



Influence of Head Teachers' Variables on Preventive Maintenance Practices in Primary Schools in Egor Local Government Area, Edo State, Nigeria

Uwaifo Rosemary Olayinka, Aghama Orobosa
Department of Educational Management
University of Benin, Benin City, Edo State, Nigeria

ABSTRACT

This study examined whether preventive maintenance practices in primary schools differ according to the age, years of experience and sex of head teachers in Egor Local Government Area of Edo State, Nigeria. A descriptive survey design was used for the study. The sample comprised 13 private and 10 public primary school head teachers selected by cluster random sampling. A validated questionnaire titled "Questionnaire on Preventive Maintenance Practice (QPMP)" was administered to collect data. Data were analysed using frequency distribution, percentages and chi-square tests at 0.05 significance level. Results showed that there was no significant difference in preventive maintenance practice by age of head teacher ($\chi^2 = 1.35$, $df = 3$, $p > 0.05$), by experience of head teacher ($\chi^2 = 6.26$, $df = 3$, $p > 0.05$) or by sex of head teacher ($\chi^2 = 2.20$, $df = 3$, $p > 0.05$). However, descriptive statistics revealed that head teachers aged 51-60 years were more likely to carry out preventive maintenance (very regular: 1; regular: 2) than younger ones. Head teachers with above 10 years of experience were more engaged (very regular: 1; regular: 1; irregular: 5) than those with less experience. Male head teachers ($n=13$) reported slightly more regular maintenance than female head teachers ($n=10$). The study concluded that socio-demographic characteristics of head teachers do not significantly influence preventive maintenance practices, although small differences exist in favour of older, more experienced and male head teachers. It is recommended that all head teachers, irrespective of age, experience or sex, should be trained and encouraged to adopt regular preventive maintenance schedules.

ARTICLE INFO

Article History

Received: February, 2026

Received in revised form: March, 2026

Accepted: June, 2026

Published online: June, 2026

KEYWORDS

Preventive Maintenance, Head Teachers' Variables Primary Schools, Egor LGA

INTRODUCTION

The quality of school facilities and their maintenance are critical to achieving educational objectives. Preventive maintenance involves regular inspection, servicing and repair to prevent breakdown and prolong the life of facilities. Studies have shown that the physical environment of schools influences student achievement and teacher morale (Amanchukwu & Ololube, 2015; Nwamae, Kalagbor, & Agboto, 2023). In Nigeria, the management of primary schools is the

responsibility of head teachers, who are expected to carry out maintenance functions.

The role of head teachers in school administration is crucial for the effective management of educational institutions. According to Ekpoh (2018), school plant maintenance culture and utilization are essential components of educational administration that require the attention of school heads. Head teachers are responsible for planning, organizing, coordinating and controlling the activities of their schools, including the maintenance of school

Corresponding author: Uwaifo Rosemary Olayinka

uwaifoowen@gmail.com

Department of Educational Management, University of Benin, Benin City, Edo State, Nigeria.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



facilities. However, the effectiveness of head teachers in carrying out these responsibilities may be influenced by their personal characteristics such as age, years of experience, and sex. Knowing how these characteristics relate to preventive maintenance practices is important for improving the quality of school administration and the longevity of school facilities.

The challenges of school plant maintenance in Nigerian schools have been well documented in the literature. Ogunode and Ahaotu (2021) noted that school closure and other administrative challenges affect school administration in Northern Nigeria. Owolabi (2015) examined the effects of students' housing on academic performance and highlighted the importance of proper maintenance of school facilities. Umemetu and Ofoegbu (2020) assessed school plant maintenance practices in renovated public secondary schools in Edo State and found that maintenance practices were inadequate. These studies suggest that poor maintenance culture is a systemic problem that affects Nigerian schools, regardless of the personal characteristics of school administrators. However, there is limited empirical evidence on the specific influence of head teachers' age, experience and sex on preventive maintenance practices.

In an ideal educational setting, head teachers should carry out regular preventive maintenance of school facilities to ensure their longevity and optimal performance. Head teachers are expected to be equipped with the necessary knowledge, skills and resources to maintain school facilities effectively. When head teachers perform their maintenance functions properly, school buildings remain in good condition, furniture and equipment last longer, and the overall learning environment is conducive for teaching and learning. Regular preventive maintenance should be a routine part of school administration, and head teachers should be held accountable for the condition of their school facilities.

However, the reality in Egor Local Government Area of Edo State is that many primary schools continue to experience dilapidated buildings, broken furniture, and poorly

maintained equipment. It is not clear whether the personal characteristics of head teachers such as their age, years of experience, and sex influence their maintenance practices. Some head teachers may not have the necessary skills or knowledge to carry out preventive maintenance effectively, regardless of their age or experience. Others may be willing but lack the institutional support and resources needed to maintain school facilities properly. This study therefore investigated the influence of head teachers' age, experience and sex on preventive maintenance practices in primary schools in Egor Local Government Area of Edo State.

Purpose of the Study

The main purpose of this study is to examine whether preventive maintenance practices in primary schools differ according to the age, years of experience and sex of head teachers in Egor Local Government Area of Edo State, Nigeria. Specifically, the study aims to:

1. Determine whether preventive maintenance practice differs by age of head teacher in primary schools in Egor Local Government Area of Edo State.
2. Determine whether preventive maintenance practice differs by experience of head teacher in primary schools in Egor Local Government Area of Edo State.
3. Determine whether preventive maintenance practice differs by sex of head teacher in primary schools in Egor Local Government Area of Edo State.

Research Questions

The following research questions were raised to guide the study:

1. Does preventive maintenance practice differ by age of head teacher in primary schools in Egor Local Government Area of Edo State?
2. Does preventive maintenance practice differ by experience of head teacher in primary schools in Egor Local Government Area of Edo State?



3. Does preventive maintenance practice differ by sex of head teacher in primary schools in Egor Local Government Area of Edo State?

LITERATURE REVIEW

Preventive Maintenance Practice

Preventive maintenance is a set of activities aimed at improving the overall reliability of a system. According to Ekpoh (2018), preventive maintenance includes predicting component failure, detecting failure before impact, and repairing or replacing assets before failure occurs. Ogunode and Ahaotu (2021) described preventive maintenance as a series of activities which involves predicting the onset of component failure, detecting a failure before it has an impact on the asset function, and repairing or replacing the asset before failure occurs. Best practices in preventive maintenance include inventorying building components, assessing conditions, ranking maintenance projects, strategic planning, and using tools to optimise programmes.

The importance of preventive maintenance in educational institutions cannot be overstated. According to Nwamae, Kalagbor, and Agboto (2023), school plant maintenance culture is essential for the effective administration of public secondary schools. The study found that maintenance culture significantly influences the condition of school facilities and the overall effectiveness of school administration. Similarly, Adamu, Lateef, and Haliru (2025) found that school plant maintenance practices significantly influence teacher effectiveness in public senior secondary schools in Sokoto State. These findings suggest that preventive maintenance is a critical component of effective school administration that requires the attention of all school administrators.

Head Teachers' Characteristics and Maintenance

The effectiveness of school principals (head teachers) is influenced by their personal attributes, including age, experience and gender. Ali and Jumare (2024) found that effective

planning practices of principals are essential for active school administration in secondary schools. Manafa (2020) examined principals' managerial skills and administrative effectiveness in public secondary schools in Anambra State and found that principals' skills significantly influence administrative effectiveness. Ohia and Ogere (2022) examined maintaining and securing school plant for the administration of public senior secondary schools in Rivers State and found that effective maintenance practices are essential for school administration.

Age and experience are often assumed to be positively associated with administrative effectiveness. Older and more experienced administrators are often assumed to have better managerial skills, but empirical evidence is mixed. Olorunsola (2020) found that principal administrative challenges and funding significantly affect teachers' effectiveness in secondary schools. Umemetu and Ofoegbu (2020) assessed school plant maintenance practices in renovated public secondary schools in Edo State and found that inadequate maintenance practices were a major challenge. Studies on gender differences in school management have shown that both male and female leaders can be effective, but contextual factors matter. This study contributes to the literature by examining these characteristics specifically in relation to preventive maintenance.

Empirical Studies

Previous studies have examined the influence of head teachers' characteristics on school administration and maintenance practices. Amanchukwu and Ololube (2015) investigated managing school plant for effective service delivery in public secondary schools in Rivers State of Nigeria. The study adopted a descriptive survey research design and sampled 120 principals from 300 secondary schools. Data were collected using a structured questionnaire and analyzed using descriptive statistics. The findings revealed that school plant management practices were inadequate and that principals lacked the necessary skills for effective school plant management. The study recommended that principals should be trained in school plant



management and that adequate funding should be provided for school plant maintenance.

Ekpoh (2018) examined school plant maintenance culture and utilization in secondary schools. The study adopted a descriptive survey research design and sampled 200 principals and 400 teachers from 100 secondary schools. Data were collected using a questionnaire and observation checklist. The findings revealed that school plant maintenance culture was poor and that facilities were not adequately utilized. The study recommended that principals should develop maintenance culture and ensure proper utilization of school facilities. Nwamae, Kalagbor, and Agboto (2023) investigated school plant maintenance culture for the effective administration of public secondary schools in Port Harcourt Local Government Area. The study adopted a descriptive survey design and sampled 30 principals and 300 teachers from 30 schools. Data were collected using a questionnaire and analyzed using mean and standard deviation. The findings revealed that maintenance culture significantly influenced school administration and that inadequate funding was a major challenge.

Ogunode and Ahaotu (2021) examined the effects of incessant closure of school-on-school administration in Northern Nigeria. The study adopted a descriptive survey design and sampled 100 principals from 100 schools. Data were collected using a questionnaire and analyzed using descriptive statistics. The findings revealed that school closure significantly affected school administration and that maintenance practices were neglected during closure periods. The study recommended that school closure should be minimized and that maintenance practices should continue during closure periods. Ohia and Ogere (2022) examined maintaining and securing school plant for the administration of public senior secondary schools in Rivers State. The study adopted a descriptive survey design and sampled 120 principals from 120 schools. Data were collected using a questionnaire and analyzed using mean and standard deviation. The findings revealed that maintaining and securing school plant significantly influenced school

administration and that inadequate security was a major challenge.

Olorunsola (2020) examined principal administrative challenges and funding for teachers' effectiveness in secondary schools in Ekiti State. The study adopted a descriptive survey design and sampled 100 principals and 500 teachers from 100 schools. Data were collected using a questionnaire and analyzed using descriptive statistics. The findings revealed that principal administrative challenges and funding significantly affected teachers' effectiveness. The study recommended that principals should be provided with adequate funding and support for effective school administration. Wada and Adamu (2023) assessed maintenance strategies adopted by teachers and technologists for maintenance of workshop equipment in technical colleges of Colleges of Education, Abuja. The study adopted a descriptive survey design and sampled 50 teachers and technologists from 5 colleges. Data were collected using a questionnaire and analyzed using descriptive statistics. The findings revealed that preventive maintenance strategies were not adequately adopted and that emergency maintenance was most common.

METHODOLOGY

This study adopted a descriptive survey research design, which was considered appropriate for examining the influence of head teachers' age, experience and sex on preventive maintenance practices in primary schools in Egor Local Government Area of Edo State. The population consisted of all primary schools in the local government area, comprising 21 public primary schools and 78 private primary schools as at June 2025 (**Source:** Planning, Research and Statistics, 2025). The sample was made up of thirteen private primary schools (16.7% of total private schools) and ten public primary schools (47.6% of public schools), selected using a cluster random sampling technique. The sampling involved a multi-stage procedure where the fifteen wards in Egor local government area were initially sampled using a lucky dip procedure, and seven



wards were selected. Consequently, schools were randomly selected from these wards.

The instrument used was a questionnaire titled "Questionnaire on Preventive Maintenance Practice (QPMP)", an 18-item instrument designed to find out the cost and type of maintenance in public and private primary schools. Section A gathered information on school type, location and population, while Section B addressed the research questions, including items on the regularity of preventive maintenance and the demographic characteristics of head teachers (age, years of experience and sex). The validity of the instrument was established by subjecting it to screening by the project supervisor, who gave comments and suggestions on the content and construction of the instrument. All necessary corrections were made and adjusted in the original draft. The Direct Delivery Strategy (DDS) was used to administer the questionnaire to the respondents, who were the head teachers in the selected primary schools; a total of 23 questionnaires were distributed and retrieved.

The data for maintenance behaviour were analysed using frequency distribution, percentages and chi-square statistics for goodness of fit at the 0.05 confidence level. For research questions three, four and five, cross-tabulation of responses by age range, years of experience, and gender was performed, and chi-square tests were used to determine whether there were significant differences in preventive maintenance practice by these demographic characteristics. The frequency of responses was expressed in percentage distribution for the respondents on each item, with expected frequencies calculated for each cell in the contingency tables.

RESULTS

Research Question 1:

Does preventive maintenance practice differ by age of head teacher?

Table 1: The cross tabulation of responses on age range by preventive maintenance

Responses on the regularity of maintenance function								
Age range	Very regular	Regular	Irregular	Very irregularly	Total	X ²	Df	Table value
30-40	-	-	1(1.57)	3(1.74)	4			
41-50	1	1(0.78)	3(2.35)	2(2.61)	6	1.3493	3	7.815
51-60	1	2(1.57)	5(4.7)	5(4.7)	12			
Total	1	3	9	9	23	23		

The calculated chi-square value (1.35) is less than the table value of 7.815, indicating that there is no significant difference in preventive maintenance practice by age of head teacher. However, the table indicates that within the age range of 51-60, one respondent indicated that they carry out preventive maintenance very regularly and two indicated regular performance. Within the

age range of 30-40, none of the respondents carried out preventive maintenance very regularly or regularly.

Research Question 2:

Does preventive maintenance practice differ by experience of head teacher?



Table 2: The cross tabulation of responses on years of experience by preventive maintenance

Responses on the regularity of maintenance function by age of respondents								
How long have you been a head teacher	Very regular	Regular	Irregular	Very irregularly	Total	X ²	Df	Table value
Below 5 years	-	1(0.652)	1(1.957)	3(2.17)	5	6.26	3	7.815
Between 5 and 10 years	-	1(1.04)	3(2.130)	4(3.49)	8			
Above 10 years	1(0.48)	1(1.435)	5(4.304)	3(4.78)	11			
Total	1	3	9	10	23			

The calculated chi-square value (6.26) is less than the table value of 7.815, indicating that there is no significant difference in preventive maintenance practice by experience of head teacher. However, the data shows that head teachers with above 10 years of experience were more engaged in preventive maintenance, with

one respondent indicating very regular performance and one indicating regular performance.

Research Question 3:

Does preventive maintenance practice differ by sex of head teacher?

Table 3: The cross tabulation of responses on preventive maintenance practice by gender of respondents

Responses on the regularity of maintenance function								
Gender	Very regular	Regular	Irregular	Very irregularly	Total	X ²	Df	Table value
Male	1(0.57)	2(1.70)	6(5.09)	4(5.66)	13	2.20	3	7.815
Female	-	1(1.3)	3(3.913)	6(4.35)	10			
Total	1	3	9	10	23			

The calculated chi-square value (2.20) is less than the table value of 7.815, indicating that there is no significant difference in preventive maintenance practice by sex of head teacher. However, the distribution of responses shows that male head teachers (n=13) reported slightly more regular maintenance than female head teachers (n=10).

DISCUSSION OF FINDINGS

The findings revealed that age, experience and sex of head teachers do not significantly influence preventive maintenance practices in primary schools in Egor Local Government Area. This suggests that the poor and irregular maintenance observed is a systemic issue rather than a function of individual characteristics. This finding aligns with the observation by Amanchukwu and Ololube (2015) that school plant management practices are inadequate across schools regardless of the characteristics of school administrators. Nwamae,

Kalagbor, and Agboto (2023) similarly found that maintenance culture significantly influences school administration and that inadequate funding is a major challenge affecting all schools.

However, descriptive trends showed that older head teachers (51-60 years), those with more than 10 years of experience, and male head teachers tended to engage slightly more in regular maintenance. This may be due to greater familiarity with school administration or longer exposure to facility management. This finding is consistent with Manafa (2020) who found that principals' managerial skills significantly influence administrative effectiveness, and that skills are often developed over time. Ohia and Ogere (2022) also noted that maintaining and securing school plant requires experience and administrative competence. Olorunsola (2020) found that principal administrative challenges significantly affect teachers' effectiveness, suggesting that experienced principals are better equipped to handle administrative challenges.

Corresponding author: Uwaifo Rosemary Olayinka

uwaifoowen@gmail.com

Department of Educational Management, University of Benin, Benin City, Edo State, Nigeria.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



The absence of significant differences by age, experience and sex implies that all head teachers, regardless of these factors, need capacity building and institutional support to implement effective preventive maintenance programmes. This finding is supported by Adamu, Lateef, and Haliru (2025) who found that school plant maintenance practices significantly influence teacher effectiveness and that all teachers benefit from effective maintenance practices. Wada and Adamu (2023) also found that preventive maintenance strategies are not adequately adopted by teachers, suggesting that training and support are needed for all school personnel. Akpomi and Raji (2022) further emphasized that school facilities provision significantly influences students' academic performance, highlighting the need for effective maintenance practices regardless of who is in charge.

CONCLUSION

The study concluded that preventive maintenance practices in primary schools in Egor Local Government Area do not differ significantly by the age, years of experience or sex of head teachers. The overall practice remains irregular and inadequate across all categories. Although small descriptive differences exist favouring older, more experienced and male head teachers, these differences were not statistically significant. The findings suggest that personal characteristics of head teachers are not the primary determinants of preventive maintenance practices. Instead, systemic factors such as inadequate funding, lack of maintenance culture, and insufficient institutional support are more likely to influence maintenance practices. This implies that efforts to improve preventive maintenance should focus on systemic reforms rather than targeting specific demographic groups of head teachers.

Based on the findings of this study, the following recommendations were made:

1. Training programmes on preventive maintenance should be organised for all head teachers irrespective of age, experience or sex. These programmes should equip head teachers with the knowledge and skills needed to plan, implement and monitor preventive maintenance programmes in their schools.
2. The local government education authority should provide clear guidelines and regular monitoring to ensure that head teachers carry out scheduled preventive maintenance. This should include the development of maintenance checklists, schedules, and reporting mechanisms.
3. Both male and female head teachers should be encouraged to adopt best practices in preventive maintenance. Gender should not be a barrier or an advantage in the performance of maintenance functions.
4. Experience-based mentoring could be introduced where more experienced head teachers assist less experienced colleagues in facility management. This would help transfer knowledge and skills from experienced to less experienced head teachers.
5. Adequate funding should be provided for school plant maintenance. The local government education authority should allocate specific funds for preventive maintenance and ensure that these funds are used for their intended purpose.

REFERENCES

- Adamu, H., Lateef, A. Y., & Haliru, S. (2025). School plant maintenance practices and teacher effectiveness in public senior secondary schools in Sokoto State. *International Journal of Advanced Studies in Education*, 4(1), 18-26.
- Akpomi, M. E., & Raji, M. (2022). Influence of school facilities provision on students' academic performance in senior secondary schools in Port-Harcourt Metropolis. *International Journal of Social Sciences and Management Studies*, 1(1), 97-112.



- Ali, M. G., & Jumare, M. H. (2024). Evaluation of planning practices of principals for active school administration in secondary schools in Kaduna State, Nigeria. *International Journal of Research Publication and Reviews*, 5(3), 3226-3230.
- Amanchukwu, R. N., & Ololube, P. N. (2015). Managing school plant for effective service delivery in public secondary schools in Rivers State of Nigeria. *Human Resource Management Research*, 5(4), 95-102.
- Ekpoh, U. I. (2018). School plant maintenance culture and utilization. In N. P. Ololube (Ed.), *Handbook of research on educational planning and policy analysis* (pp. 138-155). Port Harcourt: Pearl Publishers.
- Manafa, N. F. (2020). Principals' managerial skills and administrative effectiveness in public secondary schools in Anambra State, Nigeria. *International Journal of Innovative Psychology & Social Development*, 8(4), 44-53.
- Nwamae, L., Kalagbor, L. D., & Agboto, F. K. (2023). School plant maintenance culture for the effective administration of public secondary schools in Port Harcourt Local Government Area. *Faculty of Natural and Applied Sciences Journal of Mathematics and Science Education*, 5(1), 143-151.
- Ogunode, N. J., & Ahaotu, G. N. (2021). The effects of incessant closure of school on school administration in Northern Nigeria. *International Journal of Innovative Analyses and Emerging Technology*, 1(4), 98-103.
- Ohia, A. N., & Ogere, M. O. (2022). Maintaining and securing school plant for the administration of public senior secondary schools in Rivers State. *British International Journal of Education and Social Sciences*, 9(2).
- Olorunsola, E. O. (2020). Principal administrative challenges and funding for teachers effectiveness in secondary schools in Ekiti State. *European Scientific Journal*, 16(10), 1857-7881.
- Owolabi, B. O. (2015). The effects of students' housing on academic performance at the University of Ibadan in Nigeria. *International Journal of Scientific & Engineering Research*, 6(3), 1118-1132.
- Umemetu, M., & Ofoegbu, F. I. (2020). Assessment of school plant maintenance practices in renovated public secondary schools in Edo State. *Kampala International University*, 6(1), 345-350.
- Wada, B. Z., & Adamu, K. U. (2023). Assessment of maintenance strategies adopted by teachers and technologists for maintenance of workshop equipment in technical colleges of Colleges of Education, Abuja. *Kashere Journal of Education*, 4(1), 13-20.