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Textbook Utilisation and Class Participation as Predictors of Academic Achievement in Basic Science and Technology in Lower Primary Schools in Southwestern, Nigeria

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Abstract
The study examined the relationship between class participation and pupils' academic achievement in Basic Science and Technology in Southwestern, Nigeria. It examined the relationship between textbooks utilization and pupils` achievement in Basic Science and Technology and also investigated combined influence of textbooks utilization and class participation on pupils `achievement in Basic Science and Technology. The study further determined the combined influence of textbooks utilization, class participation on pupils` achievement in Basic Science and Technology in relation to gender and compared the combined influence of school type on textbooks utilization, class participation and pupils' achievement in Basic Science and Technology. These were with a view to providing empirical information on how textbooks utilization and class participation are capable of predicting pupils` achievement in Basic Science and Technology. The study adopted a correlational survey research design. The population consisted of all lower Primary III Pupils in Southwestern, Nigeria. The sample size of the study was made up of 810 Primary III pupils. Multistage Sampling Procedure was used to select the sample for the study. Simple random sampling technique was used in selecting three states out of the six states in Southwestern geographical zones of Nigeria (Oyo, Ekiti, and Ondo). One Local Government Area (LGA) was selected from each of the three senatorial districts in the selected states using simple random sampling technique. Three primary schools were selected from each of LGA using simple random sampling technique making a total of 27 schools. Three self-designed instruments were used to collect data from for this study namely: Questionnaire on Pupils Utilisation of Basic Science and Technology Textbooks (QPUBSTT), Observation Scale Measuring Pupils Participation in Basic Science and Technology (OSMPPBSTC) and Basic Science and Technology Achievement Test (BSTAT). QPUBSTT was used to inspect how pupils utilize BST textbooks. OSMPPBSTC was used to observe pupil's participation in BST class. BSTAT was used to measure pupil's academic achievement in BST class. Data were analysed using simple percentages and regression analysis. The results showed that there was a significant relationship between the class participation and pupils` achievement in Basic Science and Technology in the study area ($F = 74.182$, $p < 0.05$). The result also showed that there was significant relationship between Textbooks Utilization and Pupils` Achievement in Basic Science and Technology in Southwestern, Nigeria ($F = 155.706$, $p < 0.05$). Furthermore, the results revealed that there was no significant relationship of the combined influence of Textbook Utilization and Class Participation on pupils` achievement in Basic Science and Technology in the study area ($p < 0.05$). The results also revealed that there was no significant relationship of the combined influence of Textbooks Utilization and Class Participation on pupils` achievement in Basic Science and Technology in relation to gender in the study area ($p < 0.05$). Finally, the results showed also that there was no significant relationship of the combined influence of the Textbooks Utilization and Class Participation on pupils `achievement in Basic Science and Technology in relation to school type in the study area ($p<0.05$). The study concluded that textbooks utilization and class participation are capable of predicting lower primary school pupils` academic achievement in Basic Science and Technology in Southwestern, Nigeria.

Keywords: Basic Science and Technology, Textbook, Academic Achievement, Utilization, Predictors

INTRODUCTION
Education is the bedrock for development in any nation of the world and also a means of acquiring growth in all ramifications including science, economy and technology. One of the major interests of governmental authorities across the world includes the commitment to providing quality education and training. The Federal Republic of Nigeria [1], in her National Policy on Education considered education to be a top instrument that can bring about the materialization of change and development for individual entities and for the nation as a whole. Thus, the envisioned development is planned to be become visible through a properly designed and well executed curriculum at all stages of education with special emphasis on the primary stage of education

because this forms the basis for the other levels or stages of education.

Education at the primary level gets the child ready for life beyond the four walls of the classroom. It enhances the skill sets for the child most especially as regards numeracy and literacy. Education at this primary level exists as the foundation of formal education. It has evolved to exist as an integral part of the educational system across the globe. Moreover, advancement into other stages of education can only be guaranteed when an entity has successfully passed through the primary school. Thus, primary school education is a premise upon which other educational stages are built.

Asodike[2] stated that primary education trains and gets the child ready for more advanced educational experiences. Furthermore, it arms the pupils with the essentials of writing, attaining skills, reading as well as other behaviors necessary for integration into the society. The National Policy on Education, [1] clearly stated that education at this primary level is the tool for national development needed to enhance individual development for advanced learning as well as the holistic development of the society and fair access to education among the children. The role of primary education is to provide a basis for advanced education at higher levels, so as to ensure that there is no problem at subsequent level.

Science is the knowledge about the physical and natural realm of existence premised on facts that can be experimentally proven. It is also the combination of human efforts to understand the antecedence of the world of nature as well as its mechanics providing substantial physical prove as the bedrock for such assumptions and understanding. This is done through the observation of natural occurrences coupled with the experimentation that seeks to improve natural processes subject to controlled conditions. Thus, science can be regarded as a continuous search for explanation of phenomena in nature Oni, [3]. Basic Science and Technology (BST) as a subject evolved to be a tool for resolving problems related to the socio-economic aspect of the society as well as several other divergent problems bedeviling developing countries of the whole world. For a nation to develop, more attention must be given to BST in schools at the primary and secondary stages of education in order to lay the basic foundation for its development, Oloyede, [4].

Early Childhood Education is that form of education that is giving right from birth till age eight within Nigerian context. It is so crucial, as it is the basic educational level that children between the age of zero to eight (0-8) are exposed to. Child education is as old as man and there is keen interest in how children learn and in what they learn.

The all-round development of the child which include the physical, intellectual, social and emotional aspects of the child. Childhood is a period of incredible growth and development from cognitive, social, physical, psycho-social and emotional development, it is the formative period of a child life, when development is very rapid. children at this stage of development are largely influenced by their environment and hence the need for a flourishing environment in order to make this stage remarkable.

Early childhood education is commonly conceived to a pre-school, or rather an extension of semi-formal education beyond the four walls of the home Osho, Aliyu, Okolie & Onifade,[5]. Primary education captures the levels of education such as the crèche, the nursery, and kindergarten Akinbote, [6]. This programme was introduced for children between the ages of zero and five years as clearly stated in the National Policy on Education of the Federal Republic of Nigeria [7].

The attempt to design Early Childhood Education (ECE) in an effective, purposeful and appropriate manner is the responsibility of all and sundry but the greatest of this is on the government of a given state Wolf, Aber & Behrman, [8]. The parents are expected to ensure that the children gain access to school while they also co-operate with the school. Similarly, the community is supposed to make resources available while the teachers are supposed to expedite the development of the children. However, these strategies can only be successful if the government partners with the relevant stakeholders while it provides the work plan for the execution of this level of education Kabay, Wolf & Yoshikawa, [9].

A significant part of the work plan is the necessary policy to ensure compliance, enforcement, and ease of implementation of the programme.

Textbooks are vital tools essential for teaching and learning of BST to improve teacher's efficiency and promote pupils' academic performance. Learning is made more pragmatic, interesting and exciting with the engagement of textbooks. The utilization of textbooks also enhances both the teachers and pupils' participation in such an active and effective manner in the classroom. It also aids skill acquisition as well as enhancement of self-confidence and self-actualization. According to Ibeneme[10], textbook can be explicated to be a material used by the teacher for practical exhibition in the class. Similarly, Ikerionwu [11] averred that textbooks are tools that assist the teacher in logically presenting lessons in the class. Equally, Fadeiye[12] considered textbooks to be visual and concrete tools with which teachers improve the quality of instruction as well as learning activities in Basic science and Technology.

There are some factors which teachers must consider in selecting BST textbooks for pupils and these are the suitability and quality of the material capturing its content, level of vocabulary as well as the ethnic and gender tendencies. Thus, as soon as the chosen textbooks are utilized effectively in the classroom, the academic achievement of the pupil will be affected positively. Contributions in extant literature as it pertains to the accessibility and deployment of textbook has largely influenced the investment of several governments, philanthropic organizations and donor community in education. Some educational scholars have found that effective use of textbooks by both teachers and pupils is one of those schools' factors that influence the achievement of academic performance of social studies in primary schools.

Class Participation is a vital component of pupils learning. This captures activities such as partnering with another pupil in class or as a group while they think and reflect together in a bid to build an enhanced learning environment Cooke [13]. Inadvertently, as soon as pupils begin to get used to speaking up in class, they begin to learn to communicate their intentions in a clearly understandable manner. Also, when they ask questions, they get used to seeking and acquiring information needed to enrich their understanding of the subject matter. More also, class participation has been considered to be a valuable learning tool for the teachers. Through pupil's questions, teachers can access the perception of the pupils about the subject matter and adjust to the instructions given accordingly Shore, [14].

Classroom participation is affected by the suitability and relevance of textbooks utilized. In participation, the teacher ensure that all the pupils have the recommended social studies textbook, the class will be learners centered instead of teachers centered and therefore motivate the pupils to learn, this is because all the pupils will be involved in the class participation by using their textbooks. It has been observed by researchers that at the commencement of the academic year, majority of pupils do not participate voluntarily in classroom discussion. Oni [3] attributed this possibility to some factors such as familiarization with a new school environment, timidity or introversion, absence of enough awareness, cultural issues, fear of humiliation, or language intricacies.

An achievement test is a test of developed skill or knowledge. Prominent among such achievement test is a standardized test carried out through planned instruction to ascertain the requisite knowledge or skill acquired by a pupil in a given grade level. Ordinarily, achievement tests are often held in contrast with tests that determine aptitude which is a more broad-spectrum and stable cognitive characteristic Meanwhile, in establishing the grade level for which a pupil is prepared for, achievement tests scores are considered.

Oyedele [15] examined the impact of resources on the academic performance of learners, as he carried out his research on secondary school students. Also, Afolabi and Adeleke [16] acknowledged the non-accessibility, insufficiency and non-utilization of textbooks as factors responsible for pupils' non-participation in the classroom. Stephen [17]carried out his study on the use of instructional materials on learners' participation in science classroom in preschool.

However little or no work has been carried out on textbook utilization and class participation among primary pupils since most of the researchers carried out their studies on instructional materials among secondary school students. It has also been observed that the performance of pupils in Basic Science and Technology being one of the compulsory subjects taught in lower primary schools continues to dwindle from year to year. Adeyemi,B.A.,Adediran, V.O. &Adewole, O.S.[18]. The importance attached to science by the federal and state governments in Nigeria has been clearly stated in section five of the National Policy on Education [7] sub-section thirty-nine of this part read as follows: 'University and other levels of education will be required to pay greater attention to the development of scientific programmes in a bid improve technological and science education'.

Low level of achievement of pupils has been the concern of stakeholders and researchers in education, this might be linked to poor implementation of the curriculum content, lack of qualified teachers and practical work, inappropriate teaching methods and lack of textbooks by pupils etc. It is therefore necessary to examine some variables such as textbook utilization and class participation as they affect pupils' performance in Basic Science and Technology at the lower primary school level.

Statement of the Problem

Basic Science and Technology (BST) is one of the compulsory subjects taught at the lower primary schools in all schools. Its effective teaching involves textbook utilization which has to do with the extent to which pupils make use of recommended textbooks within and outside BST classroom. Not only that, the involvement of pupils in teaching and learning activities which is class participation cannot be de-emphasized.

However, the need for effective administration of instructional materials to promote functional and quality education has been the one of the specific targets of the educational system in the country. It has

been observed that pupils do not perform as expected in Social Studies being one of the compulsory subjects taken at the lower primary schools, Adeyemi, [19]. Low level of achievements of pupils has been the concern of stakeholders and researchers in education.

Studies have shown that pupils performance in Basic Science and Technology is declining and many reasons have been advanced as the cause of this poor academic performance .Evidence has shown that effective and efficient utilization of textbooks as well as increase in classroom participation has improved learning outcomes of secondary school students, however, there exists no clear substantiation of this claim as regards the effects on Basic Science and Technology at the primary school level, hence this study. Evidence has shown that effective and efficient utilisation of textbooks and students' participation in classroom activities have been effectively used in improving learning outcomes of secondary school students. However, there is little information on the effects on BST at the primary school level based on gender and school type: hence this study.

Purpose of the Study

The broad objective of the study is to investigate how textbook utilization and Class Participation determines Academic Achievement of Lower PrimarySchool Pupils in Basic Science and Technology in Southwestern, Nigeria.

The specific objectives of this study are to

(a) examine the relationship between class participation and pupils 'achievement in Basic Science and Technology in Southwestern, Nigeria;

(b) examine the relationship between textbooks utilization and pupils' achievement in Basic Science and Technology in the study area;

(c) investigate the combined influence of textbook utilization, class participation on pupils' achievement in Basic Science and Technology in the study area;

(d) determine the combined influence of gender on textbooks utilization, class participation on pupil's achievement in Basic Science and Technology in the study area; and

(e) compare the combined influence of school type on textbooks utilization, class participation and pupil's achievement in Basic Science and Technology in the study area.

Hypothesis

The following hypotheses were generated for the purpose of this study:

a. There is no significant relationship between class participation and pupils' achievement in Basic Science and Technology in Southwestern, Nigeria.

b. There is no significant relationship between textbooks utilization and pupils' achievement in Basic Science and Technology in Southwestern, Nigerian.

c. There is no significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in the study area.

d. There is no significant relationship of the combined influence of gender on textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in the study area.

e. There is no significant relationship of the combined influence of textbook utilization and class participation on pupils' achievement in Basic Science and Technology in relation to school type in the study area.

Scope of the Study

The study was limited to primary III pupils in one Local Government Area selected from each senatorial district in 3 states in southwestern, Nigeria. The 3 states were Oyo, Ekiti and Ondo. A total of Twenty-seven (27) schools and eight hundred and ten (810) primary pupils were purposively selected. The selected topics taught were classes of food, functions of food and balanced diet. This study was limited to primary III based on maturity.

Limitation of the Study

The study was limited to three states in southwestern geographical zone of Nigeria due to time and financial constraints. The research also encountered setbacks in the study such as the non-concentration of pupils during the teaching in class and their adamant attitude when they were assisted in filling the questionnaires.

Furthermore, in a bid to correctly fill the questionnaire, it had to be read to the pupils painstakingly to elicit responses from them after which the teachers had to fill the options picked by the pupils on the questionnaire. This wasted lots of time during the research process. Also, getting school to cooperate with the researcher and research assistants in making available pupils of their school for the research exercise was a great task.

More so, the proprietors of the schools involved in the research exercise expressed fear about the safety and all other health hazards on the part of the pupils of their schools to take part in the research exercise. Meanwhile, the time allocated by the owners of the schools for the teaching was short. Also, the research resources were highly stretched due to the scheduling of the participation of the pupils involved in the research exercise as proprietress/proprietors were reluctant to bear the cost of teaching aids which made financial burden fall on the researcher. However, irrespective of these constraints, the objective of research project was not be jeopardized.

METHODOLOGY

The study adopted a correlational survey research design. The population for the study comprised of all lower primary III pupils in Southwestern, Nigeria.The sample size for the study comprised eight hundred and ten (810) primary three pupils. Multistage sampling procedure was used to select the sample for the study. Simple random sampling technique was used in selecting three states out of the six states in the southwestern geographical zones of Nigeria, one local government in each state were selected from three senatorial districts per state in all the 3 states,three primary schools were selected from each LGA using simple random sampling technique making a total of twenty-seven schools. Three self-designed and validated instruments were used to collect data for this study. They are: Questionnaire on Pupils Utilization of Basic Science and Technology Textbooks (QPUBSTT), Observation Scale Measuring Pupils Participation in Basic Science and Technology Class (OSMPPBSTC), Basic Science and Technology Achievement Test (BSTAT)

A. Questionnaire on Pupils Utilization of Basic Science and Technology Textbooks (QPUBSTT)

Questionnaire on pupils' utilization of Basic Science and Technology Textbook (QPUBSTT) was designed by the researcher with the assistance of the supervisor and other experts in early childhood education. The instrument was used by the researcher to inspect how pupils utilize basic science and textbooks. The instrument was divided into two sections, section A is made up of the demographic data of pupils in primary III. These data include; gender, the child's age and the child' class. Section B addressed pupils' level of textbook utilization in BST. The instrument was used to inspect the textbook of the selected pupils alongside with the class note.

B. Observation Scale Measuring Pupils Participation on Basic Science and Technology Class (OSMPPBSTC)

Observation scale measuring pupils' participation in Basic Science and Technology was designed by the researcher with the assistance of the supervisor and other experts in early childhood education. The instrument was used to observe pupils' participation in Basic Science and Technology class. The instrument was divided into two sections, section A: demographic information of the respondents. These include; gender, the child's age and the child's class, while Section B was the observer scale measuring pupil's participation in BST class. Pupils` were observed and rated with 5-Likert point scale: Excellent 5, Very Good 4, Good 3, Fair 2, Poor1. Each of the twenty criteria embraced different aspects of classroom participation. The criteria were incorporated to rate pupils who are active participants and those who are passive participants in BST class. The criteria also included the extent to which pupils gave their opinions and response to teachers' questions.

C. Basic Science and Technology Achievement Test (BSTAT)

The Basic Science Achievement test is a standardized test/questions which contain 20-multiple choice items based on three different topics taught by their teachers during the research work. The topics are classes of food, functions of food and balanced diet. This instrument was used to measure pupils' academic achievement in Basic Science and Technology class.

Validation of the Research Instruments

The instruments were designed by the researcher. The instruments were given to the supervisor and other experts in Early Childhood Education to establish the content validity of the instruments while experts in test development were consulted for construct validity. The three instruments were trail tested on 30 pupils outside the scope of the study, their responses to the items were used to determine the reliability of the instruments. The reliability coefficient for each section on Pupils Utilization of Basic Science and Technology Textbooks (QPUBSTT) was determined using Cronbach Alpha, 0.631. Observation Scale Measuring Pupils Participation on Basic Science and Technology Class (OSMPPBSTC) yielded a reliability of 0.714. Basic Science Achievement Tests (BAT) yielded a reliability of 0.721. The data collection from the respondents were sorted and analyzed using percentages and regression analysis.

RESULTS

Table 1: Descriptive statistics of socio-demographic information of the pupils in the study area

S/N	Variables	Frequency (f)	Percentage (%)
1.	**Gender**		
	Male	478	59.0
	Female	332	41.0
2.	**Age**		
	7 years	378	46.7
	8 years	337	41.6
	9 years	95	11.7
3.	**School Type**		
	Private	538	66.4
	Public	272	33.6
4.	**Class**		
	Primary 3	810	100.0

N = 200

Results in Table 1 showed the descriptive statistics of socio-demographic information of the pupils in the study area. From the table, 59.0% are males while 41.0% are females even as 46.7%, 41.6% and 11.7% are 7 years, 8 years and 9 years old respectively. On school type, 66.4% are in private schools while

33.6% are in public schools even as 100.0% of the pupils are in primary 3 in South Western Nigeria.

Testing of Hypotheses

Hypothesis One: There is no significant relationship between class participation and pupils' achievement in Basic Science and Technology in South Western Nigeria.

In order to test this hypothesis, data collected on pupils' class participation and achievement in Basic Science and Technology were subjected to regression analysis and the results are presented in Table 2.

Table 2: Regression analysis of the relationship between class participation and pupils' achievement in Basic Science and Technology in South Western Nigeria

Model	Sum of Square	df	Mean Square	F	Sig.	Remark
Regression	1539.682	1	1539.682	74.182	.000	Significant
Residual	16770.387	808	20.755			
Total	18310.069	809				

($F = 74.182$, $p < 0.05$)
Dependent Variable: Pupils' Achievement Test
Predictors: (Constant); Class Participation

Results in Table 2 showed that there is significant relationship between class participation and pupils' achievement in Basic Science and Technology in South Western Nigeria ($F = 74.182$, $p < 0.05$). Therefore, the null hypothesis that states that there is no significant relationship between class participation and pupils' achievement in Basic Science and Technology in South Western Nigeria is hereby rejected. The result implies that classroom participation is a predictor of pupils' achievement in Basic Science and Technology in the study area.

Hypothesis Two: There is no significant relationship between textbooks utilization and pupils' achievement in Basic Science and Technology in South Western Nigeria.

In order to test this hypothesis, data collected on pupils' textbook utilization and achievement in Basic Science and Technology were subjected to regression analysis and the results are presented in Table 3.

Table 3: Regression analysis of the relationship between textbook utilization and pupils' achievement in Basic Science and Technology in South Western Nigeria

Model	Sum of Square	df	Mean Square	F	Sig.	Remark
Regression	2958.356	1	2958.356	155.706	.000	Significant
Residual	15351.713	808	19.000			
Total	18310.069	809				

($F = 155.706$, $p < 0.05$)
Dependent Variable: Pupils' Achievement Test
Predictors: (Constant); Textbooks Utilization

Results in Table 3 showed that there is significant relationship between textbooks utilization and pupils' achievement in Basic Science and Technology in South Western Nigeria ($F = 155.706$, $p < 0.05$). Thus, the null hypothesis that states that there is no significant relationship between textbooks utilization and pupils' achievement in Basic Science and Technology in South Western Nigeria is hereby rejected. The result implies that textbooks utilization is a predictor of pupils' achievement in Basic Science and Technology in the study area.

Hypothesis Three: There is no significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in South Western Nigeria.

In order to test this hypothesis, data collected on pupils' textbook utilization, class participation and achievement in Basic Science and Technology were subjected to regression analysis and the results are presented in Table 4.

Table 4: Regression analysis of the relationship of the combined influence of textbooks utilization and pupils' achievement in Basic Science and Technology in South Western Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	6.581	0.346		19.037	.000
Textbooks Utilization	1.385	0.160	0.390	8.646	.000
Class Participation	0.060	0.151	0.018	0.395	.003

$R = 0.402$, $R^2 = 0.162$, Adj. $R^2 = 0.160$, Estimated Standard Error = 4.361
Dependent Variable: Pupils' Achievement Test
Predictors: (Constant); Textbooks Utilization and Class Participation.

Results in Table 4 showed that there is significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in South Western Nigeria. Hence, the null hypothesis that states that there is no significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in South Western Nigeria is hereby rejected. The results implied that pupils' textbooks utilization and class participation are predictors of their academic achievement in Basic Science and Technology. Textbook's utilization ($\beta = 0.390$; $t = 8.646$; $p < 0.05$) while class participation ($\beta = 0.018$; $t = 0.395$; $p < 0.05$) were significantly dependent predictors of pupils' academic achievement in Basic Science and Technology in the study area.

Hypothesis Four: There is no significant relationship of the combined influence of textbook utilization and class participation in pupils' achievement in Basic Science and Technology in relation to gender in South Western Nigeria.

In order to test this hypothesis, data collected on pupils' textbook utilization, class participation and achievement in Basic Science and Technology in relation to gender were subjected to regression analysis and the results are presented in Table 5.

Table 5: Regression analysis of the relationship of the combined influence of textbooks utilization and pupils' achievement in Basic Science and Technology in relation to gender in South Western Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	7.329	0.551		13.308	.000
Textbooks Utilization	1.391	0.160	0.391	8.690	.000
Class Participation	0.060	0.151	0.018	0.402	.003
Gender	-0.543	0.311	-0.056	-1.744	.082

$R = 0.406$, $R^2 = 0.165$, Adj. $R^2 = 0.162$, Estimated Standard Error = 4.356
Dependent Variable: Pupils' Achievement Test
Predictors: (Constant); Textbooks Utilization, Class Participation and Gender.

Results in Table 5 showed that there is significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in relation to gender in South Western Nigeria. Therefore, the null hypothesis that states that there is no significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in relation to gender in South Western Nigeria is hereby rejected. The results implied that pupils' textbooks utilization and class participation are predictors of their academic achievement in Basic Science and Technology. Textbook's utilization ($\beta = 0.391$; $t = 8.690$; $p < 0.05$) and class participation ($\beta = 0.018$; $t = 0.402$; $p < 0.05$) were significantly dependent predictors of pupils' academic achievement in Basic Science and Technology. However, gender ($\beta = -0.056$; $t = -1.744$; $p > 0.05$) was significantly not a predictor of pupils' achievement in Basic Science and Technology in the study area.

Hypothesis Five: There is no significant relationship of the combined influence of textbook utilization and class participation in pupils' achievement in Basic Science and Technology in relation to school type in South Western Nigeria.

In order to test this hypothesis, data collected on pupils' textbook utilization, class participation and achievement in Basic Science and Technology in

relation to school type were subjected to regression analysis and the results are presented in Table 6.

Table 6: Regression analysis of the relationship of the combined influence of textbooks utilization and pupils' achievement in Basic Science and Technology in relation to school type in South Western Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	8.779	0.534		16.425	.000
Textbooks Utilization	1.353	0.158	0.381	8.582	.000
Class Participation	0.124	0.149	0.037	0.834	.003
School Type	-1.707	0.320	-0.170	-5.330	.000

$R = 0.436$, $R^2 = 0.190$, Adj. $R^2 = 0.187$, Estimated Standard Error = 4.289
Dependent Variable: Pupils' Achievement Test
Predictors: (Constant); Textbooks Utilization, Class Participation and School Type.

Results in Table 6 showed that there is significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in relation to school type in South Western Nigeria. Hence, the null hypothesis that states that there is no significant relationship of the combined influence of textbooks utilization and class participation on pupils' achievement in Basic Science and Technology in relation to school type in South Western Nigeria is hereby rejected. The results implied that pupils' textbooks utilization, class participation and school type are predictors of their academic achievement in Basic Science and Technology. Textbook's utilization ($\beta = 0.381$; $t = 8.582$; $p < 0.05$), class participation ($\beta = 0.037$; $t = 0.834$; $p < 0.05$) and school type ($\beta = -0.170$; $t = -5.330$; $p < 0.05$) were significantly dependent predictors of pupils' academic achievement in Basic Science and Technology in the study area.

DISCUSSION OF FINDINGS

From the findings of the study, it was observed that there was significant relationship between class participation and pupils` Achievement which is in view of cimmina[20] who revealed that class participation is important because learning is not just between the pupils and the teachers, but part of the whole classroom experience, where pupil learn from each other and internalize the knowledge better.

The result of the findings also showed that the relationship between Textbook Utilization and Pupils` Achievement in Basic Science and Technology in Southwestern, Nigeria is significant which corroborates the findings of Argungu[21]and Meziebo, K.A., Fubara, V.R &Meziebo, S.A[22] that Textbook Utilization is very vital in basic science and technology teaching-learning process such that when teaching is effectuated with textbooks much learning takes place and there is a better chance of success in achieving lesson objectives. But when teaching is done without the use of textbook, learning may look dull and too theoretical to students.

The result of the study further revealed that the relationship of the combined influence of textbook utilization and class participation on pupils` Achievement in Basic Science and Technology is significant. This result supports the findings of Shore [14], Class participation is a valuable leaning tool for the teacher. Through pupil questions, teachers learn what the pupils understand and can adjust to the instructions accordingly. The component to success in class participation includes the availability and adequacy of the recommended textbooks. In class participation, the teacher should ensure that all pupils are with textbook. This is to ensure the participation of all pupils in the teaching learning process. Effective utilization of textbook makes pupils enjoy participating in Basic Science and Technology lesson and even make them repeat what has been taught during their free time. This enables pupils to be able to keep idea in their long-term memory. This can help the pupils to explore issues, identify needs and facilitate their leaning and personal development, Clerk, [23].

The result of the study also reveals that the relationship of the combined influence of textbook utilization and class participation on pupils' achievement in Basic Science and Technology in relation to gender in the study area is significant.

SUMMARY

The study investigated the Textbook utilization and Class participation as predictors of Academic Achievement in Basic Science and Technology in lower primary schools in Southwestern, Nigeria. Therefore, specifically, the study examined the relationship between class participation and pupils` achievement in Basic Science and Technology in southwestern, Nigeria. The study further examined the relationship between Textbooks Utilization and Pupils` Achievement in Basic Science and Technology in the study area; The study also investigated the combined influence of Textbooks Utilization, Class Participation on Pupils` Achievement in Basic Science and Technology in the

study area; The study determined the combined influence of Textbooks Utilization, Class participation on Pupils` Achievement in Basic Science and Technology in relation to gender in the study area; The study finally compared the combined influence of Textbooks Utilization, Class Participation on Pupils` Achievement in Basic Science and Technology based on school type in the study area.

To achieve the study objectives, the following research hypotheses were generated and tested to guide the study:

- The relationship between Class Participation and Pupils` Achievement in Basic Science and Technology in Southwestern, Nigeria is not significant
- The relationship between Textbooks Utilization and Pupils` Achievement in Basic Science Technology in the study area is not significant
- The combined influence of Textbooks Utilization, Class Participation on pupils` Achievement in Basic Science and Technology in the study area is not significant
- The combined influence of Textbooks Utilization, Class Participation on pupils` Achievement in Basic Science and Technology in relation to gender in the study area is not significant
- The combined influence of Textbooks Utilization, Class Participation on pupils` Achievement in Basic Science and Technology based on school type in the study area is not significant.

The study investigated Textbook Utilization and Class Participation as predictors of Academic Achievement in Basic Science and Technology in Lower Primary Schools in Southwestern, Nigeria.

The study adopted a correlational survey research design. The population consisted of all primary school pupils in southwestern, Nigeria. Primary III pupils were chosen based on maturity and moreover primary three is the highest reading stage in early childhood education. The sample size of the study comprised 810 primary III pupils. Multistage sampling procedure was used in selecting three states out of the six states in southwestern geographical zones of Nigeria. One local government area (LGA) was selected from each of the three senatorial districts in the selected state using the simple random sampling technique. Three primary schools were selected from each LGA using simple random sampling technique making a total of twenty-seven schools. Three self-design instruments were used to collect data for this study namely: Questionnaire on pupils Utilization of Basic Science and Technology Textbook (QPUBSTT), Observation's scale Measuring Pupils Participation in Basic Science and Technology Class (OSMPPBSTC) and Basic Science and Technology Achievement Test (BSTAT). QPUBSTT was used to inspect how pupils utilize BST textbooks. OSMPPBSTC was used to observe pupil's participation in BST class. BSTAT was used to measure pupils` academic achievement in BST class. In this study, five research hypotheses were formulated and tested data were analyzed using percentages and regression analysis.

CONCLUSION

In view of the findings, the study revealed that there is significant relationship between Class participation and pupils` Achievement in Basic science and Technology in Southwestern, Nigeria. It is therefore important to always ensure that appropriate, updated textbooks are used for teaching Basic Science and Technology. This is because textbooks provide a context for learning and understanding of the topic of discourse.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were therefore
suggested to further promote children learning and achievement

- Teachers should ensure that they make use of recommended Textbooks in Basic Science and Technology in teaching the pupils.
- Parents should be ready to give quality attention to the learning of the children since pupils at this stage are not yet mature to make some certain significant decision as regard their learning.
- Being major stakeholders in education, government should ensure the provision of learning facilities that could make the learning environment conducive in school.
- Teachers should be motivated and updated on how to make teaching-learning interesting irrespective of the subject matter.
- Education remains the bedrock of development in any country, government should make the achievement of standard education her priority.

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