualifications to train teachers in the use of Tiv language for the teaching and learning of Basic Science and Technology at the lower basic levels of education in Benue State, Nigeria.
- Writers of science education textbooks who have the requisites qualifications in Tiv language should be encouraged to translate all Basic Science and Technology textbooks and other relevant teaching materials to Tiv language to be used in the study area to enhance pupils' academic performance.
- Since Tiv language as a medium of instruction is not gender biased, both male and female pupils can be taught effectively using Tiv language to enhance their academic performance in Basic Science and Technology in Benue State, Nigeria

REFERENCES

1. Adekunle, A. (2008). African language vanguard media limited. Retrieved from http://groups.syahoo.com/groups/Africanlanguage/join/yahoo/ID
2. Andortan, J.A. (2015). Effect of ethnomathematics approach on basic education students' achievement and interest

in number and numeration in Obudu metropolis. Unpublished M.Ed Thesis, University of Agriculture, Makurdi.

3. Anyagh, I.P., O'kwu, E.I. & Imoko, B.I. (2016). Impact of using Tiv Language for teaching and learning Mathematics on students' achievement in Benue State. Asia Pacific Journal of Education, Art and Sciences, 3(1); 94-98.

4. Atonde, T. (2016). An investigation into the state of status planning of Tiv language of central Nigeria. Advances in Language and Literary Studies, 7(2), 129-130.

5. Bashir, M. (2012). School dropout pattern among senior secondary schools in Delta State, Nigeria. International Education Studies, 5(2)145-153.

6. Begi, N. (2014). Use of mother tongue as a language of instruction in early years of school to preserve the Kenyan culture. Journal of Education and Practice, 5(3), 37-49.

7. Charanchi, A. A. (2011). Influence of mother-tongue, teacher's qualification, gender and experience on performance in primary school mathematics in Katsina State. Journal of Research in National Development, 9(2), 147-154.

8. Ethe, N., Andrew, E.A. & Monday, O.A. (2016). The effect of using mother tongue in teaching and learning basic science in Delta State. Retrieved May 13th, 2018 from www.ocerint.org>abstracts.

9. Ezeudu, F.O. (2013). Effects of language of instruction on junior secondary school students' academic achievement in basic science. Journal of Education and Practice, 4(19), 44 60.

10. Federal Republic of Nigeria, (2013). National policy on education. Lagos: NERDC Printing Press.

11. Igbojinwaekwu, P.C. & Dorgu, T.E. (2015). Igbo language as medium of instruction and enhancement of retention level of pupils in primary school mathematics. British Journal of Education, 3(4), 21-36.

12. Maina, F.A. (2016). Impact of Kanuri language on performance and retention of Basic Science and Technology concepts among pupils in Maiduguri Metropolis, Nigeria. An M.Ed dissertation, Ahmadu Bello University, Zaria. Retrieved 16thjuly, 2018 from https://tycomputers.com.ng>impact-

13. Malone, S. (2012). What is needed for a successful mother based multilingual education programme. MLEWS Bangkok. Retrived 9th July, 2018 from https://journaleducationalresearchinformedpractice.files.wordpress.com

14. Northwestern University. (2008). Boys' and girls' brains are different: Gender differences in language appear biological. Science Daily. Retrieved on 31st May, 2018 from http://www.sciencedaily.com/releases/2008/03/080303120346[Google

15. Nura, G. (2015). The effects of mother tongue in the learning of Physics concepts: A case study of Hausa children in Zamfara State. Bakolori Journal of General Studies, 8(2), 1810 1815.

16. Nzewi, U.M. (2011). It's all in the brain of gender and achievement in science education. 51st Inaugural Lecture of University of Nigeria, Nsukka.

17. Ofoha, M. C. (2013). Effect of language of instruction on pupils' academic achievement and interest in agriculture in primary schools in Imo State. A PhD thesis submitted in the department of vocational teacher education, Faculty of Education, University of Nigeria, Nsukka. Retrieved on 6th April, 2018 from https://oer.unn.edu.ng>file

18. Omonyi, I. & Olabade, T. (2013). Effect of mother tongue and mathematical language on primary school pupils' performance in mathematics. Journal of Emerging Trends in Educational Research and Policy Studies, 4(3), 542-546.

19. Udousoro, U.J. (2011). The effect of gender and mathematics ability on academic performance of students in chemistry. An international Multidisciplinary Journal, Ethiopia, 5(4), 21 25.

20. UNESCO, (2008). Mother tongue matters: Local language as a key to effective learning. Paris: UNESCO Press.

21. Usman, H. &Safo, A.D. (2018). Effect of computer assisted instruction in Nupe language on students' achievement and retention in mathematics in Niger State. Journal of Research & Method in Education, 8(2), 22-28.

22. Walter, S. (2010). The mother tongue instruction model in search of insights. SIL International 2(6), 213-216.

23. WHO, (2017). What do we mean by "sex" and "gender"? Retrieved on 11th July, 2018 from www.who.int.

24. Wyk, J.V. & Mostert, M.L. (2016). The influence of mother tongue and gender in theacquisition ofEnglish (L2). The case of Afrikaans in Windhoek schools, Namibia. Retrieved from https://doi.org/10.1080/2331186X.2016.1210997