

**FACILITIES MAINTENANCE AND PRINCIPALS' ADMINISTRATIVE
EFFECTIVENESS IN PUBLIC SECONDARY SCHOOLS IN EDO STATE,
NIGERIA**

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**UNIVERSITY OF BENIN
BENIN CITY**

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UNIVERSITY OF BENIN, BENIN CITY, NIGERIA**

JULY 2025

CERTIFICATION

We, the undersigned, certify that this study was carried out by Robert ARASOMWAN in the Department of Educational Management, Faculty of Education, University of Benin, Benin City, Nigeria.

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Date: _____

DEDICATION

This work is dedicated to the memory of my father, who never relented in his financial support towards the completion of my education.

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The researcher is eternally grateful to God for the wisdom, knowledge and strength to carry out this research work in spite of the various challenges faced through the years. His gratitude also goes to his supervisor, Prof. (Mrs.) R.O. Osagie for her counsel, guidance, support and supervision through the years. The completion of this thesis is a testament to her affectionate motherly attributes extended to the researcher. May God bless her real good. He is also grateful to his co-supervisor, Prof. H.O. Alonge, who gave him the liberty to call on him at any time. The researcher is also grateful to the Head of Department, Prof. W.A. Iguodala for his contributions towards the completion of this thesis. Not left out is the Dean of the Faculty of Education, Prof. O. K. Omoroguiwa for his contributions towards this work.

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ABSTRACT

This study investigated school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State. Nine research questions were raised and seven hypotheses were formulated and tested at 0.05 level of significance.

The design of the study was descriptive survey based on correlational method. The population of the study constituted the 308 principals in the 308 public secondary schools and 495 teachers who served as respondents in the three senatorial districts of Edo State. The sample size of the study was 64 principals in the 64 public secondary schools in the three senatorial districts of Edo State, constituting 20% of the population. Eight teachers per sampled school were purposefully selected to serve as respondents. The proportional random sampling technique, using the multi stage sampling procedure was used for the selection. Two validated research instruments titled "School Facilities Maintenance Questionnaire" (SFMQ) and "Principals' Administrative Effectiveness Questionnaire" (PAEQ) with a reliability coefficient of 0.88 and 0.74 respectively were used for the study. The Mean and Standard Deviation, Pearson r and Fisher's Z statistics were used to analyze the data.

Findings from the study revealed that the level of facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State was low. The study also revealed a significant relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State. The sex and experience of the principals were also found to be significant, in that male principals and more experienced principals carried out maintenance practices than female and less experienced principals. However, there was no significant relationship between facilities maintenance and principals'

administrative effectiveness based on school type, location and size. It was therefore recommended that the Ministry of Education should organize training workshops and seminars for principals on facilities maintenance and administrative effectiveness as well as provide all necessary tools and resources they require in a bid to improve their knowledge and skills in maintenance practices. Sex and experience should be considered when appointing principals. However, principals, irrespective of their qualification, school type, size and location should be encouraged to make maintenance of facilities a top priority to create a conducive atmosphere for teaching and learning.

CHAPTER ONE

INTRODUCTION

Background of the Study

The researcher has always been passionate about the maintenance of facilities, especially in the school system. As someone knowledgeable in the act and process of maintenance, he is usually quick to observe facilities maintenance neglect in the school system whenever it exists. Hence, he was interested in carrying out a research on the administrative effectiveness of the principals of public secondary schools in Edo State. Consequent upon the perceived facilities maintenance neglect in these schools

Education, being an indispensable vehicle in nation-building, is a systematic process of training and instruction designed to transmit knowledge, develop skills, and nurture potentials and abilities. This process enables individuals to contribute effectively to the growth and development of their society and nation. Education, therefore, encompasses the all-round development of an individual; physically, socially, morally, intellectually, and mentally. Schools are the institutions where this transformative process occurs, serving as centers for teaching and learning to achieve these objectives. However, to optimize the teaching and learning process, it is not enough to focus solely on the curriculum or instructional strategies. The physical environment in which education occurs plays a critical role in determining the success of these efforts. Teachers and learners must be properly accommodated to facilitate the teaching and learning process, which brings into focus the importance of school plants and facilities. However, this teaching and learning environment cannot be achieved without the administrative role of the principal.

Principal administrative effectiveness in promoting a friendly environment for the teaching and learning process is rooted in the idea that school leadership is multifaceted and requires a balance of skills, knowledge, and attributes. Effective principals demonstrate the ability to lead instructionally by supporting teachers and ensuring that the curriculum is delivered effectively; manage resources by allocating financial, human, and material resources in a way that aligns with the school's goals; foster a positive school climate, by creating an environment where students and staff feel safe, motivated, and supported; engage stakeholders, by building strong relationships with parents, community members, and government agencies; and maintain school facilities, by ensuring that the physical environment supports the educational mission and reflects the values of the school. In Nigeria and in Edo State in particular therefore, secondary schools, irrespective of ownership are expected to function in compliance with the achievement of the national education objectives. The importance of school facilities in this regard cannot be relegated to the background in the administration of schools. The level of available and functional facilities in secondary schools is indeed a plus to the principal and it goes to show the level of ingenuity and commitment of the principal toward creating a foundation for effective teaching and learning (Adesola, 2015).

However, in Edo State secondary schools, there has been a tremendous growth in students' population without a corresponding increase in the number of functional facilities which could be as a result of economic depression and corresponding rise in cost. This has put much pressure on the existing facilities that, it appears that school facilities have been allowed to decay due to lack of maintenance practice by school administrators. For the principal to function effectively, school facilities must be in good condition. Administrative effectiveness is the ability of school principals to

apply innovative, organizational, and management strategies in terms of planning, organizing, directing, staffing, coordinating, reporting, and budgeting. In addition, administrative effectiveness entails the ability to maintain the physical resources in the school. Ideally, administrative effectiveness manifests in the ability of an administrator to be passionate about learning and have a clear vision of how schools can promote high levels of achievement for all students. Including how to apply its lessons in making curriculum and instruction more effective, regular maintenance of school facilities, ensuring compliance with quality assurance standards, creating a conducive school environment, promoting interpersonal relationship, judicious use of financial resources, addressing teachers' needs, setting clear directions that lead to overall improvements among others.

Indices of administrative effectiveness in this study include supervision, assessment, communication skills, school records management and decision making. Effective supervision can effectively impact the quality of work, employee performance and the success of the organization. It is a process of overseeing the work of others to ensure conformity to standard. An administrator is therefore a supervisor who oversees the physical and human resources in the school to ensure that they conform to standard. In the context of this study, the principal as an administrator provides guidance, training and resources to employees. He also engages in regular monitoring and evaluation of employee performance, rewards and recognize outstanding performance while assisting non performing employee to do better. Since the principal cannot do everything alone, he requires the assistance of his subordinates, some of who are in charge of maintenance who he must supervise through monitoring and evaluation.

Assessment as an indicator of administrative effectiveness enables the administrator to evaluate the performance of employee and identify area of improvement. Assessment helps to improve performance, programmes and services leading to improvements and innovations. Heads of units like the laboratory, library and workshops should be regularly assessed to ensure improvements in handling and maintaining equipment or facilities under their care.

Communication is the kernel of administrative effectiveness as it enables administrators convey their vision, goals and expectations to stakeholders in the school. Communication improves relationship among staff, gives room for increased collaboration leading to better decision making. Effective communication will enable the principal monitor activities, which includes facilities maintenance in the school for compliance.

School record management is a critical aspect of administrative effectiveness as it ensures accurate, secure and efficient management of resources; human and physical, in the school. School record management gives accurate and up-to-date records of facilities, their condition and the need for maintenance where necessary. Decision making enables administrators to make informed, timely and effective decisions on critical issues concerning the school. It improves organizational performance, particularly when all stake holders in the school are involved in making decisions. It is proper for a school administrator to communicate all decisions made and its intent to those who will benefit from it. For instance, sometimes students are made to pay maintenance levy; the principal should involve their parents and the students before arriving at this decision. This way, they become part of the decision and would most likely not resist it.

School facilities, constitute the major components of both direct and indirect elements in the environment of learning. School facility consists of not only the physical structure and the variety of building systems, such as mechanical, plumbing, electrical and power, telecommunications, security, and fire suppression systems, it also includes furnishings, materials and supplies, equipment as well as various aspects of the building grounds, namely, athletic fields, playgrounds, areas for outdoor learning, and vehicular access and parking, modern classrooms, libraries, laboratories, workshops and studios. According to Alimi (2017), school facilities are the spatial interpretation and physical expression of the school curriculum, serving as the foundation upon which all educational activities are built. Facilities such as classrooms, laboratories, workshops, libraries and recreational areas provide the necessary infrastructure to support effective teaching and learning. A cursory observation of these facilities in some public schools in Nigeria where they are available, shows lack of maintenance. Poorly maintained restrooms, laboratory, workshops, leaking roofs and classrooms littered with broken or insufficient furniture abounds. These inadequacies not only hinder the delivery of quality education but are capable of negatively impacting the morale of teachers and students. A dilapidated school environment often communicates neglect and apathy, which can lead to decreased motivation, increased absenteeism, and behavioral issues among students. Where facilities challenges are prevalent, the principal's role becomes even more crucial. They are not only tasked with addressing immediate maintenance issues but also with creating a long-term vision for the school's physical environment. This involves mobilizing resources, engaging stakeholders, and implementing policies that prioritize the upkeep of school infrastructure. Effective principals understand that a well-maintained school environment enhances the teaching and learning process,

boosts staff and student morale, and fosters a sense of pride and ownership among all stakeholders.

Maintenance ensures good functionality and longevity of the life of infrastructure and facilities. It is the process of carrying out regular or and periodic checks in order to prevent a system breakdown or a structural defect or failure. It could also be seen as the way attention is given to a thing to enable it remain in good working condition as much as possible over a reasonable period of time. When these processes of checks and repairs are carried out on infrastructure and facilities in general, they ensure effective functioning and the goals and objectives of the use of such facilities are achieved. This in turn will boost organizational growth and development (Adelakun, 2012). School facilities of concern in this study include the general school, classrooms, laboratory, libraries and workshops. These facilities have a direct impact on the teaching and learning process.

The general school ambience refers to the overall atmosphere and environment of a school. It includes the physical, social and emotional state of the school that contributes to the quality of experience for students, teachers and staff. This study is concerned with the physical ambience that includes a well maintained and clean environment that promotes health and hygiene. It also involves well-ventilated classrooms and offices as well as a safe and secure environment. In this case, the fences, doors, shutters, buildings and so on must be well maintained to create a positive school ambience that supports academic success.

Classroom maintenance is essential for creating a conducive learning environment. It involves cleaning, repairs of damaged furniture, regular painting and decoration and ensuring adequate lighting and functional electrical outlets and switches. Maintaining a well-organised and functional classroom layout promotes

learning. Similarly, classroom maintenance includes managing supplies and materials such as technological devices; hardware and software, reliable internet service, audio-visual equipment among others. Maintaining the classrooms creates orderliness and supportive learning environment.

Maintenance of school laboratories is crucial for a safe and effective learning environment for students. Regular cleaning and disinfection of laboratory surfaces and equipment, storage of chemicals, maintenance and inspection of equipment to ensure that they are in good working condition are crucial for the life span of laboratory equipment. This can create a safe and effective learning environment that supports hands-on scientific inquiry and experimentation.

Library maintenance ensures that the library is safe and comfortable for use. Cleaning of the shelves and its holdings, repairing dilapidated or broken furniture and generally ensuring a clean environment makes it attractive for students to use. Also, technology maintenance is of paramount importance in maintaining the library, especially in this era of e-learning.

Workshop maintenance is essential to ensure the safety, efficiency and productivity of the work space. These includes regular cleaning of the shop, floors and equipment. Hazardous materials must be identified and removed, protective gears provided and fire safety put in place. Regular maintenance of equipment in the workshop through repair and replacement, calibration, scheduled maintenance and tools inspection and storage is key. The students' academic performance could be negatively affected as the material resources may not be effectively utilized if there is poor facilities maintenance and as such material resources may be wasted. What makes education a valued commodity is teaching and learning facilities, their availability, adequacy, maintenance and relevance (Nwadiani, 2012).

Facilities that are properly maintained by school administrators have multiplier beneficial effect on the educational system; facilitating effective and efficient teaching and learning activities and giving satisfaction to stakeholders. The provision of these facilities is one thing and their maintenance to keep them functional is another because, the education system cannot function effectively and efficiently without the regular maintenance of these facilities when they get worn out or distorted. The principal, as the chief administrative officer of the school, plays a central role in ensuring that the school environment supports the educational mission. Their administrative effectiveness encompasses a wide range of responsibilities, including instructional leadership, resource management, staff supervision, and facilities maintenance. Effective school leadership is a key determinant of overall school success, second only to classroom instruction in its impact on student outcomes. A principal's ability to manage and maintain school facilities is, therefore, a critical aspect of their administrative effectiveness.

In the implementation of decisions reached, facilities maintenance and principals' administrative effectiveness may be influenced by certain intervening variables such as sex, experience, and academic qualification. It could also be influenced by school type, location and size. The sex of the principal could be a factor in administrative effectiveness. In the views of some, male principals are believed to do better than their female counterparts in the administration of schools, others view the female principal as being more effective. The discrepancy noted in the abilities of male and female administrators in managing facilities maintenance challenge has been observed by Nwankwo (2019). He opined that, in the process of managing these constraints, some school principals are more effective than others.

Experience, which connotes years of administrative service or length of service could be seen as a criterion for being an effective administrator by some stakeholders. It is perceived by some observers that the level of academic qualification attained by principals has an impact on their administrative abilities and capacities. It is perceived that the more work experience, the higher the performance of principals tends to be. On the contrary, the less work experience, the principal's performance tends to be lower, Soetjipto (2017).

Academic qualification of a principal which could be lower (First degree only) or higher (Post graduate degree in Educational Management) can influence their administrative abilities as well as the ability to maintain school facilities for compliance to standards. Research, Peterman and Kennedy (2013) have shown that principals who participated in educational management orientation usually performed better in administrative issues than those who did not. It has also been shown that principals who completed in-service training were more effective than those who did not (Ejike, 2019). An important implication is that professionally trained principals could be more prepared to perform their roles, especially in carrying out maintenance activities than non-professionals.

School type constitutes single or mixed-sex schools. It is also a common belief that principals in single-sex public secondary schools exhibit a higher tendency of administrative effectiveness than those in mixed-sex schools. All these factors may be reflected in the level of maintenance practices being carried out in such schools. The researcher is of the view that this situation may not have any remarkable influence on the level of maintenance of school facilities after observations made in a few schools visited in the study area. Omoregie (2015) however, revealed that maintenance

effectiveness of principals in single sex schools was not significantly different from that of principals in mixed schools.

It is also a common belief that urban public secondary schools receive more attention in terms of the maintenance of facilities than rural schools because of higher financial allocation being budgeted and made available to principals for such purposes. Reasons have been proffered by Adeyemi (2012) for variations in school facilities maintenance and quality of school administrators in terms of school location (rural or urban).

School size is another variable of the level of facility maintenance. It is believed that principals in small school are more effective in carrying out maintenance activities because of quick observations being made by such principals of dilapidating structures and facilities, Kim and Park (2019). This trend is the direct opposite in large schools where decayed facilities are not quickly noticed by principals and even if they do, the resources may not be readily available to effect repairs.

In the face of dilapidating and dilapidated structures, and disused facilities, it is believed that the principal is in the best position to coordinate his staff, teaching and non-teaching to facilitate proper teaching and learning through functional facilities. Hence this study sought to investigate facilities maintenance and principals' administrative effectiveness.

Statement of the Problem

There seems to be neglect of the maintenance of school facilities by relevant authorities in Edo State public secondary schools; the school ambience appears distressed with unkept playgrounds, lack of proper landscaping, buildings that requires painting and renovations among others. Also, the laboratories, libraries and workshops are fraught with broken down equipment where available. Stakeholders

like parents, whose desire is to send their children to well-equipped school are disappointed at the situation on ground. This seeming lack of maintenance of school facilities has been linked to principals' administrative effectiveness.

It is one of the responsibilities of the principals to ensure that the facilities in the school are well maintained to promoting teaching and learning. However, students' learning outcome occasioned by dilapidating structures in the school, unconducive learning environment, poorly maintained equipment in the laboratories and workshops among others has been of concern to teachers and parents especially. They are often heard to complain about the capability of the principal to maintain the facilities for effective teaching and learning. Therefore, could the poor facilities maintenance observed in public secondary schools in Edo State be as a result of the administrative ineffectiveness of the school principals? In other words, is there a relationship between school facilities maintenance and principals' administrative effectiveness? It is on this premise that the researcher investigated the relationship between school facilities' maintenance and principals' administrative effectiveness in public secondary schools in Edo State.

Research Questions

The following research questions guided this study.

1. What is the level of facilities maintenance in public secondary schools in Edo State?
2. What is the level of principals' administrative effectiveness in public secondary schools in Edo State?
3. Is there a significant relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State?

4. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on sex?
5. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on experience?
6. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on qualification?
7. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on school type?
8. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location?
9. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on size?

Hypotheses

Research questions 1 and 2 were answered while research questions 3 to 9 were formulated into hypotheses:

H₀₁: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State;

H0₂: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on sex;

H0₃: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on experience;

H0₄: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on qualification;

H0₅: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on school type;

H0₆: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location;

H0₇: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on size.

Purpose of the Study

The purpose of this study was to examine facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State. The specific objectives were to:

- ascertain the level of maintenance of facilities in public secondary schools in Edo State;

- find out the level of principals' administrative effectiveness in public secondary schools in Edo State;
- examine whether there was any significant relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State;
- examine whether there was any significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on sex;
- examine whether there was any significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on experience;
- examine whether there was any significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on qualification;
- examine whether there was any significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on school type;
- examine whether there was any significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location and
- to find out if there was any significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on size.

Significance of the Study

The findings of the study would be beneficial to the following: principals, teachers, school owners/proprietors, policymakers, and researchers. It is anticipated that the findings of this study would go a long way in generating the much-needed information that would be used by principals to improve the facilities maintenance situation in their schools. It would also give them a clearer vision of their roles as administrators, one of which is to maintain school facilities.

The findings would enable teachers to have a deeper insight into the importance of school facilities maintenance to enable them to understand the situation and devise means of educating students in having a positive orientation and attitude in handling and using school facilities in such a manner that they are not abused.

Understanding the issue of maintenance, the findings of this study would be of immense benefits to school owners, both public and private in seeing the need for proper orientation for both students and staff to meet with modern facilities maintenance demand. This is imperative because a proper understanding of how these facilities work and a current knowledge of effective maintenance practices to keep these facilities running thereby reducing drastically the cost in terms of purchasing new equipment and materials when existing ones are properly maintained.

The findings would also furnish policymakers, the Ministry of Education, and politicians with information on facilities maintenance situations in public secondary schools and give the necessary impetus to secondary school administrators in enhancing maintenance culture in their respective domains of operation through proper legislation.

The former Nigerian Education and Research Council (NERC) which is today known as the Nigerian Educational Research and Development Council (NERDC) in

May, 1986 made a nine-point recommendation to enhance the educational standard. Among the recommendations was the provision of adequate teaching aids and funds to provide infrastructural facilities. It is hoped that the result of this study would help to raise the standard of education in schools having made useful suggestions on how to improve the maintenance of school facilities. Lastly, the study was also expected to add to the existing body of knowledge and act as a stepping-stone for later researchers in similar studies. It would also help future researchers who have the quest to improve facilities maintenance culture in the education sector in Edo State and Nigeria at large.

Scope and Delimitation of the Study

The scope of the study is school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State. The facilities of concern to this study include the general school structure, classrooms, laboratory, libraries and workshops. These facilities were chosen because they have a direct impact on the teaching and learning process. Administrative effectiveness indicators in the study are supervision, assessment, communication skills, school records management and decision making. The study was delimited to public secondary schools in Edo State.

Definition of Terms

The following terms were operationally defined:

School facilities: these are facilities that directly aid teaching and learning such as the general school structure, classrooms, laboratory, libraries and workshops.

School facilities Maintenance: This refers to the repair and preservation of the general school structure, classrooms, laboratory, libraries and workshops.

Administrative Effectiveness: This refers to the ability of the principal to ensure that facilities in the school are supervised and assessed using effective communication skills, school records management and decision making.

Sex: refers to either male or female

Principals' Qualification: Principals with a first degree (B.A.Ed/B.Ed) are termed qualified while principals with higher degree (M.Ed, Ph.D in Educational Management) are regarded as highly qualified

Experienced principal: Principals with five years and above on the job are experienced while those with less than five years are less experienced.

School size: refers to large schools with a population of 500 students and above and small schools with a population of less than 500 students.

School location: It refers to urban schools located within the local government headquarters and rural schools located outside local government headquarters.

School type: It refers to single sex (male or female only) and mixed sex (male and female) schools

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter reviewed related literature on school facilities maintenance and principal's administrative effectiveness. It was reviewed under the following sub-headings:

- i. Theoretical Framework
- ii. Concept of School Facilities
- iii. Concept of Facilities Maintenance
- iv. Concept of Administrative Effectiveness
- v. Facilities Maintenance and Principals' Administrative Effectiveness
- vi. Facilities Maintenance and Principals' Administrative Effectiveness based on Sex
- vii. Facilities Maintenance and Principals' Administrative Effectiveness based on Experience.
- viii. Facilities Maintenance and Principals' Administrative Effectiveness based on Qualification.
- ix. Facilities Maintenance and Principals' Administrative Effectiveness based on School Type.
- x. Facilities Maintenance and Principals' Administrative Effectiveness based on School Location.
- xi. Facilities Maintenance and Principals' Administrative Effectiveness based on School Size.
- xii. Summary of Reviewed Literature

Theoretical Framework

The study is hinged on the Broken Window Theory propounded by James Wilson and George Kelling in 1982 and the Maintenance management model by Smith and Hawkins (2014). The Broken Window Theory posits that acts of serious vandalism can be prevented by fixing the problems when they are small and fixing them within a short period of time. It explains the need to highlight the growing problem of facility maintenance; that is, if a window in a building is broken and left

unrepaired, it indicates that no one cares, hence, the breakages continue and soon the building will be reduced to wreckage and waste.

The theory assumes that the landscape communicates to people. A broken window transmits to criminals the message that the school premises lack informal social control and cannot defend itself against a criminal invasion. It is not so much the broken window that is important, but the message it sends to people. It symbolises the school's defenselessness and vulnerability and represents the lack of cohesiveness of members of the school community.

Timely replacement of a broken/damaged facility in the school will send the signal that the school environment is well tended and this will prevent intruders into the school premises during and after school hours. A school environment where facilities are broken and left without replacement may negatively impact students' social behaviour in and outside the school. Such a school premises may become an avenue where criminally minded people influence the behaviour of the students and pose a danger to the safety of lives and property.

Fixing damaged facilities early may keep the premises clean. A neat school environment has a positive influence on the social behaviour of staff and students of the school community. The principal as the leader in the school encourages staff and students to participate in facilities maintenance activities; inspect facilities; ensure that facilities are kept functional and ready to use at all times; help staff members develop and maintain a collaborative; professional school environment and help teachers solve problems more effectively. The study highlights the growing challenge of facility maintenance in schools and its broader implications for students' behaviour and community cohesion. The Broken Window Theory serves as a lens to explore how neglected facilities can impact negatively on the learning environment. However,

since the Broken Windows Theory could not address how maintenance should be carried out, the Maintenance Management Model was introduced to address such deficiencies; which clearly states the ways maintenance of facilities can be carried out. The Maintenance Management Model provides a framework for addressing these challenges, such as staff and students' attitude to teaching and learning. A poorly maintained school environment may foster antisocial behaviours among students, as they internalize the message of neglect and disorder.

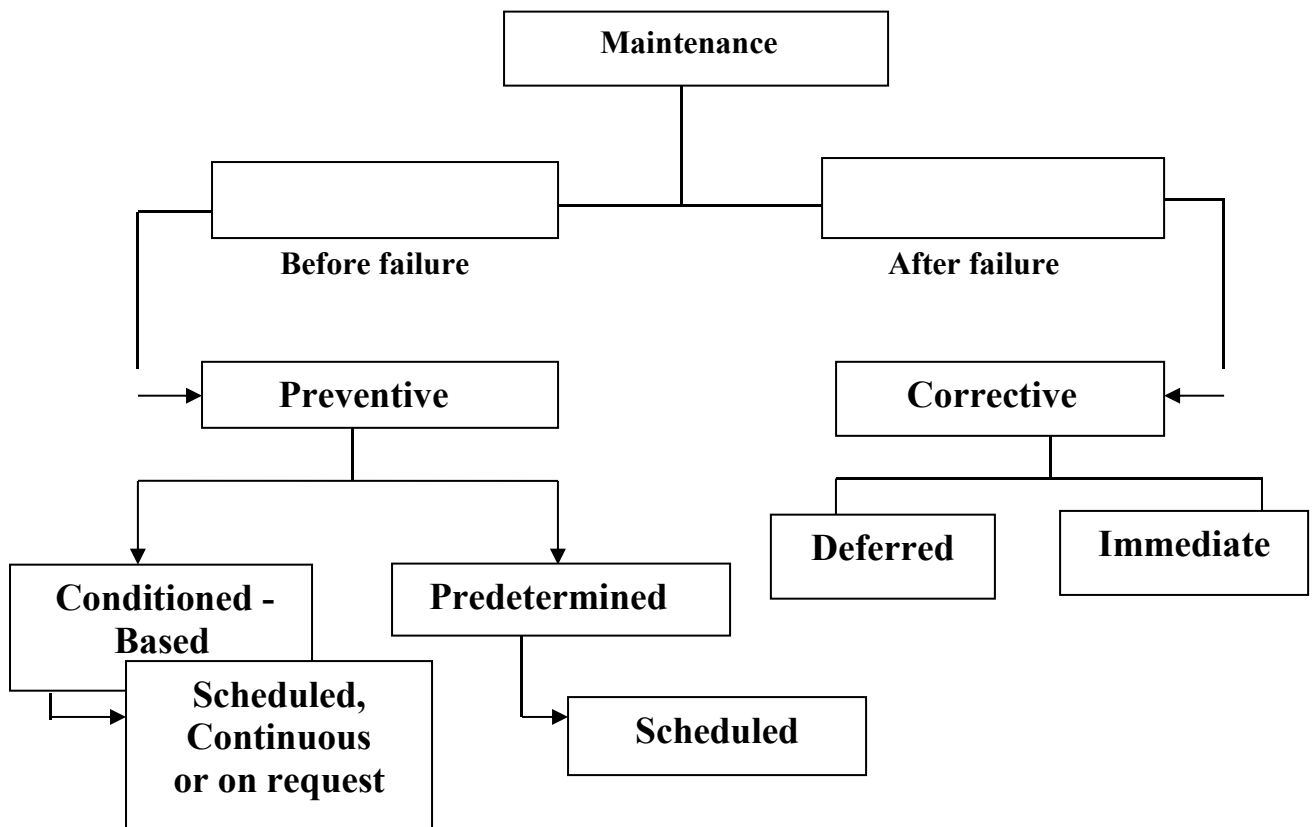


Figure 1: Maintenance management pyramid according to Smith & Hawkins (2014). Each internal part makes up the concept of maintenance.

According to Smith and Hawkins (2014), working with preventive and corrective maintenance will prove successful in the following aspects; improved inventory control as a result of better planning and scheduling which also will decrease waste; increased accuracy in maintenance budgeting, also a factor due to improved equipment reliability; and also, reduced maintenance costs, which has,

according to Smith (2014) been prove to show a return on investment increase to a factor of 10:1 within three year and also a reduction between 30-50% in maintenance spending within 3-5 years.

Timely repairs and cleanliness send a clear signal of vigilance and care, discouraging potential intruders and maintaining a safe school environment. The principal plays a pivotal role in fostering a culture of shared responsibility for maintenance. By involving staff and students in regular inspections and repair activities, the principal helps instil a sense of ownership and pride in the school environment.

The principal's ability to address facility issues promptly reflects a high level of administrative effectiveness, which is crucial for maintaining an environment conducive to learning and fostering positive behaviour. This administrative effectiveness is evident in several ways; A principal who swiftly identifies and resolves maintenance problems demonstrates foresight and a proactive approach to school management. This not only prevents small issues from escalating into larger, more costly problems but also sets a standard for the school community to value and respect the school environment.

Timely action on facility repairs sends a strong message to students, staff, and parents that the school is well-managed and cared for. It symbolizes the principal's commitment to creating a safe, orderly, and supportive environment, which is critical for fostering trust and respect. A well-maintained school environment positively influences the overall school climate. It promotes discipline, reduces vandalism, and enhances the sense of pride among students and staff. This reflects the principal's ability to integrate facility management into the broader goals of school improvement.

Effective principals often engage staff and students in the maintenance process, encouraging a sense of ownership and responsibility. This collaborative effort strengthens the community spirit and ensures the sustainability of maintenance practices. The ability to allocate resources, prioritize issues, and implement solutions efficiently underscores the principal's organizational and managerial skills. These competencies are key indicators of their overall administrative effectiveness. A principal who ensures prompt facility repairs helps maintain an orderly and disciplined school environment. This can deter undesirable behaviours among students and create a setting that supports positive social and academic outcomes.

The principal's capacity to address maintenance issues promptly is more than just a practical necessity—it is a reflection of their effectiveness as a leader and administrator. It demonstrates their ability to manage resources, inspire their school community, and maintain a learning environment that supports both academic excellence and positive social behaviour.

According to the Hong Kong Home Affairs Department (Home Affairs Department-Building Management, 2018), the importance of building maintenance revolves around the weakness of a building which will be weathered quickly when exposed to the natural environment without having an effective and continuous maintenance system, the building will deteriorate easily. The importance of building maintenance can also be tied to the benefits that will be produced when the maintenance procedure has been executed by the maintenance crew. For instance, regular inspection and maintenance may enable timely identification of deteriorated building elements moreover, in certain circumstances overlooked dilapidation and inadequate maintenance in the building may lead to the loss of mosaic tiles and plaster of external walls, and threaten users' safety (Home Affairs Department-Building

Management, 2018). In some cases, the importance of building maintenance refers to the actions generated when the maintenance programme has been implemented by an organization. This statement is supported by the information from SPAB (2014) which insists that the importance of maintenance cannot be over-emphasized. There are many plausible reasons for maintaining a building, which may be outlined as follows:

- ❖ Preserving an asset and heritage – the implementation of a maintenance programme will keep up a building's physical appearance and extends its lifecycle. It also prevents the loss of original fabric, and economic value and decreases the rate of depreciation.
- ❖ Avoiding large repair bills – the implementation of a systematic and effective maintenance programme may reduce or potentially eliminate the need for, and the extent of, major repair projects towards the buildings. A small but regular investment in tasks such as the routine cleaning of gutters and drains can be much cheaper and less inconvenient than having to cope with a serious outbreak of dry rot in timber roof trusses following years of neglect (Society for the Protection of Ancient Buildings [SPAB], 2014).
- ❖ Protective resources - The implementation of maintenance program is considered as a part of naturally sustainable activity. This is because an efficient and effective maintenance programme will lead to keeping the existing buildings in use, full of functions, and in good and reliable condition. This scenario will reduce the need for new resources (such as construction materials and energy) which are usually needed in the development of new buildings. When the demand for new property development is reduced, it may also reduce the demand for new development sites.

- ❖ Promoting convenience and safety use - maintenance will be capable of ensuring that the building is in a fit state when it is opened to be occupied or used by the related parties.

Besides the above discussion on the very essence of maintenance, some other beneficial factors abound. For example, effective maintenance of buildings not only improves the quality of the living environment but is also a vital means to uphold or even raise the value of properties (Building Department, 2004). Again, maintenance is not only important in ensuring the condition and physical outlook of the old building to operate safely and effectively, it also an activity that is important in determining the lifelong usage of the building, so that it can be preserved and be inherited by the next generation (Rahman, 2012).

School facility maintenance relates to the repair, replacement, and general upkeep of physical items as found in school buildings, grounds, and safety systems (Nhlapo, 2016). Szuba and Young (2013) made the point that maintenance is concerned with ensuring safe conditions for facility users, be they learners, educators, staff, parents, or guests, and is also concerned with creating a physical setting that is appropriate and adequate for learning. To this end, Leung, Lu, and Ip (2014) espouse facilities maintenance as aiming to provide end-users with a comfortable, effective and quality environment with minimum resources to enhance organisational effectiveness. Accordingly, the Organization of American States General Secretariat (2018) and Bastidas (2018) provide a rounded-off definition of school facilities maintenance by stating, “A school maintenance programme is an organisational activity carried out by the school community to prolong the life expectancy of school buildings, its furniture and equipment for normal use, (and) should be systematic and pro-active”.

For facilities maintenance to be carried out effectively, the following important aspects must be put into place:

- Maintenance organisation, which relates to creating an organisational structure for facilities maintenance, which should clearly define duties and responsibilities, and should vary with the complexity of the school community (Elghaffar, 2017). Since school facilities management is the responsibility of the school governing body in terms of its governance functions, the school governing body must establish a school committee for facilities maintenance, which should then be responsible for ensuring regular maintenance and repairs, raising funds for maintenance activities and educating the school community on how to look after the buildings properly (Wakeham, 2013).
- Maintenance inspection, which relates to school building examination to prepare a school maintenance plan and most importantly, gather information to form the basis for the maintenance programme, using various forms of inspection checklists for building structures including, roofing, building envelope, grounds and service systems (Bastidas, 2018).
- Maintenance planning, which relates to formulating a maintenance strategy for achieving better use of school facilities and minimising the cost of resources tied up in grounds and buildings (Scottish Executive, 2013). Maintenance planning invariably includes maintenance policy formulation and aspects of maintenance funding (Howard, 2016).

The most fundamental problem in facilities management is the lack of policy guidelines for infrastructural development in schools. In some schools, there are inadequate classrooms, staff offices, laboratories and workshops, libraries, and study areas while in some, these facilities are adequately provided. This situation arises

because the Federal, State, and Local Governments have failed to establish policy directives on minimum standards for school facilities. While some classes are held under trees and students are exposed to harsh weather conditions, others are held in air-conditioned classrooms. While some others have well-equipped laboratories, workshops, libraries, and other facilities for effective teaching and learning, others have none, and where they exist, such facilities are poorly equipped. It therefore becomes imperative that the different levels of government address the issue of development and implementation of minimum standards for facilities development and management.

According to the 21st Century School Fund (2015), the policy agenda should entail an increase in public participation in facilities planning, creation, and support schools as centers of community that offer school-based support to children to eliminate barriers to success and serve the broader community, improve facilities management including maintenance and improvement programme and secure adequate and equitable facilities funding. Policies should direct the actions of the school managers. In the absence of policy, facility management is left to the whims and caprices of the managers. Schools are formal organizations, and all activities including facilities management should be in line with laid down rules and regulations derived from overall policy guidelines.

Several individuals occupying managerial positions in schools lack knowledge of management processes and some who possess the knowledge fail to put them into practical use in the management of the schools. As stated earlier, school facilities management requires an intermixture of experts in different areas. This demands that the school manager possess the necessary human relations skills to

assemble and utilize the relevant individuals within and outside the school for efficient facilities management.

Adequate fund is always a problem for managers in all organizations. The school manager therefore is not left out in this problem. However, the manager must look for alternative means of sourcing funds within and outside the community. Government subvention and funds from all forms of fees and levies are usually inadequate. According to the Council of Educational Facilities Planners (2015, p.112) the following principles would reduce the cost of facilities maintenance if applied.

- Selecting the best architect and professional advice before buying a site.
- Eliminating waste space, especially in corridors, boiler rooms, and other noninstructional areas
- Using out-of-doors areas where possible
- Using a short, simple perimeter to reduce expense on exterior walls.
- Simplifying detail and using repetitive modular building elements where possible.
- Carefully selecting building materials.
- Using movable partitions to reduce future remodeling costs when alterations are needed to keep the building from becoming obsolete.
- Using space flexibility.
- Including foundations designed for imposed loads.
- Using walls that can be moved to subdivide space.
- Considering acoustical problems.
- Considering quality and quantity of light.
- Avoiding overdesign (more capacity than needed) in the heating system.
- Consulting with an insurance agent during design.

- Using building alternates with moderation.
- Avoiding confusion of cheapness with economy.
- Keeping in mind the purpose of everything that goes into the schoolhouse.

School managers most often lack qualitative and quantitative information on the existing state of school facilities. Quantitative data involves the nature and condition of existing facilities, the nature of present use, and possible future use. Qualitative data involves room configuration, ventilation systems, windows, lighting, access to support facilities, condition of furniture, and space for equipment including specific discipline-related requirements. Data collected and analyzed should form the basis for facilities management decision-making.

From the foregoing, it is apparent that a proper maintenance culture is an economic alternative when compared with the financial implications when the few available resources are culpably allowed to decay. When a school imbibes and assimilates the culture of maintenance of scarce resources, the institution becomes attractive and is better equipped to deliver its goals. Uchendu (2019) mentioned that proper management of human and material resources enhances teaching and learning in secondary schools. However, when these facilities are not properly maintained after prolong usage they deteriorate and become unfit for affecting the teaching and learning objectives of the school system.

Concept of School Facilities

The primary purpose of the teaching and learning process is to bring about in the learner desirable change in behaviour through critical thinking. This process does not take place in a vacuum but rather in an environment structured to facilitate learning. Stoner, Freeman and Gilbert (2016) described the environment of an organization as all elements relevant to its operation and they include direct and

indirect action elements. Depending on the quality of its design and management, the facility can contribute to a sense of ownership, safety and security, personalization and control, privacy as well as sociality, and spaciousness or crowdedness. When planning, designing, or managing the school facility, these facets of place experience should, when possible, be taken into consideration.

School facilities can be broadly classified into buildings, grounds and service systems. School buildings consist of the external building envelope, which comprises the building foundation and external walls of buildings, which, in conjunction with the roof, windows, and external doors, separate accommodation from the external environment (Coll & McCarthy Architects, 2018) and protect the interior in terms of, inter alia, the exclusion of dampness and moisture, and the provision of reasonable levels of thermal comfort (Hoffman Architects, 2017). School grounds comprise the grass areas and their uses, pathways and paved areas, trees, shrubs and planted areas, car parking, slopes, walls and fences, corridors and steps unimproved grounds and playgrounds (Akram, Anderson, Arent, Ashkin, Ayers & Brittain, 2014). Service systems comprise access control, fire control, electrical, plumbing, sanitation, waste disposal, HVAC, signal and communications, safety and security, landscaping and vehicular systems (Szuba & Young, 2013).

Nwagwu (2018) and Ogunsaju (2014) maintained that the quality of education that children receive bears direct relevance to the availability or lack thereof of physical facilities and the overall atmosphere in which learning takes place. The school facilities consist of all types of buildings for academic and non-academic activities, equipment for academic and non-academic activities, areas for sports and games, landscapes, farms, and gardens including trees, roads, and paths. Others include furniture and toilet facilities, lighting, acoustics, storage facilities and packing

lot, security, transportation, ICT, cleaning materials, food services, and special facilities for physically challenged persons.

Schools exist for teaching and learning. Human and material resources are deployed for this purpose. School facilities are the material resources provided for staff and students to optimize their productivity in the teaching and learning process. The realization that the transfer of knowledge does not only take place in the four walls of the classroom from the teacher to the students but rather that learning takes place through discovery, exploration, and interaction with the internal and external environment has necessitated the creative and innovative development of teaching and learning facilities that reflect these changes. Schools exist to serve the socioeconomic and political needs of the ever-changing society; consequently, they are in constant interaction with their external environment. They receive inputs from the external environment in the form of human and material resources, process them and empty same into society as finished products and services. The quality of the products bears a direct relationship with the quality of the facilities deployed in the process of production. This demands that state-of-the-art facilities are provided in schools to prepare school leavers for life in the global village.

According to Propst (2012), useful types of resources to be constructed by the planners and the management team are acoustical design engineering, audiovisual design engineering, behavioural sciences, building systems design, community and press relations, ecological studies, electronic data processing of hardware specifications, electronic data processing for programme development, use of facilities training and financial planning.

The school plant is a major component of the school facility. Knezevich (2015) described it as “the space interpretation of the school curriculum”. He

emphasized that the curriculum finds its physical expression in the construction and arrangement of the school plant, which is a controlled environment that facilitates the teaching and learning process and also protects the physical well-being of the occupants. He further stated that since teaching and learning do not take place in a vacuum, school facilities give meaning to the planned curricula and extra-curricular activities. A discussion of the school plant starts with the conceptualization of the educational programmes to be offered in the school. The nature and types of the educational programme will determine the nature and types of the school plant to be provided. Unruh and Alexander (2014) emphasized that both teachers and students need places to search, read, write, confer, interact, view, listen, think, experiment, and record. Students need places to transact student affairs or to gather for social purposes. Teachers need office space, conference rooms for team planning, facilities for diagnosis of pupil's needs, and facilities for preparing instructional presentations. New views of the teaching-learning process that move beyond memorizing of knowledge toward the involvement of students in applying, analyzing, synthesizing, and evaluating knowledge stress the need for flexibility of space in the schools. The complexity of the learning environment requires flexibility in the design of the school plant.

Modern facilities are designed for diverse academic and social activities. Multipurpose facilities used for academic activities during school hours may be available for community use during or after school hours. Such facilities may be used for continuing education programmes, social activities, and recreation. Through appropriate scheduling, multipurpose facilities may be accessible to the community during school hours. This will eliminate the burden of duplication of such facilities as conference halls, gymnasiums, libraries, theatres, and sporting facilities. Such an

integrated effort is cost-effective and brings the community closer to the school. Some buildings are over fifty years old and therefore require modern facilities for teaching and learning. Renovation and modernization of old and dilapidated buildings should be carried out to ensure that facilities for team planning areas, office space, clerical space, workrooms, professional development libraries, faculty dining area, storage space, students conference areas, guidance service areas for large group instruction, spaces for instructional media, library resource centers, science facilities, arts, and music studios, individual study area and physical education facilities. Equipment and supplies are essential for the attainment of educational goals and objectives.

Simpson and Anderson (2016) defined equipment as “items that last a minimum number of years or cost more than a certain amount” and supplies such as microscope slides, glass tubing, and cotton swabs, that are quickly consumed and that are usually less expensive than equipment items”. Some equipment performs specific functions while others such as computers perform a multiplicity of functions. School equipment is available in various forms. The equipment may be fixed or movable, and they serve various purposes in the educational system. They are used in the classrooms, laboratories, offices, workshops, cafeteria, toilets, laundry, library and for sports etc. The supplies are the accessories for the operation of various equipment. Furniture are also available in the classrooms, offices, cafeteria, laboratories and workshops, outdoor, residential halls, common rooms, and those designed for the physically challenged. Information and Communication Technology (ICT) facilities also include among others software on classroom management, facility management, inventory control, maintenance management, online procurement, food services and general management. The application of the software requires that the school managers should be exposed to necessary in-service training to enable them make

maximum use of the software. Facilities are materials designed to serve specific purposes. In the school system, there are numerous facilities, which facilitate teaching and learning. They are used;

- To illustrate concepts
- Provide opportunity for firsthand experience
- For experimentation and demonstration
- For scientific investigation and discovery
- To provide a diversity of thoughts
- For observation and inquiry
- For the development of scientific attitudes and skills
- To protect the individual and also provide comfort

The indirect or teaching support facilities such as offices, cafeteria, acoustics, toilets, laundry, mowers, residential halls, common rooms, cleaning materials ground, and similar items satisfy the individual's physical and emotional needs. They are used to:

- Increase instructional effectiveness
- Improve the cleanness, orderliness and safety of facilities
- Reduce the operational cost and life cycle cost of a building
- Extend the useful life of a building
- Increase efficiency and effectiveness of the staff and students
- Improve building appearance
- Use data collection and analyses for decision making.

Concept of Facilities Maintenance

In recent times and in times past, secondary education has been facing several problems which among other things have relegated quality teaching and learning

processes and this has reduced the quality of the educational system, especially, if it is viewed in a futuristic trend. Given the present state of available resources for education, the researchers' prime interest is in knowing how total efficacy can be achieved in the maintenance and management of the available resources. Resources in this context are; physical resources; the movable and immovable properties, physical structures, and assets belonging or allocated to an educational institution to enhance the teaching-learning process and educational services.

An aspect of school management that is generally overlooked is facilities maintenance. One of the fundamental ways of ensuring the optimum utility of available resources is through maintenance culture. The maintenance culture of any school speaks much about such an institution. According to Akpan (2014), the general appearance of school facilities constitutes the basis upon which members of the public pass their judgments about the academic performance going on in the school. The present economic recession being experienced the world over has made it imperative that the gospel of maintenance culture be preached very loudly in our education industry. It is therefore necessary that school facilities maintenance be accorded a priority as part of school programmes aimed at promoting teaching and learning goals and effectiveness. It is a specialist function and should be assigned to professional facilities-maintenance staff as opposed to being allocated to lay school governors. Young, Roehrich-Patrick, Joseph & Gibson (2013) postulate that an effective school establishes a well-disciplined, secure, and wholesome learning environment, and maintains clean and orderly school buildings.

Castaldi (2014) maintained that effective school facilities is responsive to the changing programmes of educational delivery, and at a minimum should provide a physical environment that is comfortable, safe, secure, accessible, well-illuminated,

well-ventilated, and aesthetically pleasing. According to Earthman (2016), the school facility is much more than a passive container of the educational process: it is, rather, an integral component of the conditions of learning. The layout and design of a facility contribute to the place experience of students, educators, and community members. Depending on the quality of its design and management, the facility can contribute to a sense of ownership, safety and security, personalization and control, privacy as well as sociality, and spaciousness or crowdedness.

Having identified the economic rationale of modernization, a relevant programme of maintenance and physical plant renewal is imperative and priority for maintenance is essential because unattended deterioration and neglect of school buildings could lead to higher outlays, in the form of replacement costs. Schools cannot afford this in this period of economic hardship; hence a maintenance culture should be adopted wherever school premises are occupied. Besides, maintenance enables us to pay less now, instead of waiting to pay more at a delayed point in time in the future (Enawhwo, 2014).

Hence, there is an absolute need for the few available ones to be properly maintained for effective teaching and learning. According to Ukeje, Akabogu, and Ndu (2012), maintenance of the plant is defined as those activities connected with keeping the buildings, equipment, and surroundings at their original or best condition of completeness and efficiency, either through repairs or replacement. In this emphasis on the importance of facilities maintenance. Tawgaw (2017) shows that maintenance could be categorized into emergency and periodic. Emergency maintenance is called for by the situation of events, and areas such as:

- structural problem,
- equipment amendable to periodic inspections,

- plumbing facilities including sanitary accessories.

Included here also, are: doors, windows, louvers, cracked walls, leaking roofs, etc. When new buildings are constructed and taken over by the appropriate authorities, practically no attention is paid to the maintenance of such buildings. Several school buildings that are over fifty years old have never undergone renovation or any form of modernization despite the changes in the educational system. Facility maintenance is an issue that concerns all levels of the educational system ranging from the prekindergarten to the tertiary levels.

Some of these facilities are architecturally obsolete and therefore can no longer contribute to functional education. Maintaining the new buildings, and renovating and modernizing the old ones require considerable expertise and commitment of human and material resources. Changes in weather conditions and lack of maintenance culture are responsible for the aging and deterioration of school buildings, grounds, and equipment. School managers and teachers who constantly use school facilities lack knowledge of facilities maintenance planning. Consequently, they fail to integrate facility maintenance into the management of the school. The issue of facility maintenance is haphazardly addressed at all levels of the educational system. Repairs take place only when problems arise due to the breakdown of the existing facility.

Lee (2017) quoted that the British Building Maintenance Committee has defined building maintenance as the work undertaken to keep, restore, or improve every facility, every part of a building, its services, and surrounds to currently acceptable standards, and to sustain the utility and value of the building. While previously British Standard (BS 3811: 1984) defined maintenance as a combination of any actions carried out to retain an item, or restore it to an acceptable condition

(British Standards Institution, BS 3811: 2014). Based on this definition, Chanter & Swallow (2017) explained that the word retain and restore is not limited to the actions that relate to the physical execution of maintenance work, but also those concerned with its initiation, financing, and organization, while the word acceptable condition implies an understanding towards the requirements for effective usage of the building and its parts, which in turn compels broader consideration of building performance.

The definition by British Standard then was updated when the term maintenance was defined by Chanter and Swallow (2017) as, the combination of all technical and associated administrative actions intended to retain an asset or bring it to a state in which it can perform its required function“ (RICS, 2019). Based on the discussion above regarding the meaning of maintenance, it can be understood the term maintenance normally refers to any action that needs to be done to ensure a building and its parts are in good condition as it was required to ensure the optimum use, well function, convenience and safety of users. The activities or services which relate to maintenance are broad. This is because maintenance activities in general can be classified into servicing, repair, replacement, and upgrading (Building Department, 2014) and were categorized under preventive, scheduled, condition-based, and corrective maintenance. Based on previous research, there are many objectives of maintenance. The table below has listed the objectives of maintenance.

Table 1: The Maintenance Objectives

S/N	Statement of Maintenance Objective
1	<ul style="list-style-type: none"> ➤ To keep the building at its original standard ➤ To improve the building in order to benefit the users in short and long term
2	<ul style="list-style-type: none"> ➤ To ensure the buildings and their associated services are in safe condition ➤ To ensure the buildings are fit to use ➤ To ensure that the condition of the building meet statutory requirements ➤ To maintain the value of physical assets of the building stock; and ➤ To maintain the quality of the building.
3	<ul style="list-style-type: none"> ➤ To preserve the building so that it can effectively serves its function and other aspects in the maintenance objectives.
4	<ul style="list-style-type: none"> ➤ To keep the building and facilities in optimum operating conditions so that the intended functions are performed satisfactory.
5	<ul style="list-style-type: none"> ➤ To preserve machinery, building and services, in good operating condition. ➤ To restore it back to its original standards, and ➤ To improve the facilities depending upon the development that is taking place in the building engineering.

Source: Shardy Abdullah et al. *Austrian Journal of Basic and Applied Sciences*, 9(7) April, 2015.

Through the information that was listed in the table above, it has been shown that the statement for maintenance objectives is varied and it was designed with different intentions and expectations of related parties. However, all the objectives were established by referring to the needs and necessity to upkeep the buildings, facilities, and their components by fulfilling the interests of related parties who have a direct connection with the building. Besides the maintenance objectives, the users also need an understanding of the importance of maintenance. By having a good understanding of this matter, the building users will have the capability to appreciate why the maintenance programme needs to be implemented on the building. At the same time, a good understanding will raise the level of awareness among the building users to entirely involve themselves in any building maintenance programme.

Ahmad (2021) conducted a study on maintenance of educational facilities and infrastructure at Vocational High School Cikarang Barat. The purpose of this study

was to find out and obtain information about the maintenance of educational facilities and infrastructure. The design method used was descriptive qualitative survey. The school principal, in charge of facilities and infrastructure, maintenance support staff, and students of Vocational High School Cikarang Barat served as respondents. Interviews, observation, and reporting studies were all used to collect data. After that, the data was analyzed by reducing it, presenting it, and drawing. The triangulation of sources, techniques, and hypotheses is a validity technique. The results showed that principals are often faced with obstacles in preparing facility and infrastructure maintenance, including, among other problems, things that arise unexpectedly and need urgent repair at the facility due to lack of knowledge of users of these facilities. Furthermore, partners with outsiders who are often less sensitive, and cultural differences among individuals in the use of facilities are among the process and technological obstacles encountered. These factors often led to low maintenance execution by the school principal.

Nhlapo (2020) conducted a study on the leadership role of the principal in fostering sustainable maintenance of school facilities. The purpose of the study was to explore the extent to which the role of the principal as *ex officio* member of the School Governing Body (SGB) facilitated or hindered the development of strategies that are effective and sustainable for the maintenance of school facilities. The rationale for this study was that the South African Schools Act No. 84 regards the maintenance of school facilities as a school governance function and hence under the legal purview of the SGB. This view could limit the role of the principal concerning this aspect of school facilities maintenance. For this research project, semi-structured interviews were conducted with school principals from secondary schools drawn from both historically disadvantaged and privileged schools in one school district in South

Africa. It was found that the principal's role is compromised, especially concerning the development of effective and sustainable facility maintenance strategies, as SGBs are inclined to give due consideration to this aspect. The nature of the benefit of the maintenance of school facilities is intricate and is not understood by school stakeholders. As a result, the overall maintenance of school facilities receives less attention and leads to difficulty in defending the cost-benefit ratio thereof against equally competing priorities. The study therefore, recommends that a whole-school approach be embarked upon. The leadership role of the principal may have to be at the centre of this strategy for the maintenance of school facilities.

Xaba (2022) examined a qualitative analysis of facilities maintenance — a school governance function in South Africa. Qualitative interviews were conducted with 13 principals and three deputy principals as coordinators of this function at their schools. The interviews were purposively and conveniently selected to gather data regarding school facilities maintenance and gain insight into the challenges this function presents to schools and their governing bodies. Findings indicate that schools generally do not have organisational structures for planned facilities maintenance, nor do they have policies on facilities maintenance which often scuttles the maintenance process. Evidence of facilities maintenance at schools mainly relates to concerns with facilities repairs, (mostly “as the need arises”) and general campus cleanliness; mostly with emergency and corrective forms of maintenance as opposed to crucial preventive maintenance. Therefore, there is a need for interim facilities maintenance committees and, in the long term, a whole-school approach to facilities maintenance that makes facilities maintenance a strategic lever for school functionality.

Momoh, and Ofoegbu (2020) conducted a study on the assessment of school plant maintenance practices in renovated public secondary schools in Edo State. Three

research questions were raised to guide the study. Sixteen (16) schools across the three Senatorial districts of Edo State which constituted 20% of the 82 renovated schools from 2009 to 2017 were sampled for the study. A Questionnaire titled 'School Plant Maintenance Practices Questionnaire' (SPMPQ) was used to collect data from the sampled schools. The Mean and Standard deviation, Simple percentages and Frequency were used for analysis. The findings of the analysis revealed that the extent of observance of school plant maintenance in renovated public secondary schools by school principals in Edo State is high, the prevalent school maintenance practice is emergency maintenance practice and government do not provide maintenance funds. It was therefore recommended that, though the high rate of observance of maintenance practices was found to be high, these were more of repair maintenance practices. Preventive maintenance practices should be adopted by school heads; this way, a breakdown is prevented before they occur. To be able to do this, it was recommended that government should as a matter of policy; provide adequate funds for a holistic maintenance of school plant.

Concept of Administrative Effectiveness

The concept of administrative effectiveness has been defined variously by different authors due to its complex nature. Some researchers defined "administrative effectiveness as the positive response to administrative efforts and actions to accomplish stated goals (Akomolafe, 2012). However, administrative effectiveness is defined as the product of a series of complex nested relations and an interaction pattern. An administrator's ability to forecast problems shows itself as a result of the characteristics and behaviors in his/her personal relationships and consulting criteria.

Obunadike (2018), emphasised that to foster administrative effectiveness, principals may need to distribute authority among staff, whether to small groups

responsible for particular areas or to the departments as a whole. Principals need to encourage wise decision-making about financial resources, and one way to bring wisdom forward is to get ideas from the staff. What, then, are the competencies essential for a larger cadre of educational administrators who can better direct school improvement and can help create a school climate, challenging curriculum and effective instructional practices that will raise students' achievement? The contemporary secondary school administrator deals with an institution that is becoming increasingly complex and technologically sophisticated (Egboka, 2018). Hence, a review of the current leadership and management literature generates an array of competencies that are possessed by an effective administrator, some of which distinguish leading and managing. It is observed that while many leadership and management duties overlap, management can be viewed as those duties that keep a system functioning on a day-to-day basis. These duties include organizing, agenda setting, some decision-making, and visualizing the path to a goal that has been set.

In their studies, Matthewson (2015) and Marzano (2013) indicated that personality traits have a relationship with the likelihood of school principals engaging in shared decision making. While in their views, Coleman (2015) and Maciel (2015) established that leadership behaviour has a positive impact on school effectiveness and the implementation of professional learning communities. To corroborate the above, Avery (2014) maintained that traits that appear effective within one situational context may be seen as ineffective in another situation. Hence, Reave (2015) summed it up by asserting that people who are effective as leaders tend to exhibit certain traits. From the above findings, it is believed that not all traits are equally effective in predicting the administrative effectiveness of principals. Hence, it seems to be unclear

as there are variations and contradictions in the empirical results regarding which of the particular personality traits can promote principals' effectiveness.

Organizational development is regarded as improving organizational effectiveness and is defined as the process of preparing and managing the change in an organization (Gibson, Ivancevich, and Donnelly, 2014). Based on this definition, organizational development is considered as an administrative technique or tool to complete the main changes in an organization. Organizational development as an administrative technique fulfills real administrative values without regard to the values of means of change. In an organization, the knowledge worker is the production factor that makes highly developed societies and economies, such as the United States of America, Western Europe, Japan, and some other countries. These countries keep up their competitive edge maintaining their status simultaneously.

The real fortune of the US that gives the country a competitive advantage is education. Education itself is something that offers tremendous advantages. Thus, knowledge workers become productive. For a knowledge worker, productivity is the ability to have the right things carried out. This is the administrative effectiveness itself (Drucker, 2014). Schools are the organizations with the highest number of knowledge workers and these organizations are complex systems. Complex systems are divided into power levels hierarchically (Miller, 2018). In organizations, these levels are defined as individual, group, intergroup and organizational levels. This kind of typology of organizational levels is common in works and studies on organizational behavior and organizational development.

Hornby (2014) defined administration as the activities that are done to plan, organize, and run a business, school, or other institution. However, administration is connected with organizing the work of a business or an institution. In other words, an

effective principal is also responsible for assigning subjects or courses to his academic staff according to their disciplines or areas of specialization. This would lead to efficiency and productivity in the school. It implied the effectiveness of the principal. The principal administrative role may extend to interpersonal relationships, which may usher a conducive climate in the school as an incentive for productivity or achievement as Besong (2014) noted when he studied head teachers' effectiveness in Cross River State. He found out that the effectiveness of head teachers is instrumental in the accomplishment of objectives through cooperative action burned by the administrative prowess of the principal.

Effectiveness is the ability to plan, organize, and coordinate many and often conflicting social energies in a single organization so adroitly (Adams 2013), cited in Besong (2014). It implies that it is the right and duties attached to an individual irrespective of the sex of the incumbent. Effectiveness is equivalent to achievement muted by the incumbent administrator or principal of the secondary school. It implies that it is an antecedent of the function or role's achievement of the principal. It could be identified as a plan proposed in advance and accomplished later but within a stipulated time or duration of school. Ipay (2016) cited by Besong (2014) noted in his study of effectiveness, that effectiveness is a part of the function assumed by someone, a set of specific responsibilities, assumed by a professional in a setting.

The implication is that when a principal maintains high morale discipline and decorum among his staff and also students, he exhibits a personality of effectiveness worthy of emulation. Uche (2012) identified effectiveness in a series of his studies related to effectiveness, that it is a symbol of the good administrative style of the incumbent, teamwork, morale or motivation of staff, good teaching, conducive social climate, and counseling as well as rules and regulations. The principal's ability to

control and maintain school facilities, initiate projects, and complete both the new ones and also those abandoned by his predecessor(s) is exemplary of effectiveness. Equally, monitoring performance, regular staff meetings, interaction, and encouraging staff participation in decision-making is evidence of effectiveness but when the principal is all-wise and seems more knowledgeable, there is bound to be a disparity in the school as such, the staff may not be productive. Determination of administrative effectiveness criteria may be useful in the evaluation of school administration by combining four aspects of organizational effectiveness (adaptation, goal attainment, integration, and creating and sustaining original values) and four organizational levels of the university (individual, team, group-divisional and policy-strategy).

Concern about effectiveness in educational administration is not new. There is an extensive body of literature that attempts to define the qualities of effective school leaders and to link key attributes to successful schools (Allix, 2020). Both the scholarly and popular presses are awash with publications aiming to describe and develop effective school administrators or principals. However, these objections may hide a deeper and more pervasive problem: Schools may not be clear about what it means to be an effective educational leader. What precisely and realistically do we want school leaders to know and be able to do? Some observers argue that competencies for administrative effectiveness have received short shrift in the training and practice of top-level administrators and that much greater emphasis is put on financial management, labour negotiations, and community relations. Thus, Alimo-Metcalfe and Alban-Metcalfe (2015) noted that:

Administrative effectiveness is the equivalent of the Holy Grail in educational administration. Most programs that prepare superintendents and principals claim to be in the business of training the next generation of effective instructional leaders. Most professional development for school administrators at least refers to the central position of instructional effectiveness. This is mainly just talk. In fact, few administrators of any kind or at any level are directly involved in instruction. Principals who develop the competencies and knowledge required to become effective administrators do so because of their preferences and values – and often at some cost to their careers. The institutional structure does not promote, or select for, knowledge and skill in the area of teaching and learning. At best, it tolerates the few who cultivate them.

Administrative effectiveness is the ability of school administrators to maximize school inputs in an endeavour to produce optimum educational services. It is concerned with the output an organization achieves to the extent of its environment (Arikewuyo & Onanuga, 2015). Evers, Rush, and Berdrow (2018) saw administrative effectiveness as the extent to which administrators can refine their competencies and learn new ones, adapting to new circumstances, and deepening their knowledge and abilities to attain excellence in their organizations. Administrative effectiveness in secondary schools would entail the extent to which school administrators harmonize material and human resources available to them to achieve the goals of the school system. According to Adeniyi and Omoteso (2022), administrative effectiveness refers to the ability of school principals to carry out administrative tasks related to instructional management, internal relations, organisation management, administration, students' performance, and school community relations toward achieving the school goals and objectives. It is the degree to which secondary school principals achieve the goals and objectives of their schools. Given this, the tasks of proactive principals involve, among other things, coordinating both human and material resources available and using them systematically for the achievement of educational objectives. In secondary schools in Nigeria, the administrative efforts of

principals are necessary to realize schools' goals and objectives. To a considerable degree, principals play multifaceted roles in setting the direction of secondary schools. What they say, do or think may have a significant effect on school performance.

This is because their abilities are central to the task of building schools that could promote effective teaching and learning for all students. Hence, they are at the central point within the schools to influence the quality of individual teachers, instruction, the level of students' performance, and the efficiency in the functioning of the school. The hallmark of achieving an effective school begins with creating a conducive school environment. It is believed that school is essentially a cooperative organisation, in which every member big or small, high or low has a vital role to play. In this situation, the responsibility lies on all stakeholders in the school to work together with their school principal to provide a safe school environment that will facilitate meaningful instructional activities. However, a principal cannot achieve this without being able to perform his internal relations and organizational roles effectively. It is believed that an effective principal should be someone who can promote an atmosphere of respect and trust and give the teachers and students a sense of belonging. Furthermore, some other factors of effective management are maximum communication between teachers, students and management as well as reasonable parental involvement in running the school (Ofoegbu, 2012).

Umar and Halilu (2023) investigated the influence of school records on principals' administrative effectiveness in senior secondary schools in Bichi Education Zone of Kano State, Nigeria. Every school's record reveals both its strengths and weaknesses. The keeping of records is one of the duties of school administrators. Maintaining complete and accurate records of all significant school-related occurrences is necessary. Specifically, the study sought to determine the influence of

statutory and non-statutory records on principals' administrative effectiveness, how records management practice influences principals' administrative effectiveness, and determine the strategies for improving record management practice in senior secondary schools in Bichi education zone of Kano state. Four research questions guided the study, and four null hypotheses were tested at a 0.05 level of significance. The study adopted a descriptive survey design. The target population was 409 principals and teachers. Proportionate and simple random sampling was used for the sampling. The instrument for data collection was named: School Records and Principals' Administrative Effectiveness Questionnaire (SRPAEQ). Two experts validated the instrument. A 38 items-structured questionnaire was subjected to statistical analysis using mean and standard deviation for the research questions and Chi-square for testing the hypotheses. The study revealed that statutory records not only help in achieving administrative effectiveness but also provide growth for principals' efficiency. The result of the study further showed that non-statutory records with particular emphasis on the mode of storing and retrieving data influence the principals' administrative effectiveness, and finally, the result proved that records management practice by principals was low due to improper storage and retrieval of data. The following recommendations were made; effective school records maintenance policy should be provided to ensure efficient and effective school records management, schools should be adequately supplied with information communication technology systems capable of storing and retrieving information easily.

Obiakor and Eziuzo (2023) conducted a study on the limitation to administrative effectiveness of secondary school principals in Enugu State. Descriptive survey research design was used for this study. The population for the

study consists of 11,087 secondary school teachers and 287 principals teaching in all the 287 public secondary schools in Enugu state given a grand total population of 11,374 respondents. The researcher used proportionate, stratified random sampling technique to sample 10% of the total population of teachers which is (1109) and the entire principal for the study. The research Instrument was given to three experts for face and content validation. The instrument for data collection is a structured questionnaire developed by the researcher. The instrument was directly administered on 1,109 teachers and 287 principals by the researcher and two research assistants. For data analysis, mean scores of the respondents were used to answer the research questions. The findings from the study showed that to a greater extent, poor planning of school activities constitute limitations to administrative effectiveness of secondary school principals, funding constitute limitations to administrative effectiveness of secondary school principals. It was recommended among others that; seminars, conferences, and workshops should be organized by government and nongovernmental agency to educate school principals on the importance of quality planning of school activities to ensure effective achievement of educational goals.

Okah (2025) carried out a study on principals' administrative effectiveness and its implications for management of secondary schools in federal capital territory (FCT) Abuja, Nigeria. The study sought to discuss the implications for managing secondary schools in the FCT, Abuja. The study adopted the survey research design. The population of the study consisted of all the 231 principals and vice principals in the 77 public senior secondary schools in the six council areas of Abuja. The entire population of 231 covering 77 principals, 77 vice principals (administration), 77 vice principals (academics) representing 100 percent of the population was used for the study. Administrative Effectiveness Survey Questionnaire was used as the instrument

for data collection. The reliability of the instruments was determined using Guttman Split-half reliability method. Research Question 1 was answered using percentage (%), mean (\bar{X}) and Standard Deviation (SD). Findings showed that the overall mean score on level of principals' administrative effective was 3.51 (above 2.50 benchmark mean score) which indicated that the level of effectiveness of principals in discharging of their administrative functions on instructional management, financial management, staff/personnel management and school physical resources management was high in secondary schools in the Federal Capital Territory, Abuja. It is therefore recommended that the government through the periodic supervision and provision of incentives should encourage principals and vice principals of schools to be more committed in the performance of their administrative functions for the overall growth and development of secondary schools.

Olaifa, Ajala, Olaifa, Medupin, and Adeoye (2024) carried out a study on principals' fund management strategies and school administrative effectiveness. The authors stated that a lack of prudence and mismanagement of school funds by the principals could give rise to poor student performance since it might slow down the acquisition of essential materials for teaching and learning. This study analyzes the relationship between principals' fund management strategies and school administrative effectiveness. It assessed principals' budgetary practices, the perceived level of administrative effectiveness, and the relationship between fund management on secondary schools' effectiveness. Two research questions and one hypothesis were generated for the study. The research design was the descriptive survey type. The population of the study comprised all the one hundred and thirty-two (132) secondary schools. The total number of respondents included forty (40) principals representing 30% of the population, who were selected using the stratified random sampling

technique. A self-designed questionnaire titled "Principals' Fund Management Strategies and School Administrative Effectiveness in Secondary Schools Questionnaire (PFMSSAEQ)" was used for data collection, and Pearson's Product Moment Correlation Coefficient (r) yielded a reliability coefficient of 0.76. The results showed that principals kept accurate records of expenditure, had an average level of effectiveness, and had a significant influence on fund management in secondary schools. It was recommended that principals be strictly monitored by the Ministry of Education to ensure that they continue to maintain accurate record-keeping because of its role in effective fund management in secondary schools.

Facilities Maintenance and Principals' Administrative Effectiveness

The principal's administrative effectiveness connotes efficiency which means managing scarce resources prudently to achieve maximum output performance. Ajibade (2015) in Momoh (2014) perceived principals as those who can work with people to secure their cooperation in carrying out maintenance practices. An effective principal is responsible for promoting and maintaining school climate, and culture and assisting staff to adapt to and become active participants in the school system. The implication of principals' administrative effectiveness is considering issues like maintenance of school facilities that would promote effective teaching and learning. It is the tool for quality improvement in the school system and a phase of school administration that focuses primarily on the achievement of appropriate expectations of the educational system (Peretomode, 2014).

Different kinds of problems ranging from mismanagement of resources to declining standard of education are being experienced in the Nigerian education system (Olaniyan and Anthony, 2013). Public outcries about the poor maintenance of available school facilities in some secondary schools in Nigeria and Edo State in

particular, have yielded little or no results. School administrators seem not to show much effort in tackling the problems as evidenced by poor handling of the school facilities (Danjuma and Adeleye, 2015). This is why a casual visit to any public secondary school in Edo State (Abah, 2016) reveals the extent to which these educational institutions have decayed. School facilities are in a terrible shape. Reports from Jackline and John (2014), have attempted to examine the relationship between the maintenance of school facilities and principals' administrative effectiveness. Effective maintenance of school facilities according to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2016) is judged by the extent to which schools generally meet the expectations of the society within which they are established.

The management of academic and administrative affairs of schools traditionally falls within the purview of the principal. Unerringly, formal education in Nigeria is rapidly changing and technically tailored towards meeting certain set goals, such as “education for all” (Nwaogu, 2013). The requirements of these various goals from the school managers are centred on the advancement of teaching and learning through the implementation of performance-based management, which is led by a management team, with the principal at the fulcrum. Given this onerous task, the principal must understand the role of school managers to effectively manage not only staff but also the facilities to meet the overall objectives of the school system. According to Ukeje (2012), the unsatisfactory performance often experienced in schools by students and educational programs is always attributed to a lack of basic infrastructure, lack of adequate and accurate statistics, inadequate funding, embezzlement, bureaucratic bottleneck, and poor attitude to work.

Elom, Obidoa, Attah, and Ezeanyika (2016), posited that principals must be fully concerned with the physical environment and other facilities around the school corners. Dilapidated buildings, leaking roofs, abandoned projects, over-grown trees and lawns, dingy and dark buildings that were abandoned by the previous government, etc. have demoralising effects on people, especially adolescents. As a result, the principals have the responsibility of ensuring that these facilities are in good shape. Even with the meager resources at their disposal, they have the responsibility of providing teachers and other instructional staff with the necessary resources for effective teaching Babayemi, (2016). The principal is expected to wear many hats, he/she must be a manager, administrator, supervisor, instructor, accounting, officer, and curriculum leader. Many school administrators of our public school rarely participate in the planning and procuring of certain school facilities. Much of this is done either by the Ministry of Education or the community. The actual role of the school administrators concerning plant management is maintenance (Onwurah, 2014). Ntukiden in Adeboye (2014) gave credence to this view when he said: “The principal to a greater extent is responsible for the utilization of the school plant ... be it as it may, the principal is the one visibly seen to be in charge of both the utilization and maintenance of the school plant”.

The school administrator determines the maintenance option applicable to his system. He has to delegate authority and supervise such delegated authority to ensure compliance. The main aim is to preserve and prolong the usefulness of the school facilities. He should prudently use the resources available to him to maintain the buildings, furniture, equipment, and other items as much as possible in their original state, preventive maintenance option is the best for any school administrator provided he is provided with funds. A situation where most facilities and equipment in our

schools look dilapidated may suggest administrative laxity. It could also suggest inadequate funding by the government or both. Part of the major responsibilities of the school administrator in the maintenance of the school plant, in addition to the one already listed in the previous section, could be summarized as follows:

1. Providing a favourable environment for learning and adequate care of school facilities.
2. Defining clearly the responsibilities of the various personnel on school plant management and developing job descriptions for all personnel.
3. Defining clearly the supervisory responsibilities and communicating the same to all concerned and delineating relationships between the school heads and the various supervisors and workers in the school plant management programme.
4. Providing efficient manpower to ensure that the school plant operates at the desired level of efficiency and provides the necessary services.
5. Making all school staff to recognize that the physical condition of the school is the symbol of the total school curriculum for both parents and the general public, (Mgbodile, 2016).

It is the onus of everyone in the school to manage the school plant, but greater responsibility rests with the administrators who will get others to act. Thus Obi (2012) advised that school authorities should ensure adequate provisions of ancillary staff such as cleaners, porters, messengers, gatekeepers, security officers, and carpenters to ensure a round clock surveillance of the school and proper maintenance of regular services in the areas of compound clearing, trimming of flowers, washing of toilets, etc. Good plant maintenance will go a long way in reducing some of the constraints in plant management.

Generally, the principal's responsibility in the management of educational facilities entails bringing together individuals as a group who will control, coordinate, and articulate activities to achieve tangible and holistic learning for the overall benefit of society. Buttressing this assertion, Ebong & Agabi in Nnabue, Okorie, and Agabi (2022), posited that school management by principals is the totality of efforts that are brought to bear in the provision and delivery of education to ensure that both human and material resources allocated to education are used to the best advantage in the pursuit of educational objectives and goals. The school management team headed by the principal must develop, support, and equip staff with knowledge and skills to respond positively to the ever-changing phenomenon of education to meet contemporary societal challenges. Abdulkareem (2014), opined that to achieve this, there must be a continuous increase and adequacy of educational facilities, because the existing ones are often overstretched, poorly maintained, and cannot provide and foster desirable, creative, and harmonious problem-solving skills. Since education seeks to develop the minds and character of future citizens, their abilities, skills, and potentials, to equip them for contemporary society, school facilities have to be supplied in adequate quantities, properly and effectively managed, controlled, and supervised (Uko, 2014). According to her, it is a *prima facie* function of top management, down to the teaching and non-teaching staff.

The International Facilities Management Association (2013) described facilities management as the practice of coordinating the physical workplace with the people and the work of the organization by integrating the principles of business administration and architecture with the behavioural and engineering sciences. According to them, school facilities management is the application of scientific methods in the planning, organizing, decision-making, coordination, and controlling

of the physical environment of learning for the actualization of educational goals and objectives. This culminates in the collective and participative decision-making process towards the selection, establishment, and installation of school plants; design of school grounds, halls, and spaces; upgrading, innovation, and purchase of new machinery and equipment; choice, design, and implementation of programmes and projects; backup and review of management policies, practices, rules, and regulations.

According to Uko (2015), effective management of school facilities requires knowledge, skill, and expertise in handling different facets of the school system. This calls on the ability of the principal to set required objectives, supervise facilities usage, formulate procurement plans, and ensure actual management and supervision of available facilities to attain set goals of the school system. The principal as the manager of the school organization therefore has the onerous task of mobilizing available human resources to ensure a proper running of the school. Complimenting, Ihuoma (2018) opined that school facilities comprise the physical expression of the school curriculum in the construction, internal and external arrangements of the buildings, equipment, grounds, surroundings, general appearance which include the flower beds, paths, orchards, shrubs, playgrounds, classrooms, assembly hall, dining hall, desks and school farms.

Uko (2014) further stated that when school facilities are considered from the point of the school plant, then one will be considering a gamut of facilities such as school furniture, science laboratories, school library, and technical workshops. Under school equipment, she listed the following:

- i) Administrative: Filing Cabinets, Typing machines, duplicate machines, Photocopying machines, Telephones, etc.
- ii) Teaching equipment: – Projectors, cameras, monitors, transparencies, etc.

- iii) Games/Sports Equipment:– Boots, Footballs, Tennis Balls, Jerseys, Rackets, etc.
- iv) General Services Equipment:– Grass Mower, Grass Cutters, Catering, First Aid, Fire Extinguishers.

Also mentioned are sanitary, water supply, refuse disposal, catering services, and health care delivery facilities. According to her, effective maintenance of school facilities calls on the ingenuity of the principal to mobilize and facilitate the teachers, non-teaching/custodial staff, and students to ensure proper use and maintenance of existing facilities.

Asiabaka (2018) maintained that school facilities management plays a pivotal role in the actualization of educational goals and objectives by satisfying the physical and emotional needs of the staff and students. According to her, physical needs are met through the provision of safe structures, adequate sanitary facilities, a balanced visual and thermal environment, and sufficient shelter space for work and play; while emotional needs are met by creating pleasant surroundings, a friendly atmosphere and an inspiring environment. Asiabaka (2018) stated that the school plant is a major component of school facilities. She further stated that since teaching and learning do not take place in a vacuum, school facilities give meaning to the planned curricular and extra-curricular activities. To her, any discussion on the school plant starts with the conceptualization of the educational programmes to be offered in the school. Thus, the nature and type of educational programmes will determine the nature and type of school plants to be provided.

Supporting the need for effective management of facilities in schools, Fenker (2014) stated that it involves a planned process to ensure that the buildings and other technical systems support the proper discharge of operations and services within the

school organization. Asiabaka (2018) further stated that the provision and management of school facilities must take into cognizance modern views of the teaching-learning process which have moved beyond memorizing to involvement of teachers and students in applying, analyzing, synthesizing and evaluating to stress the need for flexibility in time and space. Thus, the complexity of the learning environment requires flexibility in the design of facilities to meet present-day school needs- that is, the facilities should be designed to meet the diverse academic needs of the school system. According to her, in today's parlance, multipurpose facilities used for academic activities during school hours may also be available for use by the community during and after school hours. Such programmes may be used for continuing education programmes, social activities, and recreation. This requires proper scheduling of such facilities to allow for accessibility to the community or other public users during school hours without interfering with academic programmes. This will eliminate the burden of duplication of such facilities as conference halls, gymnasium, library, theatre, football pitch, tennis court, swimming pool and other sporting facilities, thereby integrating the collective effort towards cost effectiveness and enhancing healthy school-community harmonious relationship.

The need for effective management of school facilities according to Hargreaves, Earl, Moore and Manning (2016), leads to a shift in the conception of principalship from the managerial and administrative perspective to that of instructional leadership whereby the principal acts as a leader in all aspects of the school curricula, imparting and enforcing on the intellectual and emotional development of the teachers, changing the instructional climate of the school and affecting and transforming the students learning and achievement behavior and attitude.

This is a phenomenon where planning, organizing, staffing, leading and controlling the processes of supply, utilization, maintenance and improving educational facilities in secondary schools is superintended by the principal to fulfill the set educational objectives. Abdulkareem (2014), maintained that, in order to fulfill educational objectives, educational facilities are required and should be central to the extent that teachers, students and other personnel will enjoy their stay and perform their duties effectively, made possible by the principal's leadership ingenuity and proficiency. The school curriculum would be meaningful and functional if the required facilities are provided in adequate quantities at appropriate times and maintained properly.

The realization of the importance of educational facilities has informed the demand in the choice of secondary schools that parents/guardians send their children/wards to in Nigeria. This commitment is demonstrated by government in the provision and establishment of Universal Basic Education (UBE), to bring all categories of citizens into the school system and ensure retention till graduation (Ukeje, 2014). However, this can only be achieved if the existing facilities are properly managed especially as greater demands would be mounted by the users (Nwadiani, 2012). In a related study, Adeboyeje (2014) stated that the utilization of facilities is of various degrees depending on the extent to which an item has been put into effective use. This includes non-utilization, underutilization, maximum utilization, optimum utilization and over-utilization. Non-utilization occurs when a facility is not put into use at all; when a facility is not used to its fullest capacity, underutilization occurs. There is over-utilization, when a facility is used more than its capacity. All of these require the ingenuity of the principal to balance the usage and maintenance of available facilities.

In managing educational facilities, there are certain stages involved. These include:

a) *Provision of Educational Programmes*

Execution of educational programmes demands that facilities are provided if success is to be achieved. Government, school proprietors, parents and other stakeholders are expected to provide for their schools and be involved in every aspect of school management facilitated by the principal. Olagboye (2014), observed that this aspect is the most neglected in school management and has led to disparity in provision of facilities from one school to another. Khan and Igbal (2012) maintained that excellent school facilities are basic ingredients for good education programmes and basic to achieving set targets and achieving the literacy rate of a country. They stated further that the phenomenon that some schools have surplus facilities while others lack are an indicator of poor educational planning in schools.

b) *Utilization of Educational Facilities*

The degree to which an item is used determines its sustainability or degenerative consequences on the expertise of the school head (Adeboyeje, 2012). In managing facilities, and for them to meet the objectives, caution must be taken in the usage, that is, facilities must not be underutilized nor over-utilized, but optimally used. That is, maximum utilization occurs when facilities are put into effective use in line with the primary objectives – otherwise, it would be counter-productive.

c) *Maintenance of Educational Facilities*

A major problem facing schools today is that facilities are not properly managed and maintained. The physical appearance of most schools proves and speaks volumes. Isaac and Musibau (2014) asserted that poorly maintained buildings, untidy walls, leaking roofs, over grown compounds may suggest that education within the

buildings follow the same pattern. Facilities tend to depreciate, wear and tear as soon as they are put into use. Hence, there is need for maintenance through repairs and servicing of the components and sustaining their working conditions and capacity. According to Adeboyeje (2012), maintenance enhances performance and durability; prevents wastage, corrects breakdown and shutdown services. Here, the principal's responsibility is to regularly check and recheck the available facilities and take necessary measures to prevent mal-functioning or non-functioning of a particular facility. Uko (2014); Ngoka (2013); Eze (2016), Ihuoma (2018) and Agenyi (2012), had identified six types of maintenance of school facilities, namely preventive; corrective, routine; emergency; structural and predictive.

d) *Improvement of Educational Facilities*

Apart from depreciation, facilities tend to be outdated because of changing needs of the society, which necessitates changes in school curricula. In this respect, facilities need to be improved upon from time to time. In other words, facilities improvement is the alteration or modification of facilities to suit a new demand, new situation or new programmes. Wherever there are changes in any part of the education system, the existing facilities need modification, improvement or change. Improvement of educational facilities helps to meet the needs of specific individuals and groups within the school system. This calls for availability of accurate information collected through facilities audit.

e) *Facilities Audit*

According to the Planning Guide for Maintaining School facilities (2013), facilities audit is a comprehensive inventory of a school's facilities that provides a standard method for establishing baseline information about the components, policies and procedures of a new or existing facility. It provides information on the status of

school facilities. It is carried out by assessing buildings, grounds and equipment, documenting the findings and recommending appropriate service options to increase efficiency, reduce waste, and save money. According to the guide, facilities audits are important to the educational system because they:

- Help educational planners, managers and staff to know available facilities, their conditions, service history, maintenance needs, cost involvement and locations.
- Provide facts, action plans for maintenance and improvement of school facilities.
- Establish a baseline for measuring facilities maintenance progress.
- Allow for in-depth analysis of product lifecycles to occur on a routine basis that is, measuring actual life versus expected life.

Uko (2015) conducted a study on principalship and effective management of facilities in secondary schools in Cross River State, Nigeria. The study sought to assess and investigate how the proficiency and creativity of principals affect the maintenance of school facilities in Cross River State, Nigeria. The sample of the study included 36 secondary schools, with two drawn from each of the 18 Local Government Areas in the State. The primary data were collected from questionnaire and personal interview while the secondary data were collected from checklists, school records & documents, journals and internet. The data were given both qualitative and quantitative treatment. Pearson Product Moment Statistical Instrument was adopted in the analysis. The outcome of the study showed that there is a significant relationship between the principal's proficiency, creativity and the overall educational objectives in the maintenance of school facilities. This shows that effective maintenance of school facilities is necessary in creating the enabling

conducive academic environment thereby enhancing a corresponding achievement and performance in the teaching – learning process. Based on the above, appropriate recommendations were made to include: Appointment of qualified and competent professionals as principals; Government should set up a Committee or Agency to oversee, supervise and monitor on school facilities while school principals, teachers and students should be encouraged to inculcate maintenance culture in the handling of school facilities across school organizations in the State in particular and Nigeria generally.

Ofojebe (2021) conducted a study on state of school plant and strategies to improve its management in secondary schools in Anambra State, Nigeria. Eight research questions and six null hypotheses guided the study. Related literature was reviewed under conceptual framework, theoretical framework, theoretical studies and empirical studies. The design of the study was descriptive survey. The population consisted of all the 208 principals in government owned senior secondary schools in Anambra State. The entire population of 208 principals was used as subjects for the study, while in the observation of the school plant only 72 schools were used. The researcher used both observational schedule and a questionnaire as instrument for data collection. The instruments were duly validated. Their reliability was established using test re-test and split half method of reliability for the observational schedule and the questionnaire respectively. The data collected from both were subjected to reliability analysis by the technique of Person Product Moment Coefficient of Correlation. Frequency tables were used in answering research questions 1-3; ratio was used in answering research questions 4 and 5 while mean score was used in answering research questions 6 – 8. t-test was used in testing hypotheses 1 – 6 at 0.05 level of significance. The result showed that more than 50% of the schools have some

material resources where the governments, community, principals, teachers and students all have roles to play towards school plant maintenance. Implications and suggestions for further studies were also highlighted. Finally, it was recommended among others that while politicians should allow school administrators to perform their duties, the government should build maintenance cost into the educational budget to take care of deterioration of the school plant.

Takwate (2018) examined allocation, availability and maintenance of school facilities as correlate of academic performance of senior secondary school students in Adamawa State, Nigeria. Correlational research design was adopted for the study. A sample of 153 school principals and 377 teachers were randomly drawn from 248 senior secondary schools and 6,450 teachers respectively using proportionate sampling technique. Two questionnaires titled “School Facilities Planning and Allocation Questionnaire (SFAQ) and Management of School Facilities Questionnaire (MSFQ)”, students’ academic performance proforma and checklist were used for data collection. The reliability coefficient of SFAQ and MSFQ after validation was 0.82 and 0.76 respectively using Cronbach alpha. Mean scores, standard deviations and Pearson Product Moment Correlation Coefficient was used for answering the research questions and hypotheses.

Allocative and maintenance efficiency of school facilities was found to be inefficient and efficient respectively. The level of availability of school facilities was rated as not available and level of students’ academic performance in WAEC/SSCE May/June 2013 – 2015 was found to be poor. The study revealed a significant relationship between school facilities allocative efficiency, availability, maintenance efficiency by principals and students’ academic performance in Adamawa State. The study recommended among others that government should adequately equip all Senior

Secondary Schools in the State using appropriate procedures for facilities planning and allocation, school principals should frequently carry out comprehensive assessment of facilities in their schools to determine areas of need, and the Ministry of Education should promptly provide fund for the maintenance of school facilities as they receive report from schools.

Barineka, Mbo, and Abiye (2019) conducted a study on the influence of school plant management on principals' administrative effectiveness in senior secondary schools in Rivers State, Nigeria. Two research questions and two hypotheses were drawn for the study. Descriptive survey research design was adopted for the study. The population of the study was 257 (principals) and 187 (supervisors) of the Rivers State Post Primary Schools Board. The entire population was used for the study. It was concluded that principals need adequate planning and procurement for effective utilization and maintenance of school facilities. In other words, a well-planned school facility produces expected outcomes of education for the students. Hence, principals need to plan for the allocation and utilisation of the available school plant for effective usage.

Olaifa, Ali, Olaifa, Oladimeji, and Akpala (2024) carried out a study on principals' facilities maintenance measures and administrative effectiveness in public secondary schools in Kwara State, Nigeria. The study was guided by two research questions and four research hypotheses. The descriptive survey of the correlational type was adopted for the study. The population of this study comprised 7,869 senior secondary school teachers. A sample of 250 teachers was selected using purposive and simple random sampling techniques. A researcher-designed instrument titled "Principals' Facilities Maintenance Measures and Administrative Effectiveness Questionnaire (PFMMAEQ) was utilised for data collection. The findings of this

study revealed that principals in public secondary schools in Kwara State implement preventive, corrective, and emergency maintenance measures for their facilities. Similarly, the level of administrative effectiveness in public secondary schools in Kwara State is high. There is a significant relationship between principals' facilities maintenance measures and administrative effectiveness in public secondary schools in Kwara State. It was recommended that principals establish a comprehensive facilities maintenance framework that integrates preventive and emergency maintenance measures for consistent and effective management of school facilities. Principals should maintain a high level of administrative effectiveness by engaging in continuous professional development and fostering collaboration among school staff to enhance decision-making and operational efficiency.

Nwafukwa, Onele and Anigbo (2019) conducted a study on school plant maintenance as a determinant for principals effectiveness in administration of secondary schools in Nigeria: Focus on Ebonyi State. The study is guided by three research questions and two null hypotheses. Descriptive survey design was adopted for the study. The population of the study comprised all the 223 public secondary school principals and 5,082 secondary school teachers in both urban and rural areas of the state. The sample consists of 100 principals, while 1,510 teachers were selected through disproportionate stratified sampling procedure. This gave a total of 1,610 respondents. The instrument for data collection was a structured questionnaire designed by the researchers. It is a 15-item questionnaire constructed on a 4-point scale by the researchers. It also received validation by two experts from Educational Administration and Planning from Ebonyi State University, Abakaliki. Reliability of the instrument was established using test re-test method at the interval of two weeks using Pearson Product Moment Corelation co-efficient which yielded an index of

0.74. The data collected were used to answer the three research questions while t-test statistic was used to test the two null hypotheses at 0.05 level of significant. Mean scores and standard deviation were used in data analysis. Findings among others were that school plant maintenance ensures prudent management of funds and that student's personnel management is enhanced by school plant maintenance for principal's effectiveness in administration secondary schools. One of the recommendations is that principals and teachers should be trained to acquire knowledge and skills in financial management.

Facilities Maintenance and Principal's Administrative Effectiveness Based on Sex

The equality of women with men is a human right that has been recognized in many countries all over the world. However, in practice, it seems that there is still way to get to the point, where sex equality would be achieved in all sectors of the economic, political and social life. More specifically, after World War II, most Western countries have adopted policies and legislations to promote equal opportunities between men and women in employment and education. Nevertheless, male teachers are more likely to climb the educational hierarchy compared to their female counterparts (Smith-Doerr, 2014). It is a paradoxical situation, if someone consider, that teaching profession is numerically dominated by women (Greek Statistic Authority, 2014, Markopoulos and Agririou, 2014).

Female administrators are believed to face unique problems. Their socialization causes them to question their ability to lead. In addition, the belief that they must excel in everything they tackle; while balancing a career, schooling, and family responsibilities tends to become an extremely heavy burden. The prejudices they meet, the stereotyping they experience, and the discrimination they encounter in hiring and promotion erode confidence and even hope (Gabier, 2017). Gabier also

stated that, in our society, people are reluctant to accept women as administrators. Given such views of women, there is little wonder that men were hired as the administrators of educational institutions.

Studies have provided support for the notion that the day- to - day activities of principals may differ depending on whether the principal is male or female (Shakeshaft, 2016). Female principals are perceived to interact more with teachers and students. They spend more time in the classroom or with teachers in discussions about the academic content of the school than do males, and they spend more time outside of school hours with teachers (Fauth, 2014). In addition, it was found by Gross and Trask (2016) that women derive more satisfaction from supervising instruction than do men, and men derive greater satisfaction from administrative tasks such as maintenance of school facilities. The role and effectiveness of male and female school principals is a topic of great interest given the importance of school administration and the increasing number of females occupying administrative positions in education. However, research has revealed that teachers and officials have stereotypes about female principals. According to these stereotypes, administrative positions are generally for men and women lack the necessary qualities in leading schools especially in the maintenance of school facilities.

Maintenance activities enhance the quality of building structure to meet modern requirements, in order to prolong the life span of buildings and other important school structures. It is required to ensure the safety of building occupants. Shohet and Straub (2013) discussed increasing demands on maintenance programme to provide tools that will support maintenance planning. This is also confirmed by Olagunju (2015) that lack of appropriate tool for predictive maintenance of existing buildings and infrastructure can have a detrimental effect in the future. It is necessary

to carry out maintenance works for the safety of the users and properties in the buildings, while also preserving the physical conditions of the building and supporting infrastructure in operational state at all times. These standards can be achieved by providing maintenance tools especially for public secondary schools in our communities. Maintenance issues play a major role in the performance of public secondary schools.

School administrative effectiveness as a tool for facilities maintenance in creating the availability of resources for effective teaching and learning is widely recognized as one of the most important factors influencing school success (Leithwood, Louis, Anderson, & Wahlstrom, 2014). Researchers have argued that effective school is second only to teacher instruction in its impact on teaching and learning and that schools led by principals who make a contribution to school plant maintenance are the most effective schools (Murphy & Hallinger, 2012). Working directly or indirectly through the school maintenance department, principals exert significant influences on educational outcomes (Supovitz, Sirinides & May, 2015). In times of crisis and constant change, officials and policymakers seem to turn to school administrators for answers.

The quality of school principals is considered to be a key factor to continued organizational learning and improvement (Murphy, Elliott, Goldring, & Porter, 2016). The interaction between sex and administrative effectiveness is important; however, there is limited empirical research on how various school stakeholders perceive the role and effectiveness of male and female school principals and more especially in comparison to male school principals in carrying out their administrative functions in the area of maintaining school facilities for effective teaching and learning. The masculine defined concept of the school principalship often negatively impacts the

perceived value of a female high school principal's performance of her administrative duties. According to Gosmire, Morrison and Van Osdel (2015), researchers have confirmed this masculinized culture, that there is an either or paradigm, suggesting that female high school principals feel compelled to think and act like their male counterparts or to step outside of the practiced culture and risk abandonment and isolation. Rudman and Glick (2014) make a similar point when they describe the dilemma faced by female administrators: They can enact communal behaviors and be liked but not respected or enact agentic behaviors and be respected but not liked. In either case, they risk being disqualified for leadership roles. What then is a female who aspires to the school principalship to do? This dilemma is not faced by male administrators in similar situations.

For those women who do gain entrance to school principal positions, research has shown (Nogay & Beebe, 2018) that they very often prefer to engage in the job duties related to curriculum, learning, professional development and relationship-building rather than more managerial duties such as maintenance of school facilities which they believe are duties to be best handled by their male counterpart in the school system. This is not to say that they do not engage in discipline and fiscal management, but when surveyed, female school principals reported greater satisfaction when working with aspects of teaching and learning. Because the school principalship has generally been defined through a male perspective, that is with an emphasis on management (Kaparou & Bush, 2017), this teaching and learning focus by the female school principals may be seen by faculty, staff, students, and school board members as out of place and perhaps not as valuable to the organization. Rusch and Marshall (2016) explain that clear sex bias exists in the expectations of

administrative roles that have developed as a result of male dominance of upper level school administration.

Specific belief patterns unique to females may influence the manner in which they view the high school principalship and hence their administrative effectiveness. Wojtalik, Breckenridge, Gibson, Hancox and Sobehart (2017) posited that specific sex-related experiences influence how female administrators view their capabilities and view their job priorities; that is, they develop a unique perspective through which they view the world. This perspective may inhibit some women from pursuing high school administrative positions or it may conversely afford female high school administrators a truly different way to prioritize the tasks inherent in the position. They further stated that “Because men and women are socialized differently, they acquire different self-concepts, different patterns of expectations for success, and different values and goals”.

Griffiths and Fredrickson (2012) discovered in their studies that male principals do not demonstrate superior performance than their female counterpart, that men are not superior to women in their administrative effectiveness but Wile, Hire, Grobman and Hiries (2016) observed that men ranked significantly ahead of women as democratic leaders. Adigun (2012) observed that both male and female principals had above average performance in their roles. He concluded that male principals do better in administrative activities compared to their female counterpart. The result of Ibukun, Oyewole and Abe (2019) study indicated that mean performance of male principals was just two points above that of female principals. Messengill and Dimac (2019) cited in Besong (2012) revealed that male principals have the inclination to be more cautious in their administrative effectiveness than their female counterparts.

Multiple studies have established a definitive numerical discrepancy between males and females occupying the school principalship position in public schools in Edo State. These studies also articulate some of the causes of this discrepancy, and these causes include the existence of stereotypical, sex-biased practices and perceptions that create barriers for women who attempt to attain and sustain the position of high school principal in the area of effective management capabilities which include maintenance of school facilities. McFadden, Maahs-Fladung, Beck-Frazier, and Bruckner (2019) noted that a new appreciation, new understanding, and greater empathy for this group will be gained by reexamining the experiences of women and acknowledging the importance of their administrative abilities.

As numerous social scientists have maintained, expectations about behavior that are appropriate for school administrators coincide largely with beliefs about the duties that is appropriate for men (Kruse & Wintermantel, 2016). Although women have made many social advances, there is still this underlying understanding that certain roles and responsibilities are reserved to specific sexes. In the field of education, though women maintain a dominant presence as teachers, there is still much room for growth (particularly at the secondary level) for women as administrators. In many studies, women report feeling constrained in their administrative styles or bound by public opinion. Women also report that their administrative behaviors are scrutinized because of their role conflict, while male administrators are not ordinarily inhibited by the attitudinal bias of their coworkers. Hence, men are freer to carry out administrative functions in a variety of masculine or feminine styles without encountering negative reactions because their position is ordinarily perceived as legitimate (Pratch & Jacobitz, 2016). Sex bias has the potential to compromise the

legitimacy and ingenuity of the administrators' style as the focus shifts from effectiveness to favorability.

Researchers studying management styles and institutional organization note that the traditional hierarchical leadership/administrative structures of the past are beginning to be transformed into more collaborative leadership/ administrative formats. Trinidad and Normore (2015) maintained that the differences in men's and women's administrative styles are important considering the trends towards flatter organizations, team-based management and globalization. The change from an Industrial Age model of authoritarian leadership to a participative model of organizational structure requires someone who can lead as well as manage day-to-day operations such as maintenance of school facilities in a bid to reducing the cost of acquiring new facilities where existing ones can be upgraded. In a school setting, that means that the expectation of administrators is that they will not only set timetables and goals but also establish productive relationships with teachers, staff, parents and students. "In the realm of education, women in leading positions are expected to behave with sufficient authority to gain respect and maintain discipline, and with a large dose of caring and nurturing attitudes to fulfill sex role expectations".

Transformational leadership, an administrative style marked by optimism, mentoring, open-mindedness, and collaboration in terms of effective administrative practices is often cited as a style practiced more regularly by female principals. Whether female principals intentionally choose this style is debatable, but many of the characteristics of a transformational administrator include characteristics that are more often exhibited by female principals. "Women exceed men on overall transformational leadership which entails mentoring behavior that is supportive of other people" (Vinkenburg, vanEngen, Eagly & Johannesen-Schmidt, 2014).

Sherman's (2015) study of female leadership in rural school settings expanded on the concept of differentiation between male and female leadership styles while proposing greater value be placed on the female style of leadership: The elements of leadership that most consistently inform a female administrative style include an emphasis on establishing relationships with others in an attempt to build community.

A difficulty arises not in the identification of difference but in the recognition, legitimization, and implementation of these preferred modes of administration within current school administrative practice. Because school principals have traditionally been men who have led in ways that do not resemble the way women tend to lead, superintendents and school board members are not familiar with the relational administrative style employed by women. Consequently, female applicants who support and articulate this type of leadership may be viewed as a poor fit for the school principalship.

Even though women characteristically lead in a way that seems advantageous for organizations today, the number of women occupying secondary school principalships remains low in Nigeria. According to Grogan and Shakeshaft (2014), women are still poorly represented in the secondary principalship; one reason appearing over and over in the literature is that women do not want to lead the way their male role models lead". Additionally, research has shown that female administrators more often than male administrators base their decisions on best practices in instruction.

Nwonkwo (2023) conducted a study on gender, principals' management behaviour and administrative competences in public secondary schools in Rivers State. The study was guided by two objectives, two research questions and two hypotheses. This study adopted ex-post facto research design. The target population of the study

consisted of all the 520 principals (450 male and 70 female) in all the secondary schools Rivers State. Sample size of 220 teachers was selected for the study through simple random sampling technique. The instruments titled “Principal Management Behaviour Questionnaire and Principal Administrative Competences Questionnaire” were used to gather data for this study. The reliability coefficient of the instrument was calculated using cronbach alpha reliability coefficient statistics and the overall reliability coefficient of $r = .80$ and $r = .82$ was obtained respectively. Data collected were analysed using Mean, Standard deviation and Analysis of Variance. The result obtained from the data analysis shows that there is significant differences in administrative competences of male and female principal based on their management behaviour in public secondary schools. The researcher recommends that Ministry of Education should organize seminars to train principals on management behaviour to ensure effective administration and utilization of school resources in order to enhance teachers’ job performance.

Nwanga, Ukeme and Umoren (2025) examined principals’ demographics on school plant management in public secondary schools in South Senatorial district, Akwa Ibom State. The ex post facto research design was used for the study. The population of the study consisted of 108 principals (vice principals, academics, administration and special duties) in the 72 public secondary schools and 7 Local Education Committees (LEC) in South Senatorial District of Akwa Ibom State in 2023/2024 academic year. Purposive sampling technique was used in selecting 108 principals for the study. Data was collected using a researcher developed instrument named, “Principals’ Demographics and School Plant Management Questionnaire (PDSPMQ)”. The instrument was subjected to face validity by three (3) experts. The reliability of the instrument was .81, determined using Cronbach Alpha Statistics. The

research questions were answered and the null hypotheses were tested at 0.05 level of significance using mean, standard deviation, independent t-test, analysis of variance (ANOVA) statistics were used for data analysis. The findings of the study revealed that there is a significant difference in school plant maintenance in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender. It was recommended among others that Principals, regardless of gender should embrace diverse management strategies that ensure all aspects of school facilities are effectively maintained, with equal attention to both technical and social aspects of the school environment.

Amaewhule and Nnebue (2019) carried out a study on status of school plant maintenance among public secondary school principals in Rivers State. The purpose of study was to identify the various methods that could be used by the school principals to enhance status of school plant maintenance. Two research questions and two null hypotheses were formulated to guide the study. The entire population (247 principals) was used for the study. A questionnaire titled “Status of School Plant Maintenance among Public Secondary School Principals (SSPMAPSSP) was used for data collection. The questionnaire was validated by and some experts in the field. The research questions were analyzed using the mean and standard deviation. The null hypotheses were tested at 0.05 level of significance using the z-test statistics, from which, findings were made. All the mean items were accepted by the respondents. Out of the two hypotheses formulated, one was accepted while one was rejected. The rejected one indicates that there was a significant difference between factors that impede female and male principals in respect of factors that affect school plant maintenance. Based on the findings, the following recommendations were made; that there should be policy guideline on school plant and budgetary provision should be

made for plant maintenance. It was therefore concluded that male and female principals face different challenges that impede status of school plant maintenance.

Besong (2024) principals' administrative effectiveness and staff productivity in selected secondary school in South West Region, Cameroon. The study investigates administrative effectiveness and their managerial implications towards staff productivity in terms of managing human and material resources, interpersonal relationship, managing school finance, discipline and motivation of staff. Two hypotheses were isolated and the researcher adopted ex-post-facto for the study. The researcher made an instrument known as Principals' Administrative Effectiveness and Staff Descriptive Questionnaire (PAESDQ) to illicit data, using the questionnaire of a 4-point Likert scale from 300 respondents or sample population drawn from the selected secondary schools in the targeted Region for the study and a stratified random sampling technique was used .The data were analyzed using independent t-test. The result of the study showed that principals' administrative effectiveness was significantly positive in terms of managing human and material resources. However, principals' administrative effectiveness was not contingent on their sexes that are male or female in terms of the variables used or isolated out for the study towards staff productivity in South-West Region of Cameroon. Male principals proved more efficient than their female counterparts in terms of administrative effectiveness in all the variables isolated for the study .Some profile recommendations made included that principals' appointment should be based on administration or managerial qualification(s) and experience.

Nwamae, Kalagbor, and King-Agboto (2023) examined school plant maintenance culture for effective administration in the public secondary schools in Port Harcourt Local Government Area (LGA) of Rivers State. The study adopted a

descriptive survey research design. The population of the study consists of all 15 public senior secondary schools in Port Harcourt Local Government Area of Rivers State. Therefore, the census sampling technique was used to obtain a sample size of 45 principals (15 principals and 30 vice principals, of which 19 are males and 26 are females). The instrument for data collection used in this study was "the Plant Maintenance Culture Questionnaire (PMCQ)". The reliability coefficient of 0.73 was obtained using Cronbach Alpha. The research questions were answered using mean and standard deviation. The hypotheses were tested using Z-test at 0.05 level. The results showed both male and female principals adopted school plant maintenance culture for effective administration in public secondary schools in Port Harcourt LGA and that there are challenges facing principals in school plant maintenance culture for effective administration of the secondary schools in Port Harcourt LGA. It was recommended that principals should be encouraged by the government to continually coordinate material resources appropriately as a way of plant maintenance for their effective secondary school administration.

Facilities Maintenance and Principals' Administrative Effectiveness Based on Experience

Administration is an integral part of an organization. It is crucial for maintaining and expanding the effectiveness and productivity of complex institutions like schools and other institutions. According to Musaazi (2014), the survival of organizations like schools is dependent largely on the quality of administrative service available. According to Sergiovani (2016) the success of administrative actions depends on the interpretations that principals make as they translate theoretical understanding into practical decisions and behaviors through years of experience. Administration therefore is an indispensable component of all institutions and organizations. Schein (2017) argued that the major influence on the type of leader one

is today is as a result of experience one has gained in managing both human and material resources.

In a study of Okolo (2018) on performance of principals, results showed that there was a significant difference in performance between principals with experience ranging from 4- 10 years and those with 20 years of experience and above. It can be inferred that experience significantly contributes to difference in effectiveness of head teacher's performance. Administrative effectiveness demonstrated by principals through years of experience in promoting maintenance of school facilities play a pivotal role in the success of secondary schools and given such an assertion, Armstrong (2016) indicates professional management training of secondary school principals help them acquire pre-requisite skills to improve their understanding of different aspects which are necessary for their task effectiveness. For example, Keegam (2013) indicated that well trained, experienced and effective principals in Greece were considered important for instructional supervision of teachers to foster their job performance and had a lot of benefits for the school. Such principals with a better grasp of the management skills can proactively manage school finances, human resources, physical facilities and risks within the school.

In a study conducted in Malaysia, Karia and Ahmad (2014) revealed that well trained and experienced principals display management skills, efficiency and competency. In other words, principals' management ability can essentially be thought of as a measure of the extent to which the principals have acquired pre-requisite skills for running the daily school activities through years of service. Consistent with Karia's and Ahmad's (2016) findings, Stoll, Bolam and Collarbone (2017), in a study conducted in the Netherlands, reported that change requires strategic initiatives, and such initiatives don't die from lack of buy in from the

schools' management, instead, from the lack and kind of high-level commitment and direction that are critical to the implementation of strategy and sustainable performance at school.

Clark *et al.* (2019) on analysing data for New York City found a positive relationship between the principal's experience and school performance. Branch *et al.* (2012), from a study on data about Texas schools, showed that more years of experience for a school principal are correlated with higher school achievement. In particular, comparing schools with lowest average initial achievement and schools with highest average initial achievement, there are roughly 40% more principals in their first year at a school in the former than in the latter. In addition, there are roughly 50% more principals who have been at their current school for at least six years in the highest achieving schools.

One of the primary objectives of administration in any organization is coordination of both human and material resources towards the achievement of the goals of that organization. In secondary school administration, the primary aim is to improve teaching and learning. It then follows that proper management of physical facilities by experienced school principals could aid teaching and learning in the school system. It is on this ground that Adepoju and Fabiyi (2017) and Duflo, Dupas and Kremer (2012) observed that school facilities are the physical and spatial enabling in the school system that enhance the performances of different body/bodies in instructions of learning.

The work experience of principals according to Nitisemito (2019) is defined as something or ability possessed by principals in carrying out the tasks assigned to them. With quite a long experience and quite a lot, it is expected that they will have a greater ability than those without experience. Principals who are experienced in work

have better workability than principals who have just entered the workforce because he/she has learned from the activities and problems that arise in their work. With the existence of work experience, there has been a process of adding knowledge and skills and attitudes to a person, so that they can support developing themselves with existing changes. The experience of a principal has a very valuable value for his career interests in the future (Syafarudin, 2019). Then, Hasibuan (2016) states that work experience include the number of types of jobs or positions that have been occupied by people and the length of time they work for each job or position.

According to Kunandar (2017), work experience is the period of work in carrying out tasks as educators in certain educational units in accordance with the assignment letter from the authorized institution. Sujiyono (2014) also states that work experience is in the form of a period of work that has been carried out by the teacher, a collection of learning plans made, and awards achieved. Employees can be said to have work experience if they have done work repeatedly. As for the things that determine the experience or not of an employee are as follows:

- 1) the length of time or period of work size about the length of time or period of work that has been taken someone can understand the tasks of a job and have carried out well;
- 2) the level of knowledge and skills possessed by knowledge refers to concepts, principles, procedures, policies or other information needed by employees. Knowledge also includes the ability to understand and apply information to work responsibilities. While skills refer to the physical abilities needed to reach or carry out a task or job;
- 3) mastery of work and equipment the level of mastery of a person in the implementation of aspects of the technical equipment and work techniques;

4) the type of work the more types of tasks carried out by a person, generally the person will get better results of the implementation of the task (Sa'diyah, 2013). When the principal enters the workforce, he will certainly be faced with a variety of circumstances, both those that support and those that hinder the school management process. The various conditions faced by the principal will certainly encourage the principal to find a solution to overcome them.

The work experience of a principal is certainly based on his ability, namely: (1) able to lead the school; (2) able to master the method, (3) master the educational foundation; (4) plan school programs appropriately; (5) evaluating the results of school program activities, (6) applying the results of research in school implementation activities; (7) loyalty to the organization; (8) psychological attachment; (9) task involvement; (10) enthusiasm (Mulyani, 2012).

It is from these indicators that the principal can be considered experienced or not in managing educational institutions. If the above elements have been fulfilled and owned by a principal, then the principal can be said to be experienced. The more work experience, the performance of principals tends to be higher. Likewise, on the contrary, the less work experience, the principal's performance tends to be lower. As explained by Soetjipto (2017), that the more work experience a person has, the more benefits that will have an impact on the breadth of knowledge in the field of work and increasing one's skills. The ability of the principal is inseparable from a number of potentials, as well as mastered expertise, knowledge and work experience (Bashor, 2017). Among the options for the future success of education in Europe and Central Asia is effective management and maintenance of school facilities. This can be achieved by sharing common facilities across schools such as playgrounds, swimming pools, libraries and laboratories. Also, there should be use of incentives to reduce

negligence of school facilities to encourage and reward good school management of facilities by experienced principals (Heyneman, 2014). In the study on management of school facilities by experienced principals in the United Kingdom, when games facilities are used they enable the low achievement children to stay on task and remain motivated for a longer period (Denyer, 2018).

The decline in performance in schools is believed to be related to poor learning environment created by inadequacy and poor maintenance of the school facilities by less experienced principals (Fabayo & Farombi, 2018). The availability, adequacy and regular maintenance of school facilities is believed to promote effective teaching and learning process (Mapaderun, 2012). Some schools have adequate laboratories, workshops, libraries, and other facilities for effective teaching and learning, others have none, and where they exist, they are poorly equipped and maintained. While some classes are held under trees and pupils are exposed to harsh weather conditions others are held in air-conditioned classrooms. It is therefore, imperative that different levels of Government have to address the issue of development and implantation of minimum standards of school management of facilities by embarking on training programmes that would expose school administrators to maintenance practices in achieving organisation goals (Asiabaka, 2018).

Some schools are over fifty years old and therefore, require modern facilities for teaching and learning process. It is widely believed that more experienced principals would embark on renovation of old and dilapidated buildings to ensure that facilities for learners, planning areas, office space, clerical space, workrooms, professional development libraries, dining area, storage, space, students' conference areas, guidance services area for instruction for large group instruction, space for

instructional media, library resource centre, science facilities, art and music studios, individual study area and physical education facilities are readily available (Asiabaka, 2018).

Kumtong (2021) conducted a study on the assessment of principals' role performance in administration of public secondary schools in Federal Capital Territory, Abuja, Nigeria. This study assessed the principals' role performance in maintenance of facilities practices. The study specifically dwelt on the maintenance of facilities. The study has eight objectives, eight research questions and eight hypotheses. The study adopted descriptive survey design to assess the opinions of school principals and teachers on Principals' Role Performance in Administration of Secondary Schools from the population of 193 principals and 8205 teachers in Federal Capital Territory Abuja. A sample of 12 principals and 108 teachers was randomly selected for the study. The instrument with reliability coefficient of 0.831 was used in data collection. The data were subjected to descriptive statistics involving tabular form and percentages. Hypotheses were tested using t-test inferential statistics at 0.05 level of significance. The results revealed that more experienced principals performed their roles on facilities maintenance than less experienced principals. The study recommended among others that principals should be trained by the relevant authorities in handling school facilities.

Yobolo (2022) conducted a study on the effect of school plant facility maintenance on administration and academic performance of students in public secondary schools in Delta State. The dilapidating nature of administrative blocks, classrooms, libraries, laboratories, broken chairs, seats and desk, furniture, toilets and water systems, instructional materials and playing ground etc and the absence of maintenance practices by relevant authorities and stakeholders in public secondary

schools are the purposes that provoked this study. Two research questions and two hypotheses guided the conduct of the study. A structured questionnaire developed by the researcher titled “Effect of School Plant Maintenance on Administration and Academic Performance of Students in Public Secondary Schools Questionnaire (ESPMAAPSSQ) was used for data collection. The instrument was validated by three experts in Educational management, Measurement and Evaluation and Economics of Education. Test for reliability was conducted to ascertain the internal consistency of the instrument and a coefficient of 0.77 was realized using Cronbach Alpha. The study made use of a descriptive survey design. The Population comprised of 1229 secondary school teachers, 300 was sampled from 20 schools using simple random sampling techniques. The mean and standard deviation were used to answer the research questions, while the null hypotheses were tested with chi-square test at 0.05 level of significance. The findings revealed that absence of plant maintenance by less experienced principals in maintenance practices obviously affected administration and academic performance of students in public secondary schools. It was concluded that school plant maintenance culture by school principals is essential for the realization of the goals of secondary education in Nigeria. The study recommended that school administrators and other relevant authorities by extension should practice quality maintenance habit on school plant facilities for effective administration and good academic performance.

Maduka and Umeora (2024) carried out a study on periodicity of maintenance: a predictor of physical conditions of buildings in public secondary schools, Onitsha, Anambra State, Nigeria. The research design for this study is a survey design. Data were obtained through both quantitative and qualitative research methods. Quantitative data were collected from the academic and non-academic staff and the

school maintenance managers through structured questionnaires. The study focused on seven (7) schools chosen from the twenty-three (23) public secondary schools in the study area based on a simple random sampling method. Categorisations the schools based on ownership structure before the government takeover into church, private and government was the basis for the first stage of stratification. Following the stratification, random sampling by balloting within the different strata was done to obtain the study sample.

In the second stage, the number of staff of the selected schools was obtained and sampling size formulae were applied to obtain the number of respondents. Periodicity of maintenance and the physical conditions of buildings were interval scale variables, therefore, the Pearson Product Moment correlation tool was used to test the significance of the relationship. It was established that there is a significant relationship between the periodicity of maintenance carried out by more experienced principals than less experienced principals and the physical conditions of buildings in the public secondary schools in Onitsha. This shows that the physical conditions of buildings are largely influenced by the periodicity of maintenance operations by principals who had more experience in maintenance practices in the schools. This suggests that an increase in maintenance operations could result in improved condition of buildings in the schools. The study therefore concluded that the Anambra State Government should formulate maintenance policy and strategy and also develop minimum maintenance standards for efficient maintenance operations in public secondary school buildings in the state.

Ukor and Mezicobi (2023) examined information and communication technologies (ICTs) and school plant management practices of secondary schools' principals and teachers in Ika North East LGA, Delta State, Nigeria. Three (3)

research questions and Three (3) hypotheses guided the study. The study adopted a descriptive survey research design specifically to collect existing data (information) on ICTs and school plant management practices of secondary schools principals and teachers. The population of the study was made up of 1,235 comprising 150 principals and 1,085 teachers from the secondary schools (upper basic education level schools JSS 1-3 and senior secondary schools) in Ika North-East Local Government Area of Delta state, Nigeria. The sample comprised of 247 principals and teachers - 50 principals and 197 teachers. The samples were drawn using simple random and cluster sampling techniques. The instrument used for data collection for this study was a self constructed questionnaire titled 'ICTs and School Plant Management Practices of Principals and Teachers Rating Scale (ICTSPMPPTRS)' which is made up of 30 items in 4-points likert scale. The face and content validities were ensured and Cronbach Alpha was used to ascertain its reliability at 0.82 indexes. Mean and standard deviation were used to answer the research questions while the hypotheses were tested using t-test statistics to establish the significant differences between the variables in the study.

From the data analyzed, it was found that regular inspection on all school plant facilities, regular maintenance on all school plant facilities, close supervision of the usage of school plant facilities are some school plant maintenance practices of secondary schools principals irrespective of their level of experience. The researchers recommended among others that the government at all levels in collaborating with secondary schools' principals and teachers should set in place appropriate security measures to help secure school plant facilities, that secondary schools' principals and teachers should be given regular orientation through workshops and seminars on adequate strategies of maintaining school facilities.

School Facilities Maintenance and Principal's Administrative Effectiveness Based on Qualification

The turn of the 21st century is characterized by significant change of values and the development of new perspectives in the global socio-political and economic life; which has encouraged people worldwide to make a serious analysis of what has happened, to evaluate more carefully the things going on, and to forecast the future more boldly (Crowther & Olson, 2017). The future of mankind cannot be imagined without appropriate education.

Jacques Delors, the chairman of the “International Commission on Education for the 21st Century” underlines in the report of the commission: “The commission do not consider education to be a panacea, a magic formula which opens the doors to the world, with the help of which all the ideals will be achieved, but as one of the means at our disposal to advance a deeper and more harmonious development of peoples, thus lessening poverty, banishment, lack of knowledge, oppression and wars”. That is why principals are of great importance and, as a result of their targeted activities, by influencing educational issues. Practice shows that it is the education institution principals who should be thanked for educational development and the rise of its effectiveness. The report of the International Commission also mentions that “school principals are one of the factors, if not the most significant one, who determine the school effectiveness. Sometimes a good school principal, capable of building up an effective team, and who is considered to be competent and ready to support new ideas, substantially improves the school’s quality of work” (Delors, 2017)

Many secondary schooling systems do not fulfill their mandates because of poor management and leadership. Similarly, the perceived rigidity that one finds among school administrators does not only stunt schools’ capacity to develop, but also leads to schools that are dysfunctional and unproductive. As a result, in countries

where there is universal transformation, efficacious management and leadership are elevated to the highest rostrum. One reason that has always been advanced for poor results in schools are that principals are believed not to be qualified enough, skilled and trained for school management and leadership purposes (Terry, 2019). However, findings of Peterman & Kennedy (2013) showed that principals who participated in educational management orientation usually performed better in administrative issues than those who do not. A study by Ejike (2019) revealed that principals who completed in-service training were more effective than those who did not. An important implication of this study is that professionally trained principals perform their roles, especially in carrying out maintenance activities than non-professionals.

Facilities management is the practice of co-ordination of the physical workplace with the people and the work of the organization (International Facilities Management Association, 2012). According to Fenker (2014), facilities management is a process that ensures that buildings and other technical systems support the operations of an organization. Asiabaka (2018) therefore viewed school facilities management as the application of scientific methods in the planning, organizing, decision-making, co-ordination and controlling of the physical environment of learning for the actualization of the educational goals and objectives. Lawanson and Gede (2014) viewed:

School facilities management as a systematic process of rationalizing the provision, use and maintenance of these facilities within an educational institution to ensure their optimal utilization and achievement of educational objectives both in the immediate and in the future given the available resources. They say it is a process that involves rationally: determining which facilities are required to achieve school goals, providing such facilities most advantageously in terms of resource use, monitoring to ensure optimal use of educational facilities so provided, maintaining the facilities regularly to ensure their longevity and reviewing the provision of these facilities to ensure that it continues to meet both the changing educational needs in the advantageous manner (p. 501).

Nwokike (2012) asserted that management is the live-wire of any educational establishment for the achievement of school policies and objectives and that school plant management involves effective maintenance of the school structures as well as its facilities and equipment to ensure effective teaching/learning. Also, Asiyai (2022) opined that school facilities management involves keeping records of the facilities, supervising the facilities, planning for the facilities, motivating students and teachers to participate in facilities maintenance and evaluating the available facilities. According to Ogie (2015, p. 27):

Management of secondary school facilities involves proper storage and security, ensuring that they are kept in good condition after usage. There should be regular repairs and maintenance, replacement of faulty ones and protection from internal and external vandalisation. It also involves general maintenance of the whole school environment, including trees, foot paths, garden, school land, building and other physical infrastructures.

Secondary school is the post primary education that leads to the attainment of the required qualification for gaining admission into tertiary institutions. According to FRN (2014), the broad goal of secondary education shall be to prepare the individual for; Useful living within the society and Higher education. Thus, it is required that the necessary school facilities are put in place and adequately managed in order to attain the set objectives.

A major problem facing schools today is that facilities are not properly managed and maintained by competent school administrators. The physical appearance of most schools proves and speaks volumes. Isaac and Musibau (2014) asserted that poorly maintained buildings, untidy walls, leaking roofs, over grown compounds may suggest that education within the buildings follow the same pattern. Facilities tend to depreciate, wear and tear as soon as they are put into use. Hence, there is need for maintenance through repairs and servicing of the components and

sustaining their working conditions and capacity. According to Adeboyeje (2012), maintenance enhances performance and durability; prevents wastage, corrects breakdown and shutdown services. Here, the principal's responsibility is to regularly check and recheck the available facilities and take necessary measures to prevent malfunctioning or non-functioning of a particular facility.

In educational institutions, facilities constitute essential inputs, which create favourable learning environment, facilitate interaction and enhance achievement of educational objectives (Oyesola, 2017). In essence, the school curriculum would not be meaningful and functional if required facilities are not provided in adequate quality and quantity at appropriate times through the principal's administrative finesse (Uko & Ayuk, 2014).

The management of academic and administrative affairs of schools traditionally falls within the purview of the principal. Unerringly, formal education in Nigeria is rapidly changing and technically tailored towards meeting certain set goals, such as "education for all" (Nwaogu, 2023). The requirements of these various goals from the school managers are centred on the advancement of teaching and learning through the implementation of performance-based management, which is led by a management team, with the principal at the fulcrum.

Given this onerous task, the principal, as a matter of fact, must understand the role of school managers to effectively manage not only staff but the facilities to meet the overall objectives of the school system. According to Ukeje (2014), the unsatisfactory performance often experienced in schools by students and educational programs is always attributed to lack of basic infrastructure, poor maintenance culture, lack of adequate and accurate statistics, inadequate funding, embezzlement, bureaucratic bottleneck and poor attitude to work.

Generally, the principal's responsibility in the management of educational facilities entails bringing together individuals as a group that will control, coordinate and articulate activities to achieve tangible and holistic learning for the overall benefit of the society (Okoroma, 2022). Emphasising this assertion, Ebong & Agabi in Nnabuo, Okorie and Agabi (2014), posit that school facilities management and maintenance by qualified principals is the totality of efforts that are brought to bear in the provision and delivery of education to ensure that both human and material resources allocated to education are used to the best advantage in the pursuit of educational objectives and goals.

The school management team headed by the principal must develop, support and equip staff with knowledge and skills to respond positively to the ever changing phenomenon of education to meet contemporary societal challenges. Abdulkareem (2014) opined that to achieve this, there must be continuous increase and adequacy of educational facilities, because the existing ones are often overstretched, poorly maintained and cannot provide and foster desirable, creative and harmonious problem-solving skills. Since education seeks to develop the minds and character of future citizens, their abilities, skills and potentials, in order to equip them for contemporary society, school facilities have to be supplied in adequate quantities, properly and effectively managed, controlled and supervised (Uko, 2014). According to her, it is prima-facie function of top management, down to the teaching and non-teaching staff.

The International Facilities Management Association (2013) described facilities management as the practice of co-ordinating the physical workplace with the people and the work of the organization by integrating the principles of business administration and architecture with the behavioural and engineering sciences.

According to them, school facilities management is the application of scientific methods in the planning, organizing, decision-making, co-ordination and controlling of the physical environment of learning for the actualization of the educational goals and objectives. This culminates in the collective and participative decision making process towards the selection, establishment and installation of school plants; design of school grounds, halls and spaces; upgrading, innovation and purchase of new machineries and equipment; choice, design and implementation of programmes and projects; backup and review of management policies, practices, rules and regulations which can only be executed by qualified principals.

According to Uko (2014), effective maintenance of school facilities requires knowledge, skill and expertise in handling different facets of the school system. This to her calls on the ability of the principal to set required objectives, supervise facilities usage, formulate plans for procurement and ensure actual management and supervision of available facilities to attain set goals of the school system. The principal as the manager of the school organization therefore has the onerous task of mobilizing available human resource to ensure a proper running of the school.

Complimenting, Mbipom (2012) opined that school facilities comprise the physical expression of the school curriculum in the construction, internal and external arrangements of the buildings, equipment, grounds, surroundings, general appearance which include the flower beds paths, orchards, shrubs, playgrounds, classrooms, assembly hall, dining hall, desks and school farms. Uko (2014) further stated that when school facilities are considered from the point of the school plant, then one will be considering a gamut of facilities such as: school furniture, science laboratories, school library, technical workshops. As a human and material resource manager, a principal needs to set up mechanisms for nurturing and unfolding of educators'

potential in order to enhance effective teaching and learning through effective maintenance and management of school facilities. For this reason, enhancement of educators' potential should relate to the work they are doing of not only nurturing the intellectual potential of learners, but also of moral formation and appropriate humanisation according to national policies and goals. To this end, Lenyai (2019:3) states appropriately:

... the educator is the keystone in the multiple arch of education ... eliminate the finest buildings and the most wisely developed curriculum but leave the learner with an intelligent, cultivated and humane educator and the educational process may continue satisfactorily. Provide all the material necessities without the educator or the wrong kind, and the results would be catastrophic ...

Lenyai's assertion encapsulates the value of appropriately qualified, skilled and trained administrator for the success of the education enterprise. The research conducted by Mulyani (2012) states that the principal's administrative effectiveness had a positive and significant influence on the quality of learning. The dimensions of the principal's administrative effectiveness that gives a significant influence are aspects of ability in the maintenance of school facilities in enhancing effective teaching and learning (Andriani, Kesumawati, & Kristiawan, 2018). This means that the level of quality of school learning is explained by the administrative effectiveness of the principal. Thus, it is clear that the principal's performance significantly influences the quality of learning.

School principals have heavy duty and responsibility, so ideally the principal must have adequate academic qualifications, work experience and positive work motivation (Kristiawan, Yuniarsih, & Fitria, 2019). The principal is one of the determinants of the success of every education effort. The administrative effectiveness of the principal in planning and implementing effective learning is a major factor in achieving success in school (Tobari, Kristiawan, & Asvio, 2018).

Purwanto (2014) says that the quality of education and teaching in schools is influenced by the educational background of the principal, which means that the higher the level of education of a school principal, the higher and better the quality of education and teaching received by the learner and the higher the degree of the community. The principal is an educational leader who must have a strong leadership (Mulyasa, 2017). The principal is the most influential component in creating quality education processes and outcomes. The principal in his work activities must be qualified and tested for his qualifications.

Asiabaka (2018) maintained that school facilities management play a pivotal role in the actualization of educational goals and objectives by satisfying the physical and emotional needs of the staff and students. According to her, physical needs are met through the provision of safe structures, adequate sanitary facilities, a balanced visual and thermal environment, sufficient shelter space for work and play; while emotional needs are met by creating pleasant surroundings, friendly atmosphere and an inspiring environment. Supporting the need for effective management of facilities in schools, Fenker (2014) stated that it involves a planned process to ensure that the buildings and other technical systems support the proper discharge of operations and services within the school organization. Mbipom (2012) stated that school plant is a major component of school facilities. She further stated that since teaching and learning do not take place in a vacuum, school facilities give meaning to the planned curricular and extra-curricular activities. To her, any discussion on the school plant starts with the conceptualization of the educational programmes to be offered in the school. Thus, the nature and type of educational programmes will determine the nature and type of school facilities to be provided and adequately maintained by a seasoned school administrator.

School facilities maintenance is a phenomenon where planning, organizing, staffing, leading and controlling the processes of supply, utilization, and improving educational facilities in secondary schools is superintended by the principal to fulfill the set educational objectives. Abdulkareem (2014), maintained that, in order to fulfill educational objectives, educational facilities are required and should be central to the extent that teachers, students and other personnel will enjoy their stay and perform their duties effectively, made possible by the principal's leadership ingenuity and proficiency. The school curriculum would be meaningful and functional if the required facilities are provided in adequate quantities at appropriate times and maintained properly.

The realization of the importance of educational facilities has informed the demand in the choice of secondary schools that parents/guardians send their children/wards to in Nigeria. This commitment is demonstrated by government in the provision and establishment of Universal Basic Education (UBE), to bring all categories of citizens into the school system and ensure retention till graduation (Ukeje, 2014). However, this can only be achieved if the existing facilities are properly managed especially as greater demands would be mounted by the users (Nwadiani, 2012). All of these require the ingenuity of the principal to balance the usage and maintenance of available facilities.

Adegoroye and Abdurrahman (2025) examined school plant utilization and maintenance: a tool for effective students' performance in Senior Secondary Schools in Kwali Area Council, FCT Abuja. Specifically, the study investigated the utilization and maintenance school plant facilities on student performance. Two (2) research questions were raised for the study. Descriptive survey design was adopted for the study. From the population of 208 secondary school teachers, 90 teachers were

sampled from 9 schools using simple random sampling technique. Questionnaire was structured on four-point Likert scale. The data collected were analyzed using the mean and standard deviation to answer the research questions. Findings from the study revealed that school plant facilities are utilized and maintained by principals irrespective of their qualifications to enhance students' performance in senior secondary schools in Kwali Area Council, FCT Abuja. It was therefore, recommended that school principals should continue to ensure proper utilization of school plant facilities in secondary schools so as to create enabling environment for effective teaching and learning which enhance students' academic performance and school principal should ensure maintenance of school facilities in order to improve students' academic performance.

Uboh, Akpan, and King (2025) conducted a study on the availability and regular maintenance of laboratory equipment: a panacea for students' performance in biology and physics in Akwa Ibom State. Correlational survey design was adopted for this study. The targeted population for the study comprised all SS2 students offering Biology and physics. A stratified sampling technique was used to select 60 SS2 students from each of the three senatorial districts of the state which gave a total of 180 respondents used for the study. The instrument used for data collection was a structured questionnaire titled "Laboratory Equipment Regular Maintenance and Availability Questionnaire (LERMAQ)". Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The reliability coefficient obtained was 0.87, and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical technique such as percentage

analysis to answer the research question. The result of the data analysis showed that “Improvement in Practical Skills” was the most prominent influence of availability of laboratory equipment on student performance in biology. The result also revealed that “Improved Practical Learning Experience” was the most effective influence of regular maintenance carried out by both qualified and less qualified school principals on student academic performance in biology and physics. The study concluded that the availability and regular maintenance of laboratory equipment are fundamental to enhancing students' performance in biology. One of the recommendations made was that the government and educational institutions should allocate more financial resources to the procurement and regular maintenance of laboratory equipment in secondary schools. It also recommended that principals' quality should be enhanced through regular training on maintenance issues.

Aliyu, Oke, and Gyang (2024) explored the school plants maintenance and students' achievement in Langtang South L.G.A Plateau State, Nigeria. Utilizing an Ex-post facto design to investigate the relationship between school plant maintenance and students' academic achievement. The research focuses on Langtang South public senior secondary schools, encompassing 54 principals, 143 teachers, and 2,423 students across Langtang South Local Government Areas. A sample of 20 principals, 20 teachers, and 60 students from Langtang Government Areas is selected using multi-stage sampling techniques. Data is collected through two instruments: the School Plant Maintenance Questionnaire (SPMQ) and the Student Academic Achievement Proforma (SAAP). The SPMQ assesses school plant maintenance practices, while the SAAP gathers students' achievement data from WAEC examination results. Instruments are validated through expert review and reliability testing. The study utilizes descriptive statistics and correlation analysis for data

analysis. The result revealed that principals with higher level of qualification conducted maintenance routine aim to contribute to of school infrastructure than less qualified principals in enhancing students' academic achievement, with implications for educational policy and practice.

Manga (2021) examined school plant construction, utilization, maintenance and school effectiveness in Kebbi secondary schools Nigeria. The study adopted the descriptive research design conducted ex-post-facto. Stratified and simple random sampling techniques were used to select 63% o f 41 schools and 69% o f 500 participants fo r this study respectively. A validated questionnaire with reliability index o f .79 was used to generate data. Results of multiple regression and analysis of variance shows that school plant construction, utilization and maintenance practices by both qualified school principals were positively, highly and significantly correlated with school effectiveness with calculated value of 76.68 than less qualified principals. The study recommended that in view of the poor quality of school environment in Kebbi state secondaary schools, education policy and management practices should focus on improving the quality of school plant for attainment of school effectiveness.

Facilities Maintenance and Principals' Administrative Effectiveness Based on School Type

The administration of the secondary school system in Nigeria has been plagued with many daunting problems which consequently affect the effectiveness of some principals in the process of administering the school system. With large and ever increasing students' enrolment in our schools today, the principals have considerable responsibilities, catering for the different inadequacies that came with increased school size. Okeke (2015) noted that “the bigger the situation to be managed or administered, the more complex the leadership needed and the greater the task involved”.

The principals of both single sex and coeducational secondary schools in Edo State, Nigeria are faced with many inadequacies including sometimes non-availability of infrastructural facilities that should help smoothen the teaching and learning process, thus, posing special administrative problems; that even when these facilities are present, lack of adequate maintenance programme lead to the dwindling values of these facilities. These limiting factor and constraint tend to make the administration of secondary schools less than favourable, because they place considerable limits on the degree of effectiveness of the school principals (Avery, 2014). Nwankwo (2019) opined that, in the process of managing these constraints, some school principals are more effective than others. Ibukun (2023) observed that principals' effectiveness is affected by the organizational situation. The principal who adjusts his own individuality to fit the conditions of his organization is said to be of the situational or contingency school of leadership effectiveness (DuBrin and Dalglis, 2013).

In a study carried out by Omoregie (2015), It was discovered that maintenance effectiveness of principals in single sex schools was not significantly different from that of principals in mixed schools. Another study by Boardman (2023) established that in both single sex and coeducational schools enrolling approximately 500 pupils, the principals tend to spend the major part of his time in his office in large schools, as compared to small schools, he rarely teaches, spending most of his time in administration. Another research carried out by Cohen (2016) revealed that larger single sex schools were more bureaucratic and their current administrators were found to hold more bureaucratic role conceptions than their colleagues responsible for smaller coeducational schools especially in facilities maintenance issues.

School facilities in most Nigerian single sex and mixed schools today are apt to reinforce rote teaching method and further hinder the students' capacity for

independent and creative thinking. The typical school building in Nigeria is usually a simple row of bare classroom structures - often of rectangular shapes walls in which chairs and tables are placed and students must fight for space. According to Ezeocha (2019), inadequate maintenance of physical facilities can lead to undesirable personal behaviours, and large group interaction such as sports/games, drama etc. cannot be conducted effectively without adequate maintenance of physical space and equipment.

School facilities, particularly buildings, protect students and teachers from the sun, the rain, heat, cold, violent storm and insects. It also represents a learning environment which has a tremendous positive impact on the comfort, safety and academic performance of the school child. Walberg and Thomas (2022) in their own contribution reported that children learn best when they can actively explore an environment rich in materials, but where these facilities are in deplorable conditions the reverse is the case. School facilities are also relevant for community activities such as extra-moral classes, adult education and home economic centres, youth clubs, meetings, sports, conference, etc. It is therefore an established fact that school facilities are given proper attention through regular maintenance in the achievement of educational objectives. Even though the teaching and learning conditions for many less developed countries (LDCs) can be described as deplorable, differences still exist in the conditions for the individual countries. In many countries including Nigeria, "it is still common to see classes holding inside uncompleted or dilapidated building and under tree shades and students sitting on floors due to lack of proper maintenance of existing physical facilities such as classroom buildings (Agabi, 2019).

Similarly, David Molomo in a newspaper report captioned "law maker spend ₦3 million on school project" quoted Hon. Garba of Ussa LGA, of Taraba State who is a member of Taraba State House of Assemble saying "the single sex schools within

my constituency have been an eye sore as most of them are operating in make-shift structures with the children improvising woods, stones for seats". He further stated that it is embarrassing to see people learning under the sun and in the rains due to inadequate facilities as a result of the poverty level of the people of his community (Daily Sun Newspaper, 2014). Related to this point is another report captioned "Kings College decays (a single sex school): premier secondary schools live in past glories" Toyin Osawe observed in that report that the facilities in the college are crying for repairs or replacement. The classroom wooden floors now have gaping holes which pose a risk to students learning in such classrooms. He also observed evidence of perennial water scarcity in the college which all constitute academic problem and its entirety.

According to Nwuzor (2019), the physical conditions under which a very large majority of our children are taught are just dehumanising, which was acknowledged. The classrooms are full of gallops therefore there is the need to construct new buildings. If they will provide electricity in the schools, it will be okay. The school is too tight, we need space. The space in our school is not enough for students to play. He went further to elaborate that the potholes on the floor of the classrooms are very comparable to the series on our roads. The classrooms are not well ventilated, they are very dim for ceilings, and classes are extremely hot in hot weather and very damp during the rainy season. Learning apparently becomes ineffective and practically difficult - when school environmental setting becomes stuffy and smoking and ill-ventilated. Stuffy and smoking environment reduce the quantity and quality of oxygen intake by students leading to lowered studying and learning symptomised by constant tiredness, yawning and feeling of dizziness or sleeping during studying. (Okoye, Alao, Abosi, Yoloye & Obanya, 2017).

Due to inadequate classroom accommodation, experience of high student-teacher ratio with figures in the neighborhood of 120 per class are common in places like Nigeria, Ouagadougou, and most part of Latin America as observed by Cailods and Pestlethwasite (2018) in Agabi, (2019). When a class is too large, obviously effective teaching and learning is compounded, movement of both teachers and students are greatly impaired and the possibility of individualize attention becomes difficult to achieve by the teacher.

Grande (2016) explored maintenance and facility operations strategies for California Community Colleges. The purpose of this multi-case study was to explore the strategies that a select group of school administrators have used to sustain or improve their facilities maintenance operations in co-educational and single sex schools. The data collection process included a review of college planning documents and semi-structured interviews with 10 senior administrators from 3 California community colleges who have used strategies to address sustaining or improving their facilities maintenance operations. Saldana coding and an inductive analysis process were used to identify themes. Triangulation was employed to increase the trustworthiness of interpretations. The analysis revealed that there was a significant difference between maintenance strategies of facilities based on school type. School administrators of co-educational schools exhibited a higher propensity of carrying out maintenance than single sex school administrators. However, the findings also revealed that inadequate funding was an additional theme school administrators regarded as the issue that most often undermined planning and effective maintenance operations. All participants acknowledged the need for the integration of planning and funding to create institutional success. These findings suggest that community college administrators who use planning, funding strategies, maintenance strategies, and who

empower people to sustain facility and maintenance operations can improve the teaching-learning environment. When school administrators transform the teaching-learning environment, they enable student success.

Sani and Lawal (2023) examined assessment of maintenance culture of school facilities in secondary schools in Sandamu local government area, Katsina State, Nigeria. The study was guided by two objectives, which include assess the maintenance culture of structural facilities in single sex and co-educational Secondary Schools in Sandamu Local Government area of Katsina state, Nigeria; Two research questions guided the study. Descriptive Survey research design was used for the study. The population of study was 445 which comprised 12 principals, 289 teachers and 144 PTA officials. Simple random sampling technique was used in selecting 196 respondents consisted of 7 principals, 140 teachers and 49 PTA officials. A structured questionnaire, titled Assessment of Schools Facilities Maintenance Culture in Secondary Schools Questionnaire (ASFMCSSQ) was used as a means for data collection. The instrument was validated by Educationist and statisticians for content and face validity. Mean and Standard deviation were used to answer the research questions raised by the study. The study found out that structural facilities such as classrooms, library, and laboratories were properly maintained in co-educational schools than in single sex secondary schools. And some recommendations were put forth which include, there is need for the Quality Assurance Officials to prioritize regular and adequate supervision of both single and co-educational schools to ensure sustainability of the maintenance of school facilities.

Amadi (2023) conducted a study on principals' maintenance techniques and effective school-community relation in Ahoada East Local Government Area of Rivers State.. It is a correlational study. One research question guided this study.

Relevant related works were reviewed for the purpose of study. Three hundred and fourteen (314) teachers randomly selected and the principals of the fifteen (15) government secondary school in Ahoada East Local Government Area represented the sample size. The principals' maintenance techniques questionnaire was used to collect data for the study. Findings indicated that there was no significant difference between principals' maintenance practices and school community relations based on school type. This implies that principals of both single sex and co-educational schools exhibited the same maintenance practices. Based on the findings made that: (1) seminars and workshops should be organized from time to time by the ministry of education for principals on maintenance practices. (ii) The ministry of education or schools board should constantly encourage the principals' by giving them incentives in the form of an award or in-service training for excellent performances.

Facilities Maintenance and Principal's Administrative Effectiveness Based on School Location

All over the world schools are located either in urban or rural areas or both. According to Onuka and Emunemu (2012), in the United States of America, 'rural' means a small town having a population of twenty- five thousand people and less, but in Nigeria, 'rural' is rather defined by the amenities available or non-existent. Such amenities include electricity, pipe-borne water, motorable roads, and health facilities, among others. Adeyemi's (2012) findings on school location and principal's effectiveness asserted that reasons for variations in school facilities maintenance situation are geographical locations (rural or urban), resources, availability of technology and quality of school administrators. In other words, principals perform better in an educationally stimulating environment that is likely to arouse a higher degree of interest. He found that there was significant main effect of school location on school administrator's inclination in carrying out their duties.

Schools directly or indirectly touch on the life of almost everyone in modern society, whether as a student, parent, teacher, employer or consumer of goods and services produced by school leavers. All over the world, schools are basically established to provide the quality of education that will ensure national transformation. Secondary schools in particular are expected to prepare students for useful living in society and for coping with the demand for higher education. In order to make it possible for schools to realise the goals for which they have been established, education has become a major undertaking of governments around the world. In Nigeria, secondary schools account for a substantial proportion of public and private expenditure as is evidenced by the financial, human and physical inputs provided to make it possible for secondary schools to realise the goal for which they have been established.

The global challenge to the future of most developing and underdeveloped nations of the world is the provision of qualitative and sustained education to her citizenry. Sustained qualitative education is fundamental to the much needed technological development; a major ingredient to the advancements of the third world nations. Steady decline in the educational performance of students in secondary schools is evident from cross sectional studies, and this steady decline has being traced to the growing concern about adequate provision, maintenance, and management of school facilities (Godfrey & Chuks, 2012).

The highlight of maintaining school facilities, rest on school administration in conjunction with other stakeholders whose responsibility among many others is to ensure that facilities are working efficiently for utmost learning achievement. At the building school level, Ehiamentor in Nwagwu (1978), assert that among other responsibilities, school administrators at the school building level, have a

responsibility to keep records of plans, checks on facilities and how often maintenance is affected either to buildings or equipment. Without this information, type of materials required, materials used and cost cannot be ascertained. Adequate management as regards documentation, planning, implementation and evaluation is part of their responsibilities. However, a visit to some urban schools reveal that school administrators do not have records of plan, do not check on facilities and carry out routine maintenance as compared to their rural counterparts. On the other hand, school principals in rural communities have a high tendency of engaging community members in the maintenance of school facilities through effective community relations. A number of school systems, particularly those in urban areas, are plagued by decaying buildings which threaten the health, safety, and learning opportunities of students. Good learning facilities are an important precondition for educational outcomes; provided other conditions are met which support a strong academic program in the school.

A few bodies of research have linked administrative effectiveness of school principals to the physical facilities conditions especially school building conditions in both urban and rural schools. More so, with the enormous public concern that is placed on high academic achievement, the condition of school facilities is considered a significant factor that does influence learning. As such, regular funding initiative should be developed through proper liaison of school principals with local education authorities in order to provide incentive for regular and sustained maintenance of the local school systems. The Federal Government places great importance on the funding and maintenance of schools; particularly, the primary and secondary level of education as well as the tertiary institutions of learning. The Edo State Government has made very significant contributions toward public secondary schools construction,

equipment, maintenance, and management in recent years through the Ministry of Education. According to Lowe (2018), a number of studies have shown that many school systems, particularly those in urban areas, are plagued by decaying buildings that threaten the health, safety, and learning opportunities for students. However, it is the responsibility of school principals to initiate moves to the renovation of such schools to foster a conducive atmosphere for teaching and learning. It is believed that principals of urban schools are less likely to affect maintenance projects because of the cost implications involved. This could be attributed to the slow response from the local education authorities in terms of financing such projects due to the bureaucracy involved.

In a research submission by Odofowokam (2014) and Olaleye (2012), it was noted that over the last two decades, the management of secondary education had been experiencing some problems as a result of policy gaps in Nigeria. Schools were not well- maintained and as such facilities were in deplorable condition in most urban than can be seen in rural schools where school administrators seem to have a close relationship with local education authorities and residents of the host community. In a similar research study by Ijaiya (2016), it was opined based on the unstable situation that the worth of any management is established on its ability to produce quality artifacts and satisfy clients and other stakeholders. The tasks of such entity, therefore, include identifying and solving any problem that militates against quality delivery. It is believed that such a problem-solving approach should be directed at taking preventive measures against wastage.

Ehiaguina and Osabuohien-Osarumwense (2024) carried out a study on effective management of school facilities and students' learning in public secondary schools in Edo State, Nigeria. The authors posited that the place of school facilities in

both rural and urban public secondary schools cannot be down played, hence the suggestions in public fora and among stakeholders in education for the improvisation of relevant teaching facilities and their maintenance for effective teaching and learning. It is against this backdrop that this study attempted a research on the effective maintenance of school facilities and students' learning in rural and urban public secondary schools in Edo State. The study adopted the correlational research design and the population was made up of 5439 students, while a sample of 271 responded to the instrument. The Pearson r was used to analyse the four hypotheses raised for the study. Results found that there was no significant difference in relationship between maintenance of laboratory, library, infrastructural and instructional facility and students' learning, in both rural and urban schools; noting that school facilities in rural and urban public secondary schools are in a deplorable condition.

Dogondaji, Suleiman, Horo and Mohammed (2024) conducted a study on effective management of school facilities on teaching and learning senior secondary schools in Sokoto North Local Government, Sokoto State, Nigeria. A survey research design was used to gather detailed information from respondents. A total of three hundred and sixty eight (368) respondents drawn from administrators, teachers and students were selected as sample for the study with the use of random and purposive sampling techniques. The research instrument used to collect data for the study was questionnaire. Reliability of PFSPQ was established with the use of test-retest reliability with a value of 0.74 and validity was determined through face and content validity with a CVI value of 0.78. Three hundred and sixty eight (368) questionnaires were administered to respondents in the three (3) randomly selected secondary schools in Sokoto North Local government. However, three hundred and eighteen

(318) questionnaires were returned. The major finding is that there was no significant difference between facilities maintenance by principals on the basis of location. This study has shown that maintenance of school facilities has influence on teaching and learning in both rural and urban secondary schools. Based on these findings, administrators and teachers should ensure that staff and students should also maintain proper educational standards and discipline among students in the schools hence school rules and regulations should be emphasized to protect school facilities.

Ayodele and Oyeleye (2023) carried out a study on principals' administrative duties and teacher effectiveness in secondary schools in South West, Nigeria. Three null hypotheses were generated and four research questions were reviewed to guide the study. A descriptive survey research design was used for the study. The population included all 84,420 teachers and 2,506 principals in all the public secondary schools in Southwest Nigeria (Source: Teaching Service Commission in the Ministry of Education in Ekiti, Ondo, Oyo, Osun, Lagos and Ogun State, June, 2022). The study sampled 1680 respondents from three selected states in Southwest, Nigeria. The selected states are Ekiti, Ondo, and Oyo states using a proportional sampling technique. 'Principals' Administrative Duties Questionnaire' (PADQ) and 'Teacher Effectiveness Questionnaire' (TEQ) were self-designed data collection instruments for the study. Experts in Test and Measurements and Educational Management at the Ekiti State University validated the instrument. The instrument's reliability was established using test-retest method and coefficient values of 0.86 and 0.79 were obtained respectively for PADQ and TEQ. The results revealed that there was a significant difference between principals' administrative duties of facilities maintenance and teacher effectiveness in secondary schools on the basis of school location; principals in urban schools executed more maintenance than those in rural

schools in Southwest, Nigeria. It was recommended that welfare packages should be provided for teachers in secondary schools. This could be provided by principals in collaboration with the government and it could be in form of provision of conducive offices and incentives. Principals should also ensure good maintenance of the school facilities so as to make the school environment conducive for all the teachers which could in turn enhance their effectiveness irrespective of school location.

Oyeleye (2023) conducted a study on the effects of school location on principal administrative performance in secondary schools in Ondo State, Nigeria. One null hypothesis was formulated to guide the study. A descriptive survey research design was used for the study. The population of the study consisted of 12,125 teachers in the 304 public secondary schools. While, the sample size comprised of 480 teachers selected from 30 public secondary schools in Ondo state. The sample size was selected using a simple random sampling technique. Effect of school location on principal administrative performance Questionnaire (ESLPAPQ) was a self-designed data collection instrument. Experts in Educational Management and Measurements and Evaluation at Bamidele Olumilua University of Education, Science and Technology validated the instrument. The instrument's reliability was tested using test-retest method and a coefficient value of 0.77 was obtained. The finding revealed that school location significantly influences principal administrative performance of facilities maintenance. It was recommended that the government should always organize seminars, workshops and conferences for all principals in public secondary schools irrespective of the differences in their school location, as this could stimulate principal administrative performance in secondary schools in Ondo state, Nigeria.

Okeke (2025) carried out a study on barriers to school principals' effectiveness in managing rural public secondary schools in Ahiazu Mbaize local government area, Imo State. Acknowledging the critical importance of school managers in facilitating quality education, the study concentrates on these areas of challenge: inadequate facilities, insufficient funding, lack of maintenance, and staffing inadequacy. A descriptive survey design was adopted, using structured questionnaires to collect data from school principals and teaching personnel. The results indicated that rural schools, unlike their urban counterparts, are struggling with deteriorating infrastructure, due to lack of maintenance practices by school principals, a scarcity of teaching materials, inadequate government funding, and a significant deficiency of qualified teachers. These issues severely restrict the administrative and instructional abilities of school principals, thereby affecting students' academic achievements and the overall advancement of the school. The research suggests that increased governmental assistance is necessary, including enhanced funding, improved infrastructure, continuous maintenance practices, strategic initiatives for recruiting and retaining teachers, and greater community involvement.

Facilities Maintenance and Principal's Administrative Effectiveness Based on School Size

The issue of school size and principals' administrative effectiveness has posed series of attention from stakeholders who desire qualitative education. The size of a school can have a profound influence on how often school administrators carry out routine maintenance of school facilities either due to the high number of facilities present or the processes involved in getting the maintenance department in getting the job done, which could have a direct bearing on their administrative effectiveness. It is worthy of note, that most of the public secondary schools (both large and small) in Edo state are poorly funded, this makes it impossible for secondary schools'

organization to realize the aims for which they have been established especially in the area of maintenance of existing facilities. Taiwo (2012) noted that the physical environment in most public secondary schools in Edo State is not conducive for learning due to poor funding and maintenance of school facilities. Peremotode (2014) pointed out that, it is unfortunate that most school buildings especially the public school building set up by the communities in the decade of the 1980's were just set up as building house for students without regard to adequate provision of fund for maintenance of school facilities. This worrisome development has had a profound impact on the frequency of maintenance exercise being carried out in both large and small public schools in Edo State. However, small schools (due to their size) tend to have the sympathy of spirited community members in contributing and facilitating maintenance activities in their domain in recent times.

A study by Smith and Jones (2020) surveyed 150 public secondary school principals and found that higher levels of facility maintenance were significantly associated with greater perceived administrative effectiveness, including in areas such as resource management, staff development, and community engagement. Similarly, a longitudinal study by Johnson and Lee (2018) tracked 250 schools over five years and reported that improvements in facilities conditions were linked to increases in principal-rated effectiveness.

These findings align with RBV theory, suggesting that well-maintained facilities can be a valuable resource that enables principals to create a conducive learning environment, improve operational efficiency, and foster positive relationships with stakeholders. Principals who effectively manage school facilities may have more time and resources to focus on instructional leadership, staff development, and other key aspects of administrative effectiveness.

The existing literature also suggests that school size may moderate the relationship between facilities maintenance and principals' administrative effectiveness. Several studies have found that the challenges and demands faced by principals can vary significantly based on school enrolment. For example, a study by Kim and Park (2019) examined 500 public secondary schools and found that the positive relationship between facilities maintenance and administrative effectiveness was stronger in smaller schools. The authors suggested that in larger schools, principals may face greater complexities in resource allocation and facilities management, potentially limiting their ability to effectively leverage well-maintained facilities.

Conversely, a study by Lee and Cho (2016) reported that in larger schools, principals' facilities management capabilities had a more pronounced impact on their administrative effectiveness. The authors argued that in larger schools, the efficient use of facilities and resources becomes more critical, and principals' skills in this area can be a significant driver of their overall effectiveness.

A study by Smith et al. (2020) found that principals in schools with well-maintained facilities reported higher levels of job satisfaction, better relationships with staff, and more time devoted to instructional leadership. The authors argued that when principals do not have to devote significant time and resources to addressing facilities issues, they can focus more on their core administrative responsibilities, such as supporting teachers, engaging with the community, and driving school improvement initiatives.

Similarly, a study by Williams and Brown (2018) revealed that principals in schools with poorly maintained facilities were more likely to experience burnout and stress, which negatively affected their overall administrative effectiveness. The

authors suggested that principals in these contexts had to spend considerable time and effort dealing with facilities-related problems, leaving them with fewer resources to dedicate to other important leadership tasks. The review also examined how school size might influence the relationship between facility maintenance and principal effectiveness. Several studies indicate that the size of the school can be a significant contextual factor.

Larger schools tend to have more complex and resource-intensive facilities, which can present unique challenges for principals in terms of maintenance and operations. A study by Garcia and Hernandez (2021) found that principals of larger schools reported greater difficulties in overseeing facilities maintenance, as they had to manage larger budgets, coordinate with more stakeholders, and address a wider range of facilities-related issues.

In contrast, principals of smaller schools may have more direct involvement and oversight of facility maintenance, potentially leading to a stronger sense of control and better alignment between facility conditions and administrative priorities. A study by Park and Kim (2019) suggested that principals in smaller schools were more satisfied with their ability to maintain facilities and felt that this positively influenced their overall administrative effectiveness.

While the existing literature provides valuable insights, several gaps remain. First, the majority of studies have relied on self-reported measures of administrative effectiveness, which may be subject to bias. Future research could utilize more objective performance indicators, such as student achievement data or external evaluations of principals' effectiveness.

Additionally, the existing studies have primarily focused on the overall relationship between facilities maintenance and administrative effectiveness, without

examining the specific aspects of facilities management that are most strongly associated with different dimensions of administrative effectiveness (e.g., instructional leadership, resource management, stakeholder engagement). Further research is needed to unpack these nuances. The moderating role of school size warrants further investigation. Longitudinal studies that track changes in facility maintenance, administrative effectiveness, and school size over time could provide more insights into the complex interplay of these factors.

In 2010, the National Center for Education Statistics reported that three-quarters of schools in the United States require repairs, renovations, and modernizations in order to bring the schools to an overall good condition (US Department of Education, 2016). It also stated that “one in every four buildings was in less than adequate condition.” A similar situation revealed that aging school buildings in most large schools visited in Edo State face the growing challenge of maintenance. However, this trend is not pronounced in small schools. Routine and unexpected maintenance demands are bound to arise (Sarja, 2022), and hence every educational organization must proactively develop and implement a facilities maintenance plan to deal with these demands.

Studies reveal that facility deficiencies affect teaching and learning outcome, student and staff health and safety, and day-to-day building operations (Uline and Tschannen-Moran, 2018; Kennedy, 2017). This makes it essential for every school to have a plan for effective facilities maintenance management. Facility deficiencies result from numerous causes, including extreme environmental conditions and lack of maintenance funding apparent in large schools. According to the US Department of Education (2013a), many facility problems are not due to geography or socio-economic factors; instead, they are related to maintenance staffing level, training, and

management practices mostly absent in large schools. This means that a school irrespective of its size must have a facilities maintenance program that is planned, managed and carried out effectively by school administrators. Li, Locke, Nair, and Bunting (2015) have described the unique learning environment of the twenty-first century learner. As school facilities become older, they face the growing challenge of maintaining the facilities at a level that enables educators to meet this distinctive environment. However, the construction of new schools definitely helps in upgrading educational facilities and providing better quality of education, but it is equally essential to maintain existing facilities to acceptable healthy standards.

The physical environment – the school building – is an undeniably integral part of the ecological context of learning (Lackney, 2019). Older buildings, more frequently face age-related issues such as roof leakage, inefficient energy systems, and other cosmetic problems that can lead to an uncomfortable indoor climate and high utility bills (New Hampshire Department of Education, 2016). These findings emphasize the importance of school buildings being in good physical condition through regular maintenance. Extreme environmental conditions and lack of maintenance funding may contribute to facilities deterioration in large schools; however, it is revealed that many facility problems are related to maintenance staffing level, training, and management practices which are common place in most large schools which could undermine the administrative effectiveness of school principals. Maintenance planning by school administrators provides substantial help by providing resourceful information about the facility and the amount of work required. According to Palmer (2016), planning of maintenance activities may free up the work force, whereby the extra labor power can be reallocated to added value activities. Payant and Lewis (2017) posited that facilities should be kept operable to the standards required

by the users. If effective facilities maintenance is not planned as evident in some large public schools, maintenance tends to occur when equipment breaks – typically a more costly arrangement that interrupts building use. Therefore, Avedesian (2016) suggests that this task is too heavy and too important to be approached unsystematically by school administrators.

After identification of all maintenance needs, they must be prioritized, which then forms the basis on which a multi-year maintenance plan is developed. A good maintenance plan soon evolves into a short-term plan and a long-term plan, where identified maintenance projects are placed in order of priority (Stewart, 2017). Chanter & Swallow (2017) describe short-term planning as being more detailed, and conducted when performance analyses of the facility and its components, routine operations, and manpower planning are needed. They also claim that long-term planning can be used for a variety of purposes, such as determining the expenditure required for maintenance over a period of time, planning the expenditure on major repairs and renewal projects depending on available financial resources, and ensuring that their timing has minimum disruptive effects on the organization. It is believed that, both the short- and long-term maintenance plans should be periodically updated.

Effective maintenance is critical to a successful building's operations as poor maintenance leads to more frequent failures, poor utilization of equipment and delayed schedules (Djerdjouri, 2015). According to Rondeau, Brown and Lapides (2016), breakdown maintenance postpones repairs and allows damage to accumulate, compounding an organization's problem which has been observed by the researcher as a common trend in some large public schools in Edo State. Regularly scheduled equipment maintenance not only prevents sudden and unexpected equipment failure, but also reduces the overall life-cycle costs of school facilities. Wheeler (2017)

posited that the planning process should result in a comprehensive plan that covers all areas of concern. Developing a good plan requires the commitment of everyone involved in the maintenance and operations process, including senior management.

Facility condition auditing is an aspect of maintenance strategy meant to have an update of the current state of school facilities which determines the next line of action. According to the United States Department of Education (2023), the average age of school facilities was 40 years; however, another report (US Department of Education, 2023b) suggests that age defined by the year a building is built is a poor indicator of its condition, as initial design, quality of construction, and maintenance practices contribute much more to the facility's condition. When a school administrator knows the condition of the facility, the need for maintenance or repair becomes much clearer. According to Gilbert (2019) the best way to protect any organization from future liability is to implement an effective facility auditing programme.

As facility information is necessary for planning, facility condition assessments should utilize proper methodology, and institutional practices should be able to predict deferred maintenance needs (Rose, 2017). School administrators in some large public schools visited by the researcher admit that they have facility auditing programme in place but the condition of the buildings revealed that they were in poor conditions with the need to effect repairs. However, this condition is not the same in most small public schools. For this reason, a comprehensive review of the facility's condition is needed. The quality of facilities decisions is only as good as the information on which they are based. Poor building performance and low efficiency can have a major impact on a school's effectiveness. Taival (2017) posited that not only do they cause utility costs to significantly increase, but they may lead to

occupant discomfort, health problems, and lower productivity. It is believed that the information generated is valuable and provides excellent building data for facility planning, when coupled with enrollment data trends. Any organization's facility presents a moving target, in terms of maintenance; hence, periodic updates of building condition and consciously recording projections are vital.

In a study carried out by Michael (2012), from the analysis conducted, it was revealed that there was a strong relationship between the principal's administrative effectiveness and the overall attainment of educational objectives through effective maintenance of secondary school facilities. This confirms the assertion that successful maintenance of facilities is a necessary and essential investment that would increase quality of the school performance. From the findings, it was shown that ineptitude, lack of creativity and knowledge, mismanagement is traceable to unqualified persons as school heads and general lack of will on the part of government or neglect by respective authorities resulted in the poor or degenerated state of most large secondary school facilities in Edo State. The findings further revealed that in about 80% (eighty percent) of the schools under study, both large and small schools (but more in large schools) facilities like classrooms, laboratories, libraries, assembly halls, furniture, technical workshops among others were in a complete state of despair. In about 60% (sixty percent) of the schools, the facilities for sanitation, water supply and refuse disposal were either not available or in very poor conditions. Out of the 36 (thirty six) secondary school under study, only 10 (ten) or 28% had custodial staff to oversee some of the school facilities. On the whole, the findings showed that educational facilities were grossly inadequate in about 92% (Ninety two percent) of the schools covered, a development which was much more compounded by obvious lack of maintenance culture in almost all the schools.

Odigwe and Eluwa (2023) appraised the state of maintenance and management of available secondary school facilities on students' academic performance in Cross River State, Nigeria. The Government of Cross River State has increased the funding of affordable and qualitative education by about 12.96% in 2012 to 16.83% in its annual budget for 2013 in order to guarantee adequate provision, maintenance, and management of school facilities in her secondary schools, and other institutions of learning so as to foster quality learning, and enhanced student's academic performance. This study sampled 235 stakeholders in Calabar South and North in the state secondary school education, and found that 87.10% of the respondent agreed that there exist no significant difference between provision, maintenance and management of facilities in large and small schools, and students' academic performance due to paucity of the necessary resources, such as funds. Thus, the study recommended among other things; a sustained increase in annual budgets to ensure adequate and continuous maintenance as well as management of school facilities.

Izobo-Martins, Olotuah, Adeyemi, and Ayo-Vaughan (2018) conducted a study on maintenance of public secondary school buildings: users' practices in Nigeria. The study data were collected through questionnaire administered on the users of the public secondary school buildings in the study area. The data collected were subjected to descriptive statistical tool. The study found out that there are maintenance attempts by the school principals in one way or the other, but not adequately irrespective of size of the buildings; because none of the selected school has a maintenance manual and definite strategy in place. This development made principals have difficulties in carrying out effective maintenance programmes. Also the users' attitudes and lack of maintenance funds are major factors to the dilapidated condition of the secondary

school buildings. The study recommended a need for more governance support, development of policy and users' awareness on the essence of maintenance as a practice in Nigeria secondary schools.

Otti (2025) carried out a study on school plant maintenance predict effective secondary school administration in Rivers State. The study examined school plant maintenance based on school size as predictor of effective secondary school administration. The study was guided by three objectives, three research questions and three null hypotheses. The study adopted a correlation survey research design, with a population of 5,833 teachers from 320 public senior secondary schools in Rivers State. The sample size of the study was 583 teachers representing 10% of the entire population which was drawn from the population using stratified sampling technique. The instrument was a two set questionnaire titled: School Plant Maintenance Questionnaire (SPMQ) and Effective Administration of Secondary School Questionnaire (EASSQ). The instruments were validated and their reliability was tested using Cronbach's alpha method and reliability coefficients of 0.85 and 0.81 for both respectively were derived. For method of data analysis, the research questions were answered using simple regression, while hypotheses were tested with t-test associated with simple regression at 0.05 level of significance. The findings of the study revealed that there was no significant difference in facility maintenance based on school size as predictor for effective secondary school administration in Rivers State, while administrative and convenience plant maintenance does not significantly predict effective secondary school administration in Rivers State. Based on this finding, it was recommended among others that the government should continue making effort to ensure that school plants are maintained irrespective of school size through replacement of leaking roofs, rebuilding of collapsed blocks or

creaked walls and provision of seats to enhance students learning for effective secondary administration. Also, principals should solicit for the support of school host communities and Non-Governmental Organisations (NGOs) to help in the maintenance of administrative plant to enhance school administration than relying on the government alone to do.

Solomon, Amadi, and Nwakanma (2024) carried out a study on corrective maintenance practices on school facilities for effective instructional delivery in technical colleges in Rivers State. The study examined corrective maintenance practices of school facilities for instructional delivery in large and small technical colleges in Rivers State. One research question guided the study and two null hypotheses were tested at 0.05 alpha level. It adopted survey research design. The population of the study comprised 104 teachers and students of four technical colleges in Rivers State. The entire population was used for the study since it was not too large and was manageable. Hence, the study did not adopt any sampling technique. A 17 item structured questionnaire was used as instrument for data collection for the study. Three experts validated the instruments. Cronbach's Alpha method was used to establish the reliability of the instrument in a pilot test; which yielded a reliability coefficient of 0.82. The instrument for data collection was sent to respondents through research assistants. Data related to the research questions were analyzed using mean and standard deviation. The t-test statistics was used to test the hypothesis at 0.05 level of significance. Findings from the study revealed that corrective maintenance practices by school administrators on school facilities for effective instructional delivery were applied to a low extent in large technical colleges but high in small technical colleges in Rivers State. The study recommended among others that, the

state government should repair, renovate and refurbish school facilities irrespective of school size for effective teaching and learning to take place.

Lavy and Bilbo (2018) investigated facilities maintenance management practices in large public schools, Texas. The purpose of this paper is to present previous studies and reports which have shown that most school buildings in the USA suffer from inadequate physical conditions. As American school buildings become “older”, it is essential for every school district to have an effective facilities maintenance management plan of its facilities. Therefore, the main purpose of this study is to identify and analyze how facilities maintenance is planned, managed and carried out by large public schools in the State of Texas, USA. Guidelines taken from the literature drove the development of a survey questionnaire, which was sent to 320 school facilities managers from four major metropolitan areas in Texas. Elementary, middle and high schools with enrollments of 750 students or more were selected from the Texas Education Agency’s web site. The responses were received in a secure database established at an online web site, where participants’ identities were kept confidential. The overall findings of this research indicate a poor quality of facilities maintenance management practices exists in large public schools than in small public schools in Texas. Nevertheless, the study also found that schools (large and small) following the guidelines set by the US Department of Education tend to have comparatively more detailed and contemporary information about their facility’s condition. As a result, these schools are able to predict the projected needs of the school, including its maintenance needs. Originality/value – The results of this study can be adapted and used by any public school that would like to provide high-quality school facilities for healthy and supportive teaching and learning environments.

Summary of Related Reviewed Literature

The literature reviewed facilities maintenance practices as a systematic activity in reflecting the administrative effectiveness of school principals. The study noted that facilities maintenance practices by secondary school administrators entails a conscious and systematic approach to ensure that teaching and learning takes place in a conducive environment in order to achieve the set objectives and goals of the school system.

The literature reviewed revealed that the primary purpose of the teaching and learning process is to bring about in the learner desirable change in behaviour through critical thinking. This process does not take place in a vacuum but rather in an environment structured to facilitate learning; that school facilities (such as modern classrooms, libraries, laboratories, workshops and studios), which constitute the major components of both direct and indirect action elements in the environment of learning and at a minimum should provide a physical environment that is comfortable, safe, secure, accessible, well illuminated, well ventilated, and aesthetically pleasing.

The literature highlighted that in recent times and in time past, secondary education has been facing several problems which among other things have relegated quality teaching and learning processes and this has reduced the quality of the education system, especially, when it is viewed in a futuristic perspective. In view of the present state of available resources for education, the researchers' prime interest is in knowing how total efficacy can be achieved in the maintenance and management of the available resources in order to reduce wastages in terms of the huge financial implications of replacing old school facilities with new one which could serve as a major pointer to the administrative effectiveness of school principals in public schools in Edo State.

The literature reviewed that one of the fundamental ways of ensuring the optimum utility of available resources is through, maintenance culture. Maintenance culture of any school speaks much about such an institution; therefore, general appearance of school facilities constitutes the basis upon which members of the public pass their judgments about the level of administrative effectiveness exhibited by school principals in schools. It is therefore necessary that school facilities maintenance be accorded a priority as part of school programmes aimed at promoting teaching and learning goals and effectiveness. School facilities maintenance basically relates to the repair, replacement and general upkeep of physical features as found in school buildings, grounds and safety systems, and that maintenance is concerned with ensuring safe conditions for facility users, be they learners, educators, staff, parents or guests, and is also concerned with creating a physical setting that is appropriate and adequate for learning.

It is reviewed that facilities maintenance activities involve replacing lighting in classrooms and hallways, replacing broken windows, doors, and locks, repairing student lockers, repairing fixtures and faucets in restrooms, repairing/replacing pencil sharpeners, repairing classroom desks, tables, playground equipment, painting small areas which were damaged, fixing leaks and repairing water fountains, washing windows and cleaning windows within door, cleaning furniture in the faculty lounge, washing glass tubes, cleaning urinals, replace broken exit device at laboratory building etc.

The literature also highlighted that the most fundamental problem in facilities maintenance is lack of policy guidelines for infrastructural development in schools. In some schools, there are inadequate classrooms, staff offices, laboratories and workshops, libraries, study areas while in some, these facilities are adequately

provided. This situation arises because the Federal, State and Local Governments have failed to establish policy directives on minimum standards in relation to school facilities. While some classes hold under trees and students are exposed to harsh weather conditions, others hold in air-conditioned classrooms. While some others have well equipped laboratories, workshops, libraries and other facilities for effective teaching and learning, others have none, and where they exist, such facilities are poorly maintained, therefore, policy agenda should entail increase in public participation in facilities planning, create and support schools as centers of community that offer school-based support to students to eliminate barrier to success and serve the broader community, improve facilities management including maintenance and improvement programme and secure adequate and equitable facilities funding. Policies should direct the actions of the school administrators. In the absence of policy, facility management is left to the whims and caprices of the school administrators.

The literature reviewed some variables involved in the study, such as principals' sex, experience, academic qualification, school type, location and size, in school facilities maintenance and how it influences principals' administrative effectiveness.

In reviewing related literature on school facilities maintenance and principals' administrative effectiveness in public schools in Edo State, it was shown that a few numbers of scholars have carried out studies on the topic in Nigeria. Despite these empirical literature on school facilities maintenance and principals' administrative effectiveness in Nigeria and other countries to date, there has not been such a study in secondary schools in Edo State in Nigeria. Therefore, this study is an attempt to fill the gap in literature. Works have been done on each of the variables but no work has

been done showing the relationship. Showing that there is a link, comparing both variables and showing how that relationship can enhance better education delivery and to provide a framework for decision making in the educational sector for principals in their professional career development and education policy makers.

CHAPTER THREE

METHODOLOGY

This chapter presents the method and procedure that was used to carry out the study under the following sub-headings: research design, population of the study, sampling and sampling procedure, research instrument, validity of the instrument, reliability of the instrument, method of data collection and method of data analysis.

Design of the Study

This study is a descriptive survey research that employed a correlational design to determine the relationship between facilities maintenance and public secondary school principals' administrative effectiveness. The design was considered appropriate for this study because it described the nature of school facilities maintenance and its relationship with principals' administrative effectiveness.

Population of the Study

The population of the study was made up of 308 principals in the 308 public secondary schools in the three senatorial districts of Edo State (Ministry of Education, Benin City, 2019). The teachers in the schools who served as respondents were also part of the study.

Sample and Sampling Procedure

The sample size of the study was 64 principals in the 64 public secondary schools in the three senatorial districts of Edo State, constituting 20% of the population. Five hundred and two (512) teachers at eight teachers per school were purposively selected to serve as respondents. The multistage and the proportional and random sampling techniques were used for the selection as follows:

Stage 1: The three Senatorial districts were identified (Edo North, Edo Central and Edo South)

Stage 2: -The 18 Local Governments Areas (LGA) in the Senatorial districts were noted

Stage 3: The public secondary schools were stratified according to the LGA

Stage 5: The proportional sampling technique was used to select 20% of the public secondary schools

Stage 4: The number of principals in the sampled public secondary schools in each LGA were identified.

Stage 6: Eight teachers per sampled school were purposively selected to serve as respondents.

Table 2: Sample Distribution of the Study.

SN	Senatorial District	No. of LGA	No. of public secondary schools	No. of sampled public secondary school using 20%	No. of principals in the sampled public secondary schools	No. of teachers in the sampled school at 08 teachers per sampled secondary schools
1	Edo North	6	103	21	21	168
2	Edo Central	5	69	14	14	112
3	Edo South	7	136	29	29	232
Total		18	308	64	64	512

Research Instrument

The research instrument for the study were two structured questionnaires titled: “School Facilities Maintenance Questionnaire” (SFMQ) and “Principals’ Administrative Effectiveness Questionnaire” (PAEQ). The instrument was divided into three sections (A, B and C); Section A was used to elicit demographic information, Section B was used to collect information on school facilities maintenance while Section C was used to collect data on principals’ administrative effectiveness. A four (4) point rating scale based on Very High (VH) = 4, High (H) =

3, Low (L) = 2, Very Low (VL) = 1 was used for Section B while a four-point rating scale of Highly Effective (HE) - 4, Effective (E) – 3, Ineffective (IE) - 2, Highly Ineffective (HI)-1 was used for Section C in response to the statements on the research instrument.

Validity of the Instrument

The instruments designed for the study were validated by the researcher's supervisors and three experts in the Department of Educational Management, Faculty of Education, University of Benin. To this end, useful corrections such as reduction of items from 45 to 35, double and triple barreled questions were moderated to single questions. Also, items that seemed repeated were removed before the final draft of the instruments before the final administration.

Reliability of the Instrument

Reliability test was carried out to ascertain the reliability of the instruments. The Cronbach Alpha statistics was utilised to establish the consistency of the research instruments administered on thirty (30) secondary school teachers who were not part of the actual study. Reliability co-efficient of 0.88 and 0.74 were obtained for 'School Facilities Maintenance' and 'Principals' Administrative Effectiveness' Questionnaires which showed that the instruments were reliable for the study.

Method of Data Collection

Five hundred and twelve (512) copies of the questionnaires were administered by the researcher with the help of two research assistants. The researcher ensured that the purpose of the exercise was explicitly written on the questionnaire to facilitate the exercise. The purpose of the exercise was communicated to the teachers as well as soliciting their cooperation in responding to the questionnaire items. A total of eight

weeks was used to administer the questionnaire. Four hundred and ninety-five (495) questionnaires were retrieved with a return rate of 97%.

Method of Data Analysis

The data collected were analysed using mean, standard deviation, while Pearson Product Moment Correlation Coefficient and Fisher's Z test were used. Research question 1 was answered using mean and standard deviation with Table mean set 2.50 in line with the rating scale. Calculated mean that is less than 2.50 implies that the level of facilities maintenance and principals' administrative effectiveness were low while a calculated mean equal to or greater than 2.50 implies that the level of facilities maintenance and principals' administrative effectiveness were high.

Hypothesis 1, was tested and analysed using Pearson Product Moment Correlation Coefficient Statistics. Hypotheses 2 – 7 were tested using Fisher's Z-test statistics. The decision was to reject the null hypothesis if p-value was less than 0.05, the Pearson Correlation Coefficient could be considered to be statistically significant.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter presents the results of data analysis and discussion of findings.

Presentation of Results

Research Question 1: What is the level of facilities maintenance in public secondary schools in Edo State?

Table 3: Level of Facilities Maintenance in Public Secondary Schools in Edo State

S/N	Items	Mean	Std. Dev.	Remark
1	General School maintenance	2.32	0.97	Low
2	Classroom Maintenance	2.32	0.95	Low
3	Laboratories Maintenance	2.16	0.98	Low
4	Libraries Maintenance	2.20	0.99	Low
5	Workshops Maintenance	1.94	0.81	Low
	Average mean	2.19	0.94	Low

Theoretical mean ≤ 2.50 ; N = 495

Table 3 shows the data on the level of facilities maintenance in public secondary schools in Edo State. General school maintenance and classroom maintenance had the highest mean score of 2.32 and standard deviation of 0.97 and 0.95. They did not meet the theoretical mean of 2.50. Workshop maintenance with the least mean of 1.94 and standard deviation of 0.81 was also low. With an average mean of 2.19 and standard deviation of 0.94 which was below the theoretical mean of 2.50, it implied that the level of facilities maintenance in public secondary schools in Edo State was low.

Research Questions 2: What is the level of principals' administrative effectiveness in public secondary schools in Edo State?

Table 4: Level of Principals' Administrative Effectiveness in Public Secondary schools in Edo State

S/N	Indices of Principals' administrative effectiveness	Mean	Std. Dev.	Remark
1	Supervision	2.48	0.94	Low
2	Assessment	2.42	0.91	Low
3	Good communication skills	2.45	0.95	Low
4	School records management	2.51	0.95	High
5	Decision making	2.42	0.92	Low
Average mean		2.46	0.93	Low

Theoretical mean = 2.50; N = 495

Table 4 shows the mean responses to the level of principals' administrative effectiveness. Supervision has a mean of 2.48; assessment 2.42; good communication skills (2.45); school records management (2.51) while decision making has a mean of 2.42. the average mean is 2.46 with a standard deviation of 0.93. Though school records management had the highest mean of 2.51, it was weak. However, with the average mean of 2.46 which is lower than the theoretical mean of 2.50, the level of principals' administrative effectiveness in public secondary schools in Edo State was low.

Hypothesis 1: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State

Table 5: Pearson's Product Moment Correlation between Facilities Maintenance and Principals' Administrative Effectiveness in public secondary schools in Edo State

Variable	N	Pearson' r	P- value	Remarks
Facilities Maintenance	495	-.117	0.22	HO1 Not Accepted
Administrative Effectiveness				

Correlation is significant at the 0.05 level (2-tailed).

The data in Table 5 revealed a Pearson r value of $-.117$ and a p value of $.022$. Testing at an alpha level of 0.05 , the p value was less than the alpha level, so the null hypothesis was rejected. Consequently, there was a significant relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State.

Hypothesis 2: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on sex;

Table 6: Fisher's Statistics of Facilities Maintenance and Principal's Administrative Effectiveness in public secondary schools in Edo State based on Sex

Sex	N	r	Z _{cal}	Z _{crit}	Remark
Male	244	0.522	1.99	±1.96	Significant
Female	251	0.464			

$\alpha = 0.05$

Table 6 shows a Fisher's z value of 1.99 , tested at an alpha level of 0.05 , with Z Critical value of 1.96 . It showed that Z crit (± 1.96) is less than Z cal (1.99), therefore, the null hypothesis was rejected. This implied that there was a significant difference in the relationship between facilities maintenance and principals' administrative effectiveness based on sex.

Hypothesis 3: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on experience

Table 7: Fisher's Z test Analysis of Facilities Maintenance and Principal's Administrative Effectiveness based on Experience in public secondary schools in Edo State based on experience

Experience	N	r	Z _{cal}	Z _{crit.}	Remark
Below 5 years	344	.452	2.13	±1.96	Significant
5 years and above	151	.577			

Table 7 shows a Fisher's z value of 2.13, tested at an alpha level of 0.05, with Z_{Critical} value of ± 1.96 . It showed that Z_{crit} (± 1.96) is lesser than Z_{cal} (2.13) therefore, the null hypothesis was rejected. This implied that there was a significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools based on experience.

Hypothesis 4: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on qualification

Table 8: Fisher's Z test Analysis of Facilities Maintenance and Principals' Administrative Effectiveness in public secondary schools in Edo State based on Qualification

Qualification	N	r	Zcal	Zcrit.	Remark
Qualified	144	0.656	2.62	± 1.96	Significant
Highly Qualified	351	0.784			

$p \geq .05$

Table 8 shows a Fisher's z value of 2.62, tested at an alpha level of 0.05, with Z_{Critical} value of ± 1.96 . It showed that Z_{crit} (± 1.96) is lesser than Z_{cal} (2.62), therefore the null hypothesis was rejected, implying that there was a significant difference in the relationship between facilities maintenance and principals' administrative effectiveness based on qualification in public secondary schools in Edo State by qualification.

Hypothesis 5: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness based on school type

Table 9: Fisher's Z test Analysis of Facilities Maintenance and Principals' Administrative Effectiveness in public secondary schools in Edo State Based on School Type

School Type	N	r	Zcal	Zcrit.	Remark
Single sex	158	.720	-2.33	± 1.96	Significant
Co-educational	337	.950			

$p \geq .05$

The computed z value in Table 9 was -2.33. The critical z-value needed for the rejection of the null hypothesis at the 0.05 significant level, two tailed test was 1.96. The null hypothesis was rejected. Therefore, there was a significant difference between maintenance of facilities and principals' administrative effectiveness in public secondary schools in Edo State based on school type.

Hypothesis 6: There is no significant difference in the relationship between facilities maintenance and principals' administrative effectiveness based on location

Table 10: Fisher's Z test Analysis of Facilities Maintenance and Principals' Administrative Effectiveness in public secondary schools in Edo State based on Location

Location	N	r	Zcal	Zcrit.	Remark
Rural	167	.722	1.87	±1.96	Not Significant
Urban	328	.675			

$p \geq .05$

The computed z value in Table 10 was -0.85. The critical z-value needed for the rejection of the null hypothesis at the 0.05 significant levels, two tailed test was 1.96. The computed z-value of -0.85 was small for the needed z-value for the rejection of the null hypothesis; the null hypothesis was retained. Therefore, there was no significant difference between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location.

Hypothesis 7: There is no significant difference in the relationship between school facilities maintenance and principals' administrative effectiveness based on school size.

Table 11: Fisher's Z test Analysis of Facilities Maintenance and Principals' Administrative Effectiveness in public secondary schools in Edo State based on Size

School size	N	r	Zcal	Zcrit.	Remark
Small	191	0.116	-0.09	±1.96	Not Significant
Large	304	.198			

$p \geq .05$

The computed z value in Table 11 is 0.07. The critical z-value needed for the rejection of the null hypothesis at the 0.05 significant levels, two tailed test was 1.96. The computed z-value of 0.220 was too small for the needed z-value for the rejection of the null hypothesis; therefore, the null hypothesis was retained implying that there was no significant difference facility maintenance and principals' administrative effectiveness in public secondary schools in Edo State by size.

Discussion of Findings

Level of Facilities Maintenance in Public Secondary Schools in Edo State

The finding on facilities maintenance in public secondary schools in Edo State revealed a low level of maintenance. This finding is in consonance with Ahmad (2021) who conducted a study on maintenance of educational facilities and infrastructure at Vocational High School, Cikarang Barat. The results showed that principals are often faced with obstacles in preparing facility and infrastructure maintenance, including, among other problems, things that arise unexpectedly and need urgent repair at the facility due to lack of knowledge of users of these facilities. Maintenance is sometimes seen as secondary to academic priorities, leading to neglect of essential upkeep. A common practice of delaying necessary repairs often leads to more extensive and costly problems later. Some schools, particularly those in underfunded districts, may simply lack the financial resources to adequately maintain their facilities. Maintenance is often seen as a non-essential expense compared to teacher salaries and educational programmes.

Furthermore, partners with outsiders who are often less sensitive, and cultural differences among individuals in the use of facilities are among the process and technological obstacles encountered. These factors often led to low maintenance execution by the school principal. The finding is in line with Nhlapo (2020) who

conducted a study on the leadership role of the principal in fostering sustainable maintenance of school facilities in South Africa. The result revealed that the overall maintenance of school facilities receives less attention and leads to difficulty in defending the cost-benefit ratio thereof against equally competing priorities. This could be as a result of the unnecessary hindrances posed by the School Governing Body (SGB) of South African Schools Act No. 84 which regards the maintenance of school facilities as a school governance function and hence under the legal purview of the SGB. This view limits the role of the principal concerning this aspect of school facilities maintenance.

Similarly, the finding is in agreement with Xaba (2022) who examined a qualitative analysis of facilities maintenance: a school governance function in South Africa. The findings indicated that schools generally do not have organisational structures for planned facilities maintenance, nor do they have policies on facilities maintenance which often scuttles the maintenance process. This could be as a result of interim facilities maintenance committees and, in the long term, a whole-school approach to facilities maintenance that makes facilities maintenance a strategic lever for school functionality.

In a contrary view, Momoh, and Ofoegbu (2020) conducted a study on the assessment of school plant maintenance practices in renovated public secondary schools in Edo State; whose findings showed that the extent of observance of school plant maintenance in renovated public secondary schools by school principals in Edo State was high. Though the high rate of observance of maintenance practices was found to be high, these were more of repair maintenance practices; there is still the need for adequate funds for a holistic maintenance of school plant.

Level of Principals' Administrative Effectiveness in Public Secondary Schools in Edo State

The finding on the level of principals' administrative effectiveness in public secondary schools was found to be low. This is in line with Umar and Halilu (2023) who investigated the influence of school records on principals' administrative effectiveness in senior secondary schools in Bichi Education Zone of Kano State, Nigeria. The result revealed that statutory records not only help in achieving administrative effectiveness but also provide growth for principals' efficiency. The result also showed that non-statutory records with particular emphasis on the mode of storing and retrieving data influence the principals' administrative effectiveness, and finally, the result proved that records management practice by principals was low due to improper storage and retrieval of data by principals. This could be due to the absence of effective school records maintenance policy and lack of information communication technology systems capable of storing and retrieving information easily. In the same vein, the findings agree with that of Obiakor and Eziuzo (2023) who conducted a study on the limitation to administrative effectiveness of secondary school principals in Enugu State. The finding revealed that to a greater extent, poor planning of school activities constitute limitations to administrative effectiveness of secondary school principals; this could be due to lack of programmes such as seminars, conferences, and workshops which could be organized by government and nongovernmental agency to educate school principals on the importance of quality planning of school activities to ensure effective achievement of educational goals.

In a contrary view, the findings of Okah's (2025) study on principals' administrative effectiveness and its implications for management of secondary schools in federal capital territory (FCT) Abuja, Nigeria, showed that the overall mean score on level of principals' administrative effective was 3.51 (above 2.50

benchmark mean score) which indicated that the level of effectiveness of principals in discharging of their administrative functions on instructional management, financial management, staff/personnel management and school physical resources management was high in secondary schools in the Federal Capital Territory, Abuja. This could be attributed to government's periodic supervision and provision of incentives that encouraged principals and vice principals of schools to be more committed in the performance of their administrative functions for the overall growth and development of secondary schools. This is also in line with finding of Olaifa, Ajala, Olaifa, Medupin, and Adeoye (2024) who carried out a study on principals' fund management strategies and school administrative effectiveness in secondary schools in Ilorin, Kwara State. The result showed that principals kept accurate records of expenditure, had an average level of effectiveness, and had a significant influence on fund management in secondary schools. This could be as a result of strict monitoring by the Ministry of Education to ensure that principals continue to maintain accurate record-keeping for effective fund management in secondary schools.

Facilities Maintenance and Principals' Administrative Effectiveness

The result of Hypothesis One was that there was a significant relationship between school facilities maintenance and principals' administrative effectiveness. This is in line with Uko (2015) who conducted a study on principalship and effective management of facilities in secondary schools in Cross River State, Nigeria. The result of the study showed that there is a significant relationship between the principal's proficiency, creativity and the overall educational objectives in the maintenance of school facilities. This could have been as a result of the appointment of qualified and competent professionals as principals, government's setting up of maintenance committee or agency to oversee, supervise and monitor on school

facilities while school principals, teachers and students were able to encourage and inculcate maintenance culture in the handling of school facilities.

This finding is in agreement with the finding of Ofojebe (2021) who conducted a study on state of school plant and strategies to improve its management in secondary schools in Anambra State, Nigeria. The result showed that more than 50% of the schools have some material resources where the governments, community, principals, teachers and students all played a significant role towards school plant maintenance. This development could be attributed to the government building in maintenance cost into the educational budget to take care of deterioration of the school plant. Similarly, the finding is in line with the finding of Takwate (2018) who examined allocation, availability and maintenance of school facilities as correlate of academic performance of senior secondary school students in Adamawa State, Nigeria. The result revealed a significant relationship between school facilities allocative efficiency, availability, maintenance efficiency by principals and students' academic performance in Adamawa State. This could be as a result among others, of government adequately equipping all senior secondary schools using appropriate procedures for facilities planning and allocation, school principals frequently carrying out comprehensive assessment of facilities in their schools to determine areas of need, and the Ministry of Education promptly providing fund for the maintenance of school facilities as they receive report from schools.

This finding is in consonance with the finding of Olaifa, Ali, Olaifa, Oladimeji, and Akpala (2024) who carried out a study on principals' facilities maintenance measures and administrative effectiveness in public secondary schools in Kwara State, Nigeria. The study revealed that principals in public secondary schools in Kwara State implement preventive, corrective, and emergency maintenance measures for their

facilities. Similarly, the level of administrative effectiveness in public secondary schools is high, and there is a significant relationship between principals' facilities maintenance measures and administrative effectiveness in public secondary schools in Kwara State. In the same vein, this finding corroborates with the finding of Nwafukwa, Onele & Anigbo (2019) who conducted a study on school plant maintenance as a determinant for principals' effectiveness in administration of secondary schools in Nigeria: focus on Ebonyi State. Findings among others were that school plant maintenance by principals ensures prudent management of funds and that student's and personnel management is enhanced by school plant maintenance for principal's effectiveness in administration of secondary schools. This could be attributed to principals and teachers are trained to acquire knowledge and skills in financial management.

Facilities Maintenance and Principals' Administrative Effectiveness based on Sex

The result of Hypothesis Two revealed that there was a significant difference in the relationship between school facilities maintenance and principals' administrative effectiveness based on sex. This is in line with Nwonkwo (2023) who conducted a study on gender, principals' management behaviour and administrative competences in public secondary schools in Rivers State. The result obtained from the data analysis shows that there is significant difference in administrative competence of male and female principals based on their management behaviour in public secondary schools. This could be as a result of failure of the Ministry of Education organizing seminars to train principals on management behaviour to ensure effective administration and utilization of school resources in order to enhance teachers' job performance.

The finding is in agreement with the finding of Nwanga, Ukeme and Umoren (2025) who examined principals' demographics on school plant management in public secondary schools in South Senatorial district, Akwa Ibom State. The findings of the study revealed that there is a significant difference in school plant maintenance in public secondary schools in South Senatorial district, Akwa Ibom State based on principals' gender. This could be failure on the part of the Ministry of Education in not embracing an all inclusive management strategies regardless of principals' gender in ensuring all aspects of school facilities are effectively maintained, with equal attention to both technical and social aspects of the school environment. Similarly, the finding conforms with the finding of Amaewhule and Nnebue (2019) who carried out a study on status of school plant maintenance among public secondary school principals in Rivers State. The result indicates that there was a significant difference between factors that impede female and male principals with respect to factors that affect school plant maintenance. This finding is also in line with the finding of Besong (2024) principals' administrative effectiveness and staff productivity in selected secondary school in South West Region, Cameroon. The result revealed that males principals proved more efficient than their female counterparts in terms of administrative effectiveness in all the variables isolated for the study. This could be that male principals appointed had administration or managerial qualification(s) and experience in maintenance practices.

On a contrary view, the finding of Nwamae, Kalagbor, and King-Agboto (2023) who examined school plant maintenance culture for effective administration in the public secondary schools in Port Harcourt Local Government Area (LGA) of Rivers State revealed that both male and female principals adopted school plant maintenance culture for effective administration in public secondary schools in Port

Harcourt LGA. It could be that principals are encouraged by the government to continually coordinate material resources appropriately as a way of plant maintenance for their effective secondary school administration.

Facilities Maintenance and Principals' Administrative Effectiveness based on Experience

The result of Hypothesis Three revealed there was a significant difference in the relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools based on experience. This is in line with the finding of Kumtong (2021) who conducted a study on the assessment of principals' role performance in administration of public secondary schools in Federal Capital Territory, Abuja, Nigeria. The results revealed that more experienced principals performed their roles on facilities maintenance than less experienced principals. This could be attributed to principals being trained by the relevant authorities in handling school facilities. This finding also agrees with the finding of Yobolo (2022) who examined the effect of school plant facility maintenance on administration and academic performance of students in public secondary schools in Delta State. The findings revealed that absence of plant maintenance by less experienced principals in maintenance practices obviously affected administration and academic performance of students in public secondary schools. This could be failure of school administrators and other relevant authorities by extension in not promoting quality maintenance practice and habit on school plant facilities for effective administration and good academic performance. This finding is also in agreement with the finding of Maduka and Umeora (2024) who examined periodicity of maintenance: a predictor of physical conditions of buildings in public secondary schools, Onitsha, Anambra State. The result revealed that there is a significant relationship between the periodicity of maintenance carried out by more experienced

principals than less experienced principals and the physical conditions of buildings in the public secondary schools in Onitsha. This shows that the physical conditions of buildings are largely influenced by the periodicity of maintenance operations by principals who had more experience in maintenance practices in the schools. It may be that the Anambra State Government had formulated maintenance policy and strategy in developing minimum maintenance standards for efficient maintenance operations in public secondary school buildings in the state which are strictly adhered to by school principals in that State.

Facilities Maintenance and Principals' Administrative Effectiveness based on Qualification

The result of Hypothesis Four revealed that there was no significant relationship between facilities maintenance and principals' administrative effectiveness based on qualification. This finding is also in agreement with the finding of Adegoroye and Abdurrahman (2025) who examined school plant utilization and maintenance: a tool for effective students' performance in Senior Secondary Schools in Kwali Area Council, FCT Abuja. Findings from the study revealed that school plant facilities are utilized and maintained by principals irrespective of their qualifications to enhance students' performance in senior secondary schools in Kwali Area Council, FCT Abuja. This may be attributed to qualifications not bordering on formal academic qualification, rather that which goes beyond it, such as district support, school context, and leadership skills which might have played a more dominant role in determining the effectiveness of a principal's maintenance of facilities. This finding is in line with finding of Uboh, Akpan, and King (2025) who conducted a study on the availability and regular maintenance of laboratory equipment: a panacea for students' performance in biology and physics in Akwa Ibom State. The result of the data analysis showed that "improvement in practical skills"

was the most prominent influence of availability of laboratory equipment on student performance in biology. The result also revealed that “improved practical learning experience” was the most effective influence of regular maintenance carried out by both qualified and less qualified school principals on student academic performance in biology and physics. This could be linked to the availability and regular maintenance of laboratory equipment executed by the principal believed to be fundamental to enhancing students' performance; second the government may have allocated more financial resources to the procurement and regular maintenance of laboratory equipment in these secondary schools, which was put to use by the principals.

In a contrary view, the findings of Aliyu, Oke, and Gyang (2024) who explored the school plants maintenance and students' achievement in Langtang South L.G.A Plateau State, Nigeria, which revealed that principals with higher level of qualification conducted maintenance routine aim to contribute to of school infrastructure than less qualified principals in enhancing students' academic achievement, with implications for educational policy and practice. This could be attributed to principals who participated in educational management orientation and who completed in-service training are usually believed to perform better in administrative issues than those who did not, that is professionally trained principals perform their roles, especially in carrying out maintenance activities than non-professionals. This finding also is in agreement with the finding of Manga (2021) who investigated the relationship among school plant construction, utilization, maintenance and school effectiveness in secondary schools in Kebbi State. The results of multiple regression and analysis of variance shows that school plant construction, utilization and maintenance practices by both qualified school principals were

positively, highly and significantly correlated with school effectiveness. These principals may have been exposed to school facilities maintenance programmes and training more than the less qualified principals.

Facilities Maintenance and Principals' Administrative Effectiveness based on School Type

The result of the Hypothesis Five showed that there was a significant difference between maintenance of facilities and principals' administrative effectiveness in public secondary schools in Edo State based on school type. This in line with finding of Grande (2016) who explored maintenance and facility operations strategies for California Community Colleges. The result revealed that there was a significant difference between maintenance strategies of facilities based on school type. School administrators of co-educational schools exhibited a higher propensity of carrying out maintenance than single sex school administrators. This development of poor maintenance practices by principals of single sex school could be as a result of inadequate funding which was an additional theme school administrators regarded as the issue that most often undermined planning and effective maintenance operations. Therefore, there is the need for the integration of planning and funding to create institutional success. This means that community college administrators who use planning, funding strategies, maintenance strategies, and who empower people to sustain facility and maintenance operations can improve the teaching-learning environment.

This finding is in consonance with the finding of Sani and Lawal (2023) who examined assessment of maintenance culture of school facilities in secondary schools in Sandamu local government area, Katsina State, Nigeria. The result showed that structural facilities such as classrooms, library, and laboratories were properly maintained by principals in co-educational schools than in single sex secondary

schools. This may be that Quality Assurance Officials prioritize regular and adequate supervision of co-educational schools to ensure sustainability of the maintenance of school facilities than single sex schools in Katsina State. Though the processes and procedures involved in maintaining school facilities—such as inspections, repairs, and resource allocation are typically the same for both single-sex and coeducational schools; however single-sex schools may have sex-specific facilities (e.g., restrooms or boarding accommodations), that requires specific attention that may not be necessary in co-educational schools.

In a contrary view, the finding of Amadi (2023) who conducted a study on principals' maintenance techniques and effective school-community relation in Ahoada East Local Government Area of Rivers State, indicated that there was no significant difference between principals' maintenance practices based on school type. This implies that principals of both single sex and co-educational schools exhibited the same maintenance practices. This development could be attributed to the role played by Ministry of Education in organizing seminars and workshops from time to time for principals on maintenance practices which cuts across both types of schools hence reducing the constraints posed by the nature of such institutions.

Facilities Maintenance and Principals' Administrative Effectiveness based on School Location

The result of Hypothesis Six showed that there was no significant difference between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location. This finding is in consonance with the finding of Ehiaguina and Osabuohien-Osarumwense (2024) that carried out a study on effective management of school facilities and students' learning in public secondary schools in Edo State, Nigeria. Results found that there was no significant difference in relationship between maintenance of laboratory, library, infrastructural

and instructional facility and students' learning, in both rural and urban schools; noting that school facilities in rural and urban public secondary schools are in a deplorable condition. This finding is in agreement with that of Dogondaji, Suleiman, Horo and Mohammed (2024) who conducted a study on effective management of school facilities on teaching and learning senior secondary schools in Sokoto North Local Government, Sokoto State, Nigeria. The major finding is that was no significant difference between facilities maintenance by principals in both rural and urban secondary schools in the State. This could be due to bureaucratic delays indicating that facilities maintenance issues are often not resolved quickly in either setting, leading to similar outcomes in terms of administrative effectiveness. Moreso, both rural and urban schools often face inadequate funding for facilities maintenance, which can hinder timely repairs and upgrades. This shared challenge diminishes any potential differences in how facilities maintenance influences principals' administrative effectiveness in these locations. Principals in both rural and urban schools may have limited control over facilities maintenance, as these responsibilities are often handled by local education authorities or government agencies. This lack of autonomy minimizes the influence of location on the relationship between facilities maintenance and administrative effectiveness.

In a contrary view, the finding of Ayodele and Oyeleye (2023) that carried out a study on principals' administrative duties and teacher effectiveness in secondary schools in South West, Nigeria, revealed that there was a significant difference between principals' administrative duties of facilities maintenance and teacher effectiveness in secondary schools on the basis of school location; principals in urban schools executed more maintenance projects than those in rural schools in Southwest, Nigeria. This could be attributed to reasons of variations in school facilities

maintenance situation by school administrators as geographical locations (rural or urban) in terms of resources availability and availability of technology, where urban school principals may have deployed the use of technology in their maintenance practices than principals in rural settings. This is in line with the finding of Oyeleye (2023) who conducted a study on the effects of school location on principal administrative performance in secondary schools in Ondo State, Nigeria. The finding revealed that school location significantly influences principal administrative performance of facilities maintenance. This is also in agreement with the finding of Okeke (2025) who conducted a study on barriers to school principals' effectiveness in managing rural public secondary schools in Ahiazu Mbaise local government area, Imo State. The results indicated that rural schools, unlike their urban counterparts, are struggling with deteriorating infrastructure, due to lack of maintenance practices by school principals. This could be attributed to inadequate government funding, and the absence of organizing programmes that may be beneficial to principals in rural schools for the overall advancement of the schools.

Facilities Maintenance and Principals' Administrative Effectiveness based on School Size

The result of Hypothesis Seven showed that there was no significant difference in facility maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on size. This finding is in agreement with that of Odigwe and Eluwa (2023) who appraised the state of maintenance and management of available secondary school facilities on students' academic performance in Cross River State, Nigeria. The result showed that most of the respondent agreed that there exist no significant difference between provision, maintenance and management of facilities in large and small schools, due to paucity of the necessary resources, such as funds. The physical environment in most large and

small public secondary schools is not conducive for learning due to poor funding and maintenance of school facilities.

This finding agrees with the finding of Izobo-Martins, Olotuah, Adeyemi, and Ayo-Vaughan (2018) who conducted a study on maintenance of public secondary school buildings: users' practices in Nigeria. The study found out that there are maintenance attempts by the school principals in one way or the other, but not adequately irrespective of size of the buildings; because none of the selected school has a maintenance manual and definite strategy in place. This development may have made principals have difficulties in carrying out effective maintenance programmes. Moreso, the attitude of users and lack of maintenance funds could be major factors to the dilapidated condition of the secondary school buildings.

This finding is in line with the finding of Otti (2025) that carried out a study on school plant maintenance predict effective secondary school administration in Rivers State. The finding of the study revealed that there was no significant difference in facility maintenance based on school size as predictor for effective secondary school administration in Rivers State. This development may be attributed to concerns showed by the relevant authorities in effecting maintenance practices irrespective of school size that, because routine and unexpected maintenance demands are bound to arise in both large and small schools. Successful maintenance of school facilities irrespective of size is a necessary investment that would increase the quality of the school performance. However, about 80% (eighty percent) of the schools under study, both large and small schools (but more in large schools) facilities like classrooms, laboratories, libraries, assembly halls, furniture, technical workshops among others were in a complete state of despair. In about 60% (sixty percent) of the schools, the facilities for sanitation, water supply and refuse disposal were either not available or in very poor conditions. This means that a school irrespective of its size must have a

facilities maintenance programme that is planned, managed and carried out effectively by school administrators.

In a contrary view, the finding of Solomon, Amadi, and Nwakanma (2024) who carried out a study on corrective maintenance practices on school facilities for effective instructional delivery in technical colleges in Rivers State, revealed that corrective maintenance practices by school administrators on school facilities for effective instructional delivery were applied to a low extent in large technical colleges but high in small technical colleges in Rivers State. In the same vein, the findings agree with that of Lavy and Bilbo (2018) who conducted a study on facilities maintenance management practices in large public schools in Texas, USA. The overall findings of this research indicate a poor quality of facilities maintenance management practices exists in large public schools than in small public schools in Texas. This could be as a result of neglect by school administrators in following the guidelines set by the US Department of Education which tend to have comparatively more detailed and contemporary information about their facility's condition. Ineptitude, lack of creativity and knowledge, mismanagement is traceable to unqualified persons as school heads and general lack of will on the part of government or neglect by respective authorities may have resulted in the poor or degenerated state of most large secondary school facilities in Edo State.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on summary, conclusion and recommendations.

Summary

The study examined school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State. To guide this study, nine research questions were raised; two were answered directly and seven were hypothesized and tested at an alpha level of 0.05. The research questions and hypotheses were as follows:

1. What is the level of facilities maintenance in public secondary schools in Edo State?
2. What is the level of principals' administrative effectiveness in public secondary schools in Edo State?
3. Is there a relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State?
4. Is there a relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on sex?
5. Is there a relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on experience?
6. Is there a relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on qualification?

7. Is there a relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on school type?
8. Is there a relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location?
9. Is there a relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on size?

The study was a descriptive survey employing correlation survey design to determine if there is a relationship between school facilities maintenance and principals' administrative effectiveness. The population of the study is the 308 principals in the 308 public secondary schools in the three senatorial districts of Edo State (Ministry of Education, Benin City, 2019). The teachers in the school who served as respondents were also part of the study. The sample size of the study is 64 principals in the 64 public secondary schools in the three senatorial districts of Edo State, constituting 20% of the population. Eight teachers per sampled school were purposively selected to serve as respondents. The multistage and the proportional and random sampling techniques using the multistage sampling procedure were used for the selection.

The findings of the study based on the questions and hypotheses tested revealed the following:

1. The level of facilities maintenance in public secondary schools in Edo State was low

2. Principals' administrative effectiveness in public secondary schools in Edo State was low
3. There was a significant relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State
4. There was a significant relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on sex.
5. There was a significant relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on experience.
6. There was no significant relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on qualification.
7. There was no significant relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State in public secondary schools in Edo State based on school type.
8. There was no significant relationship between facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on location.
9. There was no significant relationship between school facilities maintenance and principals' administrative effectiveness in public secondary schools in Edo State based on size.

Conclusion

Based on the findings, it was concluded that facilities situation in public secondary schools in Edo State is characterized by low levels of facilities maintenance and administrative effectiveness. Though there was a significant relationship between school facilities maintenance and principals' administrative effectiveness as well as facilities maintenance and principals' administrative effectiveness based on sex and experience of the principals, there was no relationship based on qualification, school size, type and location.

Recommendations

Based on the findings the following recommendations were made:

1. The Ministry of Education should organize training for principals on facility maintenance and provide all the necessary tools and resources they require in a bid to improving their knowledge and skills in maintenance practices.
2. The Ministry of Education should also organize leadership workshops and seminars for the principals to improve their administrative skills.
3. The established relationship between facilities maintenance and principals' administrative effectiveness in this study is an indication to the ministry to train and retrain school administrator on the importance of effective administrative leadership as a panacea to facility maintenance. Principals should be encouraged to make maintenance of facilities a top priority in order to create a conducive atmosphere for teaching and learning.
4. Principals' sex should be considered by government when appointing them to the position of principal as these can make or mar their ability to maintain school facilities.

5. Principals should be encouraged to employ their wealth of experience in bringing about the achievement of the educational system through the creation of a friendly teaching and learning environment with properly maintained school facilities.
6. Principals should be encouraged to embark on career development programmes to raise their professional status.
7. School type should not be considered when empowering principals or providing the resources needed for facility maintenance by the Ministry of Education. All principals should be encouraged by providing the necessary resources for facilities maintenance.
8. School location should not be considered when empowering principals or providing the resources needed for facility maintenance by the Ministry of Education. All principals should be encouraged by providing the necessary resources for facilities maintenance.
9. School size should not be given too much priority when providing the resources needed for facility maintenance by the Ministry of Education. All schools irrespective of size should be given the necessary resources for facilities maintenance.

Contribution to Knowledge

The study has contributed to the existing body of knowledge through literature on facilities maintenance and principals' administrative effectiveness. This contribution is shown in the low level of maintenance practices, low level of administrative effectiveness, the relationship between facilities maintenance and principals' administrative effectiveness, a significant difference in the relationship between school facilities maintenance and principals' administrative effectiveness

based on sex, a significant difference in the relationship between facilities maintenance and principals' administrative effectiveness based on experience, no significant relationship between facilities maintenance and principals' administrative effectiveness based on qualification, a significant difference between maintenance of facilities and principals' administrative effectiveness in public secondary schools based on school type, no significant difference between facilities maintenance and principals' administrative effectiveness based on location and no significant difference in facility maintenance and principals' administrative effectiveness based on school size. The study has exposed the need for training and retraining of school principals to equipping them in a bid to enhance their administrative competence needed for maintenance of school facilities.

Suggestions for further Studies

Based on the conclusions and recommendations of this study, the following suggestions are made;

1. This study could be replicated in public Primary, Private Senior and Junior Secondary Schools.
2. Further studies should be done to determine the relationship between school facilities maintenance and students' academic performance in Public Secondary Schools.
3. Further studies should also be done in other states of Nigeria using different population such as Universities and Colleges of Education in South- South geopolitical zone of Nigeria.

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APPENDICES

APPENDIX A

Department of Educational Management,
Faculty of Education,
University of Benin,
Benin City, Edo State.

Date:.....

Dear Respondent,

I am a doctoral student in the above named university currently undertaking a study on **Facilities Maintenance and Principals' Administrative Effectiveness in Public Secondary Schools in Edo State**. The purpose of the study is to ascertain the extent to which facilities maintenance relates to principals' administrative effectiveness. Your response to the attached questionnaire therefore, will be very useful to this study. I assure you that your responses and any information given will be treated with utmost confidentiality.

Thanks in anticipation of your co-operation.

Sgd: _____

(Researcher)

APPENDIX B

Section A

Demographic Data (To be provided by the teachers with the support of the principals providing information)

Please tick appropriately (√)

1. **Senatorial District:** Edo North [] Edo Central [] Edo South []
2. **Principals' Sex:** Male [] female []
3. **Principals working experience (as principals):** 5 years and above less than 5 years []
4. **Principals' Educational qualification** First degree only (B.A.Ed, B.Ed) [] Other higher degree (M. Ed/Ph.D [] **School Type:** Single Sex [] Co-educational []
5. **School location:** Rural Area [] Urban Area []
6. **Size of school:** Less than 500 students [] 500 students and above []

Section B

“School Facilities Maintenance Questionnaire” (SFMQ)

(to be completed by teachers)

Please indicate your response by ticking (√) using the following four (4) point rating scale based on Very High (VH) = 4, High (H) = 3, Low (L) = 2, Very Low (VL) = 1

Rate your principal's maintenance of your school facilities

S/N	General School Facilities Maintenance	VH	H	L	VL
1	Regular painting of school building.				
2	Maintenance of school field				
3	Ensuring that the school environment is clean				
4	Ensuring a safe environment				
5	Ensuring a secured environment				
6	Maintaining facilities to prevent breakdown				
7	Replacing damaged facilities				
8	Reporting damaged facilities to higher authorities for immediate action				
	Classroom Maintenance				
9	Replacement of lighting in classrooms				
10	Prompt repairs of damaged classroom furniture				
11	Metting out sanctions to students who willingly damage classroom facilities				
12	Regular painting of classrooms				

13	Ensuring that classrooms are kept clean on a daily basis				
14	Replacement of damaged classroom furniture				
15	Ensuring a healthy environment by placing dirt bins in the classroom				
16	Replacement of broken louvers/windows				
17	Functional electrical outlets and switches				
18	Inspection of classrooms to ensure a conducive learning environment				
	Laboratory Maintenance				
19	Fixing leaks in the laboratory fittings				
20	Regular cleaning of the laboratory				
21	Regular inspection of heating/cooling equipment is carried out				
22	Regular maintenance of laboratory equipment				
23	Replacing broken equipment in the laboratory				
24	Regular washing of the laboratory equipment (glass tubes, water sinks, and wash basins)				
25	Regular replacement of chemical reagents.				
	Library Maintenance				
26	Shelf management through regular shelving and re-shelving				
27	Stacking books in an orderly manner				
28	Conservation and preservation of library materials including repairs and binding				
29	Ensuring regular dusting and cleaning of books				
30	Regular weeding by way of removing collections no longer useful from the shelves				
31	Ensuring security of the library materials by staff to prevent loss of collections				
	Workshop Maintenance				
32	Repairing damaged workshop equipments				
33	Periodic cleaning of the laboratory				
34	Regular polishing of machine tools				
35	Regular cleaning of workshop equipment				
35	Regular oiling of machine parts				

SECTION C

“Principals’ Administrative Effectiveness Questionnaire” (PAEQ) (to be completed by teachers)

Instructions: Rate your principals’ administrative effectiveness on the 4-point likert scale below:

Highly Effective (HE) - 4 points, Effective (E) – 3 points, Ineffective (IE) 2– points, Highly Ineffective (HI)1- point

Rate the level of your principals’ administrative effectiveness

S/N	Indices of Administrative Effectiveness	Level of Administrative Effectiveness			
		HE	E	IE	HI
1	Ensuring compliance with quality assurance standards				
2	Supervising instructional activities				
3	Making instructional materials available				
4	Keeping good records				
5	Creating a conducive school environment				
6	Promoting interpersonal relationship				
7	Purchasing and requisition of supplies				
8	Judicious use of financial resources				
9	Encouraging participatory decision making with stakeholders				
10	Making good use of communication process				
11	Setting clear directions that lead to overall improvements				
12	Setting challenging targets for staff				
13	Addressing teachers’ needs				
14	Ensuring students’ continuous assessment				
15	Involving students in decision-making				
16	Providing guidance/counseling services				
17	Organising extra-curricular activities				
18	Time management				
19	Maintenance of school facilities				
20	Showing interest in students’ discipline				
21	Motivating teachers to attend to their duties				
22	Delegation of duties to subordinates				
23	Setting challenging tasks for students				
24	School-community relationship				
25	Monitoring classroom teaching				

APPENDIX C



Figure 1: *A dilapidated secondary school building in Ovia North East local government area of Edo State*



Figure 2: *Students sitting on bare floor to learn in Etsako West Local Government Area of Edo State*

APPENDIX D

Reliability Test Output

GET FILE='C:\Users\Alex\Documents\Robert Arasomwan\RAWD.sav'..

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	494	99.7
	Excluded ^a	1	.3
	Total	495	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.880	36

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Maintenance of school facilities by the principal of your school is regular.	77.4844	218.073	.215	.881
Maintenance of school facilities is given priority attention by the principal of your school.	77.4635	215.858	.325	.878
Maintenance of school facilities activities is carried out daily by the school principal.	77.4557	213.841	.352	.878
Maintenance of school facilities activities is carried out quarterly by the school principal.	77.4792	209.216	.571	.874
Maintenance of school facilities activities is carried out annually by the school principal.	77.3724	212.381	.444	.876
Maintenance of school facilities activities is carried out biannually by the school principal.	77.4063	217.203	.273	.879

Maintenance of school facilities activities is not carried out by the school principal.	77.3932	231.425	-.221	.889
The principal utilises financial allocation for maintenance of school facilities regularly.	77.4349	212.763	.429	.876
Replacement of lighting is done in classrooms, hallways regularly.	77.4609	214.113	.362	.878
Replacement of broken windows, doors, and locks are done regularly.	77.5729	211.707	.488	.875
Students' lockers are repaired regularly	77.4427	211.600	.476	.875
Students are usually reminded regularly of the importance of maintaining a clean classroom.	77.2943	215.190	.346	.878
Wrappers, cups, and /or bottles left in the classroom by the students are properly disposed.	77.5677	217.223	.258	.880
Repairing classroom desks, tables and equipment are done regularly.	77.5313	213.905	.393	.877
Painting of small areas which were damaged is regular.	77.5208	214.344	.383	.877
The instructor makes sure desks and chairs are in their original position prior to leaving the classroom.	77.4219	212.490	.445	.876
Replacement of light bulbs and fixing minor electrical faults is done regularly.	77.4297	214.439	.376	.877
The instructors make sure classrooms are mopped and swept on daily basis.	77.3568	216.570	.281	.879
Fixing leaks and repairing water fountains are regular.	77.6380	212.138	.406	.877
Washing windows and cleaning windows within doors are regular	77.5469	210.698	.466	.875
Regular inspection of heating/cooling and other equipment is carried out.	77.5521	207.971	.591	.873
There is regular maintenance of other equipment, e.g. retort	77.5807	209.336	.564	.874

stand, beam balance etc.				
Replace broken exit device at laboratory building regularly.	77.5990	213.797	.381	.877
Regular washing of glass tubes, water sinks, and wash basins is carried out.	77.6016	213.332	.413	.877
Regular replacement of chemical reagents.	77.6693	209.433	.552	.874
Proper shelf management by regular shelving and re-shelving is done regularly	77.6198	210.064	.523	.874
keeping books and materials in order and maintaining cleanliness in the shelves and stack rooms is carried out.	77.4974	211.540	.451	.876
Conservation and preservation of materials including repairs and binding is a regular routine.	77.5677	210.789	.513	.875
Regular supervision of the collection by keeping them dusted and clean is done regularly.	77.5260	210.375	.481	.875
Regular stocktaking and weeding by way of removing permanently collections no longer useful from the shelves is also a regular practice.	77.5417	213.894	.357	.878
Security of library materials by staff to prevent losses of collections by placing a photocopier to reproduce important parts of materials for users is done.	77.6302	213.565	.386	.877
Repairing and replacing pencil sharpeners is regularly carried out.	77.7318	215.325	.363	.878
Periodic cleaning and oiling of machine parts and changing of weak oil in crank cases is practiced.	77.9063	217.850	.298	.879
Polishing of machine tools is a regular routine.	77.8307	216.376	.372	.877
Cleaning of return air grills, univents, and warm air grills is constantly done.	77.8073	216.850	.364	.878
Work on minor plumbing problems is regular.	77.6797	217.748	.293	.879

Scale: ALL VARIABLES
Case Processing Summary

		N	%
Cases	Valid	495	100.0
	Excluded ^a	0	.0
	Total	495	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.741	25

Item-Total Statistics

	Scale Mean if Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Ensuring compliance with quality assurance standards	58.6883	72.548	.156	.740
Supervising instructional activities	59.0909	68.015	.411	.723
Making instructional materials available	59.0727	67.797	.421	.722
Keeping good records	58.9273	70.406	.279	.732
Creating a conducive school environment	58.9351	71.228	.243	.735
Promoting interpersonal relationship	58.9065	68.689	.412	.724
Purchasing and requisition of supplies	58.8935	69.647	.336	.729
Judicious use of financial resources	58.9169	69.878	.333	.729
Encouraging decision making with staff members	58.9065	70.189	.313	.730
Making good use of communication process	58.9558	70.620	.279	.732
Setting clear directions that lead to overall improvements	58.9429	71.424	.220	.736
Setting challenging targets for staff	58.9506	70.912	.251	.734
Addressing teachers' needs	58.9922	70.940	.239	.735
Ensuring students' continuous assessment	58.9117	70.633	.254	.734
Involving students in	58.9351	70.795	.243	.735

decision-making				
Providing guidance/counseling services	58.8701	70.342	.289	.732
Organising extra-curricular activities	58.9195	68.934	.378	.726
Time management	58.9195	69.366	.342	.728
Maintenance of school facilities	58.9299	70.326	.270	.733
Showing interest in students' discipline	58.9688	71.848	.200	.738
Motivating teachers to attend to their duties	59.0675	73.938	.061	.746
Delegation of duties to subordinates	58.9714	72.179	.182	.739
Setting challenging tasks for students	58.9273	71.323	.231	.736
School-community relationship	58.9299	70.810	.254	.734
Monitoring classroom teaching	59.0078	70.878	.252	.734

APPENDIX E

Data Analysis Output

GET FILE='C:\Users\Alex\Documents\Robert Arasomwan\RAWD.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.

Descriptives

		Notes
Output Created		26-AUG-2021 22:32:25
Comments		
Input	Data	C:\Users\Alex\Documents\Robert Arasomwan\RAWD.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	495
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Descriptive Statistics

	N	Mean	Std. Deviation
Regular painting of school building.	495	2.2727	1.02363
Maintenance of school field	495	2.2935	.93239
Ensuring that the school environment is clean	495	2.3039	1.03763
Ensuring a safe environment	495	2.2805	.93778
Ensuring a secured environment	495	2.3896	.95137
Maintaining facilities to prevent breakdown	495	2.3532	.93536
Replacing damaged facilities	495	2.3714	1.01792
Reporting damaged facilities to higher authorities for immediate action	495	2.3221	.95479
Replacement of lighting in classrooms	495	2.3013	.99091
Prompt repairs of damaged classroom furniture	495	2.1870	.91932
Metting out sanctions to students	495	2.3169	.94558

who willingly damage classroom facilities			
Regular painting of classrooms	495	2.4675	.93798
Ensuring that classrooms are kept clean on a daily basis	495	2.1922	.97598
Replacement of damaged classroom furniture	495	2.2286	.94081
Ensuring a healthy environment by placing dirt bins in the classroom	495	2.2364	.92912
Replacement of broken louvers/windows	495	2.3351	.94342
Functional electrical outlets and switches	495	2.3325	.93464
Inspection of classrooms to ensure a conducive learning environment	495	2.4052	.97733
Fixing leaks in the laboratory fittings	495	2.1195	1.04645
Regular cleaning of the laboratory	495	2.2156	1.02458
Regular inspection of heating/cooling equipment is carried out	495	2.2078	.97812
Regular maintenance of laboratory equipment	495	2.1792	.94184
Replacing broken equipment in the laboratory	495	2.1610	.97363
Regular washing of the laboratory equipment (glass tubes, water sinks, and wash basins)	495	2.1584	.94281
Regular replacement of chemical reagents.	495	2.0935	.95557
Shelf management through regular shelving and re-shelving	495	2.1429	.96440
Stacking books in an orderly manner	495	2.2649	.99606
Conservation and preservation of library materials including repairs and binding	495	2.1922	.93510
Ensuring regular dusting and cleaning of books	495	2.2364	1.01741
Regular weeding by way of removing collections no longer useful from the shelves	495	2.2182	1.02020
Ensuring security of the library materials by staff to prevent loss of collections	495	2.1302	.98220
Repairing damaged workshop	495	2.0286	.89076

equipment			
Periodic cleaning of the laboratory	495	1.8571	.80871
Regular polishing of machine tools	495	1.9299	.78579
Regular cleaning of workshop equipment	495	1.9532	.76233
Regular oiling of machine parts	495	2.0831	.83126
Valid N (listwise)	495		

```
DESCRIPTIVES VARIABLES=VAR00044 VAR00045 VAR00046 VAR00047
VAR00048 VAR00049 VAR00050 VAR00051
VAR00052 VAR00053 VAR00054 VAR00055 VAR00056 VAR00057 VAR00058
VAR00059 VAR00060 VAR00061 VAR00062
VAR00063 VAR00064 VAR00065 VAR00066 VAR00067 VAR00068
/STATISTICS=MEAN STDDEV.
```

Descriptives

		Notes
Output Created		26-AUG-2021 22:33:33
Comments		
Input	Data	C:\Users\Alex\Documents\Robert Arasomwan\RAWD.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	495
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=VAR00044 VAR00045 VAR00046 VAR00047 VAR00048 VAR00049 VAR00050 VAR00051 VAR00052 VAR00053 VAR00054 VAR00055 VAR00056 VAR00057 VAR00058 VAR00059 VAR00060 VAR00061 VAR00062 VAR00063 VAR00064 VAR00065 VAR00066

VAR00067 VAR00068
/STATISTICS=MEAN
STDDEV.

Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Descriptive Statistics

	N	Mean	Std. Deviation
Ensuring compliance with quality assurance standards	495	2.7091	.89474
Supervising instructional activities	495	2.3065	.99194
Making instructional materials available	495	2.3247	1.00054
Keeping good records	495	2.4701	.94636
Creating a conducive school environment	495	2.4623	.90096
Promoting interpersonal relationship	495	2.4909	.91033
Purchasing and requisition of supplies	495	2.5039	.93017
Judicious use of financial resources	495	2.4805	.90442
Encouraging participatory decision making with stakeholders	495	2.4909	.90170
Making good use of communication process	495	2.4416	.91135
Setting clear directions that lead to overall improvements	495	2.4545	.92626
Setting challenging targets for staff	495	2.4468	.93424
Addressing teachers' needs	495	2.4052	.96121
Ensuring students' continuous assessment	495	2.4857	.97116
Involving students in decision-making	495	2.4623	.97321
Providing guidance/counseling services	495	2.5273	.93258
Organising extra-curricular activities	495	2.4779	.94105
Time management	495	2.4779	.95751
Maintenance of school facilities	495	2.4675	.98139
Showing interest in students' discipline	495	2.4286	.90468
Motivating teachers to attend to their duties	495	2.3299	.91445
Delegation of duties to	495	2.4260	.88996

subordinates			
Setting challenging tasks for students	495	2.4701	.91559
School-community relationship	495	2.4675	.94351
Monitoring classroom teaching	495	2.3896	.93758
Valid N (listwise)	495		

CORRELATIONS

```

/VARIABLES=VAR00001 VAR00002
/PRINT=TWOTAIL NOSIG
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.

```

Correlations

		Notes
Output Created		26-AUG-2021 22:46:31
Comments		
Input	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	495
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=VAR00001 VAR00002 /PRINT=TWOTAIL NOSIG /STATISTICS DESCRIPTIVES /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Descriptive Statistics

	Mean	Std. Deviation	N
School facilities	2.2805	.93778	495

maintenance			
Principals' administrative effectiveness	2.7091	.89474	495

Correlations

		School facilities maintenance	Principals' administrative effectiveness
School facilities maintenance	Pearson Correlation	1	-.117*
	Sig. (2-tailed)		.022
	N	495	495
Principals' administrative effectiveness	Pearson Correlation	-.117*	1
	Sig. (2-tailed)	.022	
	N	495	495

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

```

DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet2.
NEW FILE. SEX\MALE\FEMALE
DATASET NAME DataSet3 WINDOW=FRONT.
FISHER'S STATISTICS=Facility(1 2)
/MISSING=ANALYSIS
\ VARIABLES=MaleFacility
CRITERIA=CI(.95).

```

Group Statistics

School Facilities Maintenance	N	Pearson r	Z _{cal}	Z _{crit}	Remark
Sex Male	244	.522	2.58	-1.96	Significant
Female	251	.464			

$\alpha = 0.05$

```

DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet2.
NEW FILE. EXPERIENCE
DATASET NAME DataSet3 WINDOW=FRONT.
FISHER'S STATISTICS=Facility(1 2)
/MISSING=ANALYSIS
\ VARIABLES=MaleFacility
CRITERIA=CI(.95).

```

Group Statistics

School Facilities Maintenance	N	Pearson r	Z _{cal}	Z _{crit}	Remark
Experience 5	344	.452			

Years and above Below 5 Years	151	.577	- 2.41	-1.96	Significant
----------------------------------	-----	------	-----------	-------	-------------

$\alpha = 0.05$

DATASET ACTIVATE DataSet1.

* The mean difference is significant at the 0.05 level.

DATASET ACTIVATE DataSet1.

DATASET CLOSE DataSet2.

NEW FILE. QUALIFICATION

DATASET NAME DataSet3 WINDOW=FRONT.

FISHER'S STATISTICS=Facility(1 2)

\MISSING=ANALYSIS

\VARIABLES=Qualification

Principals' Administrative Effectiveness	N	Pearson r	Z _{cal}	Z _{critical}	Remark
Lower qualification Higher qualification	144 351	0.656 0.784	2.41	±1.96	Significant

DATASET ACTIVATE DataSet1.

DATASET CLOSE DataSet2.

NEW FILE. SCHOOL TYPE

DATASET NAME DataSet3 WINDOW=FRONT.

FISHER'S STATISTICS=Facility(1 2)

\MISSING=ANALYSIS

\VARIABLES=SCHOOL TYPE

CRITERIA=CI(.95).

Principals' Administrative Effectiveness	N	Pearson r	Z _{cal}	Z _{critical}	Remark
Single sex Co-educational Total	144 351 495	0.622 0.742	0.57	±1.96	Significant

* The mean difference is significant at the 0.05 level.

DATASET ACTIVATE DataSet1.

DATASET CLOSE DataSet2.

NEW FILE. SCHOOL LOCATION

DATASET NAME DataSet3 WINDOW=FRONT.

FISHER'S STATISTICS=Facility(1 2)

\MISSING=ANALYSIS, \VARIABLES=LOCATION

Principals' Administrative	N	Pearson r	Z _{cal}	Z _{critical}	Remark
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Effectiveness					
Rural	78	0.722	0.49	± 1.96	Not significant
Urban	307	0.675			

DATASET ACTIVATE DataSet1.

DATASET CLOSE DataSet2.

NEW FILE. SCHOOL SIZE

DATASET NAME DataSet3 WINDOW=FRONT.

FISHER'S STATISTICS=Facility(1 2) \MISSING=ANALYSIS

\VARIABLES=SIZE

Principals' Administrative Effectiveness	N	Pearson r	Z _{cal}	Z _{critical}	Remark
Small	91	0.116	0.22	± 1.96	Not significant
Large	294	0.198			