

EVALUATING THE IMPACT OF THE ENVIRONMENT ON STUDENTS ACADEMIC PERFORMANCE

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Abstract

The relationship between the environment and students' academic performance is a topic of significant interest in educational research due to its potential to influence learning outcomes significantly. A well-rounded understanding of how various environmental factors influence learning can inform the development of effective strategies to enhance educational experiences and outcomes. This study evaluates the impact of different environmental factors—classroom environment, home environment, and school facilities—on students' academic performance.

The classroom environment is a fundamental component of the educational setting and plays a critical role in shaping students' academic experiences (Khalfaoui, et al. 2021). Several elements within the classroom environment can affect learning outcomes, including physical aspects such as seating arrangements, lighting, noise levels, and the social dynamics between teachers and students. A well-structured and organized classroom can foster a conducive learning atmosphere that minimizes distractions and maximizes engagement. For instance, appropriate lighting and comfortable seating can reduce physical strain and improve concentration, while a quiet environment can minimize disruptions and help maintain focus on academic tasks.

1.0 INTRODUCTION

Teacher-student interactions within the classroom also significantly influence academic performance (Afzal, et al. 2023). Positive relationships characterized by mutual respect, encouragement, and constructive feedback can boost students' confidence, motivation, and overall academic engagement. Effective classroom management strategies, including clear communication of expectations and consistent enforcement of rules, can create a stable and supportive learning environment that promotes academic success. Additionally, the use of diverse instructional methods and resources tailored to meet students' varied learning needs and preferences can enhance comprehension and retention of information, leading to improved academic outcomes.

The home environment is another crucial factor that affects students' academic performance (Realyvásquez-Vargas, et al. 2020). It encompasses a wide range of elements, including parental involvement, availability of learning resources, and the overall atmosphere at home. Parental involvement in a child's education, such as helping with homework, attending school events, and communicating with teachers, has been consistently linked to better academic performance. When parents show interest in their child's education, it sends a message that education is valuable, which can motivate students to put forth their best effort.

Moreover, the availability of learning resources at home, such as books, computers, and internet access, can significantly impact academic performance (El Said, 2021). Access to these resources enables students to complete assignments, conduct research, and engage in supplementary learning activities that reinforce classroom instruction. A quiet and organized study space at home can also facilitate effective studying and reduce distractions, further contributing to academic success.

The overall home atmosphere, including the level of emotional support and stability, plays a critical role in academic performance (Granziera, et al. 2022). A nurturing and supportive home environment can provide students with the emotional security they need to focus on their studies and perform well academically. Conversely, a stressful or chaotic home environment can negatively impact concentration, motivation, and overall academic performance.

School facilities, including the physical infrastructure and availability of resources, are also vital determinants of academic performance (Brew, et al. 2021). Well-maintained school buildings, equipped with modern amenities and adequate learning resources, provide a conducive environment for education. Classrooms equipped with up-to-date technology, such as interactive whiteboards and computers, can enhance the learning experience by providing students with access to a wealth of information and interactive learning tools.

Adequate school facilities also include libraries, laboratories, sports facilities, and other specialized spaces that support a well-rounded education (Bueno, 2023). Access to a well-stocked library can encourage students to develop a love for reading and engage in independent learning, while well-equipped laboratories enable hands-on experiments and practical application of theoretical knowledge. Sports facilities and extracurricular activity spaces contribute to the overall development of students, promoting physical health, teamwork, and leadership skills, which can indirectly support academic performance by fostering a balanced and healthy lifestyle.

The environment in which students learn encompasses various factors that collectively impact academic performance. The classroom environment, home environment, and school facilities each play a critical role in shaping students' educational experiences and outcomes. By understanding and addressing the specific ways these environmental factors influence learning, educators, policymakers, and parents can develop targeted strategies to create optimal learning conditions. This comprehensive approach can help enhance academic performance and ensure that all students can succeed academically.

Therefore, the current study provides information on Evaluating the impact of the environment on students' academic performance.

1.1 BACKGROUND OF STUDY

Educational environments encompass a wide range of factors, each potentially affecting a student's ability to learn and perform academically (Ramli, et al. 2020). The complexity of these environments means that numerous elements must be considered when assessing their impact on educational outcomes. A thorough understanding of these elements' roles is essential for creating optimal learning conditions that enhance students' academic performance.

The classroom environment is a primary component of the educational setting and significantly influences students' learning experiences (Lu, et al. 2021). Several aspects within the classroom environment can affect academic outcomes, including physical factors such as seating arrangements, lighting, and noise levels. Proper seating arrangements can facilitate better student engagement and interaction, allowing for more effective communication and collaboration among students. Well-designed seating can also help manage classroom behavior by reducing distractions and promoting focus. Adequate lighting is another critical factor, as it can reduce eye strain and fatigue, thereby enhancing concentration and overall academic performance. Natural light has been shown to improve mood and cognitive function, contributing to a more conducive learning atmosphere.

Noise levels within the classroom also play a crucial role in academic performance. Excessive noise can be highly disruptive, leading to difficulties in concentration and reduced comprehension of instructional material (Massonnié, et al. 2022). Conversely, a quiet and calm environment can foster better focus and facilitate more effective learning. The social dynamics within the classroom, particularly teacher-student interactions, are equally important. Positive interactions characterized by mutual respect, encouragement, and constructive feedback can significantly boost students' motivation, self-esteem, and academic engagement. Teachers who create a supportive and inclusive classroom atmosphere can help students feel valued and capable, which is essential for their academic success.

The home environment is another vital factor influencing students' academic performance. Parental involvement in education is a key component of the home environment, and its importance cannot be overstated (Pek, & Mee, 2020). When parents actively engage in their child's education, whether through helping with homework, attending school events, or maintaining regular communication with teachers, it sends a powerful message about the value of education. This involvement not only provides practical support but also enhances the child's motivation and commitment to their studies. The availability of learning materials at home, such as books, computers, and internet access, is also crucial. These resources enable students to complete assignments, conduct research, and engage in additional learning activities that complement classroom instruction. A dedicated study space within the home can further enhance academic performance by providing a quiet and organized area free from distractions.

The overall atmosphere at home, including the level of emotional support and stability, plays a significant role in academic performance (Younas, et al. 2021). A nurturing and supportive home environment provides students with the emotional security needed to focus on their studies and achieve academic success. On the other hand, a stressful or chaotic home environment can hinder concentration and motivation, leading to poorer academic outcomes.

School facilities, which include the physical infrastructure and availability of resources, are also critical determinants of academic performance. Well-maintained school buildings equipped with modern amenities create a conducive environment for learning. Classrooms with up-to-date technology, such as interactive whiteboards and computers, can enhance the learning experience by providing students with access to a wealth of information and interactive learning tools (Shi, et al. 2021). Additionally, the presence of well-equipped libraries, laboratories, sports facilities, and other specialized spaces supports a comprehensive education. Access to a well-stocked library encourages independent learning and fosters a love for reading, while laboratories provide opportunities for hands-on experiments and practical application of theoretical knowledge. Sports facilities and extracurricular activity spaces contribute to the overall development of students, promoting physical health, teamwork, and leadership skills, which can indirectly support academic performance by fostering a balanced and healthy lifestyle.

Understanding the roles of these various environmental factors provides critical insights into creating optimal learning conditions. By recognizing the importance of the classroom environment, home environment, and school facilities, educators, policymakers, and parents can develop targeted strategies to enhance students' academic experiences and outcomes. This comprehensive approach ensures that all students can succeed academically by addressing the multifaceted nature of their learning environments. It underscores the need for a holistic view of education that considers not just the curriculum and teaching methods but also the broader context in which learning occurs.

1.2 PROBLEM STATEMENT

Despite extensive research into the relationship between environmental factors and academic performance, there remains a significant lack of consensus regarding the specific ways in

which these factors impact student outcomes (Poekert, et al. 2022). This discrepancy in findings highlights the complexity of the issue and the need for a more comprehensive approach to understanding how different environmental elements contribute to academic success.

The classroom environment is frequently cited as a crucial factor influencing academic performance. Various studies emphasize different aspects of the classroom setting, such as physical arrangements, lighting, and noise levels, which are all believed to affect students' ability to concentrate and engage with the material (Baafi, 2020). Additionally, the quality of teacher-student interactions within the classroom is often highlighted as a significant determinant of academic success. Positive, supportive interactions can foster a conducive learning atmosphere, boost student motivation, and enhance overall academic engagement. However, despite the considerable focus on these aspects, there remains a lack of uniformity in the findings. Some studies suggest that physical conditions like lighting and seating are paramount, while others argue that the nature of teacher-student relationships plays a more significant role.

Similarly, the home environment is another area where research findings diverge. The role of parental involvement, for instance, is widely acknowledged as beneficial to students' academic performance. Active engagement from parents in their children's education, such as helping with homework and maintaining communication with teachers, is generally associated with better academic outcomes (Núñez, et al. 2023). However, the extent to which parental involvement impacts performance can vary significantly depending on other factors, such as socioeconomic status and parental education levels. Additionally, the availability of learning resources at home, like books, computers, and internet access, is often linked to improved academic performance. Yet, the degree to which these resources contribute to academic success can be influenced by how effectively they are utilized, which in turn can be affected by the overall home environment and parental support.

School facilities constitute the third major environmental factor under consideration. The quality of physical infrastructure, availability of modern amenities, and access to resources such as libraries and laboratories are all believed to play a role in shaping students' academic experiences (Badmus, 2023). Schools with well-maintained facilities and up-to-date

technology can provide students with a more engaging and effective learning environment. However, research findings on the impact of school facilities on academic performance are also varied. Some studies emphasize the importance of physical infrastructure, while others point to the availability and quality of learning resources as the key determinants of academic success.

This disparity in research findings underscores the complexity of understanding how environmental factors impact academic performance. Each study tends to focus on specific elements within the broader environmental context, often leading to isolated conclusions that do not capture the full picture. For instance, while one study might highlight the critical role of classroom settings, another might emphasize home support or school infrastructure. This fragmented approach can lead to incomplete or conflicting conclusions about the relative importance of different environmental factors.

Therefore, there is a pressing need for a comprehensive study that considers the combined effects of classroom environment, home environment, and school facilities on academic performance (Rafiq, et al. 2022). Such a study would aim to elucidate the relative importance of each factor and how they interact to influence academic outcomes. By adopting a holistic approach, it would be possible to gain a more nuanced understanding of the multifaceted nature of the educational environment and its impact on student performance.

Moreover, a comprehensive study could help reconcile the disparate findings from previous research by providing a more integrated perspective. It could identify commonalities and differences in how various environmental factors influence academic performance across different contexts and populations. This, in turn, could inform the development of more targeted and effective interventions aimed at improving educational outcomes.

While extensive research has been conducted on the impact of environmental factors on academic performance, there remains a lack of consensus on the specific ways in which these factors contribute to student success. The disparity in findings highlights the need for a comprehensive study that considers the combined effects of classroom environment, home environment, and school facilities. Such a study would provide a more holistic understanding

of how these factors interact to influence academic performance and inform the development of more effective strategies to enhance educational outcomes.

1.3 RESEARCH QUESTIONS

1. What is the relationship between Classroom Environment and Academic Performance?
2. What is the relationship between Home Environment and Academic Performance?
3. What is the relationship between School Facilities and Academic Performance?

1.4 RESEARCH OBJECTIVES

1. To explore the relationship between Classroom Environment and Academic Performance.
2. To explore the relationship between Home Environment and Academic Performance.
3. To explore the relationship between School Facilities and Academic Performance.

1.5 SIGNIFICANCE OF STUDY

This study is significant as it seeks to provide a comprehensive understanding of how different environmental factors impact students' academic performance. In the realm of educational research, there is a pressing need for a holistic approach that integrates the influences of the classroom environment, home environment, and school facilities. By undertaking such an investigation, the study aims to bridge the existing gaps and disparities in previous research findings, offering a unified perspective on the multifaceted nature of educational environments.

The insights gained from this study can be pivotal for policymakers who are responsible for designing and implementing educational policies. By identifying the key environmental determinants of academic success, policymakers can allocate resources more effectively and develop strategies that address the most critical areas impacting student performance. For instance, understanding the relative importance of classroom conditions, home support, and school infrastructure can help in formulating policies that enhance these specific aspects, thereby fostering an overall conducive learning environment.

Educators, too, stand to benefit significantly from the findings of this study. Teachers and school administrators can gain a deeper understanding of how various classroom elements and

teaching practices influence student outcomes. This knowledge can guide them in creating more effective instructional strategies and classroom management techniques. Additionally, insights into the home environment's role can help educators collaborate more effectively with parents, fostering a supportive home-school partnership that enhances students' academic experiences.

Parents, as primary stakeholders in their children's education, can also draw valuable lessons from this study. By highlighting the critical aspects of the home environment that contribute to academic success, the study can empower parents to make informed decisions about how to support their children's learning. This might include creating a conducive study space, providing necessary learning resources, or engaging more actively in their child's educational journey.

Furthermore, the study's comprehensive approach to examining the interplay between various environmental factors and academic performance can lead to the design of targeted interventions aimed at creating optimal learning conditions. For example, if the study finds that certain classroom arrangements significantly boost academic outcomes, schools can adopt these configurations to enhance student engagement and performance. Similarly, if the availability of specific resources at home is found to be crucial, community programs could be developed to ensure that all students have access to these essential tools.

This study's significance lies in its potential to offer a detailed and integrated understanding of how environmental factors impact academic performance. By providing actionable insights to policymakers, educators, and parents, the study can drive the development of targeted interventions and strategies that improve educational achievements, ultimately benefiting students and society.

2.0 LITERATURE REVIEW

The environment in which students learn plays a critical role in shaping their academic performance. Numerous studies have explored various dimensions of the educational environment, focusing on three primary independent variables: the classroom environment, home environment, and school facilities. Each of these factors has been shown to significantly influence student outcomes, impacting their ability to learn and perform academically.

Research into the classroom environment examines physical aspects, such as lighting, seating arrangements, and noise levels, alongside social dynamics like teacher-student interactions and instructional methods. Studies consistently indicate that a well-organized, supportive classroom environment enhances student engagement, concentration, and overall academic success.

The home environment is another crucial determinant of academic performance, encompassing parental involvement, availability of learning resources, and emotional support. Studies have highlighted that active parental involvement, such as assisting with homework and attending school events, positively correlates with higher academic achievement (Alfred, et al. 2023). Additionally, access to learning materials and a stable, supportive home atmosphere further contribute to better educational outcomes.

School facilities, including the quality of physical infrastructure and the availability of educational resources, also play a significant role. Well-maintained buildings, modern amenities, and access to libraries and laboratories create a conducive learning environment, directly influencing student performance (Anthonia, et al. 2024). Participation in extracurricular activities supported by adequate school facilities has been linked to enhanced student engagement and academic success.

Classroom Environment and the Academic Performance

The classroom environment is a pivotal area of study in educational research, integrating physical, social, and instructional elements to understand their collective impact on student learning and achievement. Research consistently shows that a well-organized and conducive classroom environment significantly enhances student outcomes.

The physical aspects of the classroom environment, such as lighting, acoustics, and seating arrangements, play a crucial role in shaping academic performance. Hoang, et al. (2022) found that well-designed classroom settings with adequate natural light and comfortable seating improve student concentration and reduce fatigue, leading to better academic results. Proper lighting not only enhances visibility but also positively affects students' mood and energy levels, while ergonomic seating arrangements help maintain physical comfort, enabling students to focus more effectively on their studies.

Social dynamics within the classroom are equally important. Teacher-student interactions have a profound impact on academic performance. Research by Gyeltshen, & Gyeltshen, (2022) demonstrated that positive teacher-student relationships, characterized by mutual respect and supportive communication, significantly boost student engagement and academic success. When teachers create a nurturing and inclusive environment, students are more likely to participate actively in class, feel motivated to learn, and achieve higher academic standards. On the other hand, negative interactions, such as criticism or lack of support, can diminish student motivation and result in lower academic performance.

Instructional methods are another critical component of the classroom environment. The use of diverse instructional strategies tailored to meet students' individual learning needs is essential for fostering academic success. Begum, & Ambreen, (2021) emphasized the importance of effective teaching practices, such as formative assessment and feedback, cooperative learning, and differentiated instruction. These methods ensure that students receive timely and constructive feedback, engage in collaborative learning experiences, and receive instruction that caters to their unique learning styles and abilities. By employing a variety of instructional approaches, teachers can address the diverse needs of their students, promoting deeper understanding and better academic outcomes.

The classroom environment, encompassing physical, social, and instructional elements, is a crucial determinant of academic performance. A well-designed classroom, positive teacher-student interactions, and effective instructional methods collectively create an optimal learning environment that fosters student engagement, motivation, and academic success.

Home Environment and the Academic Performance

The home environment significantly contributes to students' academic performance, with various factors playing a role in shaping educational outcomes. Parental involvement is one of the most critical elements. Numerous studies have underscored its importance in education, with a notable meta-analysis by Wilder, (2023) revealing a positive correlation between parental involvement and higher academic achievement. When parents actively engage in their children's education—through activities like reading together, helping with homework, and attending school events—they create a supportive learning environment that encourages

academic success. This involvement not only provides practical assistance with schoolwork but also signals to children that their education is valued, thereby fostering motivation and commitment to their studies.

Another crucial factor is the availability of learning resources at home. Access to books, computers, and internet connectivity is vital for academic success. Briones, et al. (2022) found that students who have access to these resources tend to perform better academically. The presence of such resources allows students to engage in supplementary learning activities that reinforce classroom instruction, broadening their knowledge and enhancing their understanding of the material. For example, access to the internet can facilitate research for school projects, while a home library can encourage a habit of reading that improves literacy and critical thinking skills.

The emotional climate at home also plays a significant role in academic performance. Twum-Antwi, et al. (2020) conducted a study that indicated children from emotionally supportive and stable home environments exhibit higher academic achievement. Emotional security provided by a stable home environment enables students to focus better on their studies, free from the distractions and stress that can accompany a turbulent home life. When children feel secure and supported, they are more likely to have the confidence and mental clarity necessary to tackle academic challenges effectively.

The home environment, through parental involvement, the availability of learning resources, and emotional support, has a profound impact on students' academic performance. These elements work together to create a nurturing and conducive atmosphere for learning, ultimately contributing to better educational outcomes.

School Facilities and the Academic Performance

The quality of school facilities, encompassing physical infrastructure and the availability of resources, is a critical determinant of academic performance. Research underscores the significant impact that well-maintained school environments have on students' ability to learn effectively. Surur, et al. (2020) reviewed numerous studies and concluded that the condition of school facilities is closely linked to student achievement. Factors such as adequate ventilation, proper lighting, and effective temperature control contribute to creating a conducive learning

environment. Schools with better-maintained facilities typically see higher academic performance among their students. These physical aspects of school infrastructure ensure that students are comfortable and able to concentrate, reducing distractions that might hinder learning.

Access to modern educational resources further enhances the learning experience. ONWUBIKO, (2020) found that schools equipped with well-stocked libraries, state-of-the-art laboratories, and up-to-date technology report higher student achievement. These resources support hands-on learning and independent research, which are essential for fostering critical thinking and problem-solving skills. For instance, well-equipped laboratories allow students to engage in practical experiments, bridging the gap between theoretical knowledge and real-world application. Similarly, libraries provide access to a vast array of information, encouraging students to explore subjects more deeply and develop a love for reading and learning.

Extracurricular facilities also play a significant role in academic success. Ginosyan, et al. (2020) demonstrated that participation in extracurricular activities, facilitated by adequate school facilities, promotes student engagement, leadership skills, and overall academic performance. Extracurricular activities provide students with opportunities to develop skills outside the traditional academic curriculum, such as teamwork, time management, and leadership. These activities contribute to a well-rounded education, helping students to develop socially and emotionally, which in turn supports their academic endeavors.

The quality of school facilities, including physical infrastructure, educational resources, and extracurricular facilities, is a key determinant of academic performance. Well-maintained environments, access to modern resources, and opportunities for extracurricular involvement all contribute to creating a supportive and enriching educational experience. By investing in these areas, schools can significantly enhance students' learning outcomes and overall academic success.

3.0 RESEARCH METHODOLOGY

Kuala Lumpur, Malaysia will be the focus of a quantitative study for Evaluating the impact of the environment on students' academic performance.

3.1 RESEARCH DESIGN

To come up with a workable hypothesis, researchers doing quantitative research often use deductive reasoning. The researchers next gather data and look for evidence to back up the initial hypothesis to test it. Quantitative analysis requires the numerical storage of information within variables. In the field of statistical analysis, we refer to any attribute that can generate multiple values as a "variable". It is useful to provide numerical values in attribute definitions since they reflect the research body's level of holding the attribute in question. We can quantify attributes such as age, wealth, and educational attainment. The researchers give qualitative traits, such as race and religious membership, a lot of weight. Indeed, researchers will occasionally put monetary values on certain traits to do quantitative analysis. This keeps happening even though these numerical estimates do not adequately capture the true prevalence of certain traits in these regions. It is commonly believed that men possess twice as much "gender" as women do due to the coding of the "gender" variable, which assigns 1 to men and 2 to women. For this reason, we code the gender variable. On the other hand, that's completely incorrect. "Numeric" variables, which include words or ranges, make up the first category. The second set of variables, known as "categorical" variables, consists of letters and numbers.

3.2 RESEARCH FRAMEWORK

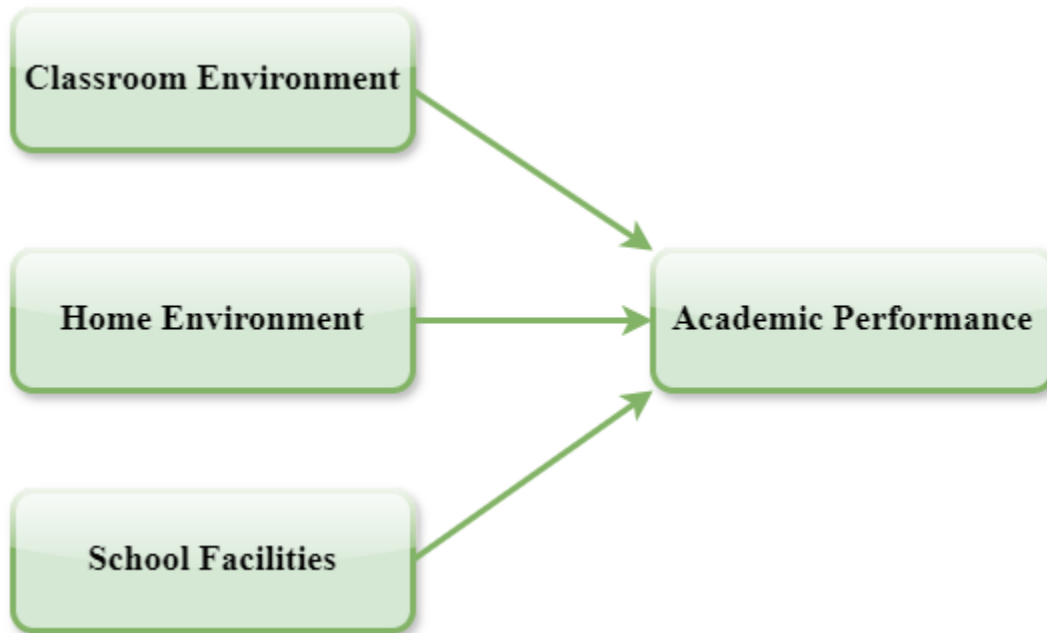


Figure 3.1 Research Framework

3.3 DATA SOURCE

The researcher will use primary and secondary sources to gather data for this study. Among the most common ways to collect information are through surveys, interviews, and test administration. Questions and interviews conducted at the individual's home constitute the bulk of the primary data collection process. This strategy ensures that the data obtained is accurate, comprehensive, up-to-date, and statistically robust, so the researchers may rest easy. They can also be sure the data will support their research goals. Historically, secondary data has been the de facto standard for empirical research in development economics. The advent of specialized survey equipment, survey businesses, and field guides in developing nations, however, has begun to reverse this trend. We administered a series of questions using a survey questionnaire to the 300 participants in the study. We wanted to know how the participants felt, so we asked them these questions. We hoped that government workers in the province of Khyber-Pakhtunkhwa would take the time to fill out this survey. Government employees in the Khyber-Pakhtunkhwa province were the ones who got the survey requests. Two primary sources provided the bulk of the data used in the investigation. The investigation advanced its

goals by collecting and analyzing additional data. It is tough to design dependable procedures for collecting secondary data sets because there are so many diverse domains to study to obtain solutions. The researcher is free to pick whether the data originated from inside or outside the corporation.

3.4 DATA COLLECTION

We will develop and send a questionnaire to the participants to gather further information about them. Finding the right answers to each survey question could be as simple as looking for the spaces at the end of the questions. If you want, You must complete the fields in the correct order for your form submission to be considered seriously. s to wording, the practice exams will be a carbon copy of the real thing. There were three parts to the survey, and each part contained its own unique collection of questions. Part A of the survey asks for details about your ancestry, including your race and ethnicity. Part B of the survey will include a Likert scale for respondents to score their opinions on the research's independent variables. Section C will ask participants to rate the Academic Performance, using a Likert scale. Respondents can express their level of agreement or disagreement with a message using a Likert scale that goes from 1 to 7. We will use a five-point Likert scale to create the survey questions; the highest and lowest points are "strongly disagree" and "strongly agree," respectively. It is common practice to revise the final survey instrument's form and content based on the results of the pilot study. We asked participants to indicate their level of agreement or disagreement with each statement on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In terms of agreement or extreme disagreement, the responses ranged from 1 to 5. To gain a better understanding of the data, we will use the metrics of frequency and percentage to assess dispersion, and the mean and standard deviation to highlight central tendency. One group will be instructed adhere to the rule of thumb, while the other group will follow the Roscoe hypothesis. We will randomly assign Both parties will conduct the experiment.

3.5 DATA ANALYSIS

To achieve each of the study's objectives, we will carry out the data collection by distributing a self-administered questionnaire to many individuals. We will apply data analysis, descriptive statistics, reliability tests, correlation analyses, and regression testing in the future. We will

utilize these types of statistical methods. The goal of any data analysis for a research project should be to develop findings that are legitimate for the intended audience. Outliers, missing data, data manipulation, data mining, and graphic generation are some of the less obvious problems that those who work in the field of data science need to be able to manage. In addition to being able to recognize and fix severe statistical errors, those who work in this field need to be able to manage these challenges. It is crucial to understand this phenomenon when working with data. We will use the statistical program SPSS for both data collection and analysis, as it is a statistical tool. We can use SPSS's coding, consistency evaluation, and analysis processes to obtain definitive answers to the study questions. The survey data collected in Microsoft Excel can facilitate these responses. The use of percentages and frequencies can be advantageous when it comes to the display of qualitative data, whereas the use of standard deviations and means can be beneficial when it comes to the analysis of quantitative data. There is not even one of them that is absent from the table. Readers can use various data visualizations such as histograms, bar charts, and pie charts to interpret information from large datasets containing numerical data. During this investigation, the use of both descriptive and inferential statistics in their respective roles proved to be extremely beneficial. The demographics section of the research makes use of descriptive statistics like percentages and frequencies, in addition to more complicated metrics like the mode, standard deviation, median, and mean. We utilize all these types of statistics. The current study will utilize descriptive and inferential statistics to obtain and analyse information.

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