Effects of Case-based Strategy on Academic Achievement in Mathematics Algebraic Word Problems among Junior Secondary School Students in Ibadan Metropolis, Oyo State, Nigeria

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ABSTRACT

This study investigated the Effect of Case-based Strategy on Academic Achievement in Mathematics Word Problems among Junior Secondary School Students in Ibadan Metropolis, Oyo State, Nigeria. The research focused on evaluating learning outcomes, knowledge retention, and overall students' performance when exposed to this teaching approach based on constructivism and behaviorism theories of learning. The study employed a quasi-experimental research design. The population of the study consisted of all 20244 Junior Secondary School students in Oyo State, while two intact classes of 68 JSS2 students participated in the study. Two lesson plans and a validated Mathematics Achievement Test (MAT) were used as instruments for data collection. The MAT was tested for reliability having a value of 0.85 and the data generated was statistically analyzed using frequency counts, percentages, standard deviation and Analysis of Co-variance (ANCOVA) at a significance level of 0.05. The findings revealed that the effect of case-based strategy on students' academic achievement was significant ($F(1,65) = 72.771$, $p< 0.05$) and was found to be more effective in enhancing students' academic achievement in algebraic word problems. It was recommended that educators should incorporate case-based strategies in teaching Mathematics Algebraic word problem at the Junior Secondary School for effective outcome.

Keywords: Case-based Strategy, Academic Achievement, Algebraic Word Problem, Junior Secondary School Students

INTRODUCTION

Word problem is a Mathematics question or exercises written in sentences, stories and pictures to be interpreted in form of digits and number. This dimension of Mathematics shows the real-world value and applications of what students are learning and the skills they are practicing in Mathematics. Word problems help students to understand that Mathematics is not just about numbers on a page but a way of representing relationships in the world. Algebraic Word problems are typically perceived as complex, scholastically presented, issue-based descriptions that involve the application of mathematical concepts to resolve queries or questions arising from a given situation. These problems differ distinctly from traditional arithmetic exercises conveyed through written or oral formats such as 4 + 5 and genuine real-world issues encountered in everyday life. While the latter category of problems can also be addressed using mathematical techniques, their formulation often lacks clarity regarding specific question(s), relevant numerical information, appropriate mathematical operations, acceptable solutions, and other crucial details (Sarah, Katherine & Sarah, 2020).

By contrast, word problems offer a structured environment in which students can develop their problem-

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solving skills by applying mathematical methods to resolve precisely stated issues. However, this academic construct gives clearer and unambiguous problems commonly faced in daily life, which frequently involve imprecise conditions, requiring sophisticated cognitive transfers of ideas between the real-world and mathematical frameworks especially when symbols and alphabets are used to represent expressions which is the main essence of Algebra in Mathematics. Authentic problems may require flexible thinking, creative problem-solving strategies, and the ability to navigate certain incomplete information, which are not always present in real sense. Word problems tend to focus on straightforward calculations based on the explicit numerical data provided in the problem statement, whereas real-world issues often entail multiple variables, complex relationships, and dynamic systems that must be navigated to arrive at a solution (Siti & Khairul, 2021; Esuong, Owan, Edoho & Eni, 2023).

Mathematics plays an indispensable role in modern education because of the profound impact on individual comprehension and the application of diverse aspects of personal, social, and civic life. As a universal language of science, it facilitates effective communication and description of real-world scenarios, making it an essential tool for problem solving and decision making in everyday existence. Given the paramount significance of Mathematics in contemporary society, particularly in the context of technological advancements, the study of this discipline remains a fundamental component of the secondary school curriculum.

The secondary school level of education serves as the link between the primary school and the tertiary institutions. It involves two steps or phases which are the junior secondary school level and the senior secondary school level. In Nigeria school system, the junior secondary school serves as the completion of the basic education, which started from primary one or basic one of the nine years basic education system. The junior secondary school bridges the primary school and the senior secondary school and exposes students to more concrete school works in terms of content, structure and constructs based on the level of development of the students. In some quarters, the junior secondary school students are being referred to as pupils, which is the continuation of how they were being addressed right from the primary school. However, in this study, these group of individuals are addressed as junior secondary school students in order to distinct them from the younger ones at the primary school level of education. Moreso, the curriculum they are being exposed to is more advanced in nature and in content, compare with the ones they had at the primary school level, based on their level of intellectual development (Oredein & Sam-Kayode, 2019).

Furthermore, from the earlier discussion, the acquisition of mathematical knowledge serves as a foundation for numerous scientific and technological career paths. Mathematics holds a prominent position in the academic curriculum of the school learnings from preschool to high school, with its significance increasing owing to the global emphasis on Science, Technology, Engineering and Mathematics Education (STEME). Proficiency in Mathematics is associated with individuals' abilities and decision-makings, highlighting its importance to every facet of life. Both local and international Mathematics education frameworks prioritize problem-solving skills as a fundamental aspect of the curriculum (Oredein & Sam-Kayode, 2019). Mathematical problems can be classified along a continuum of authenticity, ranging from arithmetic word problems presented in scholarly outlines that reflect real-life situations and solvable using Mathematics strategies (Mahofa, Adendorff & Kwenda, 2017; Yidawi, Ibrahim & TankoI, 2022).

It is frequently perceived that Mathematics is a pivotal component that establishes connections between theoretical concepts and practical real-world applications. Illustrating the correlations between Mathematics and real-life scenarios within the context of everyday experiences is crucial during the initial stages of teaching and learning Mathematics in Basic education. Consequently, an effective approach to establishing solid groundwork involves imparting fundamental skills to students, enabling them to effectively solve mathematical word problems. Notably, the utilization of various forms of representation is closely linked to successful comprehension and resolution of mathematical word problems (Siddiqah, Masitah & Jamilah,

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2020).

Regrettably, despite the overall importance of Mathematics, students' performance in standard examinations, such as the West African Senior School Certificate Examinations in the years 2020, 2021, 2022 and 2023, the Basic Education Certificate Examination Mathematics Chief Examiners' Reports highlighted word problems among several identified issues in attempting the examinations (WAEC, 2020; 2021; 2022; 2023). These reports revealed that a significant number of students encountered difficulties in reading and comprehending mathematics word problems. Moreover, many struggled to translate word problems into mathematical equations, with only a few attempting linear word problems with some level of success.

To address this concern, there is a pressing need to embrace more efficient instructional strategies, such as case-based learning strategy to teach word problems. Case-based learning is an instructional strategy which originated from Harvard University in the 20th century, offering an alternative to conventional pedagogy that utilizes real-life cases or situational scenarios to teach conceptual phenomenon to students. This approach involves presenting students with carefully crafted case studies, along with inquiry prompts to facilitate deliberate discussion and critical thought processes. The primary objectives of case-based learning are to provide students with hands-on experience in solving real-life dilemmas and to draw attention to key issues that the instructor seeks to convey to the learner, allowing the learner to demonstrate their comprehension by responding to the case situation (Yalçınkaya, Taştan-Kırık, Yezdan & Demet, 2012).

This approach demands proactive preparation from learners and employs a structured technique for knowledge acquisition. Instructors select specific cases to serve as the foundation for teaching, creating a realistic simulation of practical scenarios. Learners engage in multidirectional communication with instructors and peers, integrating theoretical principles with practical experiences. This method has gained popularity across various disciplines, including medicine, law, management, and others. When compared to traditional didactic approaches, case-based learning offers numerous advantages. Firstly, students exhibit higher levels of engagement and motivation, as they actively participate in their learning process. Secondly, case-based learning promotes the application and integration of knowledge, fostering collaborative problem-solving and critical thinking abilities. Additionally, the case study format allows for expert feedback and discussion, facilitating a deeper understanding of complex issues (Bi, Zhibiao, Jingru & Yaping, 2019).

Case-based teaching strategy enables students to exercise their analytical and decision-making skills from realistic situations presented to them. This method emphasizes the fusion of theory and practice, thereby encouraging learners to connect abstract concepts with practical applications. By adopting a case-based strategy, diverse learning needs of the students can be addressed through their active involvements which could enhance their acquired knowledge to be retained for long term. Developing well-designed case studies immerse learners in authentic scenarios that prompt them to grapple with nuanced challenges and derive meaningful insights from such (Bi, Zhibiao, Jingru & Yaping, 2019).

Instances of using a Case-based teaching strategy, involves presenting students with practical occurrences that are related to the issue at hand such as to count the number of students with a particular brand of school bags, adding to number of pupils in a particular row in a class, dividing and sharing a particular number of cookies based on the members of students in a particular class. Also, thinking and suggesting solutions to common challenges on daily bases are forms of activity-based strategy that could keep students busy with critical thinking on how best to get problems solved using mathematical ideas that can bring about expected solutions to day-to-day issues. With Case-based teaching strategies, students can connect mathematical ideas to real-world situations, through motivations to think outside the box in more clearer and practical ways. This strategy is more of activity-based learning for the students which makes learning to be lively, interactive, interesting and motivating in solving mathematical problems (Choi, 2020).

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An easier approach to case-based learning is to present questions to students and allow them to freely think of possible answers to the questions. This serves as motivator which erase rote learning and boredom in a class and a useful strategy for cultivating inquiry attitudes in students and fetches students the opportunities to express themselves and to develop communication skills (Irwan, 2022). Adopting this strategy assist students to recognize the relevance of Mathematics and its practical applications to everyday live (Aini, Latifah & Hamid, 2021).

There are different ways of imbibing problem-solving skills in students, such as working in a circle, forming a que and representing it a paper, counting in a reversed ways with a negative-signs such as having a minus (-), measuring the sizes of the tables or desks in a class and adding-up the total, and them dividing the total to a larger number of students to get the sharing totals etcetera. Working out an example of what should be done could also presented to students step by step in order to motivate them to think of similar scenarios as individuals or as in groups and then show each other how to convert the given words into mathematical expressions or equations, which helps them to understand the real-world applications of mathematical ideas. This strategy helps in the development of problem-solving abilities in gradual processes (Bresch, Burtea, & Lagoutière, 2022). Different concepts in Mathematics such as visual aids, mathematical formulas, and expressions can be taught using case-based strategies. It is essential to always give prompt feedback to students at the end of the activities in order to encourage them to think more to be able to subsequently solve more related problems and to help them identify possible areas for improvement (Halpern & Dunn, 2021).

By adopting a case-based learning approach, educators can capitalize on the diverse learning needs of their students, stimulating active involvement and enhancing long-term retention of knowledge. Well-designed case studies help students to have deeper understandings of authentic scenarios and being able to have meaningful insights to possible solutions to challenges. Studies have consistently advocated for the effectiveness of case-based learning in enhancing critical thinking skills, constructing active knowledge, and achieving academic success. A study corroborates and expands upon these assertions in the domain of chemistry education, revealing that, students taught via case-based approach displayed a superior grasp of chemical kinetics concepts than their counterparts who were not exposed to case-based strategy (Qingli, Dohn, Yan & Marie, 2020).

The outcome of any classroom activity can be showcased in the form of academic achievement, which is a concern to researchers and many stakeholders in the educational sector globally. Its relationship with various factors is investigated in order to improve the teaching cum learning process. These investigations are carried out by researchers on the global space and also locally. Academic achievement pertains to the advancement made in obtaining educational outcomes via skills, materials, and knowledge inputs across various subjects. It focuses on accomplishments within academic environments rather than the general acquisition of knowledge in non-academic contexts (Adu, Charles & Yarhands, 2015; Fitzpatrick, Darcy, Morrissey, Yıldız, Wynes & Ayesu, 2020).

The importance of academic achievement cannot be overstressed as evidenced by a study which examined how learners' emotional intelligence, self-efficacy, and self-esteem relate to their performance in Mathematics. The findings revealed that these three psychological factors (emotional intelligence, self-efficacy, and self-esteem) have a positive connection to students' academic achievement in Mathematics. In other words, students who exhibit higher emotional intelligence, greater self-efficacy, and stronger self-esteem tend to perform better in Mathematics than anyone without such. These results highlight the significance of these psychological aspects in predicting and fostering academic success, thereby emphasizing their roles in influencing students' achievements in various subjects, including Mathematics. However, skills in subjects like reading and Mathematics influence various aspects of one's life and hinges on educational success, work performance, mental health, and even life expectancy. As a result, researchers have focused on studying factors related to academic achievement and finding ways to use this knowledge

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to enhance learning and address learning difficulties through interventions and better instructional methods (Peng & Rogier, 2020; Bahaa, Abdlftah & Mohamed, 2022).

The significance of academic achievement is further buttressed by an investigation into the relationship between classroom environment and Mathematics achievement among Junior secondary school Two (JSS2) students in Calabar, Cross River State, Nigeria. In this study, investigation was carried out on the influence of class size and instructional materials on students' mathematical performance. The findings showed that academic achievement is affected by class size and the availability of instructional materials. This highlights the need to investigate academic achievement as the sole goal of teaching and learning process (Meremikwu & Ibok, 2020).

The place of academic achievement in context of school activities cannot be overstressed as it hinges its importance to researchers and educators. Academic achievement was found to be positively influenced by students' proficiency in using mathematical language in school subjects. However, students' ability to apply mathematical concepts effectively helped them to excel in problem-solving within any school subject. This study aligned with previous researches, tended to showcase a positive link between activity-based strategy and students' academic performance in science and Mathematics especially when word problems are involved (Ademola & Saka, 2021). This is the concern of this study as it expresses the efficacy of case-based strategy in teaching and learning of Mathematics Algebraic word problems.

Statement of the Problem

Algebraic Word problems in Mathematics is an area of concern to teachers especially when it comes to getting encouraging results from the activities of teaching and learning of Mathematics. Understanding word problems in Mathematics entails comprehension of the illustrations given around the phenomenon, which needed to be decoded and interpreted figuratively and symbolically. In the course of carrying out teaching activities in Ibadan Metropolis, Oyo State, Nigeria, this current researcher dived into Algebraic word problem as an area of challenge by students in Mathematics in Ibadan, Oyo State, Nigeria. This observation motivated the need to proffer a pragmatic approach to Mathematics reading comprehension and a prediction to realistic problem-solving and success in assessments. Discovering a dearth of literature on the Effects of Case-based strategy on Academic Achievement in Mathematics Algebraic Word Problems Among Junior Secondary school students in Ibadan Metropolis, Oyo State, Nigeria was discovered, hence this study and a bridge to fill in the gap in literature and a contribution to knowledge in Mathematics.

Purpose of the Study

The purpose of the study is to investigate the Effect of Case-based strategy on Academic Achievement in Mathematics Algebraic Word Problems among Junior Secondary School Students in Ibadan Metropolis, Oyo State, Nigeria.

Specifically, the study aimed to:

1. investigate the previous academic achievement level of Junior Secondary School students in Mathematics Algebraic Word Problems in Ibadan Metropolis, Oyo State;

2. verify the present academic achievement level of Junior Secondary School Students in Mathematics Algebraic Word Problems in Ibadan Metropolis, Oyo State; and

3. determine the effect of case-based strategy on the academic achievement of Junior Secondary School students in Mathematics Algebraic Word Problems in Ibadan Metropolis, Oyo State.

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Research Questions

1. What is the previous academic achievement level of Junior Secondary School students in MathematicsAlgebraic word problems in Ibadan Metropolis, Oyo State?

2. What is the present academic achievement level of Junior Secondary School students in MathematicsAlgebraic word problems in Ibadan Metropolis, Oyo State.

Hypothesis

$H_0$1: There is no significant effect of case-based strategy on Mathematics achievement of Junior Secondary School students in Algebraic word problems in Ibadan Metropolis, Oyo State.

METHODOLOGY

This study adopted Quasi-experimental design consisting of pre-test and post-test design. experimental group and control group. The study made use of 2×3 factorial matrix with treatment at two levels which is experimental and control group; and academic achievement at three levels (Low: 0-39; Medium: 40-59; High: 60-100).

Table 1: Research Design Layout

Group	Pre-test	Treatment	Post-test
Experimental	Q1	X	Q2
Control	Q3		Q4

Key:

Q1: Pre-test for experimental group

Q2: Post-test for experimental group

Q3: Pre-test for control group

Q4: Post-test for control group

X: Treatment for the experimental group

The population of the study was Twenty thousand, two hundred and forty-four (20,244) Junior Secondary school students in Oyo State as at 2023 (Oyo State Teaching Service Commission, 2023). The study adopted a purposive sampling technique of two intact classes which comprised sixty-eight (68) students from two (2) Junior Secondary schools in Ido Local Government Area and Ibadan North Local Government Area, Oyo State which are two of the eleven Local Government Areas in Ibadan Metropolis. Conditions for the purposive selection includes: Presentation of candidates for the Junior Secondary School Certificate Examinations for at least fifteen (15) consecutive years and each of the schools have at least two (2) qualified Mathematics teachers with at least ten years teaching experiences. One of these teachers is expected to be teaching only Mathematics at the Junior Secondary II class. The two selected schools were used as experimental group and control group respectively. The selected sample had thirty-five (35) students in the experimental group and thirty-three (33) students in the control group. Ethical approvals were obtained from the principals of the selected schools to carry out the study in their schools. Also, the cooperations of Mathematics teachers teaching in these selected schools were sought, as well as the consents

of the students who participated in the study.

The instruments used in this study were: (1) Prepared Lesson plan/lesson notes; (2) Mathematics Achievement Test (MAT) adapted from Basic Education Certificate Examination questions which consisted of a set of 40 multiple choice questions, each with four (4) options labeled A to D which was validated and tested for reliability. The reliability of the instrument was carried out on a part of the population which did not partake in the main study. Kuder–Richardson formula (KR-20) was used to calculate the reliability of the instrument having a reliability value of 0.85. The study lasted eight weeks with the following procedures: week 1 was used to train the research assistants who happen to be the participating teachers in the experimental group on the strategy of case-based in teaching Mathematics Algebraic word problems; week 2 was use to intimate research assistants (participating teachers) in the control group on the need to use the prepared lesson plan for the study using their normal methods of teaching Mathematics, which is the conventional method; week 3 was used to administer Mathematics Achievement Test (MAT) pre-test to each of the two schools (experimental and control); week 4, 5, 6 and 7 were used for carrying out the treatment to the experimental group, while the control group was only exposed to the conventional method of teaching Mathematics. Week 8 was utilized for administering the post-test of Mathematics Achievement Test (MAT) to the two schools (experimental and control). Thereafter, the tests results were collated and analyzed using frequency counts, mean and standard deviation to answer the research questions, while the hypothesis formulated for the study was tested using Analysis of Covariance (ANCOVA) at 0.05 level of significance.

RESULTS OF FINDINGS

Table 2: Distribution of the Participants by Groups

Groups	**Frequency**	**Percent**
Experimental Group	35	49.0
Control Group	33	51.0
Total	**68**	**100.0**

Source: Field Survey, 2024

Table 2 reveals that 35 (49.0%) participants were exposed to Case-based Teaching Strategy, while 33 (51.0%) participants were in control group.

Research Question 1: What is the previous Academic Achievement level of Junior Secondary School Students in Mathematics Algebraic Word Problems in Ibadan Metropolis, Oyo State?

Table 3: Summary of Result on Previous Academic Achievement Level of Junior Secondary School Students in Mathematics Algebraic Word Problems

Achievement	**Frequency**	**Percent**
High	8	11.76%
Medium	11	16.18%
Low	49	72.06%

Key: Low: 0-39; Medium: 40-59; High: 60-100

Source: Field Survey, 2024

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Table 3 reveals that 8 (11.76%) Junior Secondary School Students in Ibadan Metropolis previously had high academic achievement level in Mathematics Algebraic word problems, 11 (16.18%) were medium achievers in Mathematics Algebraic word problems, while 49 (72.06%) had low achievement in Mathematics Algebraic word problems. This implied that most of the Junior Secondary School students in Ibadan Metropolis previously had low academic achievement level in Mathematics Algebraic word problems before the treatment.

Research Question 2: What is the present Academic Achievement level of Junior Secondary School Students in Mathematics Algebraic Word Problems in Ibadan Metropolis, Oyo State?

Table 4: Summary of Result on Present Academic Achievement level of Junior Secondary School Students in Mathematics Algebraic Word Problems

Achievement	Frequency	Percent
High	29	42.64%
Medium	16	23.53%
Low	23	33.82%

Key: Low: 0-39; Medium: 40-59; High: 60-100

Source: Field Survey, 2024

Table 4 reveals that 29 (42.64%) Junior Secondary School Students in Ibadan Metropolis previously had high academic achievement in Mathematics Algebraic word problems, 16 (23.53%) had moderate achievement, while 23 (33.82%) had low achievement. This implied that majority of Junior Secondary School students in Ibadan Metropolis were elevated to high and medium academic achievement level in Mathematics Algebraic word problems after the treatment.

Hypothesis

The following hypothesis was tested in this study at 0.05 level of significance.

$H_0$1: There is no significant effect of case-based strategy on Mathematics achievement in Algebraic word problem among Junior Secondary School Students in Ibadan Metropolis, Oyo State.

Table 5: Analysis of Covariance of the Effect of Case-based Strategy on Mathematics Achievement in Algebraic Word Problem

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3868.464	2	1934.232	196.683	0.000	0.858
Intercept	966.790	1	966.790	98.308	0.000	0.602
Pretest	1.640	1	1.640	0.167	0.684	0.003
Treatment	715.653	1	715.653	72.771	0.000	0.528
Error	639.227	65	9.834			
Total	47761.000	68				
Corrected Total	4507.691	67				

Source: Field Survey, 2024

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Table 5 shows that that there was a significant main effect of case-based strategy (treatment) on Mathematics achievement in Algebraic word problem among Junior Secondary School Students in Ibadan Metropolis ($F_{(1,65}$=72.771, p<0.05, η^2=0.528). The null hypothesis was therefore rejected. This implies that the treatment was effective on Mathematics achievement in Algebraic word problem among Junior Secondary School Students in Ibadan Metropolis. Also, the eta square value of 0.528 shows the contributing effect size of 52.8%.

Table 6: Estimated Marginal Means of Case-based Strategy on Mathematics Achievement in Word Problem

			95% Confidence Interval	
Group	**Mean**	**Std. Error**	**Lower Bound**	**Upper Bound**
Treatment	32.242	0.907	30.432	34.053
Control	17.773	0.952	15.871	19.675

Table 6 shows that participants exposed to case-based Strategy (treatment group) had higher post-test mean score of 32.242 on students' Mathematics achievement in word problem among Junior Secondary School students in Ibadan Metropolis, than their participants in the control group with posttest mean score of 17.773. This means that participants exposed to case-based Strategy (treatment group) performed better than those in the control group. It implies that case-based Strategy was an effective approach that improved students' Mathematics achievement in Algebraic word problems among Junior Secondary School students in Ibadan Metropolis.

DISCUSSION OF FINDINGS

The findings of this study on research question one revealed that most Junior Secondary School students in Ibadan Metropolis previously had low academic achievement level in Mathematics word problems, while few had moderate achievement. This implied that most of the Junior Secondary School students in Ibadan Metropolis previously did not do well in the pre-test on MAT before the treatment. This finding is in line with the findings of Peng and Rogier (2020) corroborated by the findings of Qingli, Dohn, Yan and Marie (2020) where attention was called to ineffectiveness of repeated ideas which may not yield new of better outcome.

The findings of this study on research question two revealed that there was a shift in achievement level among most Junior Secondary School students in Ibadan Metropolis from low academic achievement level in Mathematics word problems to medium and high achievement levels especially when they were taught with case-based strategy. This finding is in line with the findings from earlier studies where the outcomes indicated that when a new method is introduced to teaching and learning of school subjects, there is likelihood of getting a different result could be better than the regular outcomes before the treatment (Peng & Rogier, 2020; Qingli, Dohn, Yan & Marie, 2020).

The finding of this study revealed that there was a significant effect of case-based strategy (treatment) on Mathematics achievement in word problem among Junior Secondary School students in Ibadan Metropolis. This means that participants exposed to Case-based Strategy (treatment group) performed better than those in the control group, hence, Case-based Strategy was an effective approach that can improved students' Mathematics achievement in word problem among Junior Secondary School students in Ibadan Metropolis. This outcome corroborates the findings of earlier studies with respect to bringing in new treatment to improve students' achievements (Ademola & Saka, 2021). It is also in line with the findings of Sarah, Katherine and Sarah, (2020) as well as that of Siti and Khairul (2021) and Esuong, Owan, Edoho and Eni

(2023) whose contributions to knowledge in solving achievement issues are of noteworthy**.** This implies that case-based strategy was effective on Mathematics achievement in word problem among Junior Secondary School students in Ibadan Metropolis and could assist in getting a better outcome in learning algebraic word problems and other related topics in Mathematics.

CONCLUSION

The study concluded that Case-based strategy was more effective in promoting students' academic achievement in Mathematics word problems at the Junior Secondary School in Ibadan Metropolis based on the data generated from the study and should be imbibed in the teaching and learning of Mathematics word problems at the Junior Secondary School.

RECOMMENDATIONS

Based on the findings, discussion and conclusion drawn from this research, the following recommendations were made:

1. Teacher and school administrators should work together to address the challenges posed by the use of conventional methods in the teaching of word problem.
2. Government should hold a regular workshops and seminars for Mathematics teachers which should be aimed at training them on how to be innovative on the use of activity-based strategies like case-based strategy in teaching word problems and other topics in Mathematics.
3. Mathematics teachers should tailor their teaching method to suit the diverse learning needs of every student such as inculcating an inclusive learning environment that accommodates various learning styles.

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