Impact of Local Language on Academic Performance of Nursery Pupils

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Abstract:
The study investigated the impact of local language on the academic performance of nursery school pupils in Mathematics, Basic Science and Agricultural Science. The pre-test-posttest control group experimental design was adopted for the study. The population for the study was 180 pupils. A sample of 120 pupils was used for the experiment and the remaining 60 participants served as the control group. Four research questions and four hypotheses were developed for the study. Two research instruments (multiple-choice items) were used for the analysis. Expert judgement was used to ascertain the validity of the instrument. Kuder Richarson formular20 was used to establish the reliability of the instruments. The instruments were administered to the pupils. Mean, standard deviation and percentage were used to answer the research question, while a t-test was also used at a 0.05 level of significance to analyze the hypotheses. The findings revealed that local language has an impact on the overall performance of the pupils. The subject-by-subject analysis of the three subjects equally shows that using the local language in teaching nursery pupils at an early stage will improve academic performance compared to those taught in English language. Conclusions were drawn and recommendations were equally made.

Keywords: Impacts, assessment, local language, English language, academic performance

1. Introduction

All over the world, language is a very important means of communication. It is an indispensable means of communication. Obi (2019) pointed out that children brought up in a bilingual home can have more than one mother tongue and this is quite advantageous if the couple is from different tribes. He pointed out that being bilingual is beneficial to a child's intellectual development. The mother tongue helps shape the development of children's intellectual, physical, psychological and moral aspects. Habits, conducts, values, customs and virtue are developed in children through local languages. Language plays a major role in the teaching and learning process. Interaction between the teachers and the pupils needs a good knowledge of language development. Ohen (2006) pointed out that the teacher needs to have a good knowledge of language development to understand the child's language and to teach the child some aspects of language even when he is not a language teacher.

The Oxford advance learner's Dictionary (2015) defines language as the system of communication in speech and writing that is used by people of a particular country or area. Language plays a major role in the educational system. Okonkwo (2014) pointed out the need to use appropriate language and adopt strategies that will enhance effective communication between the teacher and the learner. He stressed the need to use the immediate language of the environment or the local language. Ifesieh and Ejobee (2013) defined local language as the declared language by the state government as their official language. Local language can also be referred to as 'vernacular.' Vernacular is a dialect distinct from what is seen as a standard language. Iwara (2011) pointed out why young learners should be taught in their home language. Ikechukwu (2021) opined that the problem of language in African philosophy is not the multi-languages in Africa nor the oral traditional history documentation but rather is a problem of colonialism of language and introduction of the colonial master of philosophy of their language without considering the peculiar nature of African language and culture. Therefore, there is a need for a cultural renaissance that will bring about a better African philosophy in a language that will mirror African reality in the teaching and learning process. Iwara (2011) also affirmed that language occupies a central place in the human cognitive landscape and is essential for promoting and developing education.

Kioko (2015) enumerated the following as the importance of using the local language in the teaching and learning process:

- Using the local language in teaching and learning makes interaction simpler. It also makes life simpler for the locals.

- Local language is the best way of experiencing the culture of people.
- It makes the learning of language simpler and more beneficiary.
- It will help one to make friends with people and promote unity.
- The use of the learner's home language will bring about a smooth transition between home and school.
- It will bring about trust between the teacher and the learner.

2. Problem-Facing Teaching of Local Language in Nigeria

The multi-language nature of Nigeria: The multi-language nature of Nigeria makes it difficult for which local language to use. For instance, there are over 525 languages in Nigeria. Within one local government are various languages, which makes it difficult to select the appropriate local language that will suit the locality.

Lack of language teachers: In most of the locality, no teacher can write and read the local language, which makes it difficult for its teaching and learning. The lack of local language curriculum expert designers makes it almost impossible to teach the local language.

The attitude of parents towards local language: Research findings have shown that nowadays, most parents believe that using English at an early stage of learning for children will enhance their educational development, but some research has proven otherwise (Obi, 2019). He also pointed out that in some parts of Nigeria, there is a gradual decline and almost deliberate neglect and a laissez-faire attitude. This action implies the enthronement of English as the language of excellence at the detriment of the local language. This attitude is a cry to globalization which undermines the diverse nature of the world. These days it is an agonizing situation in the habit and how some parents train their children. They have come to associate English language superiority over the local language or mother tongue. They regard the local language as primitive and antiqued. This can be seen by the manner in which they pronounce and phonetize local names and words and spell them as if they are English or foreign names and words. Their children grow up priding in ignorance and some end up treating their local language with scorn. Some of such children end up treating their mates who are well-grounded in using English as locals. There is also a problem of teacher factor in the neglect of local language in schools in Nigeria. Some of the teachers consider it pejorative to use the mother tongue; they impose the use of English on the pupils and penalize or punish pupils for communicating in their mother tongue. It has made promoting the use of the mother tongue or local language a vain venture.

The contradiction between parents, teachers and some research workers has necessitated this research to compare the performance of nursery pupils between ages three (3) to five (5) taught in English language and local languages: Urhobo, Isoko and Ika dialects of Delta state Nigeria.

3. Research Questions

The following research questions were raised to guide the study:

- Is there a difference in the overall academic performance of pupils taught Mathematics, Basic Science and Agricultural Science in the local language and English language?
- Is there a difference in the academic performance of pupils taught Mathematics in the local language and English language?
- Is there a difference in the academic performance of children taught Basic Science in the local language and English language?
- Is there a difference in the academic performance of pupils taught Agricultural Science in the local language and English language?

4. Research Hypotheses

- There is no significant difference in the overall academic performance of pupils taught Mathematics, Basic Science and Agricultural Science in the Local language and English language.
- There is no significant difference in the academic performance of pupils taught Mathematics in the local language and English language.
- There is no significant difference in the academic performance of pupils taught Basic Science in the local language and English language.
- There is no significant difference in the academic performance of pupils taught Agricultural Science in English language and local language.

5. Purpose of the Study

The main purpose of this study is to compare the academic performance of pupils taught in the local language and English language. Specifically, the study will:

- Compare the academic performance of pupils taught Mathematics in the local language and English language.
- Compare the academic performance of pupils taught Basic Science in the local language and English language.
- Compare the academic performance of pupils taught Agricultural Science in the local language and English language.

6. Research Methodology

The study adopted the pre-test-posttest control group experimental design. Sixty (60) pupils were randomly selected for the control group, sixty (60) pupils for local language and sixty (60) pupils for English language in Delta state.

Control Group	Experimental Group	
	English Language	Local Language
Sixty (60) Pupils	Sixty (60) Pupils	Sixty (60) Pupils

Table 1

A pre-test was conducted for the control group and experimental group and one hundred and eighty (180) pupils were selected for the study. Sixty (60) pupils were selected for the control group. Sixty (60) pupils were taught in English language and sixty (60) pupils were taught in the local language, which comprises twenty (20) Urhobo, twenty (20) Isoko and twenty (20) Ika, during the long vacation (holiday) in August 2022.

The population for the study is one hundred and eighty (180) pupils. A sample of 120 pupils was used for the experiment, while the remaining 60 pupils served as a control group. For the experiment, two research instruments were used for each of the subjects, one for the pre-test and the other for the post-test. Each of the instruments for each subject has four versions - English and local language, with three versions.
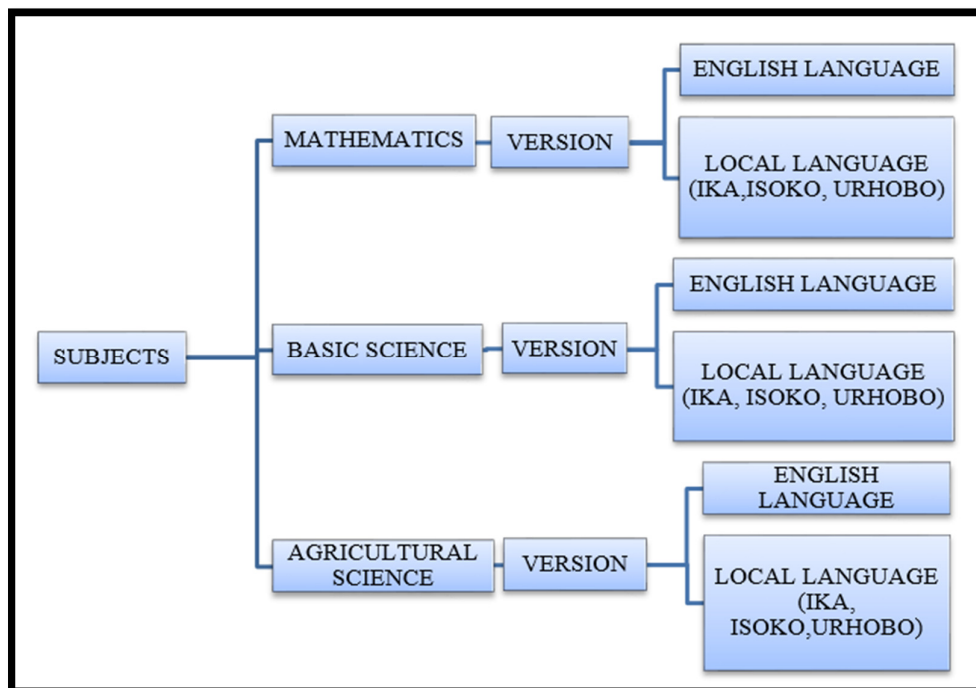

Figure 1

The Validity of the instruments was established using expert judgement in the various subject area used and experts in Measurement and Evaluation. Kuder-Richarson formula (k-R20) was used in establishing reliability for the instruments. The following coefficient was obtained for the three experimental instruments 0.73.
The instrument for the pre-test was administered to the one hundred and eighty (180) pupils in the following order:
- In Delta Central senatorial district: 20 pupils for control - 20 pupils for English - 20 pupils for Urhobo.
- In Delta North senatorial district: 20 pupils for control - 20 pupils for English - 20 pupils for Ika.
- In Delta South senatorial district: 20 pupils for control - 20 pupils for English - 20 pupils for Isoko.
The experiment was later conducted by teaching 20 pupils from Delta Central in English, 20 in Urhobo while the other 20 were left as a control group, 20 were also taught in Delta North senatorial district in English, 20 in Ika while the other 20 pupils also served as a control group. The same suit was also followed in Delta South senatorial district. 20 were taught in the Isoko language, 20 in the English language, while the other 20 served as a control group.

At the end of the experiment, the post-test was later conducted and the results obtained were analyzed alongside the pre-test. The result of the analyses is as follows:

6.1. Research Question 1
Is there a difference in the overall academic performance of pupils taught Mathematics, Basic Science and Agricultural Science in the local language and English language?

		Control	Local Language	English Language
N	Valid	180	180	180
	Missing	0	0	0
Mean		5.71	5.87	5.45
Std. Deviation		2.18	2.31	1.86

Table 2: Mean and Standard Deviation of the Overall Academic Performance of Pupils Taught Mathematics, Basic Science and Agricultural Science in Local Language and English Language (Pre-test)

		Control	Local Language	English Language
N	Valid	180	180	180
	Missing	0	0	0
Mean		5.41	13.54	9.36
Std. Deviation		1.91	3.15	2.53

Table 3: Mean and Standard Deviation of the Overall Academic Performance of Pupils Taught Mathematics, Basic Science and Agricultural Science in Local Language and English Language (Post-test)

The analysis of tables 2 and 3 (pre-test and post-test) shows that the mean of the control group in the pre-test was 5.71 while the post-test was 5.41 indicating a 0.30-point drop in performance. Those taught in the local language have a mean of 5.87 for the pre-test and a mean of 13.54 for the post-test, representing a 7.67-point improvement (130.67%). While those taught in the English language have a pre-test mean of 5.45 and a post-test mean of 9.36, with a 71.74% improvement.

6.2. Research Question 2

Is there a difference in the academic performance of pupils taught Mathematics in the local language and English language?

		Control	Local_Language	English_Language
N	Valid	60	60	60
	Missing	0	0	0
Mean		5.90	5.73	5.75
Std. Deviation		2.27	2.39	1.89

Table 4: Mean and Standard Deviation of Pupils' Academic Performance in Mathematics for Pre-test

		Control	Local_Language	English_Language
N	Valid	60	60	60
	Missing	0	0	0
Mean		5.72	13.18	9.38
Std. Deviation		1.98	3.27	3.00

Table 5: Mean and Standard Deviation of Pupils' Academic Performance in Mathematics for Post-test

The results of table 4 and 3 show that the pre-test for Mathematics has a mean of 5.90 and a standard deviation of 2.27 for the control group, pupils for local language have a mean of 5.73, with a standard deviation of 2.39 and pupils for English language have a mean of 5.75. The results of table 5 show that the post-test for the control group has a mean of 5.72, indicating a decline of 0.18 points and representing a 3.05% decline in academic performance. The mean academic performance for the post-test of local language is 13.18, while the standard deviation is 3.27. The mean performance, improved by 7.45 points, represents a 130.02% improvement in academic performance when taught in the local language, while those taught in the English language have a mean of 9.38 with an improvement of 3.63 points (63.13%).

6.3. Research Question 3

Is there a difference in the academic performance of children taught Basic Science in the local language and English language?

		Control	Local_Language	English_Language
N	Valid	60	60	60
	Missing	0	0	0
Mean		5.37	5.80	5.43
Std. Deviation		2.18	1.89	1.67

Table 6: Mean and Standard Deviation of Pupils' Academic Performance in Basic Science for Pre-test

		Control	Local_Language	English_Language
N	Valid	60	60	60
	Missing	0	0	0
Mean		5.42	13.97	8.97
Std. Deviation		1.78	2.62	2.19

Table 7: Mean and Standard Deviation of Pupils' Academic Performance in Basic Science for Post-test

Analysis of table 6 (pre-test) shows that the mean for the control group, local language group and English language group are 5.37, 5.80 and 5.43, respectively, while the standard deviation for the control, local language and English language are 2.18, 1.89 and 1.67, respectively. Results of table 7 (post-test for Basic Science) show that the mean for the control group, the local language group and English language group are 5.42, 13.97 and 8.97, respectively. The analysis revealed that there was a decrease of 0.45 points (7.67%) in the control group. The English language improved by 3.54 points (65.19%), while the local language improved by 8.17 points (140.86%).

6.4. Research Question 4

Is there a difference in the academic performance of pupils taught Agricultural Science in the local language and English language?

		Control	Local_Language	English_Language
N	Valid	60	60	60
	Missing	0	0	0
Mean		5.87	6.08	5.17
Std. Deviation		2.05	2.61	1.98

Table 8: Mean and Standard Deviation of Pupils' Academic Performance in Agricultural Science for Pre-test

		Control	Local_Language	English_Language
N	Valid	60	60	60
	Missing	0	0	0
Mean		5.08	13.47	9.73
Std. Deviation		1.95	3.50	2.31

Table 9: Mean and Standard Deviation of Pupils' Academic Performance in Agricultural Science for Post-test

Analysis of table 8 (Agricultural Science pre-test) revealed that the mean scores for the control group, the local language group and the English language group were 5.87, 6.08 and 5.17, respectively. Table 9 (post-test) indicated that the control group's mean of 5.08 decreased in performance by 0.79 points (13.46%). English language post-test has a mean of 9.73 improvement of 4.56 points (88.20%), while the local language has a post-test mean of 13.47 improvement of 7.39 points (121.75%).

6.4.1. Hypothesis 1

There is no significant difference in the overall academic performance of pupils taught Mathematics, Basic Science and Agricultural Science in the local language and English language.

Variable	N	Mean	Standard Deviation	Df	T-Calculated	Sig (2-Tailed)	Decision
Local Language	180	13.54	3.15	358	13.877	.000	Reject Ho
English Language	180	9.36	2.53				

Table 10: T-Analysis Summary Table of the Overall Academic Performance of Pupils taught Mathematics, Basic Science and Agricultural Science in the Local Language and English Language

Analysis of table 10 showed that the pupils taught in the local language have a mean score of 13.54 (SD=3.15), while those taught in English language have a mean score of 9.36 (SD=2.53). The t-calculated of 13.877 is significant at p-value p=0.000, degree of freedom, 358 at $\alpha=0.05$. Since p is less than the alpha value, the null hypothesis is rejected. Therefore, there is a significant difference in the overall performance of pupils in the three subjects taught in the local language and English language. The pupils taught in the local language performed better than those taught in the English language.

6.4.2. Hypothesis 2

There is no significant difference in the academic performance of pupils taught Mathematics in the local language and English language.

Variable	N	Mean	Standard Deviation	Df	T-Calculated	Sig (2-Tailed)	Decision
Local Language	60	13.18	3.27	118	6.629	.000	Reject H_o
English Language	60	9.38	3.00				

Table 11: T-Analysis Summary Table of the Academic Performance of the Pupils
Taught Mathematics in Local Language and English Language
A= 0.05

Analysis of table 11 showed that the pupils taught in the local language have a mean score of 13.18 (SD=3.27), while those taught in English language have a mean score of 9.38 (SD=3.00). The t-calculated of 6.629 is significant at p-value p=0.000, degree of freedom, 118 at α=0.05. Since p is less than the alpha value, the null hypothesis is rejected. Therefore, there is a significant difference in the academic performance of pupils in Mathematics taught in the local language and English language. Those taught in the local language performed better than pupils taught in the English language.

6.4.3. Hypothesis 3
There is no significant difference in the academic performance of pupils taught Basic Science in the local language and English language.

Variable	N	Mean	Standard Deviation	Df	T-Calculated	Sig. (2-Tailed)	Decision
Local Language	60	13.97	2.62	118	11.376	.000	Reject H_o
English Language	60	8.97	2.19				

Table 12: T-Analysis Summary Table of the Academic Performance of the Pupils Taught
Basic Science in the Local Language and English Language

Analysis of table 12 revealed that the mean score of pupils taught Basic Science using the English language is 8.97(SD=2.19) and the Local language is 13.97(SD=2.62). The analysis further shows that the t-calculated value of 11.376 is significant at p-value, p=0.000, degree of freedom 118 at α=0.05. Therefore, since the p-value of p=0.000 is less than the alpha value of α=0.05, we reject the null hypothesis. Pupils taught Basic Science using the local language performed better than those in the English language.

6.4.4. Hypothesis 4
There is no significant difference in the academic performance of pupils taught Agricultural science in English language and local language.

Variable	N	Mean	Standard Deviation	Df	T-Calculated	Sig. (2-Tailed)	Decision
Local Language	60	13.47	3.50				
English Language	60	9.73	2.31	118	6.899	.000	Reject H_o

Table 13: T-Analysis Summary Table of the Academic Performance
of Pupils Taught Agricultural Science in Local Language and English Language

From table 13, the mean academic performance of students taught Agricultural Science in English language is 9.73 (SD=2.31), while the mean of pupils taught in the local language is 13.47 (SD=3.50). The t-calculated value 6.899 is found insignificant at p-value p=0.000, degree of freedom 118. Since p<0.05, the null hypothesis is rejected. The pupils taught Agricultural Science in the local language performed better than pupils taught in the English language.

7. Discussion of Findings

The finding from the general performance in tables 2 and 3 show that the pupils taught in the local language improved by 7.67 points, representing 130.6% improvement, while those taught in English language improved by 5.45 points, representing 71.74%. Analysis of hypothesis 1 on the general performance shows that there is a significant improvement in the overall performance of pupils. Those taught in the local language performed better than those taught in English language.

The subject-by-subject analysis from tables 4 and 5 shows that those taught Mathematics in the local language have a mean improvement of 7.45(130.02%), while those taught in English language have a mean improvement of 3.63 points (63.13%). The t-test analysis of performance equally shows that there is a significant difference between the pupils taught Mathematics in the local language and English language. Those taught in the local language perform better than those taught in English language.

Analysis of tables 6, 7 and 7 equally shows that the pupils performed better when taught in the local language. The mean improvement of the local language is 8.16 points, representing 140.86% performance, while the English language has a mean improvement of 3.54 points, representing 65.19%. The t-analysis summary also indicated that those taught in the local language performed better.

In the same vein, analysis of tables 8, 9 and 8 indicated that there is a difference in the performance of pupils taught Agricultural Science in the local language by 7.39 points (121.75%), while those taught in English language have improved performance of 4.56 points (88.20%). The t-analysis summary in table 8 also shows that there are differences in academic performances between the pupils taught in the local language and those taught in English language.

The value of standard deviation in all the tables is low and similar, which indicates that the scores are all close to the mean. This indicates that the performance is uniform for the general performance and the subject analysis is also similar.

This study's findings agree with Mwakira & Mwangi (2021) and Ayofe & Faremi (2022). Their findings equally revealed that using the mother tongue in teaching will help improve academic performance compared to English or a second language. The study is at variance with Hiriga's (2021) study findings which emphasize that the continuous use of the English language by the teacher will enhance academic performance when compared to the use of the local language. However, Dorthe & Barbara's (2008) findings revealed that the use of bilingual language will be more beneficiary to students in their academic performance rather than using a local language or a second language.

8. Conclusion

It is, therefore, concluded from the study that the use of the local language is very important in the teaching and learning process. The use of the local language at the early stage enhances academic performance, which will, in turn, improve the transition from home to school academic performance.

The overall performance and the subject-by-subject analysis all indicated that pupils performed better when taught in the local language than in the English language.

9. Recommendations

- The parents should be well-informed about the importance of the local language in a child's academic development at an early stage.
- Government should make teaching and learning in local languages compulsory at the primary and secondary school level and ensure its implementation.
- Government should inaugurate a local language curriculum development committee to ensure uniformity in language curriculum in the country.
- The children should be well-informed that the English language is not superior to their mother tongue.

10. References

i. Ayofe, A. O., & Faremi, M. F. (2022). Effect of mother tongue on academic performance of students in English. In O. Babaci-white (Ed.), Giving space to Africa voice: right in local language and local curriculum council Butaleja district. Undergraduate research report of Busitema University.
ii. Dorthe, B., & Barbara, T. (2008). Mother tongue matters: Local language as a key to effective learning. France: Rotterdam Sense Publishers.
iii. Hiriga, H. (2021). The effect of local language on learners' performance in English language in Busolwe town. Journal of Nigerian Languages and Culture, 13(2), 1–20.
iv. Homby, A. S., Bradbery, J., & Deuter, M. (2015). Oxford Advanced Learner's Dictionary (9th ed.). United Kingdom: Oxford University Press.
v. Ifesieh, E. C., & Ejobee, L. (2013). Globalization and vanishing voices: A case study of Uhorbo. Journal of Religion and Philosophy, 3(1), 131–146.
vi. Ikechukwu, A. K. (2021). African philosophy and problem of language. Journal of Religion and Philosophy, 3(1), 14–15.
vii. Iwara, A. U. (2011). Language, culture and education in the Nigerian environment. Journal of Nigerian Languages and Culture, 14(1), 191–212.
viii. Kioko, A. (2015). Why schools should teach young learners in home language. British Council. Retrieved from: www.britishcouncil.org
ix. Mwakira, G., & Mwangi, V. (2021). The use of mother tongue language and its effect on academic performance in Obokun local government area of Osun state, Nigeria. Al-Hikmah Journal of Educational Management and Counselling, 4(1), 32–37.
x. Obi, P. C. (2019, July). The decline of mother tongue in our modern society. The Messenger of Peace Catholic Diocese of Warri Monthly Magazine, 14–15.
xi. Ohen, E. R. (2006). Developmental psychology. Educational viewpoint. Ibadan: End Time Publishing House.
xii. Okonkwo, J. I. (2014). Appropriate language in education: The strategy for national development in Nigeria. Oxford University Press.
xiii. United Nations Scientific and Cultural Organization. (n.d.).