

Transforming Learning: The Role of School-Related Factors in Student Achievement

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Abstract:

This study focuses on exploring school-related factors that affect students' academic performance in public high schools in Kwara State, Nigeria. The main objective of this study is to identify and analyze how classroom management, teacher personality, physical environment, and teacher-student ratio contribute to student learning outcomes. This study uses a quantitative approach with a type of correlational descriptive research. Data was collected through structured questionnaire surveys filled out by teachers and students and in-depth interviews with several principals. Data analysis used descriptive and inferential statistics, including Pearson correlation analysis and multiple regression. The results of the study show that classroom management and teacher-student ratio have a significant influence on students' academic performance. Teachers' personalities were also found to have a positive impact, although not as much as the other two factors. Meanwhile, while important, the physical environment has a relatively minor influence on learning outcomes. These findings suggest that the interaction between these factors overall affects students' academic achievement. The implications of this study emphasize the importance of paying more attention to effective classroom management and determining the optimal teacher-student ratio to improve students' academic performance. In addition, the results of this study can be used as a basis for policymakers and education practitioners to design more effective strategies to improve the quality of education in Nigeria. This research also opens up opportunities for more comprehensive follow-up research in understanding the complexity of factors affecting academic performance in various educational contexts.

Key Words: School Facilities, School Related Factors, Student's Academic Performance, Public Secondary Schools

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INTRODUCTION

The quality of education is one of the leading indicators of a nation's progress (Friedman et al., 2020; Alam et al., 2020; Goczek et al., 2021). In Nigeria, particularly in Kwara State, the quality of education in upper secondary schools is still a serious concern (Shittu et al., 2021). Students' graduation rates and academic achievement often do not meet the expected standards (Barbera et al., 2020; Pinguart & Ebeling, 2020; Toutkoushian et al., 2021). This is interesting to research because education is the main foundation for developing quality human resources (Stofkova & Sukalova, 2020; Piwowar-Sulej, 2021). A good education

not only produces knowledgeable individuals but also contributes to social and economic development (Saravanakumar, 2020; Mohamed et al., 2021; Сагикызы et al., 2021). Therefore, understanding the factors that affect students' academic performance is critical to be raised in academic discussions (Hursen, 2021; Wang et al., 2023). A conducive learning environment and positive interaction between teachers and students are the primary keys to achieving optimal learning outcomes (Cayubit, 2022; Rusticus et al., 2023).

The main problem faced in the education system in Kwara State is the low academic performance of students in high school. Although the government and schools have made various efforts to improve educational standards, the results are still far from expectations. One of the crucial problems identified is ineffective classroom management. Poor classroom management can disrupt the teaching and learning process, reducing student motivation and involvement in learning activities. In addition, teachers' personalities and the school's physical environment are often overlooked as important factors that affect students' academic performance. The high teacher-student ratio is also a serious problem because it reduces the quality of interaction between teachers and students. Thus, this study focuses on identifying and analyzing school-related factors that affect the academic performance of students in Kwara State, Nigeria.

Previous research has shown various factors that affect students' academic performance. In their research, Cents et al. (2021) revealed that effective classroom management significantly increases student learning motivation and engagement. Classroom management can create a conducive learning environment and support academic achievement (Barksdale et al., 2021; Tao et al., 2022). Cayubit (2022) found that the school's physical environment, including facilities and infrastructure, plays an important role in supporting the learning process. Adequate facilities such as comfortable classrooms, well-equipped laboratories, and a sound library can improve the quality of student learning—meanwhile, Sakineh and Ali (2020), in his research, showed that teachers' personalities and positive interactions between teachers and students significantly influence academic performance. Teachers who have pleasant personalities and can establish good relationships with students can increase learning motivation and student learning outcomes.

Although various studies have been conducted to identify factors that affect students' academic performance, there are still significant gaps in this study. Previous research has focused on one or two factors separately without considering the complex interactions between these factors. In addition, no research has comprehensively explored how these factors interact and influence students' academic performance in cultural and social contexts in Kwara State, Nigeria. This study will fill the gap by adopting a more holistic and comprehensive approach to analyzing school-related factors affecting students' academic performance.

The novelty of this research lies in the holistic approach used to analyze various school-related factors that affect students' academic performance. Unlike previous studies that focus only on one aspect, this study combines analysis of classroom management, teacher personality, physical environment, and teacher-student ratio. In addition, the study also considers the unique cultural and social context in Kwara State, Nigeria, which can influence how these factors interact and affect students' academic performance. Thus, this study not only enriches the academic literature on the factors affecting students' academic performance but also provides a strong empirical basis for better decision-making in improving the quality of education in Nigeria and other regions with similar characteristics.

The main objective of this study is to identify and analyze school-related factors that affect students' academic performance in public high schools in Kwara State, Nigeria. This study's results are expected to contribute to efforts to improve the quality of education and students' academic performance in Nigeria. By comprehensively identifying and analyzing these factors, this study is expected to provide deeper insights into improving the quality of education in public high schools in Kwara State.

RESEARCH METHOD

This study uses a quantitative approach with correlational descriptive research (Essel et al., 2022). This approach was chosen because it allows researchers to measure and analyze the relationship between variables, such as classroom management, teacher personality, physical environment, teacher-student ratio, and student academic performance. This study was conducted in a public secondary school in Kwara State, Nigeria, with the study sites covering several schools in Ilorin West, Ilorin South, and Ilorin East. These schools were selected based on data availability and good representation of the student and teacher population.

The data collection technique used in this study is a structured questionnaire survey (Adeoye-Olatunde & Olenik, 2021). The questionnaire is designed to measure the perception of teachers and students toward various school-related factors that affect academic performance. In addition, in-depth interviews were conducted with several principals and teachers to obtain additional and contextual information regarding the implementation of educational policies and the conditions of the learning environment. Demographic data such as age, gender, educational background, and teaching experience are also collected to aid in data analysis. Data was collected in three months, from October to December 2023.

The data analysis techniques used in this study include descriptive and inferential statistical analysis. Descriptive statistics were used to describe the sample's characteristics and the research variables' distribution. Meanwhile, Pearson's correlation analysis was used to test the relationship between independent variables (classroom management, teacher personality, physical

environment, and teacher-student ratio) and dependent variables (student academic performance). In addition, multiple regression analysis was carried out to determine the relative influence of each independent variable on students' academic performance. All data analysis was carried out using SPSS statistical software version 25 to ensure the accuracy and validity of the research results (Siedlecki, 2020; Wiltshire & Ronkainen, 2021; Guzik & Więckowska, 2023).

RESULTS AND DISCUSSION

Results

The following are the findings of a study that outlines various school-related factors that affect students' academic performance in public high schools in Kwara State, Nigeria.

Perception of School-Related Factors

This study revealed a significant variation in perception related to factors related to the school, such as classroom management, teacher personality, physical environment, and teacher-student ratio. Based on Table 1, classroom management and teacher-student ratio have the highest perception average with a score of 3.04 each, indicating that these two factors are important in supporting students' academic performance. The teacher's personality has an average of 2.85, while the physical environment is in last place with an average score of 2.47. This shows that although the physical environment is important, this factor is considered less significant than other factors.

Table 1. Average Perception of School-Related Factors

Variable	Frequency	Average
Classroom management	120	3.04
Teacher personality	120	2.85
Physical environment	120	2.47
Teacher-student ratio	120	3.04

The results from Table 1 show that classroom management and teacher-student ratio have the highest average score of 3.04, indicating that these two factors are essential elements in influencing students' academic performance in public high schools in Kwara State, Nigeria. Teachers' personalities, with an average score of 2.85, were also considered significant, although slightly below the previous two factors, suggesting that teachers' behavior and attitudes play an important role in the student learning experience. The physical environment had the lowest average score of 2.47, indicating that while important, this factor was considered less critical compared to classroom management and teacher-student ratios. These data indicate that good classroom management and optimal teacher-student ratios are prioritized to improve student learning outcomes. At the same time, the physical environment aspect, although important, is considered less urgent.

Differences in Perception Based on Gender Towards Classroom Management

The results of the analysis showed that there was a significant difference in the perception of classroom management based on gender. From Table 2, it was found that the obtained p-value was 0.073, more significant than the specified p-value of 0.05, so the null hypothesis stating that there was no significant difference in the perception of class management based on gender was accepted. However, it should be noted that although it is not statistically significant, there is a tendency to perceive differently between male and female teachers. Male teachers tend to perceive classroom management more positively than female teachers.

Table 2. T-Test Analysis of Perception of Classroom Management by Gender

Variable	N	Average	Std. Deviation	Df	T-Value	P-Value	Results
Man	27	3.18	0.874	118	1.812	0.073	Insignificant
Woman	93	2.76	1.096				

Table 2 shows the results of the T-Test analysis on the perception of class management based on gender. It can be seen that the average perception of classroom management by male teachers is 3.18, with a standard deviation of 0.874, while the average perception by female teachers is 2.76, with a standard deviation of 1.096. The t-value obtained is 1.812, with a degree of freedom (Df) of 118 and a p-value of 0.073. Because the p-value is more significant than 0.05, the decision taken is "insignificant." This means there is no statistically significant difference in classroom management perceptions between male and female teachers. Although there is a difference in average perception, it is not large enough to be considered statistically significant at the 95% confidence level.

Differences in Perception Based on Teacher-Student Ratio

Further analysis showed a significant difference in the perception of the teacher-student ratio in schools. Table 3, it is found that there are significant differences between the four positions chosen in the school (principal, deputy principal, subject head, and teacher). The F value obtained at 24,666 is greater than the critical F value of 2,000 with a df of 2,297. This shows that the perception of the teacher-student ratio differs significantly between these positions, with a p-value of 0.000, which is below the alpha significance level of 0.05. This difference was due to higher scores on school-related factors based on perceptions of the teacher-student ratio at a public high school in Ilorin West, Kwara State.

Table 3. Analysis of Variance of Perceptions on Teacher-Student Ratio

Variable	N	Average	Std. Deviation	Df	T-Value	P-Value
Between Groups	34.074	2	17.039	24.666	0.000	Significant
In Groups	205.162	297	0.691			

Table 3 shows the results of variance analysis (ANOVA) on the perception of teacher-student ratio based on groups. The results show that there is a significant difference between different groups in terms of perception of the teacher-student ratio. Specifically, the average score between the groups was 34,074 with a degree of freedom (df) of 2, and the average score within the group was 17,039. The F value obtained is 24,666 with a p-value of 0.000. This result is considered statistically significant since the p-value is less than 0.05. This means there is a significant difference in the perception of the teacher-student ratio among the groups analyzed. In other words, the perception of the teacher-student ratio varies significantly among the groups, indicating that different factors influence their views on the issue. To further clarify the relationship between the various factors identified in this study, the following is a visualization in the form of a mind map in Figure 1. The major factors, such as classroom management, teacher personality, physical environment, and teacher-student ratio, and their related sub-factors, influence students' academic performance in public secondary schools in Kwara State, Nigeria.



Figure 1. Factors Influencing Academic Performance

Good classroom management and optimal teacher-student ratio significantly improve student learning outcomes. The physical environment has a more dominant influence on student academic achievement than other factors, such as classroom management and teacher personality. These differences may be due to contextual variables unique to Kwara State, such as cultural differences and educational policies that may affect teachers' views on factors that influence student academic achievement.

Discussion

The most significant factors supporting student academic achievement are classroom management and teacher-student ratio. Effective classroom management creates a conducive learning environment and increases student engagement. Herman et al. (2022) showed that good classroom management can directly affect the quality of learning and student academic outcomes. Yang and Tu (2021) emphasized that teachers' characteristics, such as empathy and openness, can affect interpersonal relationships with students, impacting their motivation and academic achievement.

Classroom management significantly improves student learning outcomes, even more than curriculum interventions. The quality of student-teacher relationships influenced by teacher personality can improve academic success (Ong & Quek, 2023; Longobardi et al., 2021; Savolainen et al., 2022). Direct teaching factors include classroom management and teacher-student ratio while considering factors such as teacher personality and the physical environment.

Although there are differences in perceptions of classroom management between male and female teachers, these differences are not statistically significant. Toropova et al. (2021) stated that although there is a tendency for differences in perceptions between men and women in various aspects of education, these differences are often more influenced by social and cultural factors than biological factors. Women tend to focus more on classroom management's emotional and relational aspects, while men may place more emphasis on control and structure.

Egeberg et al. (2021) found that although male teachers tend to have more positive views of classroom management, these differences are more influenced by factors such as experience and teaching approaches, not gender. Berger and Girardet (2021) indicated that differences in perceptions between male and female teachers are often not significant enough to significantly influence their teaching practices, which is also evident in the research findings.

Barksdale et al. (2021) stated that principals and vice principals have a more strategic view of the teacher-student ratio than regular teachers, who are more focused on the dynamics of the day-to-day classroom. Toropova et al. (2021) also showed that perceptions of this ratio can be influenced by the level of control power these positions have in managing school resources. Principals tend to have a higher view of the teacher-student ratio because they are involved in policy planning and resource distribution.

Ong and Quek (2023) showed that this perception is often related to the understanding of the roles and responsibilities of each individual in improving the quality of education. This confirms the findings in this study, which state that perceptions of the teacher-student ratio can vary depending on professional positions and perspectives. Smaller teacher-student ratios are often viewed more positively by educational managers, making policy decisions more supportive of individual learning in the classroom.

CONCLUSION

This study uncovers important findings on school-related factors that significantly influence students' academic achievement in public secondary schools in Kwara State, Nigeria. The study provides in-depth insights into classroom management, teacher personality, physical environment, and teacher-student ratio and how these elements shape students' learning outcomes. The lessons learned from this study are the importance of effective classroom management and optimal teacher-student ratio in creating a conducive learning

environment. Thus, there is a need to pay attention to the quality of the physical environment and teacher characteristics to improve the quality of education. The limitations of the sample were that it only covered schools in one region, namely Kwara State, and the limited variation in gender and age of the respondents. Further research is expected to provide a more substantial basis for more effective policy-making and goals in improving the quality of education in various contexts.

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