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Testwiseness in Reading Test Instruction, Test Time Management and Academic Performance in Mathematics Among Junior Secondary School Three Students in Cross River State, Nigeria.

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Abstract

The purpose of the study is to determined testwiseness in reading test instruction, test time management and academic performance in mathematics among junior secondary school three students in Cross River State, Nigeria. To achieve the purpose of this study, two null hypotheses were generated to direct the study. The literature review was done according to the variables under study. Survey research design was adopted for the study. A sample of five hundred and ninety-five (595) respondents was randomly selected for the study. The selection was done through the stratified random sampling technique. The questionnaire was the instrument used for data collection. The instrument was subjected to face and content validity by experts in measurement and evaluation in the Faculty of Education, University of Calabar. The reliability estimate of the instrument was established through the Cronbach Alpha reliability method. Regression analysis was the statistical analysis techniques adopted to test the hypotheses under study. All hypotheses were subjected to testing at .05 level of significance. The results of study revealed that testwiseness in reading test instruction, test time management significantly predicts academic performance in mathematics among Junior Secondary School three (JSS3) Students. Based on the findings of the study it was recommended among others that Teachers should incorporate test-taking strategies instruction into mathematics curricula. By teaching students how to approach multiple-choice questions strategically, to reduce uneducated guessing. Ministry of education should leverage on technology such as CBT to help reduce cheating during examination.

INTRODUCTION

It is unfortunate that statistics and observations had shown that students have not performed well in mathematics. The researchers had observed that this state of affairs had troubled the hearts of parents, administrators, government, teachers and even students themselves. This is because outside its being a requirement for admission to tertiary institutions, it involves knowledge and skills that are needed for daily living. This state of affair has become a pervasively national failure syndrome which inversely is affecting the society. Efforts made by the government and non- governmental organizations and even researchers seem not to be meaningful or effect changes in the performance status of the students. For instance, science teachers' association of Nigeria (STAN) and the cowbell company organizes an annual competition in science subject with tangible prizes for school and individuals that win, mathematics teachers are given special allowances, workshops and seminars are often organize to boost teachers commitment to work.

The question that arise then is what have been the reasons for this continuous failure among students in mathematics?, most researchers have suggested a number of factors ranging from students phobia, attitude, teachers teaching style, students interest in the subject, pseudo-perception transfer from older students, poor teacher-students interpersonal relationship, lack of teachers supervision of students work, poor attitude to assessment procedures, inadequate classroom management skills and a lot more. Testwiseness strategies might be directly attributable to differences in mathematics achievement. The researcher is anticipating if testwiseness strategies of guessing, cheating, reading of test instruction and test time management each may significant affect the performance of students in mathematics? It is in this attempt to answer this question that this research effort is based.

Purpose of the study

The purpose of this study was to assess testwiseness and academic performance in mathematics among junior secondary school three students in Cross River State, Nigeria. Specifically, the study seeks to:

1. Find out whether testwiseness in reading test instruction predicts academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State.
2. Ascertain whether testwiseness in test time management predicts academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State.

Research questions

The following research questions are formulated to guide the study:

1. To what extent does testwiseness in reading test instruction predicts academic performance in mathematics among Junior Secondary School Three (JSS3) Students in Cross River State?
2. To what extent does testwiseness in test time management predicts academic performance in mathematics among Junior Secondary School Three (JSS3) Students in Cross River State?

Statement of hypotheses

To guide the study, the following null hypotheses were formulated

1. Testwiseness in reading test instruction does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State.
2. Testwiseness in test time management does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State.

LITERATURE REVIEW

Testwiness in reading instructions and students' performance in mathematics test

In educational settings, assessments play a crucial role in evaluating students' knowledge and skills. However, the effectiveness of these assessments heavily relies on one critical aspect; the accurate interpretation and comprehension of test instructions. Reading test

instructions can be defined as the process of comprehending and interpreting the guidelines, expectations, and requirements provided before undertaking an examination (Brown, & Jones, 2019). It involves carefully examining the wording, structure, and organization of the instructions to gain a clear understanding of what is expected from the test taker. The ability to read test instructions effectively empowers students to approach assessments strategically, enhancing their chances of success (Brown, & Jones, 2019).

Understanding test instructions accurately is vital to executing assessments appropriately. Misinterpreting instructions can lead to incorrect answers and potentially affect a student's overall performance (Okolo & Kolawola 2021). By carefully reading and comprehending the instructions, students can align their responses with the intended requirements. Test instructions often contain essential information regarding time limits, section allocation, or specific instructions for each question. Neglecting or misunderstanding these instructions can lead to poor time management, resulting in rushed responses or incomplete sections. Adequate reading of test instructions enables students to allocate their time effectively, maximizing their chances of completing all sections within the given timeframe (Okolo & Kolawola 2021).

Test instructions typically include specific guidelines on how to approach different question types, such as multiple-choice, essay, or problem-solving questions. Failing to read these instructions carefully may result in unnecessary errors or omissions (William, 2017). By understanding the instructions thoroughly, students can avoid common pitfalls and approach each question type appropriately. Reading test instructions allows students to formulate effective strategies for approaching the assessment. Instructions may provide insights into the scoring system or reveal specific expectations regarding the depth or breadth of responses. By discerning these details, students can tailor their test-taking strategies accordingly, maximizing their potential for success (William, 2017).

Reading test instructions promotes critical thinking skills by requiring students to analyze and interpret information accurately. It encourages students to evaluate the context, identify key requirements, and consider the best course of action. This process fosters a thoughtful and analytical approach to problem-solving, which is valuable not only in academic settings but also in real-life scenarios (Aborisade, and Adeniji, 2022). By carefully reading and understanding test instructions, students can execute assessments accurately, manage their time effectively, avoid costly mistakes, enhance their test-taking strategies, and develop critical thinking skills. As educators, it is crucial to emphasize the importance of reading test instructions and equip students with the necessary tools to approach assessments with confidence and clarity (Aborisade, and Adeniji, 2022, Otu, Ojini, Uchegbue & Abang (2023).

Examinations play a crucial role in assessing students' understanding and knowledge acquisition in educational settings. However, the impact of examination instructions on students' academic performance has been a subject of interest and debate in recent years. One essential factor that significantly affects students' academic performance is the clarity of examination instructions. Clear instructions help students understand the expectations and requirements of the examination, allowing them to focus their efforts and demonstrate their knowledge effectively (Smith, 2018). Unclear instructions, on the other hand, can lead to confusion and anxiety, which may negatively impact students' performance (Johnson et al., 2020). The format and structure of examination instructions also play a vital role in students' academic performance. Well-organized instructions that provide a clear outline of the examination structure, including the number of questions, allocated time, and marking criteria, can enhance students' confidence and help them allocate their time wisely during the examination (Brown & Jones, 2019). Conversely, poorly structured instructions may create uncertainty and hinder students' ability to plan and manage their time effectively (Davis, 2021).

The language and vocabulary used in examination instructions can significantly impact students' performance. Instructions written in complex or unfamiliar language may create comprehension difficulties, leading to misunderstandings and mistakes (Smithson & Wilson, 2022). To mitigate this issue, examination instructions should be written in clear, concise, and accessible language that aligns with the students' proficiency level (Harris, 2020). The specificity and scope of examination instructions can influence students' academic performance

by guiding their studying and preparation strategies. Instructions that provide clear guidance on the topics, concepts, or sources to focus on can help students allocate their time and effort efficiently (Johnson & Lee, 2019). Conversely, vague or overly broad instructions may lead to confusion and prevent students from adequately preparing for the exam (Stevens, 2021).

In addition to clear instructions, the availability of supportive resources can positively impact students' academic performance. These resources may include sample questions, rubrics, or past examination papers, which can help students, gain a better understanding of the assessment criteria and expectations (Garcia & Martinez, 2020). Accessible resources enable students to practice and familiarize themselves with the examination format, leading to improved performance. Examination instructions are crucial in shaping students' academic performance. Clear and well-structured instructions, written in accessible language and providing specific guidance, can enhance students' understanding, confidence, and ability to perform well in exams. Educational institutions should pay careful attention to the design and delivery of examination instructions, ensuring they facilitate students' learning and assessment experience. By doing so, students can better demonstrate their knowledge and abilities, leading to fair and accurate evaluations of their academic performance.

Ogidi (2022) carried out a study in which one of the research hypotheses was whether there is a relationship between readings of test instructions by undergraduates on their academic performance in Ignatius Ajuru University of Education, Port Harcourt. The study adopted quasi-experiential research method. The population of the study was 5446 year 2 students in the 2019/2020 academic session in the University. The sample of the study was 269 students drawn from various faculties in the university through multi-stage sampling method. The instruments for data collection were a computer-based performance test titled: “Reading of Test Instruction Scale (RTIS)”. Other instruments used in the study. The computer based Use of English Test was given to experts in the department of English and Communication Studies while all the instruments were given to experts in Measurement and Evaluation. The reliability of the computer-based Use of English Test was determined through Kuder-Richardson21 while the reliability of the other instruments was determined through ordinal alpha. The instruments yielded the following coefficients: .82 for the Computer-Based Use of English Test, .81 for Interest Inventory, .75 for Attitude Scale and .83 for Readings of Test Instructions Scale. Analysis of covariance was used in testing the hypotheses at .05 level of significance. The result of the study shows that readings of test instructions by undergraduates boost students’ academic performance in the computer-based use of English test. This particular study worked on relationship between readings of test instructions by undergraduates on their academic performance in Ignatius Ajuru University of Education, Port Harcourt while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

William (2017) carried out a study in which one of the research hypotheses was whether there is a relationship between readings of test instructions on test scores of primary six pupils in Calabar. The population used for this study consists of twenty (20) pupils of a primary school randomly selected from a total of one hundred (100) primary six pupils in Calabar, Nigeria. Ten (10) multiple choice Chemistry items were constructed and pilot tested on five (5) primary school pupils of the same grade and age. The result of the study revealed that there is a significant relationship between readings of test instructions on test scores. This particular study worked on relationship between readings of test instructions on test scores of primary six pupils in Calabar while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

Vences and Cyril (2014), carried out a study in which one of the research hypotheses, was whether readings of test instructions influence mathematics achievement of students of Higher Secondary Students Accra, Ghana, the population for the study was 180 students and the sample consists of 63 students (35 males and 28 females), readings of test instructions scale prepared and validated, personal data sheet was prepared by the investigator. Percentage analysis, mean standard deviation and t-test were used to analyze the data. The researchers reports that, there is significant influence of readings of test instructions on mathematics achievement of higher secondary students. This particular study worked on readings of test

instructions influence mathematics achievement of students of Higher Secondary Students Accra, Ghana while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

Similarly in a study by Muhammad (2021) carried out a study in which one of the research hypotheses, was whether students' readings of test instructions influence the performance of undergraduate education students of Sule Lamido University Kafin Hausa, Jigawa State, Nigeria. Survey research design was employed, with a population of one hundred and eight students (108). Students' Readings of Test Instructions Scale (SRTIS) adopted from Rufa'i (2010) were used as the instrument of data collection with a reliability of 0.81indicating strong significant internal consistency of all the four components of TTSS. Data collected was statistically analyzed by using descriptive statistic, multiple regression analysis, and Analysis of Variance (ANOVA) in Statistical Package of Social Sciences (SPSS) at 0.05 level of significance. The findings of the study revealed that there was significant influence of students' readings of test instructions on the performance of education students. This particular study worked on students' readings of test instructions influence the performance of undergraduate education students of Sule Lamido University Kafin Hausa, Jigawa State while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

In the same vein, Okolo and Kolawola (2021) carried out a study in which one of the research hypotheses, was whether students' readings of test instructions influence junior secondary school students' mathematic test anxiety and performance in Bukuru, Nigeria. The study adopted a quasi – experimental design, specifically the non – randomized, pre-test, post-test control group design. The population of the study was 2,812 and the sample consisted of 60 JS one student's in one government secondary school in Bukuru. Two intact classes were used for the experimental and control groups. The experimental group was given training and counseling using readings of test instructions while no treatment was given to the control group. Mathematics Test Anxiety Scale (MTAS) and Mathematics Achievement Test were used to collect data. Their reliability coefficients were 0.89 and 0.92 respectively. The techniques employed in answering the research questions and hypotheses were percentages, means, standard deviation and t – test for independent samples. The study revealed that in the experimental group training and counseling on students' readings of test instructions reduced student's anxiety level, and improved their performance. This particular study worked on students' readings of test instructions influence junior secondary school students' mathematic test anxiety and performance in Bukuru, Nigeria while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

In the same vein, Aborisade, and Adeniji (2022) carried out a study in which one of the research hypotheses, was whether effective readings of test instructions affect the academic performance of senior secondary school students in Economics in Oyo State, Nigeria. The study employed a pretest, posttest and control group quasi-experimental design. The population of the study comprised all the public senior secondary school II (SSS2) students offering Economics in Oyo State, Nigeria. A sample of 240 SSS II students was used for the study using a multistage sampling procedure. The instruments used in the study were Economics Achievement Test (EAT) and Readings of Test Instructions Questionnaire (RTIQ). The face and content validity of the instruments was ascertained by expert judgment. The reliability coefficient of EAT was estimated using the test re-test reliability method while the reliability coefficient of RTIQ was estimated using the Cronbach Alpha reliability method. The reliability coefficients of EAT and RTIQ were 0.79 and 0.82 respectively. Data collected were analyzed using descriptive and inferential statistics. The research questions raised were answered using mean, standard deviation and bar chart while the hypotheses formulated were tested using Student's t-test and Analysis of Covariance (ANCOVA) at a 0.05 level of significance. Result of the study show that there was a significant difference in the performance of students exposed to readings of test instructions strategies and those in the control group. This particular study worked on effective readings of test instructions affect the academic performance of senior secondary school students in Economics in Oyo State while the present study is about

testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

Testwiness in time management and students' performance in mathematics test

Time management plays a critical role in academic success, particularly in the context of mathematics tests. Effective time management skills enable students to allocate their study time efficiently, review concepts thoroughly, and approach examination questions strategically. Effective time management allows students to optimize their learning and examination preparation. According to a study conducted by Johnson and Onwuegbuzie (2014), students who effectively manage their time perform better in mathematics tests compared to those who do not. By allocating adequate time to study and practice, students can enhance their understanding of mathematical concepts, develop problem-solving skills, and build confidence.

Successful time management begins with careful planning and organization. Students should create a study schedule that accounts for their academic responsibilities, including mathematics test preparation. A study by Britton, Tesser, and Krantz (2012) demonstrated that students who develop a structured study plan perform better in mathematics tests. Effective planning helps students allocate sufficient time for each topic, review past material, and identify areas that require additional attention. Self-discipline is a crucial aspect of time management. Students must overcome the temptation to procrastinate and instead adopt a proactive approach to their studies. A study by Steel, Brothen, and Wambach (2011) highlighted the negative impact of procrastination on academic performance. By developing self-discipline and adhering to their study schedule, students can ensure adequate time for thorough revision and practice, leading to improved performance in mathematics tests.

During mathematics tests, time management is crucial for answering questions accurately and fully. Students should allocate time strategically, ensuring that they attempt each question without rushing. A study by Simonsmeier, Flaig, and Scherndl (2019) emphasized the importance of time allocation strategies during examinations. Techniques such as quickly skimming through the test, allocating time based on question difficulty, and leaving ample time for reviewing answers can significantly improve performance.

Time management is a critical factor in achieving success in mathematics tests. By effectively managing their time, students can enhance their understanding of mathematical concepts, improve problem-solving skills, and boost their overall performance. Proper planning, organization, self-discipline, and the implementation of effective study techniques are key elements of successful time management. By adopting these strategies, students can optimize their preparation and performance in mathematics tests, thereby realizing their academic potential.

Test time management can be defined as the deliberate and systematic process of managing time during a test or examination to enhance productivity and achieve desired outcomes (Birnbaum, 2019). It involves the conscious allocation of time to different sections or questions, prioritization of tasks, and the application of strategies aimed at optimizing performance within the given time frame. One of the fundamental aspects of test time management is the ability to prioritize tasks based on their importance and difficulty level. By identifying and tackling high-value questions first, test takers can ensure they allocate adequate time to challenging sections, maximizing their chances of obtaining higher scores (Birnbaum, 2019).

Proper time allocation is crucial to avoid spending excessive time on a single question or section, which may result in insufficient time for other parts of the test. Dividing the available time based on the number of questions or sections can help individuals maintain a steady pace throughout the examination (Sitzmann et al., 2019). Engaging in timed practice tests or simulations can significantly enhance test time management skills. By replicating real test conditions and adhering to time limits, individuals can develop a better understanding of their pace and adjust their strategies accordingly (Rohrer et al., 2015, Otu, Ojini, Uchegbue & Abang (2023).

Before diving into the questions, it is advisable to skim through the entire test to gain an overview of the content and structure. This allows test takers to plan their approach, identify

easier sections, and allocate time accordingly (Karpicke et al., 2014). In multiple-choice or matching question formats, effective time management can be achieved by using elimination techniques. By eliminating obviously incorrect options, test takers can decrease decision-making time and increase the probability of selecting the correct answer (Preston et al., 2017). Test time management is a vital skill that can significantly impact one's performance in examinations or assessments. By employing effective strategies such as task prioritization, time allocation, practicing timed simulations, skimming, and using elimination techniques, individuals can enhance their efficiency and optimize their performance within the given time frame. Developing these skills through practice and conscious effort can lead to improved results and increased confidence in test-taking situations.

Vences and Cyril (2014), carried out a study in which one of the research hypotheses, was whether time management influence mathematics achievement of students of Higher Secondary Students Accra, Ghana, the population for the study was 180 students and the sample consists of 63 students (35 males and 28 females), time management scale prepared and validated, personal data sheet was prepared by the investigator. Percentage analysis, mean standard deviation and t-test were used to analyze the data. The researchers reports that, there is significant influence of time management on mathematics achievement of higher secondary students. This particular study worked on time management influence mathematics achievement of students of Higher Secondary Students Accra, Ghana while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

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Similarly in a study by Hamzeh (2014) carried out a study in which one of the research hypotheses, was whether there is a relationship between students' time management skills and each of the following variables: motivation to learn mathematics; mathematics anxiety; attitudes towards mathematics; and attitudes towards tests. The study was conducted on a random sample of 626 (372 males and 254 females) secondary school students. The following instruments were used in the data collection: the Time Management Scale (TMS); the Mathematics Motivated Strategies for Learning Questionnaire (MMSLQ); the Mathematics Anxiety Scale-Revised (MAS-R); the Mathematics Attitude Inventory (MAI); and the Attitude towards Tests Scale (ATS). A positive and significant relationship was reported between students' time management skills and each student's motivation to learn mathematics, attitudes towards mathematics, and attitudes towards tests. Time management skills account for more than 30% of the variation in motivation to learn mathematics, 25% in attitudes towards mathematics, 17% in mathematics anxiety, and more than 40% in attitude toward tests. This particular study worked on students' time management skills and each of the following variables: motivation to learn mathematics; mathematics anxiety; attitudes towards mathematics; and attitudes towards tests while the present study is about testwiseness strategies among junior secondary school three students (JSS3) in Cross River State.

RESEARCH METHODOLOGY

The research design adopted for this study was survey research design. The study was carried out in the three zones of Cross River State of Nigeria (Ogoja, Ikom and Calabar zone. It is one of the rain forests zone of West Africa that lies between latitudes 20°18, and 30°25 North of the equator and longitudes 40°30 and 50°16 East of the Greenwich Meridian and covering a land mass of 20,156km$^{2.}$ The study's population is made up of all male and female students in 266 public junior secondary school three (JSS3) in Cross River State is 16,658 for 2022/2023 academic session (State Secondary Education Board, 2026). The sampling techniques adopted for this study was stratified and simple random, proportionate sampling techniques. The sample for this study consists of 595 respondents which is 10% of Junior Secondary three (JSIII) students selected from 30 secondary schools in the three Education Zone of Cross River State. The instrument for the study was self constructed Assessment of Testwiseness Questionnaire (ATWQ) and adapted Mathematics achievement Test (MAT) prepared by National Examination Council (NECO) for JSS III. The choice of this particular test rested on the fact that it was a standardized and was constructed by reputable organization.

The achievement test instrument was prepared by NECO and as such validation had been taken care of. This was as a result of the fact that NECO is a reputable examination body in Nigeria. Its examinations had been in existence for decades. The validity of the testwiseness questionnaire was established by three experts in Measurement and Evaluation. To determine

the reliability of the instruments, split-half method was used. Fifty (50) copies of questionnaire were administered to fifty respondents who are not part of the study, nor in the selected schools. The instruments were administered once; after administration, the questionnaires were split into two and correlated using Pearson Product Moment correlation. A correlation coefficient of the half test was obtained and the Spearman Brown Prophecy formula was used to obtain the reliability of the full test. The coefficient rages from .79 to .83. The researchers seeks permission from the school administrators. Two research assistants were involved in data collection. The testwiseness questionnaire was administered first to the students upon completion was retrieved.

4.2 Presentation of results

Hypothesis one**:** Testwiseness in reading test instruction does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State. The independent variable in this hypothesis is testwiseness in reading test instruction and dependent variable is academic performance in mathematics. To test this hypothesis, the simple linear regression analysis was used and the result is presented in Table 1

Testwiseness in reading test instruction does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students. The explanatory variable is testwiseness in reading test instruction while the dependent variable is academic performance in mathematics, both measured contiguously. To test this hypothesis, simple linear regression was used, and the results as presented in Table 1 showed that (R=.407) which implies that there is a positive relationship between testwiseness in reading test instruction and academic performance in mathematics among Junior Secondary School three (JSS3) Students. That is, the higher the level of reading test instruction among students, the high their academic performance in mathematics. More so, the result further showed that (Adj. R^2=.340) which implies that the variances in academic performance in mathematics could be explained by 34% contribution of the testwiseness in reading test instruction. To test the hypothesis, a cursory look at the analysis of variance (ANOVA) table was made and the result showed that (F=32.289*, P=.000). Since P-value (.000) is less than P-value (.05), this implies that the null hypothesis that testwiseness in reading test instruction does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students rejected and the alternate hypothesis retained.

TABLE 1

Summary of regression analysis of the prediction of testwiseness in reading test instruction on academic performance in mathematics among Junior Secondary School three (JSS3) Students

R	R^2	Adj.R^2	Std error	Untand B	
.407[a]	.350	.340	3.278	0.315	
Model	Sum square	Summary mean square	F-ratio	A	Sig
Regression	628.104	628.104			
Residual	5799.414	10.748	32.289*	.05	.000
Total	6427.518				

*Significant at .05, df = 593

Hypothesis four: Testwiseness in test time management does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross

River State. The independent variable in this hypothesis is testwiseness in test time management and dependent variable is academic performance in mathematics. To test this hypothesis, the simple linear regression analysis was used and the result is presented in Table 2

Testwiseness in test time management does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students. The explanatory variable is testwiseness in test time management while the dependent variable is academic performance in mathematics, both measured contiguously. To test this hypothesis, simple linear regression was used, and the results as presented in Table 10 showed that (R=.621) which implies that there is a positive relationship between testwiseness in test time management and academic performance in mathematics among Junior Secondary School three (JSS3) Students. That is, the higher the level of test time management among students, the high their academic performance in mathematics. More so, the result further showed that (Adj. R^2=.384) which implies that the variances in academic performance in mathematics could be explained by 38.4% contribution of the testwiseness in test time management. To test the hypothesis, a cursory look at the analysis of variance (ANOVA) table was made and the result showed that (F=375.138*, P=.000). Since P-value (.000) is less than P-value (.05), this implies that the null hypothesis that testwiseness in test time management does not significantly predict academic performance in mathematics among Junior Secondary School three (JSS3) Students rejected and the alternate hypothesis retained.

TABLE 2
Summary of regression analysis of the prediction of testwiseness in test time management on academic performance in mathematics among Junior Secondary School three (JSS3) Students

R	R^2	Adj.R^2	Std error	Untand B	
.621[a]	.385	.384	2.570	0.958	
Model	Sum square	Summary mean square	F-ratio	A	Sig
Regression	2477.766	2477.766			
Residual	3949.753	6.605	375.138*	.05	.000
Total	6427.518				

*Significant at .05, df = 593

Discussion of findings

The result from the test of the first hypothesis showed that testwiseness in reading test instructions significantly predicts academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State. This implies that the process of measuring and evaluating student performance through tests is a crucial aspect of the educational system. However, the significance of the test-taking process often goes beyond the actual content of the test. One critical factor that significantly influences the validity and reliability of test scores is the clarity and comprehensibility of the test instructions. The clarity and comprehensibility of test instructions play a pivotal role in ensuring that test-takers understand what is expected of them during the assessment. Poorly constructed or ambiguous instructions can lead to confusion and misinterpretation, potentially affecting the measurement of students' true abilities. When instructions are unclear, students may inadvertently answer questions incorrectly, not because of a lack of knowledge or skills, but due to a misunderstanding of what is being asked of them.

As a result, the measurement and evaluation of their performance may not accurately reflect their actual proficiency. This finding conforms to that of Aborisade, and Adeniji, (2022) whose study revealed that reading test instructions promotes critical thinking skills by requiring students to analyze and interpret information accurately. It encourages students to evaluate the context, identify key requirements, and consider the best course of action. This process fosters a thoughtful and analytical approach to problem-solving, which is valuable not only in academic settings but also in real-life scenarios. By carefully reading and understanding test instructions, students can execute assessments accurately, manage their time effectively, avoid costly mistakes, enhance their test-taking strategies, and develop critical thinking skills.

The result from the test of the second hypothesis showed that testwiseness in test time management significantly predicts academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State. This implies that effective time management is also closely intertwined with testwiseness. Students who can manage their time well during mathematics examinations are more likely to complete the test, review their answers, and avoid leaving questions unanswered due to time constraints. Time management skills allow students to allocate sufficient time to each question based on its complexity, prioritize tasks, and maintain a steady pace throughout the examination. Consequently, students who excel in time management are better positioned to demonstrate their knowledge and problem-solving abilities, leading to improved mathematics performance.

Time management is essential components that significantly impact a student's performance in mathematics. Developing strong testwiseness skills enables students to approach test questions strategically and make informed decisions, while effective time management ensures that students can complete assessments within the allocated time frame. By fostering these skills through practice, guidance, and support from educators, students can enhance their test performance and achieve greater success in mathematics. This finding conforms to that of Vences and Cyril (2014), carried out a study in which one of the research hypotheses, was whether time management influence on mathematics achievement of students of Higher Secondary Students Accra, Ghana, the population for the study was 180 students and the sample consists of 63 students (35 males and 28 females), time management scale prepared and validated, personal data sheet was prepared by the investigator. Percentage analysis, mean standard deviation and t-test were used to analyze the data. The researchers reports that, there is significant influence of time management on mathematics achievement of higher secondary students.

Conclusion/ Recommendations

Based on the findings, it was concluded that testwiseness have strong prediction of academic performance in mathematics among Junior Secondary School three (JSS3) Students in Cross River State. Based on the findings, the following recommendations were made:

i. Teachers should incorporate test-taking strategy of reading test instruction into their teaching to help students understand the need of reading test instruction before starting any test.
ii. Teachers and school administrators should incorporate teaching of time management strategies, so it can help students manage their time during preparation for test, during test and other of their activities.

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