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Effect of Math's kit Instructional Materials on Gender's Retention in Mathematics in Secondary Schools in Abuja, Nigeria

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Abstract
This study investigated the effects of Math's kit instructional materials teaching approach on secondary school student's Retention in mathematics. The study was guided by three research questions and two null hypotheses. The study adopted the quasi-experimental research design. The population for the study was 2,526 students, comprising of 1,162 males and 1,364 females. Simple random sampling technique was adopted with a sample size of 135 students, consisting of 70 males and 65 females. Mathematics Retention Test (MRT) was the instrument used in collecting data for pre-test and post-test respectively. The reliability index of the instrument was 0.88%. The data were analyzed using Mean and Standard Deviation to answer research questions and ANCOVA was used to test the hypotheses at 0.05% level of significance. The results of the findings showed that students exposed to Math's kit instructional materials teaching approach retained better in Mathematics than those exposed to the conventional method of instruction. Again, the findings indicated no significant difference in Retention of male and female students when taught Mathematics using Math's kit instructional materials teaching approach. Based on the findings It was concluded that, the use of Math's kit instructional materials teaching approach enhanced students' Retention more than the use of conventional teaching method in Mathematics.

Keywords: *Math's Kit Instructional Materials, Conventional Method of Teaching Mathematics, Gender Issues, Retention Test.*

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I. Introduction

Mathematics is a tool for scientific and technological advancement; it has also contributed more to the objectives of the general education of man than any other subject. No one can do without Mathematics because is use for everything in life (Elaine, 2013) Mathematics involves a logical expression of the relationships that exist among the measurable quantities of time and space in the universe, presented in compact and simple codes. Elaine (2013), further defined mathematics as the science that deals with the logic of shape, quantity and arrangement. Elaine also expatiated that mathematics is all around us, in everything we do; as it is the building block for everything in our daily lives, including mobile devices, architecture (ancient or modern), art, money, medicine, politics, engineering and even sports. By implication, mathematics is a logical way of thinking that aims at solving personal and societal problems; and it has timely improved our communication, accommodation, production and recreational activities. It is for this reason that most nations of the world makes the study of Mathematics compulsory both in primary and secondary levels of education and also a prerequisite for university education (Lassa, 2012). Without mathematics and science one will never penetrate into the depths of anything in life (Okwuoza, S.O and Anaduaka, U. S, 2020).

Mathematics teachers and researchers have observed that mathematics is unique among school subjects, in that, it is the bedrock for all sciences, engineering and technology. Therefore failure in mathematics is an occasion of embarrassment both to the students, teacher, parents and society at large. Research has shown that, students' inability to do mathematics is associated with some factors such as, mathematics phobia, relationship between teachers and students, lack of qualified mathematics teachers, ineffective teaching methods, lack of instructional materials and tales from elders that mathematics is difficult, gender discrimination, among others. However, gender is often included among the variables whose impact on learning mathematics is being explored, as noted in the field of mathematics education (Morgan, 2014).

Gender issues have been long outstanding, which have persisted at primary, secondary and tertiary levels (UNESCO, 2015). Gender is a set of characteristics distinguishing between male and female, particularly in the cases of men and women. Depending on the context, the discriminating characteristics vary from sex to social role to gender identity. Gender issues in mathematics and retention has remained a source of concern as

scientists seek to address the under-representation of women at the highest levels of mathematics, sciences and technology (MST) (Asante, 2010)

Distinction between gender and sex reflects the usage of these terms: Sex usually refers to the biological aspects of maleness or femaleness, whereas gender implies the psychological, behavioural, social, and cultural aspects of being male or female (i.e., masculinity or femininity) and sex is the traits that distinguished between males and females. Sex refers especially to physical and biological traits, whereas gender refers to the social or cultural traits, although the distinction between the two terms is not regularly observed (Leder and Forgasz, 2018).

History should not be ignored; reviews of researches on gender and mathematics learning typically begin with findings. Many researchers have shown that male and female students do experience the world in different ways. There are at least three core reasons for studying gender issues in mathematics retention: (i) to understand the source of any inequalities; (ii) to improve average performance; and (iii) to improve our understanding of how students learn; (Organization for Economic Co-operation and Development, OECD, 2009). Other important factors that emerged in research on gender and mathematics are cultural, family influences, socio-economic status of parents and traditional influences among peoples (Asante, 2010)

Hedges and Nowell cited in Olasehinde and Olatoye (2014) found no or slight gender differences in overall mathematics concepts like numerical ability, mathematics computation and problem-solving. Gender differences in mathematics retention on the National Assessment of Educational Progress (NAEP) and science courses taken between boys and girls in United States of America (USA) were with or without significant difference, otherwise negligible (Coley, 2001). Soboyejo (2007) reported no significant difference existed between male and female students' knowledge of communicable diseases.

Raimi and Adeoye (2002) in their study on gender differences among college students as determinants of performance in integrated science found out that there is significant difference between male and female students in terms of their academic retention. However, the findings showed that male performed better than their female counterparts in integrated science retention scores. Also, Raimi and Adeoye further opined that there is a significant difference between male and female students in term of their attitude towards integrated science in favour of male. Perhaps, this has been the reasons for males' better performance in integrated science retention. This finding corroborates with Agwagah and Ezeugo (2000) which observed similar difference between males and females. Girls' low levels of participation and retention in education, especially in the area of Mathematics, Science and Technology (MST), are of great concerned (Zilimu, 2014).

A study of gender gaps in mathematics retention as measured by the National Assessment of Educational Progress, as reported in Lubienski and Ganley (2017) shows that gaps in mathematics were generally small. Gender differences were greatest in the areas of measurement, number, operations and geometry. Gender differences tend to be concentrated in the upper-end of score distributions and most consistent for High Socio Economic Status (HSES) students. The study further shows that mathematics predicted later retention towards science for both boys and girls (Ma & Xu, 2004).

However, some interventions to improve girls' performance in mathematics effectiveness have been recommended. For example, teachers' use of an inquiry approach that combined efforts to raise students' interest and engagement, problem-solving and appropriate laboratory techniques involving the use of math's kit instructional materials approach helps to reduce the gap in mathematics concepts between boys and girls (Irohegbu, cited in Olasehinde and Olatoye, 2014).

Math's Kits are programs to strengthen mathematical understanding and competence involving student's participation on active mathematics learning. They suggest how a child can experience and manipulate the kits in solving mathematical problems. This can be used to help him/her grasp the basic concepts and principles of mathematics. Contemporary research on effective mathematics teaching focuses on an instruction that promotes students' involvement and learning activity. The new instructional pedagogy requires teachers to move away from lecturing method and embrace activity based teaching approach (Azuka, 2013).

Suydam and Higgins cited in Azuka (2013) reported that using manipulative materials have a higher probability of producing greater mathematical retention than non manipulative lessons. Use of both manipulative material and pictorial representations is highly effective but symbolic treatments alone are less effective The use of instructional materials appears effective with children at all retention levels, ability levels, socioeconomic levels (Azuka, 2013).

Most teachers in our school system do not use instructional materials in the classroom and these compound the difficulties of the teaching and learning of mathematics. National Mathematical Centre, Abuja has developed mathematical kits for primary and secondary schools. The primary mathematics kits are now being used to retrain teachers all over the country. During the workshops, primary school teachers confessed that lack of instructional materials made their teaching in the classroom less active, this shows that the use of instructional materials enhances active learning in the classroom and is found not to be gender bias (N.M.C, 2012)

For example, to illustrate the concept of the circumference of a circle, let the pupils have circles of various radii. Guide the pupils to determine the value of (Pi). This is obtained by dividing the distance round a circle by the diameter. Pupils can measure these using tread and ruler. When the pupils divide the circumference by the diameter, they will all have about the same answer of about 3.142. This constant is called Pi by the Greeks and the symbol is π.

Math's kit instructional materials help to make mathematical concepts real and demystify the mysteries of mathematics. In teaching of mathematics the general principle is "things before ideas and ideas before words" (Ukeje, cited in Azuka 2013). Math's kit instructional materials approach help to arouse and sustain the interest of students in learning of mathematics and thereby improve academic retention of students.

Statement of the Problem

The persistent poor retention of Nigerian secondary school students in mathematics has been a source of worry to stakeholders and policy makers in the education sector. Action has been taken by the government and other stakeholders at various levels such as provision of improvised instructional materials and books, retraining of teachers, provision of facilities and qualified teachers, and curricula reviews to reduce this problem and improve the academic retention of students. However, these have not produced the desired results. For instance WAEC and NECO mathematics results from 2010 to 2019 indicated that Nigerian candidates could hardly obtain up to 60% credit pass in mathematics, while Abuja fell below 40% credit pass in mathematics. With these in mind, it becomes imperative for further steps to be taken to address the situation.

The school curricula and researchers alike have advocated that mathematics teaching can better be understood using learner centered approaches. This is because exploratory approach of teaching and learning has been seen to enhance academic retention of students in mathematics. Most researchers in the world opined that the use of math's kit instructional material in the teaching and learning of mathematics is the missing link as the saying goes "what I hear I forget, what I see and touch, I easily remember" this could enable students perform excellently well in all school subjects especially mathematics.

However, in Nigeria very few experimental studies have related literatures on this innovative approach termed math's kit instructional material teaching method, which National Mathematical Centre, Abuja and others have affirmed to improve students' retention in mathematics. There is especially no evidence of any published experimental research on the effects of the math's kit instructional material enhancing mathematics retention of students in secondary school in Abuja. There is need, therefore, to confirm the efficacy of the use of math's kits in the teaching of mathematics in Nigerian secondary schools. This study consequently is designed to ascertain the effects of Math's kit Instructional Materials on Gender's retention in Mathematics in Secondary Schools in Abuja, Nigeria.

Research Questions

The following research questions were raised to guide the study:

1. What is the difference in the mean retention scores of secondary school students taught Mathematics with math's kit instructional materials and those taught with the conventional approach?
2. What is the difference in the mean retention scores of male and female students taught Mathematics using math's kit instructional materials?
3. What is the interaction effect of math's kit instructional materials and genders on students' mean retention scores in Mathematics?

Research Hypotheses

The following null hypotheses were tested at 0.05 level of confidence.

HO_1: There is no significant difference in the mean retention of students taught Mathematics using math's kit instructional materials and those taught using conventional method.

$H0_2$: There is no significant difference in the mean retention scores of male and female students taught Mathematics using math's kit instructional materials

II. Methodology

The research design adopted for the study was the Quasi-experimental research design (non-equivalent pre-test, post test, control group design). Quasi-experimental design is considered appropriate for this study because it allows experiment to be conducted without disturbing the intact class setting and also enables the researcher determine treatment effects.

Simple random sampling method was used to select schools for the study, FCT was stratified along the six Area Councils from which Kwali Area Council was selected using simple random sampling (lucky dip) method. To select Schools, among the 17 co-educational schools in Kwali Area Council, purposive sampling technique was used to select two junior secondary schools in Kwali Area Council. Co-educational secondary

schools were considered in order to provide for male and female gender which was of interest to this study. From the two selected schools in the Area Council; one school was assigned to experimental group while the other school was assigned to control group using simple random method. Using simple random sampling method (lucky dip), it was decided that the first school to be picked using folded paper, would be assigned experimental group, while the other school would be the control group. From each of the selected schools, lucky dip was also used to select an intact class among one of the junior secondary two (JS2) classes. Thus, class 2A in Junior Secondary School, was selected as experimental class (group), while class 2B formed the other intact class, which served as the control group for the study.

Mathematics Retention Test (MRT) developed by the researchers was used for the study. The Mathematics Retention Test (MRT) had items in geometry and mensuration, statistics, numbers and numeration, trigonometry and algebra, drawn from the Nigerian national Mathematics curriculum for junior secondary school students published by the Nigerian Educational Research and Development Council (NERDC) and in the scheme of Work for JS2 in the Federal Capital Territory (FCT) Abuja, Nigeria. There are 35 items of the MAT that was developed for the purpose of collecting data for evaluating the students as pre-test and post-test with four options (A-D). The 35 multiple choice objective items were selected from 40 questions using item difficulty index (IDI) range from 0 - 100 and item discriminating power (IDP) range from -1 to 1, was calculated for all the items, before acceptance. To ensure the content validity of the test, a table of specification (test blueprint) was used. This helped to ensure that the objectives chosen for instruction were the ones chosen for testing. To further ensure the face validity of the MRT and the lesson plans for the experimental and control groups, they were given to two Mathematics education experts and an expert in Measurement and Evaluation in National Mathematical Centre, Abuja and University of Abuja respectively. The experts rating of the instruments on their appropriateness served as the logical validity of the instrument through consensus opinions.

The MRT was pilot tested in a school not involved in the study to establish its reliability. The reliability of the test instrument was determined using split-half method. The split half result was further step up using spearman brown and the result obtained was 0.89, which was considered high enough to justify that the instrument is reliable. Statistical Package for the Social Sciences (SPSS) version twenty-one (21) was used to analysis the data collected for the study. The research questions were answered using mean and standard deviation, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. Analysis of Covariance (ANCOVA) was considered appropriate because it helps to eliminate the unwanted variance from the dependent variable and helps to reduce the error term. Secondly, ANCOVA also helps to test the interaction effects on dependent variables that may exist during baseline pretest score.

The treatment of the MATH'S KIT instructional materials and the conventional method lasted for about ten weeks for the experimental and the control groups. The treatment session followed the school time-table adopting the school scheme of work, where Mathematics was taught four to five times a week because some days were having double period. The researchers trained the research assistants for a period of one week. The research assistant was the students' regular Mathematics teacher. The lesson plan was prepared by the researcher for the experimental and the control class. The treatment for the experimental and control group were having about 4 periods in a week. And each period were having about 40 minutes per period. The treatment lasted for about 10 weeks, making a total of 160 days which is equivalent to 6,400 minutes.

III. Results and Interpretations

Research Question 1. What is the difference in the mean Retention scores of secondary school students taught Mathematics with Math's Kit Instructional Material and those taught with the conventional approach?

Table 1: Summary of Pretest, Post-test mean and Standard Deviation of Mathematics Retention Test (MRT)

Variable		**Pretest**		**Posttest**		**Mean gain.**
Group	N	Mean	SD	Mean	SD	
Control	70	30.56	11.13	42.19	10.59	
Experimental	65	27.28	10.86	65.18	9.53	**37.90**
Mean Difference		**3.28**		**22.99**		

Table 1 shows the pretest mean, posttest mean and standard deviations for the experimental and control groups. The pretest mean scores were 30.56 and 27.28 in favour of the control group with mean difference of 3.28. But after the treatment, post test scores were 42.19 for control and 65.18 for the experimental group with mean difference of 37.90 in favour of the experimental group. This implies that the students exposed to math's kit instructional material teaching approach had more improvement than their counterparts. However, the posttest mean scores of both groups show that both groups retained better on their mean scores after the treatment.

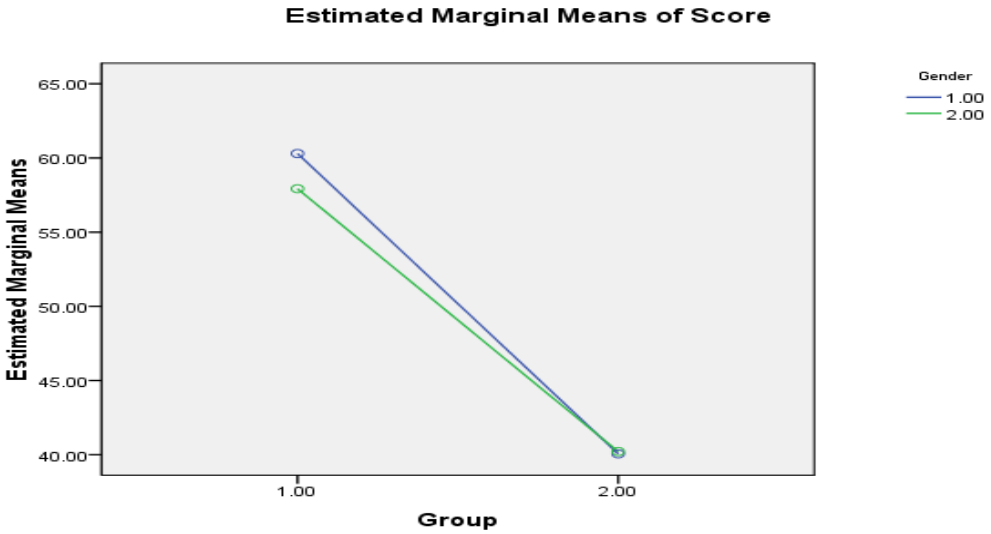
Research Question 2: What is the difference in the mean Retention scores of male and female students taught Mathematics using math's kit instructional material teaching approach?

Table 2: MAT mean difference and standard deviation of male and female students taught Mathematics using math's kit instruction approach

Group	Sex	N	Mean	SD
	Male	32	62.89	11.58
Experimental	Female	33	63.11	10.66
	Mean Difference		**0.22**	

Table 2 shows the mean and standard deviation of Mathematics Retention test scores of male and female students in the experimental group. The male students had a mean score of 62.89 as against 63.11 for the female, with standard deviation of 11.58 and 10.66 respectively. This shows that the female students had less variation. The difference in the mean Retention scores of both male and female students taught Mathematics using math's kit instructional material teaching approach is 0.22.

Research Question 3: What is the interaction effect of math's kit instructional material teaching approach and gender on students' mean retention scores in Mathematics?



The graph shows interaction of the two way results of the difference in mean retention of male and female students in experimental group at point 0.37, the average of the main effect is 58. What is the interaction effect of math's kit instructional material teaching approach and genders on students' mean retention scores in Mathematics has coordinate point at 0.37, which is greater than 0.05 level of significance. Therefore, interaction effect of math's kit instructional material teaching approach and gender on students' mean retention scores in Mathematics is not statistically significant.

Testing of Hypotheses

Table 3: **Two way analysis of covariance (ANCOVA) results on Mathematics Retention test (MRT) of the control and experimental groups in Pretest and Post tests.**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig (P).	Partial Eta Squared
Corrected Model	20426.824[a]	4	5106.706	24.261	.000	.325
Intercept	25376.742	1	25376.742	130.322	.000	.322
Pretest	537.162	1	537.162	1.531	.132	.010
Math's Kit Method	24726.527	1	24726.527	112.037	.000	.433
Gender	4.746	1	4.746	.014	.823	.000
Math's Kit *Gender	7.876	1	7.876	.065	.659	.000
Error	32451.208	132	245.842			
Total	83104.261	133				
Corrected Total	62384.235	135				

a. R Squared = .325 (Adjusted R Squared = .310)

b. Computed using alpha = .05

Table 3 above refers: two way Analyses of Covariance (ANCOVA) results of the difference in Retention of male and female students in experimental group. The F (135) =0.065, with p-value of 0.659 is greater than 0.05 level of significance. Therefore, The null hypothesis which states that there is no significant difference on the mean Retention scores of male and female students taught Mathematics using math's kit instructional material teaching approach stands accepted. It can therefore, be concluded that there is no statistically significant difference on the mean retention scores of male and female students taught Mathematics using math's kit instructional material teaching approach.

Research Hypothesis ($H0_1$)

$H0_1$: There is no significant difference in the mean retention score of students taught Mathematics using math's kit instruction material teaching approach and those taught using conventional method.

Table 3 refer: Two way analysis of covariance (ANCOVA) results on MAT of the control and experimental groups in Pre and Post tests shows F (135) =112.037, where p-value = 0.000 is less than 0.05 level of significance. Therefore, the null hypothesis which states that there is no significant difference in the mean Retention score of students taught Mathematics using math's kit instructional material teaching approach and those taught using conventional method is rejected. A significant difference exists in the retention in favour of the experimental group.

$H0_2$ There is no significant difference in the mean Retention scores of male and female students taught Mathematics using math's kit instruction material teaching approach.

Table 3: The two way analysis of covariance (ANCOVA) results of the difference in retention of male and female students in experimental group. The F (135) =0.014, where p-value = 0.823 is greater than 0.05 level of significance. Therefore, The null hypothesis which states that there is no significant difference on the mean retention scores of male and female students taught Mathematics using math's kit instructional material teaching approach stands accepted. It can therefore, be concluded that there is no statistically significant difference on the mean retention scores of male and female students taught Mathematics using math's kit instructional material teaching approach.

IV. Discussions of Findings

The research question 3 that were converted to hypothesis, showed the significant of null hypothesis on the interaction effect of Math's kit instruction material teaching approach on gender of students' group mean retention scores in Mathematics. This findings corresponds with Iliyasu, (2009) which results obtained revealed that the strategy had significant impact on performance of pupils in the experimental group when compared with that of the control group. Iliyasu, (2009) further results stressed that performance of pupils when comparison was made between male and female revealed in-significant difference in the performance of pupils from rural and urban areas when taught with Math's kit instruction material strategy.

This is in contrast with the findings of Olaleye and Olosunde, (2012) whose findings revealed that there was a significant difference between male and female. This implies that there is a clear effect of the independent variables on interaction. They further stressed that all the independent variables termed psycho- social variables as determinant on interaction of male and female taken together could effectively influence gender in Mathematics.

The results of the descriptive statistics indicated that the experimental group gained higher mean scores on math's kit instructional material teaching approach than the control group. The difference between the pretest and the posttest math's kit instructional material teaching approach mean scores of the students in the control and experimental group were 6.56 and 22.82. This signifies that students that were exposed to math's kit instructional material teaching approach improved better than their counterparts who were not exposed to math's kit instructional material teaching approach treatment. The ANCOVA results showed that there was a significant difference in the mean scores of math's kit instructional material teaching approach exposed to the treatment and those not exposed to the treatment. Thus, the retention of students exposed to the treatment was significant and in favour of the math's kit instructional material teaching approach. Thus, the improvement correspond with the positions of (Azuka, 2013) who opined, that students taught with the math's kit instructional material teaching approach had a better view and attitude towards Mathematics than those taught with the conventional approach. These lends support from other researcher alike who posits that math's kit instructional material teaching approach can be developed over time through INSET training programme, Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA, 2014). The implementation of math's kit instruction material teaching approach gives the students opportunity to learn from things around them. This finding also supports the research findings of Ayiego, Mang'are, Ngome and Mandilah (2015) that math's kit instruction material teaching approach by teachers of Mathematics in Vihiga County, easily improved the perennial poor performance in Mathematics at National examinations level in Kenya. He further opined that with math's kit instruction material teaching approach, students' can create

awareness and familiarize with hands-on, minds-on and mouth-on activities. In addition, the research assistants in this study reported that the students were very excited at the treatment and this also leads to positive behaviour of the students in the classroom and further enhance cooperation among classmates and teachers.

The result of the ANCOVA also indicated that there was a significant difference in the mean retention scores in favour of math's kit instructional material teaching approach in the experimental group. The results showed that the students exposed to math's kit instructional material teaching approach had improvement and achieved better than the control group. The finding of this research study lend acceptance to many researchers' findings that math's kit instructional material teaching approach improve retention and also assist students to retaine better in school subjects (Onchong'a (2013), Mwelese and Atwoto (2014), Ayiego, Mang'are, Ngome and Mandilah (2015). Also, result of this study support that, math's kit instructional material teaching approaches have positive relationship with students' academic retention in Mathematics and science alike as opined by Wafubwa, (2014). However, it has been reported that teachers' use of Math's kit instructional material teaching approach in their lessons is inadequate due to poor supervision from head teachers during implementation in Mathematics lessons. Teacher responds on inadequacies on implementations were due to constraints on pressure to cover the syllabus and lack of adequate time for lesson preparation (Wafubwa, 2014). For a better improvement on the side of the teachers, efforts should be made to further improve teachers understanding in using the Math's kit instructional material teaching approach; the Ministry of Education should organize INSET training both for the teachers and students. (Onchong'a, 2013).

MRT scores showed that, the male students in the experimental group had a higher mean posttest scores than the female students. However, both the male and the female students in the experimental group had improvements in their mean MRT scores above their counterparts in the control group. The ANCOVA results also showed that there was no significant difference in the Mathematics retention test scores of males and females. These findings correspond with the findings of Hedges and Nowell cited in Olasehinde & Olatoye, (2014) who found no or slight gender differences in overall Mathematics retention. The finding of this research study on gender lend acceptance on the research work of Obi, Agwagah, and Agah, (2014) who reported that Retention have been unstable between male and female students. Some of the results were in favour of boys than girls, while others showed that gender has no significant effect on students' ability in understanding mathematical concepts. As a result of these variations, the issue has remained inconclusive.

However, Math's kit instructional material teaching approach can enhance junior secondary school students' Mathematics retention and so is a solution to students' dismal performance in Mathematics. Again, it also shows no gender bias on retention when taught Mathematics using these teaching approaches. The approach is a paradigm shift from teacher centered approach to learners' centered pedagogy and have been found to encourage the culture of continuous improvement.

V. Conclusion

From the result of this study it was concluded that the use of Math's kit instructional material teaching approach enhanced students' retention in Mathematics more than the use of conventional teaching method. Furthermore, students taught Mathematics using math's kit instructional material teaching approach on experimental group performed better than their counterpart taught same concepts in Mathematics using conventional method. There was no significant difference of gender on retention of students taught Mathematics using Math's kit instructional material teaching approach.

VI. Recommendations

The following recommendations were made based on the findings of this study:

1. Since the use of Math's kit instructional material teaching approach enhances retention of students in Mathematics, the Mathematics teachers should utilize it in classroom teaching and learning.
2. Workshops/Seminars should be organized by government, private, associations, NGO's for Mathematics teachers to enable them learn this innovative method since it is reported from the findings that math's kit instructional material teaching approach has positive effect in the teaching and learning of Mathematics concepts both in Nigeria and in other countries.
3. Mathematics teachers should be advised and encouraged to attend INSET training both in Nigeria and outside the country to gain wider experience on the application and effectiveness of Math's kit instructional material teaching approach in Mathematics. This will enable them appreciate and use the Math's kit instructional material teaching approach to promote effective teaching and learning in Nigeria. To achieve this, the federal, state, local government, private individuals, organizations and Alumni associations in Nigeria should endeavour, as a matter of dedication to provide schools with needed training on how to develop Math's kit instructional material teaching approach lesson note and its implementation in Nigerian schools.

4. Government should encourage Nigerian schools to visit and purchase Math's kit instructional materials from the National Mathematical Centre (NMC), Abuja, for their various schools Mathematics laboratories for effective teaching and learning of Mathematics.

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