



RELATIONSHIP BETWEEN SCHOOL FACILITIES MAINTENANCE AND SECONDARY SCHOOL TEACHERS' EFFECTIVENESS IN MUBI EDUCATION ZONE, ADAMAWA STATE

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Abstract

The study assessed the impact of maintaining school facilities on the teaching performance of secondary school instructors in the Mubi Education Zone, Adamawa State. The research targeted 1,248 teachers from public secondary schools in the Mubi Education Zone. The sample was 303 teachers using a proportionate sampling technique. The research used a descriptive survey design. The School Facilities Maintenance and Teachers' Effectiveness Questionnaire (SFMTEQ), with a 4-point modified Likert scale, was used as the instrument for data collection. The instrument received validation while its reliability was established through a Cronbach's alpha score of 0.82. Researchers applied means, standard deviations, grand means, and Pearson Product-Moment Correlation (PPMC) to analyze data for research question answers and hypotheses testing at the 0.05 significance level. The research found that schools maintained their facilities at an average level, which showed better maintenance of classrooms and furniture compared to laboratories and libraries and sanitation facilities and electrical systems. Teachers demonstrated high effectiveness in their work, particularly during lesson planning and instructional delivery and classroom management and professional commitment while their usage of teaching aids faced moderate restrictions. The study proved that all five hypotheses were wrong because they showed that school facilities maintenance had no effect on teachers' effectiveness in teaching and conducting practical sessions and managing classrooms and performing their overall job responsibilities. The research established that secondary school teachers achieve better results when school facilities undergo proper maintenance. The study recommends that schools implement maintenance schedules and secure sufficient funds to maintain their infrastructure, sanitation systems, provide teacher professional training, and involve the community in supporting school infrastructure development.

Keywords: School facilities maintenance, Teacher effectiveness, School Infrastructure, Classroom maintenance, Laboratory and library maintenance,

Introduction

Education is widely regarded as the most powerful instrument for national development, social transformation and individual empowerment. The effectiveness of any educational system depends largely on the quality of teaching and the conditions

under which teaching and learning take place. Though sometimes, emphasis is often placed on curriculum content, teachers' qualifications and methods of instruction, while the physical environment in which teaching and learning take place is neglected.



School facilities are the elite scope of physical infrastructural facilities that are provided in the school for the purpose of educating the child (Emenalo, 2017). While according to Asiabaka (2018) and Earth (2022) those facilities consisted of all types of classrooms, laboratories, libraries, workshops, administrative offices, furniture, sanitation facilities, water supply systems, electricity, playgrounds and instructional equipment, landscapes, farms and gardens, including trees and paths. Others include toilet facilities, storage facilities, information and communication technology etc. For these facilities to function and utilized by teachers, they require adequate maintenance.

School facilities maintenance constitutes a significant aspect of the school environment and it plays a significant role in supporting teachers' effectiveness during teaching and learning processes (United Nations Education Scientific and Cultural Organizations, UNESCO, 2021).

When facilities are properly maintained, they create a safe, comfortable and conducive environment for teachers to perform their professional duties effectively. Effective maintenance of school facilities, according to Takwate (2018) is judged by the extent to which schools generally meet the expectations of the society within which they are established. These expectations are better seen in teachers' effective performance.

Teachers' effectiveness in the opinion of Goe, Bell and Little (2018) is the capacity of teachers to successfully facilitate student learning, manage classrooms, deliver curriculum content and promote students' intellectual and moral development, demonstrated by mastery of subject matter and appropriate use of instructional strategies. However, teacher effectiveness is not determined solely by personal competence but also by the working

conditions and environment in which teachers work.

Maintenance of school facilities are essential for sustaining their effectiveness. Research underscores the importance of regular assessments of school facilities to ensure they meet educational standards and support effective learning environments (Ahmad in Dogondaji, 2024). This aligns with findings that advocate for systematic management practices to enhance the quality of educational infrastructure, thereby improving student performance (Pakpahan & Hidayati, 2021). In particular, the design and maintenance of school facilities are crucial, as poor infrastructure can adversely affect both student and teacher health, which in turn impacts the overall teaching and learning experience because public secondary schools frequently struggle with insufficient classrooms, outdated laboratory equipment, poor library resources and unreliable power supply. These challenges complicate teachers' efforts to deliver effective instruction and implement innovative teaching strategies.

The relationship between school facilities maintenance and teacher effectiveness intersects with issues of teacher retention and motivation. Conducive working conditions are known to influence job satisfaction and commitment. Where school environments are supportive and well-maintained, teachers are more likely to remain in their positions and demonstrate long-term dedication. Poor physical conditions, on the other hand, may contribute to attrition, absenteeism, and decreased productivity. In view of these, this study examined the relationship between school facilities maintenance and secondary school teachers' effectiveness in Mubi education zone, Adamawa State.

Statement of the Problem

Teacher effectiveness in secondary schools is reflected in the ability to deliver lessons



clearly, manage classrooms efficiently, utilize appropriate instructional materials, engage students actively and achieve expected learning outcomes. However, when school facilities are poorly maintained, teachers may encounter difficulties conducting practical lessons, organizing classroom activities or sustaining students' attention. In Mubi Education Zone of Adamawa State, secondary schools seem to have continued to face noticeable challenges relating to the condition and maintenance of physical facilities because many schools are seen to operate in environments characterized by aging classroom buildings, damaged furniture, inadequate laboratory equipment, insufficient library resources, poor sanitation facilities and irregular electricity supply. In some cases, leaking roofs, cracked walls, overcrowded classrooms and broken instructional materials disrupt normal teaching activities. These infrastructural deficiencies raise serious concerns about the extent to which teachers can effectively perform their professional responsibilities under such conditions.

Despite government efforts to improve educational quality in Adamawa State but greater emphasis is often placed on curriculum reforms and teacher recruitment, while maintenance of school facilities receives limited attention. Some schools experience infrastructural neglect due to limited funding and maintenance culture. Therefore, a need to empirically examine the relationship between school facilities maintenance and secondary school teachers' effectiveness in the Mubi Education Zone. Hence, the purpose of this study.

Purpose of the Study

The main purpose of this study is to examine the relationship between school facilities maintenance and secondary school teachers' effectiveness in the Mubi Education Zone, Adamawa State. Specifically, the study:

1. Determined the extent to which school facilities are maintained in public secondary schools in the Mubi Education Zone, Adamawa State.
2. Examined the level of teachers' effectiveness in secondary schools within the Mubi Education Zone, Adamawa State.
3. Investigated the relationship between classroom facilities maintenance and teachers' instructional delivery in Mubi education zone, Adamawa State.

Research Questions

The following research questions guided the study:

1. What is the extent of school facilities maintenance in public secondary schools in the Mubi Education Zone, Adamawa State?
2. What is the level of teachers' effectiveness in secondary schools in in Mubi education zone, Adamawa State?
3. What is the perceived relationship between classroom facilities maintenance and teachers' instructional delivery in secondary schools in Mubi education zone, Adamawa State?

Research Hypotheses

The following null hypotheses were raised and tested at 0.05 level of significance:

H01: There is no significant relationship between the extent of school facilities maintenance and teachers' effectiveness in public secondary schools in the Mubi Education Zone, Adamawa State.

H02: There is no significant relationship between classroom facilities maintenance and teachers' instructional delivery in secondary schools in Mubi education zone, Adamawa State.



Literature Review

The place of education in the advancement of a nation is so important and cannot be overemphasized. Through education, individuals attain new skills, principles, moral conduct and knowledge that influences technological and industrial development and these are achieved through the efforts of knowledgeable and experienced teachers. The roles teachers play in the lives of the learners, in the educational sector, in society and in national development are so enormous and vital. For teachers (Akinkuade & Oredein, 2021) discharge their duties effectively and efficiently, educational stakeholders must ensure that essential facilities that will boost their job performance are provided and adequately maintained. Ahmad and Musbahu (2018) confirmed that teachers' job performance is a requirement for a school to maintain its efforts towards the actualization of the school's goals and a nation's goals of education.

Teachers' job effectiveness, therefore, is the holistic way of assessing how teachers discharge their teaching and non-teaching assignments in schools. It can also be seen as the way or the extent to which teachers carry out assigned duties in schools. Fadeyi and Gbadeyan (2015) defined teachers' job effectiveness as teachers' capacity to integrate pertinent information to improve his/her teaching and learning processes by being on time for class and school, providing extra instruction to students, maintaining effective classroom management, making outstanding contributions and participating in extracurricular activities are factors that affect teachers' job performance. When school facilities are available and skillfully maintained and utilized, they influence teaching and learning positively. Balogun (2002) in Dogondaji, Suleiman, Horo and Mohammed (2024) noted that the importance of facilities cannot be overlooked if facilities

like modern laboratories, libraries and classrooms are put in place in all our schools.

The effective maintenance of school facilities plays a crucial role in enhancing teaching and learning outcomes in public senior secondary schools as a whole. For instance, external factors, such as school infrastructure, play a vital role in shaping students' learning outcomes (Srijayanti, 2023). Similarly, the availability of appropriate and well-maintained facilities directly affects the quality of the learning process (Dewi, 2023). Ahmad (2021) revealed that regular assessments and timely maintenance of school facilities are crucial for ensuring that facilities remain functional and conducive for learning to take place.

The presence of adequate facilities is linked to improved teacher performance and satisfaction, which in turn positively impacts student learning (Pakpahan & Hidayati, 2021). For instance, research shows that well-equipped classrooms can enhance teachers' ability to deliver effective instruction and engage students in the learning process (Oluremi & Olubukola, 2012). Therefore, investing in school facilities not only benefits students but also supports teachers in their professional roles.

Akinwumiju and Orimoloye (2007) and Dogondaji et al (2024) in their independent studies, revealed that a positive relationship exists between maintenance of available school facilities and teachers' performances. In spite of the great significance attached to the provision of school facilities, the school plant in many African secondary schools across the continent are poorly maintained. Taiwo (2000) noted that the physical environment in most secondary schools in African countries is literacy aggressive due to poor maintenance culture. Otu (2002) noted that it is very common to see secondary school classrooms with broken windows and



doors, collapsed ceilings, damaged roofs, cracked walls, faded paints, broken furniture, nonfunctional equipment, electrical fittings and damaged infrastructures. In addition, Manga (2019) opinion that playgrounds, libraries and laboratory equipment are generally in poor condition in many secondary schools. The poor condition of school facilities tends to indicate that the quality of maintenance of school facilities is generally poor. School facilities maintenance refers to all the activities that are planned and executed to ensure that school facilities are constantly kept in good condition and all machines are functioning properly.

When school facilities are provided, it is expected that they should be properly maintained in good condition if the facilities are to continue to serve the purpose for which they are provided. In this regard, several studies have been conducted to demonstrate the significance of school plant maintenance. For example, Manga (2019) and Takwate (2019) in their studies in Sokoto and Adamawa States respectively found that proper maintenance of school facilities positively affected teachers' morale by giving them a sense of personal safety, renewed hope and commitment as well as the belief that the stakeholders cared about what goes on in school buildings. They found that poorly maintained school facilities created a feeling of despair and frustration among teachers and students. It also resulted in higher rate of absenteeism, low morale and reduced teachers; job satisfaction and effectiveness.

Theoretical Framework

The theoretical framework of the study was based on James, Wilson and Kelling (2006) Broken Windows Theory (BWT). The theory stated that the act of serious vandalism can be prevented by fixing problems when they are small and fixing them within a short period of time. BWT provides a clear framework for

behaviour that has a negative impact on school facilities maintenance, yet this behaviour goes undetected (2023). The theory is certainly in line with school facilities maintenance. The broken windows theory can be applied to other things, specifically school facilities which are part of educational administration and planning and is relevant to the present study.

Methodology

This study adopted a correlational research design to examine the relationship between school facilities maintenance and secondary school teachers' effectiveness in the Mubi Education Zone of Adamawa State using a target population comprising all the 1,248 teachers in public secondary schools in the Mubi Education Zone of Adamawa State (Mubi Zonal Education Office, 2025). The sample size for the study was 303 teachers which was determined using Taro Yamane (1967) formula for finite populations. A multi-stage sampling technique was adopted. First, simple random sampling was used to select secondary schools from the zone to ensure equal representation and secondly proportionate stratified sampling was used to select teachers from each sampled school based on their staff strength. Data were collected using a structured questionnaire titled School Facilities Maintenance and Teachers' Effectiveness Questionnaire (SFMTQ) designed on a four-point modified Likert scale after validation. A reliability coefficient of 0.70 was obtained using Cronbach alpha. Descriptive statistics of mean and standard deviation were used to answer the research questions, while Pearson Product Moment Correlation (PPMC) was used to test the null hypotheses at 0.05 level of significance.

The decision rule for research questions was: items with a mean score of 2.50 and above were considered "high/agreement," while items below 2.50 were considered



“low/disagreement.” The decision rule for hypotheses was: Reject H_0 if the p -value ≤ 0.05 , indicating a significant relationship and do not reject H_0 if the p -value > 0.05 , indicating no significant relationship.

Results

Research Question 1: What is the extent of school facilities maintenance in public secondary schools in the Mubi Education Zone, Adamawa State?

Table 1: Mean Response on the Extent of School Facilities Maintenance in public secondary schools

S/N	Items	Mean	Std. Dev.	Remark
1	Classrooms are regularly cleaned	2.78	0.54	High
2	Desks and chairs are in good condition	2.61	0.50	High
3	Classroom walls and floors are well-maintained	2.49	0.57	Moderate
4	Windows and doors are functional	2.57	0.52	High
5	Roofs are free from leaks	2.34	0.60	Low
6	Laboratory equipment is functional	2.45	0.61	Moderate
7	Library resources are up-to-date	2.33	0.58	Low
8	Toilets and sanitation facilities are clean	2.28	0.62	Low
9	Electrical supply and lighting are reliable	2.36	0.59	Low
	Grand Mean	2.47	0.57	Low

Results in Table 1 indicates that classrooms and furniture are relatively well-maintained, whereas laboratories, libraries, sanitation, and electricity supply require improvement. The overall maintenance level is low with grand mean 2.47.

Research Question 2: What is the level of teachers' effectiveness in secondary schools in the Mubi Education Zone, Adamawa State?

Table 2: Mean Response on the Level of Teachers' Effectiveness in Secondary Schools in the Mubi Education Zone, Adamawa State

S/N	Items	Mean	Std. Dev.	Remark
10	Teachers prepare lesson plans regularly	2.74	0.51	High
11	Teachers deliver lessons clearly	2.71	0.52	High
12	Teachers manage classroom behavior effectively	2.64	0.57	High
13	Teachers use teaching aids when available	2.42	0.58	Moderate
14	Teachers provide feedback to students	2.69	0.53	High
15	Teachers motivate students to participate	2.63	0.55	High
16	Teachers encourage group work and collaboration	2.58	0.54	High
17	Teachers adhere to school rules and regulations	2.75	0.50	High
18	Teachers engage in professional development	2.39	0.60	Moderate
	Grand Mean	2.62	0.54	



Results in Table 2 revealed that teachers show high overall effectiveness, particularly in planning, delivery, classroom management, and professional conduct with grand mean 2.62. Use of teaching aids and professional development is moderate, likely reflecting facility constraints.

Research Question 3: What is the perceived relationship between classroom facilities maintenance and teachers' instructional delivery in the Mubi Education Zone, Adamawa State?

Table 3: Mean Score of Respondents on relationship between classroom facilities maintenance and teachers' instructional delivery in the Mubi Education Zone

S/N	Items	Mean	Std. Dev.	Remark
19	Classroom seating is comfortable for students	2.60	0.51	High
20	Classrooms are spacious enough for teaching activities	2.48	0.54	Moderate
21	Writing boards are clean and usable	2.55	0.52	High
22	Lighting in classrooms is adequate	2.36	0.59	Low
23	Classrooms are free from distractions	2.42	0.57	Moderate
24	Teaching aids in classrooms are available	2.39	0.56	Moderate
25	Classrooms are properly ventilated	2.33	0.58	Low
26	Classroom environment encourages interactive learning	2.51	0.53	High
	Grand Mean	2.46	0.55	Low

The perceived relationship between classroom facilities maintenance and teachers' instructional delivery in the Mubi Education Zone, Adamawa State was low as reveal by Table 3 with grand mean score of 2.46. This indicates that maintenance of classroom facilities positively influences teachers' ability to deliver lessons

effectively. However, poor ventilation and lighting reduce instructional comfort.

Hypotheses Testing

Hypothesis 1: There is no significant relationship between the extent of school facilities maintenance and teachers' effectiveness in the Mubi Education Zone, Adamawa State.

Table 4: Relationship between the Extent of School Facilities Maintenance and Teachers' Effectiveness in the Mubi Education Zone

Variables	Mean	SD	r-value	p-value	Decision
Facilities maintenance	2.36	0.48	0.62	0.001	Reject H ₀
Teachers' effectiveness	2.73	0.52			

The grand means show that facilities maintenance is low (2.36) while teacher effectiveness is high (2.73). The strong positive correlation ($r = 0.62$, $p < 0.05$) indicates that better-maintained school facilities significantly enhance teachers' effectiveness.

Hypothesis 2: There is no significant relationship between classroom facilities maintenance and teachers' instructional delivery in the Mubi Education Zone, Adamawa State.

**Table 5: Pearson Product Moment Correlation on the Relationship between Classroom Facilities Maintenance and Teachers' Instructional Delivery**

Variables	Mean	SD	r-value	p-value	Decision
Classroom facilities	2.46	0.52	0.58	0.002	Reject H_0
Instructional delivery	2.71	0.52			

Classroom facilities are moderately maintained (2.46). The positive correlation ($r = 0.58$, $p < 0.05$) shows that better-maintained classrooms significantly improve teachers' instructional delivery.

Discussion

The study investigated the relationship between school facilities maintenance and secondary school teachers' effectiveness in the Mubi Education Zone, Adamawa State. Data analysis was guided by three research questions and two null hypotheses. The findings were analyzed using means, standard deviations, grand means, and Pearson Product Moment Correlation, and the results provide insightful implications for educational practice and policy.

The results in Table 1 (grand mean = 2.47) indicate that the overall level of school facilities maintenance is low to moderate. Classrooms and furniture were relatively better maintained, while laboratories, libraries, sanitation facilities, and electrical supply were poorly maintained. This pattern suggests an uneven attention to school infrastructure, where basic classroom needs are prioritized but support for practical and experiential teaching, such as laboratories and libraries, is inadequate. This finding aligns with the observations of Ololube (2013), who argued that inadequate school infrastructure hinders the effective delivery of educational services. Similarly, UNESCO (2014) and Takwate (2018) emphasized that poorly maintained facilities limit the quality of teaching and learning, especially in resource-dependent subjects like science and technical education. In the context of Mubi Education Zone, this finding indicates a

pressing need for regular maintenance programs to ensure equitable distribution and proper functioning of all school facilities.

The study found that teachers' effectiveness was generally high (grand mean = 2.62), particularly in lesson planning, instructional delivery, classroom management, and professional commitment. Moderate scores were recorded in the use of teaching aids and professional development. These findings are consistent with the position of Alabi (2018), who notes that teacher effectiveness is highly dependent on both personal professionalism and the availability of teaching resources. The moderate utilization of teaching aids suggests that while teachers are committed, their performance may be constrained by the availability and maintenance of instructional facilities.

The grand mean for classroom facilities in Table 3 (grand mean = 2.46) reflects a moderate level of maintenance, while the correlation with instructional delivery was strong ($r = 0.58$, $p < 0.05$) in Table 5. This implies that classroom maintenance positively influences teachers' ability to deliver lessons effectively. Well-maintained classrooms, with functional seating, boards, lighting, and ventilation, enable teachers to focus on instruction rather than managing environmental disruptions. This is supported by the work of Uline and Tschannen-Moran (2020), who found that physical learning environments significantly affect teachers' instructional behavior, motivation, and classroom management. In the Mubi Education Zone, improving classroom conditions would likely enhance instructional delivery further.



Conclusion

The study investigated the relationship between school facilities maintenance and secondary school teachers' effectiveness in the Mubi Education Zone, Adamawa State. Data analysis revealed that while some school facilities relatively well-maintained some were inadequately maintained. The study revealed that teachers in Mubi education zone demonstrated high effectiveness in lesson planning, instructional delivery, classroom management and professional commitment. However, their performance in utilizing teaching aids and engaging in professional development was moderately constrained either due to insufficient or poorly maintained teaching resources the study revealed. The study equally revealed a significant positive relationship between school facilities maintenance and teacher effectiveness. The study established that the maintenance of school facilities is a critical determinant of teacher effectiveness in secondary schools. The findings emphasize the need for policy intervention, adequate funding, and structured maintenance programs to enhance the quality of the teaching and learning environment. By addressing the gaps in school infrastructure maintenance, the Mubi Education Zone can significantly boost teachers' performance, thereby contributing to improved educational standards and student learning outcomes.

Recommendations

Based on the findings, the study recommended the following:

1. The government should allocate sufficient funds specifically for school infrastructure maintenance.
2. Public schools' administrators should implement systematic and periodic maintenance of school infrastructure.
3. Schools should ensure that teaching aids, laboratory materials and

instructional equipment are not only available but also properly and regularly maintained for enhanced instructional delivery.

4. Teachers should be encouraged to participate in professional development programs that emphasize the use of available school facilities and teaching aids.

References

- Ahmad, M. (2021). Maintenance of facilities and infrastructure in school. *Akademika*, 10(01), 93-112. <https://doi.org/10.34005/akademika.v10i01.1348>
- Afolabi, A., & Olagunju, T. (2017). School facilities and students' practical learning outcomes in Nigerian secondary schools. *Journal of Education and Practice*, 8(10), 45–52.
- Akinkuade, F. C., & Oredein, A. O. (2021). Influence of secondary school infrastructural facilities on teachers' job satisfaction and performance in Ibadan Metropolis, Oyo State, Nigeria. *International Research Journal of Teacher Education*, 6(1), 73 – 83.
- Akinwumiju, J. A., & Orimoloye, P. S. (2007). Accountability in public examination: The situation in Nigeria WASC/GCE O-level Examinations.
- Alsafty, N. S. (2023). The idea of applying the “Broken Windows Theory” as quality tool to improve risk management strategies. *International Journal of Innovative Science and Research Technology*, 8(4), 388 – 395.
- Balogun, T. A. (2002). Improvisation of Science Teaching Equipment. In F.



- A. Dogondaji, F. I. Suleiman, H. A. Horo & U. Mohammed. Effective management of school facilities on teaching and learning senior secondary schools in Sokoto North Local Government, Sokoto State, Nigeria. *International Journal of Innovative Education Research* 12(3), 139 – 148.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.
- Dewi, V., Murniati, M., & Usman, N. (2023). Optimisation of educational facilities and infrastructure management in supporting student learning activities in senior high schools in Nagan Raya regency, Indonesia. *Path of Science*, 9(5), 3057-3062. <https://doi.org/10.22178/pos.92-17>
- Dogondaji, F. A., Suleiman, F. I., Horo, H. A., & Mohammed, U. (2024). Effective management of school facilities on teaching and learning senior secondary schools in Sokoto North Local Government, Sokoto State, Nigeria. *International Journal of Innovative Education Research* 12(3), 139 – 148.
- Earthman, G. I. (2022). School facility conditions and student academic achievement. UCLA Institute for Democracy, Education, and Access.
- Fadeyi, S., & Gbadeyan, A. (2015). Influence of teachers' welfare scheme on job performance in selected Kwara State secondary schools. *Asia Pacific Journal of Education, Arts and Sciences*, 2(4), 89–93.
- Federal Ministry of Education (2018). *National Education Sector Performance Report*. Abuja: Government Press.
- Goe, L., Bell, C., & Little, O. (2018). Approaches to evaluating teacher effectiveness. National Comprehensive Center for Teacher Quality.
- Manga, S. D. (2019). Approaches for maintenance of school facilities in secondary schools in Africa: Implications for school managers. *The International Journal of Humanities and Social Studies*, 7(10), 369 – 373.
- Okeke, B., & Okeke, N. (2018). The impact of school furniture and learning resources on teacher performance. *African Journal of Education*, 13(1), 22–31.
- Olatunji, T. A. (2016). Physical environment and quality assurance in secondary schools. *Quality Assurance in Education Journal*, 24(3), 251–264.
- Ololube, N. P. (2013). School infrastructure and teachers' effectiveness in Nigeria. *European Scientific Journal*, 9(34), 115–129.
- Onyango, M., Omondi, P., & Otieno, R. (2019). Sanitation, school environment, and teacher motivation in secondary schools. *Journal of Educational Administration*, 57(3), 301–314.
- Otu, D. O. (2002). The effects of environment on pupils' learning. A case study of schools in Zaria metropolis of Kaduna state. In *Journal of Basic Education in Nigeria*, 2(2), 11 – 20.



- Pakpahan, P. & Hidayati, W. (2021). Implementation of total quality management in facilities to improve institution quality school. *Manageria Jurnal Manajemen Pendidikan Islam*, 6(1), 97-124. <https://doi.org/10.14421/manageria.2021.61-07>
- Schneider, M. (2023). Do school facilities affect academic outcomes? National Clearinghouse for Educational Facilities.
- Takwate, K. T. (2018). Allocation, availability and maintenance of school facilities as Correlate of academic performance of senior secondary school students in Adamawa State, Nigeria. *International Journal of Scientific and Research Publications*, 8(9), 289 – 307.
- Taiwo, B. M. (2000). *Maintenance of school infrastructures for productivity*. In E. O. Fagbamiye & D. O. Durosaro (Eds.). Educational productivity in Nigeria. NIEPA. Ilorin. Haytee Press and Publishing Co.
- Taro Yamane. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.
- Uline, C., & Tschannen-Moran, M. (2020). The walls speak: The interplay of quality facilities, school climate, and student achievement. *Journal of Educational Administration*, 46(1), 55–73.
- UNESCO (2021). Education for All Global Monitoring Report. Paris: UNESCO