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SCHOOL FACILITIES MANAGEMENT AND STUDENTS' LEARNING EFFECTIVENESS IN SECONDARY SCHOOLS IN DELTA STATE

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Abstract

The study assessed school facilities management and students' learning effectiveness in secondary schools in Delta State. This was necessitated by the continuous decline in secondary school students' academic performance and the rate of moral decadence among secondary school students. The study adopted the descriptive survey design and was guided by four research questions and two research hypotheses. The population of the study comprised the 479 principals, 14,269 teachers, and 225,991 students in the 479 public secondary schools in Delta State. The sample for the study comprised 612 respondents made up of 24 principals (12 principals and 24 vice principals), 180 teachers, and 408 students, selected from 12 schools from the three Senatorial Districts in the State. Four schools were selected from each Senatorial District. The multistage sampling technique of purposive, stratified, and simple random sampling techniques was used for the selection of the sample size. The instrument for data collection was a structured questionnaire designed by the researchers titled; School Facilities Management and Secondary School Students Learning Effectiveness Questionnaire (SFMSSSLEQ). The instrument was a 34-item questionnaire validated by three experts and trial tested to establish the reliability with an internal consistency of 0.83 at o.05 alpha level of significance. 612 copies of the instrument were administered to the selected respondents while 584 (24=100%; for principals, 169=94%; teachers & 373=91%) were retrieved. Descriptive statistics of frequency, mean scores and standard deviation were used for the data analysis while t-test statistical analysis was used for the test of hypothesis at 0.05 level of significance. Findings from the study revealed among others that principals, teachers, and students showed a common view with grand mean scores of 2.20, 2.26, and 2.24 respectively that school facilities in secondary schools in Delta State are largely inadequate and poorly maintained and that only limited strategies are adopted in the management of school facilities in secondary

schools. The study recommended among other points that the Delta State government and relevant educational agencies should provide adequate and functional school facilities and allocate sufficient funds specifically for the management and maintenance of school facilities and ensure sustainability of available resources in secondary schools.

Keywords:

Facilities management, school facilities, students learning effectiveness and secondary schools.

Introduction

The transformation of societies is dependent on education as it is the process through which worthwhile values are transmitted from one generation to another. Due to the dynamics in societal values, education is presented in different forms which include formal, informal and non-formal forms of education. While informal focuses on skills and attitude development, the formal and non-formal, in addition to skills and attitude development, engages learners in literacy and numeracy knowledge, skills and attitude. The additional attributes of the formal and non-formal aspects of education makes it to attain the status of School education. School education is so unique in that it is systematically organised to accommodate children of all ages, physical and mental conditions (Stiggins, Arter, Chappuis, & Chappuis, 2015). It is so compartmentalized, timed, and guided by strict rules expected to be obeyed by all stakeholders. Schools serve as places where individuals acquire knowledge, skills, and values that are essential for personal and societal development. They play crucial roles in shaping the future of individuals and the communities in which they exist. Essentially, schools provide structured learning environments where students acquire knowledge, skills, and values that are essential for personal and societal development. In view of the teaching and learning roles of the school in society, several materials that aid teaching and learning are consciously and deliberately put in place, without which, teaching and learning could be difficult. Such facilities include, school buildings, laboratories, libraries, workshops, Information and Communication Centres (ICT), language laboratories, computer laboratories, lawns and fields for extracurricular activities and many other modern facilities. Unfortunately, many schools in Delta State lack these facilities let alone maintenance. Asiyai (2012) and Asiegbu (2014) acknowledged that classroom physical facilities at all levels of education in Delta State are inadequately provided and poorly maintained. According to Ossa (2022), Nigerian education system faces serious implementation problems which negatively affects the provision of basic facilities and the maintenance of available equipment and infrastructure for effect teaching and learning activities. Little wonder Nnenna and Ubogu (2020) stated that despite the alleged heavy investment by the Delta State government in education, the process still encounters a lot of problems on availability and functional facilities. These experiences will certainly not enhance students; effective learning.
For instance, Kaduna State, Lagos State, Kwara State, Delta State, and Niger State have continued to experience students' learning challenges relating to the adequacy and functionality of school facilities in public secondary schools. Ibrahim et al. (2023) noted that many public secondary schools in Kaduna State lacked essential utility facilities, including functional classrooms, laboratories, libraries, and instructional materials, thereby negatively influencing students' academic performance. In a related study, Odeajo and Odefadehan (2025) reported serious infrastructural inadequacies in secondary schools in Lagos State, particularly in the areas of ICT resources, classroom accommodation, ventilation, sanitation, and electricity supply.

Owoseni et al. (2020) further established that the physical learning environment plays a significant role in determining the quality of students' learning outcomes in secondary schools. The study revealed that overcrowded classrooms, insufficient furniture, and poor environmental conditions adversely affect students' concentration, motivation, and active participation during classroom instruction. Similarly, Olanrewaju et al. (2020) found that inadequate physical facilities in public secondary schools in Kwara State contributed to low school effectiveness and unfavourable teaching-learning conditions.

Comparable conditions have been reported in several parts of Nigeria, including Delta State, where schools continue to grapple with deteriorating infrastructure, poor maintenance culture, and inadequate government funding. Adekunle (2024) maintained that infrastructural deficiencies and the shortage of instructional materials remain major obstacles to effective teaching and learning in secondary schools in Niger State. In the same vein, Obaka (2025) emphasized that many public secondary schools lack adequate classroom space, libraries, and instructional aids required for quality education delivery.

The inadequacy of facilities in secondary schools has largely been linked to factors such as population growth, insufficient educational funding, weak maintenance practices, and rapid urbanization. These challenges often lead to overcrowded classrooms, inadequate laboratory equipment, damaged furniture, and insufficient ICT facilities. As a result, the school environment becomes less conducive for effective teaching and learning, thereby affecting teachers' instructional efficiency and students' academic engagement (Nnenn. & Ubogu, 2020). School facility management involves the planning, organization, maintenance, supervision, and effective utilization of educational facilities to enhance their functionality and sustainability. Proper management of school facilities ensures that educational resources are adequately maintained, efficiently utilized, and periodically improved to facilitate effective teaching and learning processes. It is a process of organized activity concerned with efficient utilization of resources of production like men, material, machine, money (Kaehler & Grundei, 2019).

Several empirical studies have demonstrated a significant relationship between the management of school facilities and students' learning effectiveness. Learning effectiveness includes students' academic achievement, classroom participation, motivation, retention ability, critical thinking skills, and overall educational development. According to Owoseni et al. (2020), properly managed physical learning environments improve students' concentration, school attendance, and academic performance. Schools equipped with functional libraries, adequately ventilated classrooms, and sufficient instructional facilities are more likely to achieve better student outcomes compared to schools with inadequate facilities.

Similarly, Ahmodu (2023) reported a positive relationship between school facilities and students' academic performance in secondary schools in Lagos State. The study indicated that the effective utilization and maintenance of school facilities improved students' learning experiences and enhanced teachers' instructional effectiveness. The findings further revealed that the quality of school facility management has a direct influence on students' learning effectiveness.

Furthermore, facility management plays an important role in shaping students' psychological and emotional preparedness for learning. A conducive learning environment characterized by cleanliness, adequate lighting, proper ventilation, and functional instructional equipment

promotes active student participation in classroom activities. In contrast, poorly managed facilities often result in discomfort, distraction, and reduced learner motivation. Ibrahim et al. (2023) emphasized that inadequate and poorly maintained facilities have adverse effects on students' motivation and academic attainment.

In addition, Adekunle (2024) asserted that the effective management and utilization of infrastructural facilities and instructional materials positively influence students' academic performance. Efficient facility management ensures the availability and functionality of educational resources when required, thereby improving instructional quality and enhancing learning effectiveness.

The management of school facilities has been widely recognized in educational literature as a critical factor influencing students' learning effectiveness. Effective facility management practices help to create safe, orderly, and conducive learning environments that promote academic achievement and improve educational outcomes.

Empirical studies have shown that the influence of school facility management on learning effectiveness is considerable. Olanrewaju et al. (2020) found a statistically significant relationship between physical facilities and school effectiveness in public secondary schools in Kwara State. Their study revealed that schools with adequate and well-maintained facilities recorded higher instructional effectiveness and better student academic performance compared to schools with inadequately managed infrastructure.

In a related study, Owoseni et al. (2020) established that the physical learning environment has a significant effect on students' cognitive development, motivation, and academic achievement. The study further indicate that functional classrooms, libraries, laboratories, and ICT facilities improve students' comprehension and active participation during classroom instruction.

Recent studies have also highlighted the importance of ICT facility management in enhancing students' learning effectiveness. Odeajo and Odefadehan (2025) observed that inadequate ICT infrastructure and ineffective maintenance practices restrict students' access to digital learning opportunities, thereby limiting educational competitiveness in the modern society.

Furthermore, Obaka (2025) noted that the effective management of teaching aids, classroom spaces, and library facilities contributes positively to teaching and learning processes in public secondary schools. Proper maintenance and utilization of school facilities were found to create supportive learning environments that foster students' academic development and improve teachers' productivity.

Beyond academic achievement, the management of school facilities also affects students' discipline, attendance, safety, health, and emotional well-being. Schools with properly maintained sanitation facilities, clean surroundings, and adequate recreational spaces often experience better student behavior and lower rates of absenteeism. Consequently, effective school facility management remains an essential determinant of the overall effectiveness of secondary school education.

To enhance the learning environment and improve students' academic outcomes, secondary schools employ a range of strategies and practices aimed at the effective management of school

facilities. These approaches are intended to promote proper utilization, maintenance, sustainability, and continuous improvement of educational infrastructure.

One key strategy is preventive maintenance, which entails the routine inspection, servicing, and repair of school facilities before significant deterioration occurs. Scholars have noted that this approach reduces rehabilitation costs and extends the lifespan of educational infrastructure. Ibrahim et al. (2023) recommended regular maintenance practices to ensure the continuous functionality of school utility facilities.

Another important approach is the supervision and monitoring of facility use. School administrators typically constitute committees tasked with overseeing the utilization and upkeep of classrooms, laboratories, libraries, and ICT centres. This monitoring system helps to minimize misuse, vandalism, and neglect of facilities.

Community participation is also recognized as a significant strategy in facility management. Parents, alumni associations, non-governmental organizations, and community leaders often support schools through donations, volunteer services, and collaborative development projects. According to Obaka (2025), stakeholder involvement enhances the sustainability of facilities and fosters shared responsibility for educational development.

In addition, maintenance is done at different levels; thus, there is Preventive Maintenance (Routine Maintenance), Predictive Maintenance, Corrective Maintenance, Planned Maintenance, and Breakdown Maintenance (Erbiyik, 2023). These types of maintenance are defined in line with the orgisational or institutional purpose of the maintenance activity embarked upon by the management. However, no matter the type of maintenance involved, funds allocation is imminent. Adequate funding and efficient resource allocation are crucial to effective facility management. Sufficient government funding enables schools to acquire modern instructional resources, rehabilitate deteriorating structures, and maintain existing infrastructure. Adekunle (2024) emphasized the importance of increased investment in school infrastructure and instructional materials to enhance teaching and learning outcomes.

The adoption of ICT in facility management has also become a contemporary strategy in secondary schools. Digital inventory systems, electronic monitoring tools, and online maintenance reporting platforms support more efficient management of school facilities. Furthermore, training and retraining of teachers and administrators in facility management practices help to strengthen maintenance culture and improve resource utilization.

Finally, strategic planning and policy implementation are essential for sustainable facility management. Educational planners and school administrators are expected to formulate clear maintenance policies, prioritize infrastructural development, and ensure accountability in resource management in order to create a conducive learning environment that supports improved student performance.

Statement of the Problem

Educational institutions are primarily established to foster academic learning and the all-round development of learners. To achieve this, schools are expected to provide adequate physical and material resources that support intellectual, social, technical, and moral growth. These

include classrooms, libraries, laboratories, workshops, ICT facilities, sports grounds, administrative blocks, water and electricity supply, healthcare units, hostels, and other instructional infrastructure. Governments and school authorities are also expected to provide annual funding for the provision, maintenance, and upgrading of these facilities to ensure a conducive learning environment. Ideally, secondary schools largely funded and managed by state governments should not experience serious infrastructural deficits. However, evidence from Delta State indicates persistent inadequacy and poor condition of essential facilities for effective teaching and learning. Many schools operate with insufficient classrooms, poorly equipped laboratories, inadequate libraries, and weak utility services such as water and electricity. In several cases, available facilities are dilapidated, abandoned, or vandalized due to poor maintenance culture and ineffective management.

This situation is worsened by delayed repairs and weak maintenance systems, where interventions are often made only after facilities have completely broken down. Consequently, infrastructural development in many public secondary schools has remained stagnant, despite serving predominantly low-income populations. This negatively affects teaching and learning, as instruction is frequently conducted without adequate resources, forcing practical subjects to be taught theoretically and limiting skill acquisition.

In addition, functional resources are often underutilized due to neglect, poor maintenance, and inadequate supervision. These challenges raise concerns about the causes of ineffective facility management, including inadequate funding, weak administrative commitment, shortage of skilled personnel, and limited stakeholder involvement. Against this backdrop, this study examines the condition of school facilities, their impact on students' learning effectiveness, and strategies for improving facility management in secondary schools in Delta State.

Purpose of the Study

The general purpose of the study is the assess school facilities management practices and school learning effectiveness in secondary schools in Delta State. Specifically, the study aims to;

1. The state of school facilities in secondary schools in Delta State.
2. The connection between school facilities management and learning effectiveness in secondary schools.
3. The impact of school facilities management on learning effectiveness in secondary schools.
4. Identify the strategies/ practices in the management of school facilities to optimize the learning environment in secondary schools for improved student outcomes**.**

Research Questions

The following Research Questions are raised to guide the study.

1. What is the state of school facilities in secondary schools in Delta State
2. What is the connection between the management of school facilities and students' learning effectiveness in secondary schools?
3. What are the strategies/ practices secondary schools adopt in the management of school facilities to optimize the learning environment in secondary schools for improved student outcomes**.**

Research Hypotheses

The following null hypotheses are formulated to be tested in the course of the study at 0.05 alpha level of significance.

1. There is no significant difference in the mean opinion of principals and students on the connection between management of school facilities and learning effectiveness in secondary schools.
2. There is no significant difference in the mean opinion of teachers and students on the extent management of school facilities impact on learning effectiveness in secondary schools.

Research Methodology

The study will adopt a descriptive survey design. The study was carried out in Delta State. Delta State has twenty-five Local Government Areas grouped into three Senatorial Districts; Delta Central, Delta North and Delta South Senatorial Districts. Delta North Senatorial District covers Aniocha North, Aniocha South, Ika North East, Ika South, Ndokwa East, Ndokwa West, Oshimili South, Oshimili North, and Ukwuani local government areas. Delta Central Senatorial District covers Ethiope East, Ethiope West, Sapele, Okpe, Ughelli North, Ughelli South, Udu and Uvwie local government areas. In contrast, Delta South Senatorial District covers Bomadi, Burutu, Isoko North, Isoko South, Patani, Warri North, Warri South and Warri South West local government areas. Each senatorial district houses several public secondary schools established and run by the state government. Though developed in different locations, the schools have relatively homogenous characteristics, and are exposed to similar learning needs, experiences, and treatment in terms of development and maintenance of school facilities. The population of the study comprised all principals, teachers and students of public secondary schools in Delta State. According to Akpoguma, (2026), there are 479 public secondary schools in Delta State, with 479 principals, 14,269 teachers, and 225,991 students.

The sample for the study comprised 612 respondents made up of 408 students, 180 teachers, and 24 principals (12 principals and 24 vice principals) selected from the three Senatorial Districts in the State. Four schools were selected from each Senatorial District. For good representation of the diverse location of schools (rural and urban), the purposive sampling technique was used to select two schools each from rural and urban areas from the three Senatorial Districts. The principals of the selected schools were also purposively selected for the study. The simple random sampling technique was thereafter used to select 180 teachers and 408 students. From each of the four schools selected from each Senatorial District, 15 teachers and 34 students were randomly selected through the stratified sampling method. The non-replacement ballot selection process was adopted for the selection of the students and teachers. In this way, the 612 respondents were selected objectively. The instrument for data collection was a structured questionnaire designed by the researcher titled; School Facilities Management and Secondary School Students Learning Effectiveness Questionnaire (SFMSSSLEQ). The instrument was a 34-item questionnaire divided into two sections (sections A and B). Section "A" contains items for respondents' bio-data, while section "B" has four clusters that presented questionnaire items that elicit responses from the respondents on the subject matter. The instrument was a four-point rating] scale type tagged and weighted as follows; 'Strongly Agree (SA-4points), Agree (A-3points), Disagree (D-2points) and Strongly Disagree (SD-1point). The instrument was validated by three experts, one each from Departments of Measurement and Evaluation, Educational Foundations and Department of

Educational Management and Administration, Federal College of Education (Technical), Asaba, Delta State. To establish the reliability of the instrument, a trial test with the test re-test method was conducted. Forty (40) respondents (20 students, 10 teachers and 10 principals) in public secondary schools in Asaba, Delta State were selected and engaged in the trial test. The results generated from the three groups were subjected to a test of coefficient relationship with the use of Pearson Product Moment Correlation Coefficient (r) at 0.05 alpha level of significance. An internal consistency value of 0.83 was achieved and the instrument was adjudged reliable. The researcher administered 612 copies of the instrument to the selected respondents while 584 (24=100%; for principals, 169=94%; teachers & 373=91%) were retrieved. This was done with the help of three guided research assistants. The researcher personally visited the schools and carried out the study with the support of the three guided research assistants (one from each senatorial district). 589 copies were retrieved used for data study. Descriptive statistics of frequency, mean scores and standard deviation were used for the data analysis while t-test statistical analysis was used for the test of hypothesis at 0.05 level of significance.

Results

Research Question One: What is the state of school facilities in secondary schools in Delta State?

Table 1: Frequency, Mean and Standard Deviation Distribution of Respondents' (Principals) Responses on the State of School Facilities in Secondary Schools

S/N	Questionnaire Item	SA	A	DA	SD	$\bar{x}$	SD	Decision
1	Classrooms in my school are adequate for the number of students enrolled.	4	5	10	5	2.33	1.01	Disagree
2	The classroom buildings in my school are in good condition.	3	6	7	8	2.17	1.05	**Disagree**
3	The school library is well-equipped with current learning materials.	2	5	8	9	2.00	0.98	Disagree
4	The science laboratories in my school are functional and adequately equipped.	5	6	7	6	2.42	1.10	Disagree
5	The school has sufficient desks and chairs for students.	3	6	8	7	2.21	1.02	Disagree
6	Water supply and toilet facilities in the school are adequate and functional.	2	5	9	8	2.04	0.95	Disagree
7	Electricity supply in the school is regular and reliable.	6	3	9	6	2.38	1.13	Disagree
8	Information and Communication Technology (ICT) facilities are available for teaching and learning.	1	5	9	9	1.92	0.88	Disagree
9	The school environment is clean and conducive for learning.	3	6	7	8	2.17	1.05	Disagree
10	Sports and recreational facilities in the school are adequate and functional.	6	3	9	6	2.38	1.13	Disagree
	Grand mean/Standard Deviation					**2.20**	**1.03**	**Disagree**

Table 1 presents principals' responses on the state of facilities in secondary schools in Delta State. All the items recorded mean scores below the criterion mean of 2.50, with values ranging from 1.92 to 2.42, indicating general disagreement on the adequacy and functionality of school facilities. Principals reported inadequacies in classrooms, libraries, laboratories, furniture,

water supply, toilet facilities, electricity, ICT facilities, school environment, and sports facilities. The grand mean of 2.20 and standard deviation of 1.03 further show that school facilities in secondary schools in Delta State are generally poor and inadequate.

Table 2: Frequency, Mean and Standard Deviation Distribution of Respondents' (Teachers) Responses on the State of School Facilities in Secondary Schools

S/N	Questionnaire Item	SA	A	DA	SD	x̄	SD	Decision
1	Classrooms in my school are adequate for the number of students enrolled.	31	25	49	64	2.14	1.12	Disagree
2	The classroom buildings in my school are in good condition.	29	35	51	54	2.23	1.08	Disagree
3	The school library is well-equipped with current learning materials.	33	40	59	37	2.41	1.04	Disagree
4	The science laboratories in my school are functional and adequately equipped.	27	37	47	58	2.20	1.08	Disagree
5	The school has sufficient desks and chairs for students.	38	31	53	47	2.36	1.11	Disagree
6	Water supply and toilet facilities in the school are adequate and functional.	43	33	46	47	2.43	1.15	Disagree
7	Electricity supply in the school is regular and reliable.	21	47	39	62	2.16	1.06	Disagree
8	Information and Communication Technology (ICT) facilities are available for teaching and learning.	32	41	52	44	2.36	1.07	Disagree
9	The school environment is clean and conducive for learning.	27	38	48	56	2.21	1.08	Disagree
10	Sports and recreational facilities in the school are adequate and functional.	22	41	46	60	2.15	1.05	Disagree
	Grand mean/Standard Deviation					**2.26**	**1.08**	Disagree

Table 2 shows teachers' responses on the condition of school facilities in secondary schools in Delta State. All the items recorded mean scores below the criterion mean of 2.50, with values ranging from 2.14 to 2.43, indicating general disagreement on the adequacy and availability of school facilities. Teachers disagreed that classrooms, libraries, laboratories, desks and chairs, water supply, toilet facilities, electricity, ICT facilities, sports facilities, and the overall school environment were adequate and functional. The grand mean of 2.26 with a standard deviation of 1.08 further indicates that teachers perceived school facilities in secondary schools in Delta State as inadequate and unsatisfactory.

Table 3: Frequency, Mean and Standard Deviation Distribution of Respondents' (Students) Responses on the State of School Facilities in Secondary Schools

S/N	Questionnaire Item	SA	A	DA	SD	x̄	SD	Decision
1	Classrooms in my school are adequate for the number of students enrolled.	62	70	103	138	2.15	1.10	**Disagree**
2	The classroom buildings in my school are in good condition.	83	49	101	140	2.20	1.17	**Disagree**
3	The school library is well-equipped with current learning materials.	69	91	109	104	2.34	1.07	**Disagree**
4	The science laboratories in my school are functional and adequately equipped.	52	69	110	142	2.08	1.06	**Disagree**
5	The school has sufficient desks and chairs for students.	81	72	105	115	2.32	1.13	**Disagree**

6	Water supply and toilet facilities in the school are adequate and functional.	43	33	46	47	2.43	1.15	**Disagree**
7	Electricity supply in the school is regular and reliable.	45	98	119	111	2.21	1.00	**Disagree**
8	Information and Communication Technology (ICT) facilities are available for teaching and learning.	67	92	108	106	2.32	1.07	**Disagree**
9	The school environment is clean and conducive for learning.	62	81	93	137	2.18	1.10	**Disagree**
10	Sports and recreational facilities in the school are adequate and functional.	53	91	103	126	2.19	1.06	**Disagree**
	Grand mean/Standard Deviation					**2.24**	**1.09**	**Disagree**

Table 3 shows students' responses on the condition of school facilities in secondary schools in Delta State. All the questionnaire items recorded mean scores below the criterion mean of 2.50, ranging from 2.08 to 2.43, indicating general disagreement that school facilities are adequate and functional. Students reported inadequacies in classrooms, library facilities, science laboratories, desks and chairs, water supply, toilet facilities, electricity, ICT facilities, school environment, and sports facilities. Overall, the findings reveal that school facilities in secondary schools in Delta State are inadequate, poorly maintained, and insufficient for effective teaching and learning.

The results indicates that principals, teachers, and students' responses align that secondary school facilities in Delta State are generally inadequate and poorly maintained. Respondents expressed dissatisfaction with classrooms, libraries, laboratories, furniture, water and sanitation, electricity, ICT, sports, and the overall school environment. The consistently low mean scores, the grand mean score of 2.24, and the standard deviation of 1.09 suggest that the poor condition of these facilities may hinder effective teaching and learning.

Research Question Two: What is the connection between the management of school facilities and students' learning effectiveness in secondary schools?

Table 4: Frequency, Mean and Standard Deviation Distribution of Respondents' (Principals) Responses on the Connection between the Management of School Facilities and Students' Learning Effectiveness in Secondary Schools

S/N	Questionnaire Item	SA	A	DA	SD	$\bar{x}$	SD	Decision
11	Proper maintenance of school facilities improves students' academic performance.	12	6	4	2	3.17	1.01	**Agree**
12	Well-managed classrooms enhance students' concentration during lessons	8	8	6	2	2.92	0.97	Agree
13	Availability of functional learning facilities increases students' interest in learning.	10	5	4	5	2.83	1.20	Agree
14	Students learn better when school facilities are properly supervised.	9	7	4	4	2.88	1.12	Agree
15	Proper management of school facilities reduces distractions during learning.	11	5	5	3	3.00	1.10	Agree
16	Effective management of laboratory facilities improves students' practical skills.	8	7	4	5	2.75	1.15	Agree

17	Students' participation in learning activities improves when facilities are adequately managed.	12	4	6	2	3.08	1.06	Agree
18	Good management of school facilities encourages regular school attendance.	7	9	6	2	2.88	0.95	Agree
19	The condition of school facilities influences students' motivation to learn.	7	10	3	4	2.83	1.05	Agree
20	Effective facility management contributes to improved teaching and learning outcomes.	10	6	4	4	2.92	1.14	Agree
	Grand mean/Standard Deviation					**2.92**	**1.07**	Agree

Results from table 4 reveals that principals showed general agreement that proper management of school facilities enhances students' learning effectiveness. They agreed that effective maintenance and management of facilities improve students' academic performance, participation in learning activities, concentration, motivation, school attendance, and overall teaching and learning outcomes. The principals also noted that proper supervision of facilities helps students learn better, while functional learning and laboratory facilities increase students' interest in learning and improve practical skills. The standard deviation values (0.95–1.20) indicate consistency in the principals' responses, while the overall grand mean of 2.92 and the standard deviation of 1.07 reflects a positive perception that effective management of school facilities improves students' learning effectiveness.

Table 5: Frequency, Mean and Standard Deviation Distribution of Respondents' (Teachers) Responses on the Connection between the Management of School Facilities and Students' Learning Effectiveness in Secondary Schools

S/N	Questionnaire Item	SA	A	DA	SD	$\bar{x}$	SD	Decision
11	Proper maintenance of school facilities improves students' academic performance.	65	48	27	29	2.88	1.11	**Agree**
12	Well-managed classrooms enhance students' concentration during lessons	51	56	28	34	2.73	1.10	**Agree**
13	Availability of functional learning facilities increases students' interest in learning.	49	63	32	25	2.80	1.02	**Agree**
14	Students learn better when school facilities are properly supervised.	58	49	32	30	2.80	1.10	**Agree**
15	Proper management of school facilities reduces distractions during learning.	53	49	31	36	2.70	1.13	**Agree**
16	Effective management of laboratory facilities improves students' practical skills.	48	52	37	32	2.69	1.08	**Agree**
17	Students' participation in learning activities improves when facilities are adequately managed.	62	47	39	21	2.89	1.04	**Agree**
18	Good management of school facilities encourages regular school attendance.	54	41	30	44	2.62	1.18	**Agree**
19	The condition of school facilities influences students' motivation to learn.	40	57	42	30	2.63	1.03	**Agree**
20	Effective facility management contributes to improved teaching and learning outcomes.	66	43	31	29	2.86	1.12	**Agree**
	Grand mean/Standard Deviation					**2.72**	**1.09**	**Agree**

Results in Table 5 showed that teachers agreed that effective management of school facilities positively influences students' learning effectiveness. They indicated that adequate management of facilities improves students' participation in learning activities, academic performance, teaching and learning outcomes, concentration, motivation, practical skills, and regular school attendance. Teachers also agreed that proper supervision and availability of functional facilities increase students' interest in learning and reduce distractions during lessons. The standard deviation values (1.02–1.18) revealed moderate consistency in responses, while the overall grand mean of 2.72 and 1.09 grand standard deviation confirmed that teachers perceived a strong relationship between effective management of school facilities and students' learning effectiveness.

Table 6: Frequency, Mean and Standard Deviation Distribution of Respondents' (Students) Responses on the Connection between the Management of School Facilities and Students' Learning Effectiveness in Secondary Schools

S/N	Questionnaire Item	SA	A	DA	SD	$\bar{x}$	SD	Decision
11	Proper maintenance of school facilities improves students' academic performance.	105	127	65	76	2.70	1.09	Agree
12	Well-managed classrooms enhance students' concentration during lessons	141	104	59	69	2.85	1.12	Agree
13	Availability of functional learning facilities increases students' interest in learning.	109	104	69	91	2.62	1.15	Agree
14	Students learn better when school facilities are properly supervised.	142	69	110	52	2.81	1.10	Agree
15	Proper management of school facilities reduces distractions during learning.	117	78	105	73	2.64	1.12	Agree
16	Effective management of laboratory facilities improves students' practical skills.	120	97	67	89	2.66	1.16	Agree
17	Students' participation in learning activities improves when facilities are adequately managed.	101	120	47	105	2.58	1.16	Agree
18	Good management of school facilities encourages regular school attendance.	109	110	68	86	2.65	1.13	Agree
19	The condition of school facilities influences students' motivation to learn.	103	127	52	91	2.65	1.13	Agree
20	Effective facility management contributes to improved teaching and learning outcomes.	129	113	46	85	2.77	1.15	Agree
	Grand mean/Standard Deviation					**2.69**	**1.13**	**Agree**

Results in table 6 reveals that students show general agreement that proper management of school facilities improves learning effectiveness. Students agreed that adequate management of facilities enhances participation in learning activities ($\bar{x}$ = 2.89), improves academic performance ($\bar{x}$ = 2.88), and promotes better teaching and learning outcomes ($\bar{x}$ = 2.86). They also agreed that proper supervision of facilities helps students learn better ($\bar{x}$ = 2.80), while functional learning facilities increase students' interest in learning ($\bar{x}$ = 2.80). Furthermore, students believed that well-managed classrooms improve concentration during lessons ($\bar{x}$ = 2.73), reduce learning distractions ($\bar{x}$ = 2.70), and enhance practical skills through effective laboratory management ($\bar{x}$ = 2.69). They also agreed that the condition of school facilities influences students' motivation to learn ($\bar{x}$ = 2.63) and encourages regular school attendance ($\bar{x}$

= 2.62). The standard deviation values (1.02–1.18) indicate consistency in responses. Overall, the grand mean of 2.69 and standard deviation of 1.13 show that students generally agreed that proper management of school facilities positively influences learning effectiveness.

Generally, the results from principals, teachers, and students consistently showed a positive relationship between effective management of school facilities and students' learning effectiveness in secondary schools. The respondents agreed that proper maintenance, supervision, and management of school facilities improve students' academic performance, concentration, motivation, participation, practical skills, attendance, and overall teaching and learning outcomes.

Research Question 3: To what extent does management of school facilities impact on students' learning effectiveness in secondary schools?

Table 7: Frequency, Mean and Standard Deviation Distribution of Respondents' (Principals) Responses on Extent Management of School Facilities Impact on Students' Learning Effectiveness in Secondary Schools

S/N	Questionnaire Item	VHE	HE	LE	VLE	$\bar{x}$	SD	Decision
21	Proper maintenance of school facilities improves students' academic performance.	10	6	6	2	3.00	1.02	HE
22	Well-managed classrooms enhance students' concentration during lessons	8	10	2	4	2.92	1.06	HE
23	Availability of functional learning facilities increases students' interest in learning.	6	9	3	6	2.63	1.13	HE
24	Students learn better when school facilities are properly supervised.	6	7	6	5	2.58	1.10	HE
25	Proper management of school facilities reduces distractions during learning.	9	6	5	4	2.83	1.13	HE
26	Effective management of laboratory facilities improves students' practical skills.	8	7	2	6	2.74	1.21	HE
27	Students' participation in learning activities improves when facilities are adequately managed.	10	5	6	3	2.92	1.10	HE
28	Good management of school facilities encourages regular school attendance.	5	11	4	4	2.71	1.00	HE
29	The condition of school facilities influences students' motivation to learn.	8	8	5	3	2.88	1.03	HE
30	Effective facility management contributes to improved teaching and learning outcomes.	9	7	2	6	2.79	1.22	HE
	Grand mean/Standard Deviation					**2.80**	**1.10**	HE

Results in Table 7 shows principals' responses on the extent to which management of school facilities impacts students' learning effectiveness in secondary schools. All the items had mean scores above the criterion mean of 2.50, indicating a high extent of agreement. The mean scores ranged from 2.58 to 3.00, while the standard deviation values (1.00–1.22) showed that the respondents had similar opinions. The principals agreed that proper maintenance of school facilities improves students' academic performance most strongly ($\bar{x}$ = 3.00). They also agreed

that well-managed classrooms enhance students' concentration ($\bar{x}$ = 2.92), improve participation in learning activities ($\bar{x}$ = 2.92), and increase students' motivation to learn ($\bar{x}$ = 2.88). In addition, effective management of laboratory facilities was seen to improve practical skills ($\bar{x}$ = 2.74), while good management of school facilities encourages regular school attendance ($\bar{x}$ = 2.71). The grand mean of 2.80 and standard deviation of 1.10 indicate that principals generally perceived that effective management of school facilities impacts students' learning effectiveness to a high extent in secondary schools.

Table 8: Frequency, Mean and Standard Deviation Distribution of Respondents' (Teachers) Responses on Extent Management of School Facilities Impact on Students' Learning Effectiveness in Secondary Schools

S/N	Questionnaire Item	VHE	HE	LE	VLE	$\bar{x}$	SD	Decision
21	Proper maintenance of school facilities improves students' academic performance.	60	53	28	28	2.86	1.08	HE
22	Well-managed classrooms enhance students' concentration during lessons	70	32	51	16	2.92	1.05	HE
23	Availability of functional learning facilities increases students' interest in learning.	37	68	37	27	2.68	0.99	HE
24	Students learn better when school facilities are properly supervised.	58	61	25	25	2.90	1.04	HE
25	Proper management of school facilities reduces distractions during learning.	53	49	31	36	2.70	1.13	HE
26	Effective management of laboratory facilities improves students' practical skills.	61	42	29	37	2.75	1.16	HE
27	Students' participation in learning activities improves when facilities are adequately managed.	59	51	39	20	2.88	1.02	HE
28	Good management of school facilities encourages regular school attendance.	44	50	27	48	2.53	1.16	HE
29	The condition of school facilities influences students' motivation to learn.	40	57	42	30	2.63	1.03	HE
30	Effective facility management contributes to improved teaching and learning outcomes.	56	53	28	32	2.79	1.10	HE
	Grand mean/Standard Deviation					**2.76**	**1.07**	HE

Results in Table 8 show presents teachers' responses on the extent to which the management of school facilities influences students' learning effectiveness in secondary schools. The results showed that all the items had mean scores above the benchmark of 2.50, indicating a high extent of impact. The mean scores ranged from 2.53 to 2.92, while the standard deviation values ranged from 0.99 to 1.16, showing moderate consistency in the teachers' responses. The teachers strongly agreed that well-managed classrooms improve students' concentration during lessons ($\bar{x}$ = 2.92). They also agreed that proper supervision and management of school facilities enhance students' learning, participation in classroom activities, academic performance, teaching and learning outcomes, and practical skills development. The grand mean of 2.76 and standard deviation of 1.07 indicate that teachers generally perceived effective management of school facilities as having a high influence on students' learning effectiveness in secondary schools.

Table 9: Frequency, Mean and Standard Deviation Distribution of Respondents' (Students) Responses on Extent Management of School Facilities Impact on Students' Learning Effectiveness in Secondary Schools

S/N	Questionnaire Item	VHE	HE	LE	VLE	x̄	SD	Decision
212	Proper maintenance of school facilities improves students' academic performance.	110	122	60	81	2.70	1.11	HE
22	Well-managed classrooms enhance students' concentration during lessons	121	124	70	58	2.83	1.05	HE
23	Availability of functional learning facilities increases students' interest in learning.	99	114	91	69	2.65	1.06	HE
24	Students learn better when school facilities are properly supervised.	81	129	111	52	2.64	0.97	HE
25	Proper management of school facilities reduces distractions during learning.	105	78	117	73	2.58	1.10	HE
26	Effective management of laboratory facilities improves students' practical skills.	97	119	67	90	2.60	1.12	HE
27	Students' participation in learning activities improves when facilities are adequately managed.	112	100	56	105	2.59	1.19	HE
28	Good management of school facilities encourages regular school attendance.	109	68	110	86	2.54	1.14	HE
29	The condition of school facilities influences students' motivation to learn.	113	117	62	81	2.70	1.12	HE
30	Effective facility management contributes to improved teaching and learning outcomes.	129	85	46	113	2.62	1.24	HE
	Grand mean/Standard Deviation					**2.64**	**1.11**	HE

Results in Table 9 shows students' responses on the extent to which management of school facilities impacts learning effectiveness in secondary schools. All the items recorded mean scores above the criterion mean of 2.50, indicating a high extent of agreement. The mean scores ranged from 2.54 to 2.83, with standard deviations between 0.97 and 1.24, showing that the responses were relatively close. The students agreed most strongly that well-managed classrooms improve concentration during lessons ($\bar{x}$ = 2.83). They also agreed that proper maintenance of facilities enhances academic performance ($\bar{x}$ = 2.70), motivates students to learn ($\bar{x}$ = 2.70), and increases interest in learning through functional facilities ($\bar{x}$ = 2.65). In addition, they agreed that proper supervision of facilities promotes better learning ($\bar{x}$ = 2.64) and improves teaching and learning outcomes ($\bar{x}$ = 2.62). The grand mean of 2.64 and standard deviation of 1.11 indicate that students generally perceived that effective management of school facilities enhances learning effectiveness to a high extent in secondary schools.

Findings from principals, teachers, and students consistently show that effective management of school facilities has a high impact on students' learning effectiveness in secondary schools. Respondents agreed that proper maintenance and supervision of facilities enhance academic performance, concentration, motivation, participation, practical skills, and attendance. The grand mean scores of 2.80 (principals), 2.76 (teachers), and 2.64 (students) confirm that efficient facility management significantly improves students' learning outcomes.

Research Question Four: What are the strategies/practices secondary schools adopt in the management of school facilities to optimize the learning environment in secondary schools for improved student outcomes?

Table 10: Frequency, Mean and Standard Deviation Distribution of Respondents' (Principals) Responses on Strategies/Practices Secondary Schools Adopt in the Management of School Facilities to Optimize the Learning Environment in Secondary Schools for Improved Student Outcomes

S/N	Questionnaire Item	SA	A	DA	SD	x̄	SD	Decision
31	The school conducts regular inspection of facilities to ensure proper maintenance.	2	4	4	14	1.75	1.03	Disagree
32	School management provides prompt repairs for damaged facilities.	5	4	3	12	2.08	1.25	Disagree
33	Students are encouraged to handle school facilities responsibly.	6	9	3	6	2.63	1.13	Agree
34	Teachers supervise the use of school facilities during learning activities.	5	6	6	7	2.38	1.13	Disagree
35	The school allocates funds specifically for maintenance of facilities.	2	4	5	13	1.79	1.02	Disagree
36	Cleaning and sanitation of school facilities are carried out regularly.	3	5	7	9	2.08	1.06	Disagree
37	The school keeps proper records of available facilities and equipment.	6	8	4	6	2.58	1.14	Agree
38	School administrators involve staff in decisions concerning facility management.	4	5	8	7	2.25	1.07	Disagree
39	Security measures are put in place to protect school facilities from damage or theft.	6	2	4	12	2.08	1.28	Disagree
40	The school adopts preventive maintenance practices to prolong the lifespan of facilities.	2	5	8	9	2.00	0.98	Disagree
	Grand mean/Standard Deviation					**2.16**	**1.10**	**Disagree**

Results in Table 10 shows principals' responses on the strategies and practices adopted by secondary schools in managing school facilities to enhance the learning environment and improve student outcomes. The findings revealed a grand mean of 2.16 and standard deviation of 1.10, which is below the criterion mean of 2.50, indicating general disagreement that effective facility management strategies are adequately implemented in secondary schools. The principals agreed that students are encouraged to use facilities responsibly and that proper records of facilities and equipment are kept. However, they disagreed that schools carry out regular inspections, prompt repairs, adequate supervision, maintenance funding, cleaning and sanitation, staff involvement in management decisions, security measures, and preventive maintenance practices. The standard deviation values showed that respondents' opinions were relatively similar. Overall, the findings suggest that most secondary schools do not effectively implement facility management practices needed for a conducive learning environment and improved student outcomes.

Table 11: Frequency, Mean and Standard Deviation Distribution of Respondents' (Teachers) Responses on Strategies/Practices Secondary Schools Adopt in the Management of School Facilities to Optimize the Learning Environment in Secondary Schools for Improved Student Outcomes

S/N	Questionnaire Item	SA	A	DA	SD	x̄	SD	Decision
31	The school conducts regular inspection of facilities to ensure proper maintenance.	27	39	71	32	2.36	0.97	Disagree
32	School management provides prompt repairs for damaged facilities.	21	43	54	51	2.20	1.01	Disagree
33	Students are encouraged to handle school facilities responsibly.	41	44	47	37	2.53	1.09	Agree
34	Teachers supervise the use of school facilities during learning activities.	35	25	62	47	2.28	1.09	Disagree
35	The school allocates funds specifically for maintenance of facilities.	31	36	49	53	2.27	1.09	Disagree
36	Cleaning and sanitation of school facilities are carried out regularly.	42	29	61	37	2.45	1.09	Disagree
37	The school keeps proper records of available facilities and equipment.	54	54	39	22	2.83	1.02	Agree
38	School administrators involve staff in decisions concerning facility management.	44	27	40	58	2.34	1.20	Disagree
39	Security measures are put in place to protect school facilities from damage or theft.	30	41	54	44	2.34	1.05	Disagree
40	The school adopts preventive maintenance practices to prolong the lifespan of facilities.	33	40	61	35	2.42	1.03	Disagree
	Grand mean/Standard Deviation					**2.40**	**1.06**	Disagree

Results in Table 11 presents teachers' responses on the strategies and practices adopted by secondary schools in managing school facilities to enhance the learning environment and improve student outcomes. The table recorded a grand mean of 2.40 and a standard deviation of 1.06. Since the grand mean is below the criterion mean of 2.50, the teachers generally disagreed that effective facility management practices are adequately implemented in secondary schools. The teachers agreed that students are encouraged to use school facilities responsibly ($\bar{x}$ = 2.53) and that schools maintain proper records of facilities and equipment ($\bar{x}$ = 2.83). However, they disagreed that schools carry out regular inspections, prompt repairs, proper supervision of facilities, adequate maintenance funding, regular sanitation, and staff involvement in facility management, adequate security measures, and preventive maintenance practices. The standard deviation values, ranging from 0.97 to 1.20, show little variation in responses. Overall, the findings indicate that facility management practices in secondary schools are generally inadequate for promoting an effective learning environment and improved student outcomes.

Table 12: Frequency, Mean and Standard Deviation Distribution of Respondents' (Students) Responses on Strategies/Practices Secondary Schools Adopt in the Management of School Facilities to Optimize the Learning Environment in Secondary Schools for Improved Student Outcomes

S/N	Questionnaire Item	SA	A	DA	SD	$\bar{x}$	SD	Decision
31	The school conducts regular inspection of facilities to ensure proper maintenance.	81	100	82	110	2.41	1.13	Disagree
32	School management provides prompt repairs for damaged facilities.	57	74	109	133	2.15	1.07	Disagree
33	Students are encouraged to handle school facilities responsibly.	115	96	91	71	2.68	1.10	Agree
34	Teachers supervise the use of school facilities during learning activities.	81	86	115	91	2.42	1.08	Disagree
35	The school allocates funds specifically for maintenance of facilities.	71	78	117	107	2.30	1.08	Disagree
36	Cleaning and sanitation of school facilities are carried out regularly.	97	90	67	119	2.44	1.19	Disagree
37	The school keeps proper records of available facilities and equipment.	112	105	57	99	2.62	1.17	Agree
38	School administrators involve staff in decisions concerning facility management.	68	68	110	127	2.21	1.10	Disagree
39	Security measures are put in place to protect school facilities from damage or theft.	81	117	64	111	2.45	1.13	Disagree
40	The school adopts preventive maintenance practices to prolong the lifespan of facilities.	128	46	86	113	2.51	1.24	Disagree
	Grand mean/Standard Deviation					**2.41**	**1.12**	Disagree

Results in Table 12 shows students' responses on the strategies and practices adopted by secondary schools in managing school facilities to enhance the learning environment and improve student outcomes. The grand mean score of 2.41 with a standard deviation of 1.12, which is below the criterion mean of 2.50, indicates that students generally disagreed that adequate facility management practices are adopted in schools. The students agreed that they are encouraged to use school facilities responsibly ($\bar{x}$ = 2.68) and that schools keep proper records of facilities and equipment ($\bar{x}$ = 2.62). However, they disagreed that schools conduct regular inspections, provide prompt repairs, supervise facility use, allocate funds for maintenance, clean and sanitize facilities regularly, involve staff in management decisions, provide adequate security, and adopt preventive maintenance practices. The standard deviation values, ranging from 1.07 to 1.24, show that the responses were relatively homogeneous. Overall, the findings suggest that facility management practices in secondary schools are inadequate and may hinder an effective learning environment and improved student outcomes.

Test of Hypotheses

$H0_1$ There is no significant difference in the mean opinion of principals and students on the connection between management of school facilities and learning effectiveness in secondary schools.

Table 13: Two Tail Tests of the Differences in Principals' and Students' Responses on the Connection Between Management of School Facilities and Learning Effectiveness

Category	$\sum f$	x	SD	Standard error	DF	t-cal	t-cri	Decision
principals	24	2.22	0.91	0.991	395	-0.1988	1.059	Accepted
Students	373	2.24	0.96					

Table 13 shows that the sum of frequencies for principals and students are 24 and 373 respectively. The grand mean scores for both categories are 2.22 and 2.24 respectively. It shows standard deviations of 0.91 and 0.96 respectively with a standard error of 0.991. A degree of freedom of 395 and calculated value of -0.1988 is established. However, it shows the critical value as 1.059. Figures in the table show that the calculated value of -0.1988 is significantly less than the critical value of 1.059. The rule guiding the test of hypothesis using t-test states that; where the calculated value is higher than the critical value the hypothesis should be rejected but where the calculated value is less than the critical value, the hypothesis should be accepted. By virtue of the established rule guiding the test, null hypothesis 1 is accepted. This implies that there is no significant difference in the mean opinion of principals and students on the connection between management of school facilities and students learning effectiveness.

$H0_2$ There is no significant difference in the mean opinion of principals and teachers on the extent management of school facilities impact on learning effectiveness in secondary schools.

Table 14: Two Tail Tests of the Differences in Principals' and Teachers' Responses on the Connection Between Management of School Facilities and Learning Effectiveness

Category	$\sum f$	x	SD	Standard error	DF	t-cal	t-cri	Decision
Principals	24	2.92	-0.44	0.2	191	-1.76	1.130	Rejected
Students	169	2.72	0.93					

Table 14 shows that the sum of frequencies for principals and students are 24 and 169 respectively. The grand mean scores for both categories are 2.92 and 2.72 respectively. It shows standard deviations of -0.44 and 0.93 respectively with a standard error of 0.2. A degree of freedom of 191 and calculated value of -1.76 is established. However, it shows the critical value as 1.130. Figures in the table show that the calculated value of -1.76 is significantly less than the critical value of 1.130. By virtue of the established rule guiding the test, null hypothesis 2 is accepted. This implies that there is no significant difference in the mean opinion of principals and teachers on the extent management of school facilities impact on students learning effectiveness.

Discussion of Findings

The findings obtained from principals, teachers, and students showed a common view that school facilities in secondary schools in Delta State are largely inadequate and poorly maintained. Respondents expressed dissatisfaction with the condition of classrooms, libraries,

laboratories, desks and chairs, water and sanitation facilities, electricity supply, ICT facilities, school environment, and sports facilities. The low mean scores recorded across the three categories of respondents suggest that the available school facilities are in poor condition, thereby hindering effective teaching and learning in secondary schools. The grand mean scores of 2.20, 2.26, and 2.24 for principals, teachers, and students respectively indicate that schools lack adequate school facilities and the ones available are poorly managed. These findings align with the findings of Asiyai (2012), Asiegbu (2014), and Ossa (2022), who, though in different studies, unequivocally aligned that public schools in Nigeria lack adequate school facilities and that the ones available are poorly managed due to poor maintenance culture and lack of political will. Ibrahim et al. (2023); Odeajo and Odefadehan (2025) who found out that many public secondary schools in Kaduna and Lagos States lacked essential utility facilities, including functional classrooms, laboratories, libraries, and instructional materials, and serious infrastructural decay, thereby negatively influencing students' academic performance.

The findings from principals, teachers, and students revealed that effective management of school facilities influences students' learning effectiveness to a great extent in secondary schools. The respondents agreed that proper supervision, maintenance, and management of school facilities contribute positively to students' academic performance, concentration, motivation, participation in classroom activities, acquisition of practical skills, and regular school attendance. The grand mean scores of 2.80, 2.76, and 2.64 for principals, teachers, and students respectively indicate that effective facility management plays a significant role in enhancing students' learning effectiveness in secondary schools. These findings complement the findings of Adekunle (2024) and Owoseni et al. (2020), properly managed physical learning environments improve students' concentration, school attendance, and academic performance. It also corroborated with the findings of Ahmodu (2023) who stated that schools equipped with functional libraries, adequately ventilated classrooms, and sufficient instructional facilities are more likely to achieve better student outcomes compared to schools with inadequate facilities.

Findings from principals, teachers, and students indicated that only limited strategies are adopted in the management of school facilities in secondary schools. Although respondents acknowledged that students are encouraged to handle facilities responsibly and that records of facilities and equipment are kept, they disagreed with important management practices such as regular inspection, timely repairs, adequate maintenance funding, proper sanitation, staff participation, provision of security, and preventive maintenance measures. The grand mean scores of 2.16 for principals, 2.40 for teachers, and 2.41 for students, all below the criterion mean of 2.50, imply that facility management practices in secondary schools are inadequate and could negatively influence the learning environment and students' academic performance. These findings support the findings of Erbiyik (2023), Ibrahim et al. (2023), and Obaka (2025), who stated that poor maintenance of school facilities could be very dangerous to the academic community, therefore recommended that parents, alumni associations, non-governmental organizations, and community leaders should often support schools through donations, volunteer services, and collaborative development projects as regular maintenance practices to ensure the continuous functionality of school utility facilities.

The null hypothesis 1 and 2 which stated that there was no significant differences in the mean opinion of principals and students and teachers and students in the state of infrastructure in the area of the study and the connection between school facilities' maintenance students' learning

effectiveness respectively, were accepted as the calculated values -1.76 and -0.1988 respectively were significantly less than there corresponding critical values of 1.059 and 1.130.

Conclusion

The study revealed that school facilities in secondary schools in Delta State are largely inadequate and poorly managed, which negatively affects students' learning effectiveness. Principals, teachers, and students expressed dissatisfaction with facilities such as classrooms, libraries, laboratories, furniture, water and sanitation, electricity, ICT, sports facilities, and the overall school environment. The low mean scores further confirmed that these facilities are insufficient and poorly maintained, thereby hindering effective teaching and learning.

The study also showed that proper management of school facilities significantly improves students' academic performance, concentration, participation, motivation, practical skills acquisition, and school attendance. However, existing management strategies such as regular inspection, maintenance, repairs, funding, sanitation, staff involvement, and security are inadequately implemented in most schools, leading to continued deterioration of facilities and poor learning outcomes.

Therefore, the study concludes that adequate provision, proper maintenance, and effective management of school facilities are essential for creating a conducive learning environment and improving students' learning effectiveness in secondary schools in Delta State.

Recommendations

1. The Delta State Government and relevant educational agencies should provide adequate and functional school facilities, including classrooms, laboratories, libraries, ICT facilities, water, electricity, sanitation, and sports equipment, to improve effective teaching and learning in secondary schools.
2. School principals and administrators should ensure proper supervision, utilization, security, and regular maintenance of school facilities through continuous inspection, repairs, cleaning, and renovation to create a conducive learning environment.
3. Government should allocate sufficient funds specifically for the management and maintenance of school facilities to prevent deterioration and ensure sustainability of available resources in secondary schools.
4. Teachers, students, PTAs, communities, and other stakeholders should actively participate in the protection, monitoring, and maintenance of school facilities through collaboration, orientation, and responsible use of school property.

References

Adekunle, S. (2024). Infrastructural facilities, instructional materials and academic performance of secondary school students in Niger State, Nigeria. *Kontagora International Journal of Educational Research*. https://doi.org/10.5281/zenodo.11528370

Ahmodu, A.-L. O. (2023). *School facilities and students' academic performance in Oshodi-Isolo L.G.A. senior secondary schools, Lagos State*. ResearchGate.

Akpoguma, S. O. (2026). Educational policy implementation and school leadership effectiveness in public secondary schools in Delta State. *Ilorin Journal of Education, 47*(1), 253–267. Retrieved from https://ije.unilorinedu.sch.ng/index.php/ije/article/view/374

Asiegbu, E. C. (2014). School Plant Management. In G. O. Unachukwu & P. N. Okorji (Eds.), *Educational Management: A Skill Building Approach* (pp. 313–338). Onitsha, Nigeria: Rex Charles & Patrick Limited.

Asiyai, R. (2012). Assessing school facilities in public secondary schools in Delta State, Nigeria. *African Research Review 6*(2). DOI:10.4314/afrrev.v6i2.17.

Erbiyik, H. (2023). "Definition of maintenance and maintenance types with due care on preventive maintenance." *In Maintenance Management - Current Challenges, New Developments, and Future Directions.* IntechOpen. https://doi.org/10.5772/intechopen.106346

Ibrahim, M. M., Abubakar, U., & Kiyawa, A. S. (2023). Impact of school utility facilities on secondary school academic performance in Kaduna State, Nigeria. *Zaria Journal of Studies in Education*.

Kaehler, B., & Grundei, J. (2019). *The concept of management: In search of a new definition*. In *HR governance: A theoretical introduction* (pp. 3–26). Springer, Cham. https://doi.org/10.1007/978-3-319-94526-2_2

Nnenna,O. C. A. & Ubogu, R. (2020). inadequate infrastructural distribution in public primary schools in Delta State: Implication for national development. *Journal of Science Technology and Development; 8*(4). https://www.researchgate.net/publication/361614006_Inadequate_Infrastructural_Distribution_in_Public_Primary_Schools_in_Delta_State_Implication_for_National_Development

Obaka, P. H. (2025). School infrastructure as a contributory factor to effective teaching and learning in public senior secondary schools in Kogi State. *International Journal of Arts, Communication and Pedagogy*.

Odeajo, O. A., & Odefadehan, C. O. (2025). Investigating the current state of educational facilities in secondary schools in Lagos, Nigeria. *Journal of Education Research and Library Practice*. https://doi.org/10.70382/ajerlp.v9i8.041

Olanrewaju, A. O., Elegonye, M. O., & Joy, N. K. (2020). Impact of physical facilities on school effectiveness in Kwara State public secondary schools, Nigeria. *Al-Hikmah Journal of Educational Management and Counselling, 2*(1), 1–12.

Owoseni, A., Ibem, E., & Opoko, A. P. (2020). Impact of physical learning environment on students' learning outcomes in secondary schools in Lagos State, Nigeria. *Universal Journal of Educational Research, 8*(8), 3635–3642. https://doi.org/10.13189/ujer.2020.080841

Ossa, A.G. (2022). Implementation of education policy in secondary schools in Delta State: Challenges and future directions. https://www.researchgate.net/publication/369878777_Implementation_of_Education_Policy_in_Secondary_Schools_in_Delta_State_Challenges_and_Future_Directions

Stiggins, R. J., Arter, J. A., Chappuis, J., & Chappuis, S. (2015). *Classroom assessment for student learning: Doing it right—Using it well* (2nd or 3rd ed.). Boston, MA: Pearson Education