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SITUATION OF SCHOOL PLANT FACILITIES AND INFLUENCE ON SECONDARY SCHOOL STUDENTS' ACADEMIC PERFORMANCE IN DELTA STATE

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ABSTRACT

This study examined the Situation of School Plant Facilities and Influence on Secondary School Students' Academic Performance in Delta State. Four research questions guided the study. The study adopted a descriptive survey research design. The study population comprised 15,531 teachers in secondary schools within 471 public secondary schools in Delta State. The sample for this study consisted of 777 teachers in 236 public secondary schools within 13 Local Government Areas (LGAs) of Delta State selected using the multi-stage sampling technique of the stratified random sampling technique and proportionate random sampling technique. The instrument for data collection was a self-structured questionnaire by the researcher, containing 41items and titled: Situation and Influence of School Plant Facilities on Secondary School Students' Academic Performance Questionnaire (SISPFSSSAPQ). The questionnaire was validated by two experts from Educational Foundations Department (Educational Management expert) and one Measurement and Evaluation expert, from Federal College of Education (Technical) Asaba, Delta State. Reliability of the instrument was established through a pilot-test. Data were analyzed using mean and standard deviation statistics. Findings of the study revealed among others that the situation of all the school plant facilities which included: the electronic school plant facilities, instructional school plant facilities, and infrastructural school plant facilities were all in a bad state in order to influence students' academic performance. The bad situation of all the various school plant facilities had low influence on students' academic performance. Based on these findings, recommendations were made and among them included that the Delta State government through the assistance of Post Primary Education Board (PPEB) should provide sufficient funds by conducting effective needs assessment which will ensure adequate mobilization of electronic school plant facilities in order to improve the situation of electronic facilities for secondary school students' high academic performance.

Keywords: Academic, Facilities, Influence, Performance, Plant, School, Situation, Students.

Introduction

Education is an instrument for sustainable national development in Nigeria. It is equally a great tool for nation building and social change in the society. It is important for socio-economic development, and for inculcation into individuals' spirit of patriotism, national consciousness, values and national unity According to the Federal Republic of Nigeria (FRN: 2014), education is an aggregate tool for human capacity development and promotion of a progressive society. Thus, the relevance of education to the Nigerian society can never be overemphasized. Education is crucial for poverty reduction, employment generation and wealth creative (Federal Republic of Nigeria - FRN: 2014). Given the benefits of education to the

Nigerian society, this has equally necessitated the establishment of various educational programmes into the education system. The Nigerian education system has been structured into various programmes of: Early Childhood Care and Development Education (ECCDE), Basic/Primary education, Secondary education, Technical education and Tertiary education which is made of the Universities, Polytechnics, Monotechnics, Colleges of Education, and other specialized institutions (FRN: 2014). However, secondary education which is the main focus of the present study, prepares students for higher or tertiary education. It is received after primary education before higher education. Secondary education is the bridge between primary and tertiary levels of education, which prepares students for the world of work. The goals and objectives of secondary education as indicated by Federal Republic of Nigeria (FRN: 2014) in the National Policy on Education (NPE) include to provide all basic school leavers with the open door for education at a more significant level irrespective of sex, societal position, religious or ethnic foundation; offer expanded educational programme to cater for the distinctions in skills, openings and to future jobs; provide skilled labour in applied science, innovation and business at sub-proficient evaluations; develop and advance Nigeria dialects, art and culture with regards to world cultural legacy; among others.. Achievement of the goals and objectives warrants that quality and functional education to be provided in the secondary schools through effective utilization of school plant facilities which are in good conditions and state. Agi and Uba (2020) opined that this means that the quality of teaching and the school facilities in secondary schools should be geared towards achieving the above objectives. The underlying principle here is that the secondary schools should be able to provide quality education to all those who can benefit from it, as the worth of any educational system lies in its capability to continuously serve its society better and remain relevant (Hoop, 2010).

Babalola cited in Agi and Uba (2020) stated that quality education is measured by the extent to which the training received from an institution enables the recipient to think clearly, independently and analytically to solve relevant societal problems in any given environment. A quality education in this submission expects an educational system which a person has passed through to affect the attitude, aspiration and action of such beneficiary. Nwana cited in Agi and Uba (2020) declared that quality in education alludes to the size of resources in form of assets, equipment, offices, educators and students and the yields of the institutions in terms of their items that are worthy, alluring and productive from the point of view of the stakeholders. This means that there must be acceptable standards of excellence in the total school environment or organization of a school system. The primary aim of every school organization is to accomplish predetermined goals and objectives which cannot be realized in a vacuum. One of the fundamental conditions for effective realization of school organizational goals is through the school plant facilities whose situation and state matters a lot in order to positively and highly influence students' academic performance. Besides, students' academic performance is among one of the important and major factors that contribute to their academic achievements in the secondary schools, successes in their chosen work careers and the realization of their goals and dreams in life. According to Adamu and Menchak (2020), secondary school academic performance is the outcome of education, the extent to which a student, teacher or institution has achieved their educational goals. Academic performance of secondary school students is commonly measured by examination or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important. The academic performance of students could be greatly affected by some factor which includes incessant use of school facilities that is good state (Attah, Baba & Audu, 2016). From all these explanations, it shows that positive and high improvement in students' academic performance could be sustained through

the influence of school plant facilities whose state or situation also matters. School plant facilities as described within this study includes all physical facilities, infrastructural facilities, instructional facilities, printed facilities and electronic facilities utilized in the school to support teaching and learning so as to improve students' academic performance. School plant facilities as defined by Chanda, Phiri and Nkosha (2013) are teaching materials or aids used by the trainer which could be a teacher in order to help him/her in teaching his/her lesson effectively. A school cannot operate meaningfully without school plant facilities. A school plant facility therefore means those facilities that are necessary for the school to operate or exist at all. Ochai (2012) stressed that the quality of education that students receive bears direct relevance to the physical facilities and overall atmosphere in which learning take place. Udoh and Akpah (2010) posited that the presence of enough teaching facilities is a strong controlling factor for academic achievement. Poor academic performance of students in Nigerian schools can be attributed to lack of adequate teaching facilities. Hallak cited in Onyebuenyi, Onovo, Ewe and Njoku (2022) identified school plant facilities as the main factor contributing to academic achievement in the school system. They include the school buildings, classroom, libraries, laboratories and recreational equipment among others. Hallak cited in Onyebuenyi et al (2022) claimed that the quality, appropriateness and adequacy of these items contribute to performance in the school system.

Agi and Uba (2020) posited that school facilities can be categorized into four groups that is; human, material, physical and financial resources in the teaching learning process. They are integral to the instructive procedure since they assume a significant role in the accomplishment of instructive objectives and targets since they encourage educators' work and quicken learning with respect to the understudy. Manson and Nor (2011) described school plant facilities as materials, equipment, resources, infrastructure and direct services to students and teachers which support the school curriculum, contribute to the development of life-long learners and promotes teachers effectiveness. They are also the physical, material and financial inputs in the teaching-learning process. Scholars such as Adebule and Ayoola (2015), Burton (2016), Chapelle and Sauro (2017), Loertscher and Woolls (2016), Majid (2014), Nzeneri (2010) and Sallis, McKenzie and Beets (2015) grouped the school plant facilities into three various categories of electronic school facilities, instructional school facilities and infrastructural school facilities. The electronic school plant facilities are those technological, electronic and digital devices which can be operated using electricity. Most of them are usually supported by the use of batteries (Nzeneri, 2010). Examples of these electronic facilities include technologies such as television, computers, laptops, desktops, tablets, radio cassette, DVD player, CD player, printer, duplicating machines, smart phones, among others. Electronic facilities also include devices such as air conditioners, electrical fans, typewriters, generating sets, vehicles like school buses and other electrical fittings. The electronic facilities include technology-integrated spaces having facilities equipped with modern technologies, such as computer labs and smart classrooms, to enhance digital literacy and provide a platform for interactive and engaging learning experiences. All these electronic facilities can be used to improve students' academic performance in school. The instructional facilities are another type of plant facility which are those teaching aids, instructional devices that aid teaching and learning in the classroom. They include real objects, printed materials such as textbooks, pen, books, journals, dictionaries, calculators, charts, graphs including graphic materials. White boards and chalkboards are also part of instructional facilities. Instructional facilities however are learning tools, kits, devices, resources, objects or equipment that support teaching and learning in the classroom. According to Adebule and Ayoola (2015) and Majid (2014), instructional materials are any kind of aids or resources that assist in the teaching and learning activities, which include reference books, counting

equipment like blocks, stones or beads, natural displays models, charts, pictures, play materials, games, and audio-visual equipment. Others may include educative wall charts, wall pictures, building blocks, toys, computers, workshops and laboratory tools and specimens, textbooks, jigsaw puzzles, numbers, letters, colours and shapes, They are also didactic material-things which are supposed to make learning and teaching possible, while Johnson cited in Majid (2014) described instructional facilities as the collection and selection of resources (mechanical or otherwise) from available resources which are applied and integrated into a systematic process of teaching to make learning effective. They are materials, objects or devices, which help the teacher to make a lesson more understandable to the learner. Instructional facilities are therefore, resources utilized by educators and teachers both inside and outside the classroom in order to aid learning. Instructional facilities include; textbooks, syllabuses, course books, preschool guidelines, periodicals, encyclopedia, newspapers and magazines, file records and minutes of meetings. They can provide a good resource for teachers to structure their schemes of work, lesson plans and notes. Princeton University (2011) identified these materials as books, maps, journals, photos, newspapers and so on which are used to improve students' academic performance in school.

Infrastructural facilities as another types of school plant facilities include those physical facilities such as buildings, classrooms, furniture such as desks and seats, sports field, sports facilities, administrative offices and other equipment used in the school to support students' learning. Infrastructural facilities are physical learning environment within a school, including classrooms, libraries, laboratories, water supply, accessories which include playgrounds, lawns, parks garden and farm and other spaces, contributes significantly to the overall educational experience. Examples of the infrastructural facilities as indicated by Burton (2016), Chapelle and Sauro (2017), Loertscher and Woolls (2016), Sallis, McKenzie and Beets (2015), include: sites, auditoriums, classrooms, offices, libraries, buildings for workshops, science laboratories, art laboratories, inclusive facilities, media centers, or learning commons, art studio, cafeterias, outdoor learning spaces, health clinics, inclusive among others. All these facilities are important for improving students' academic performance. Hallak cited in Agi and Uba (2020) emphasized that the use of relevant educational or school resources contributed to quality assurance and that unattractive school buildings, crowded classrooms, non-availability of playing grounds and surroundings that have no aesthetic beauty can contribute to poor quality in education which affects students' academic performance. School plant facilities are therefore, integral to providing a comprehensive setting that supports the holistic development of students, addressing not only academic needs but also students' social, emotional, and physical aspects (Driessen & Smit, 2016). Given the importance of school facilities, school administrators should ensure that they are always kept in good condition and state for attainment of educational goals and instructional objectives which includes the high improvement of students' academic performance. From all the foregoing discussions, the situation and influence of school facilities are key factors which can positively and negatively influence students' academic performances and academic successes in secondary schools.

The situation of school plant facilities as perceived in this present study can be described as the state and condition of facilities in the school. It also encompasses how adequate or inadequate school facilities are in order to satisfy a given objective. Yu, Stephen and Lynn (2009) described the situation school facilities as a type of social encounter with which members of a culture or subculture are familiar with. A situation also refers to a set of circumstances, an encounter or conditions at a particular point in time and space. It encompasses the context, events, and factors that contribute to a specific state or scenario. A review of previous study conducted by Omotoso in 1991 cited in Agi and Uba (2020) revealed that most

secondary schools' building in Ondo State were old and in a dilapidating condition. Many of the classrooms, laboratories, examination halls, libraries and office furniture were in a terrible state of disrepair and this has contributed to poor students' academic performance. Most windows were out of use, thereby causing hazards to life while fluorescent tubes for providing electricity were out of place. Experience shows that inadequate physical facilities have some adverse effect on students' interest to learn. Hence, this may invariably affect their academic performance (Akomolafe & Adesua, 2016). It has equally been observed that school plant facilities are essential tools to facilitate and stimulate learning programmes; and teachers need them in an ideal working environment.

Experience shows that if school facilities are available and in good condition/state, students tend to have interest in learning; this will invariably lead to high academic performance. A close observation of the performance of secondary school students as observed by Akomolafe and Adesua (2016) perhaps could be traced to the conditions of many physical facilities and a motivating learning environment. Most schools seem to lack the necessary facilities that could enhance effective teaching and learning as a result little is expected from students in terms of their academic performance. In a situation where students are not having access to normal school plant facilities like library equipment and inadequate functional seats in the classroom, it is observed that these could contribute to low performance of students. Thus, the situation of school plant facilities could have either positive or negative coupled with high or low influence on students' academic performance. Influence as described by Judeh (2016) using other authors definitions is the power to affect, control or manipulate something or someone; the ability to change the development of fluctuating things such as conduct, thoughts or decisions. It can be described as the power to change or affect someone or something; the power to cause changes without directly forcing them to happen. Scholars like Ikegbusi, Manafa and Iheanacho (2022) have indicated that school plant facilities can have much influence on students' academic performance. These scholars confirmed that school facilities such as library, school building, ICT, and laboratory had influence on the academic achievement of secondary school students. These include that it helps the students to carryout research, motivates students to study, and helps students to make good results. Ikegbusi (2018) pointed out that for effective teaching and learning situation, school facilities and educational goals, should be viewed as being interwoven. School plant facilities such as buildings are very essential to the academic development of the students. Apart from protecting the students from the sun, rain, heat and cold, school building represent learning environment which has great impact on the comfort, safety and performance of the students (Okechukwu & Oboshi, 2021). Otchere and Afara (2019) asserted that there is a strong and positive influence between quality of school facilities and students' achievement in schools. With all the above discussions, there is need to focus strictly on the important matter of the situation of school plant facilities and their influence on secondary school students' academic performance especially in Delta State. Given the fact that school plant facilities in many secondary schools in Delta State are in deplorable state and faced with such challenges as shortage and inadequate facilities, many are outdated, old and in bad shape, among others. Hence, in Delta State, the situation of school plant facilities and their influence needs to be understudies given the academic performance of students coupled with the challenges affecting teaching and learning in school.

Observations from many of the secondary schools, showcases that the conditions, state and functionality of many school plant facilities and their influence on students' academic performance are questionable and needs to be addressed. The status, condition and state of school plants facilities like the electronic plant facilities, physical and infrastructural plant facilities, and instructional plant facilities especially in the public secondary

schools today appears to be of great concern to education stakeholders such as the educators, teachers and school administrators. Although, several empirical studies like those of Agi and Uba (2020), Akomolafe and Adesua (2016), Chanda, Phiri and Nkosha (2013), Ibrahim, Umar and Clement (2017), Ikegbusi (2019), Khan (2016), Olasunkanmi, Akande and Adelani (2022), Osaro and Wokekoro (2018), Osuji (2016) have been conducted in areas of school plant facilities and influence of students' academic performance, but these studies have their own mix, findings and shortcomings which makes them different from the present study. Their differences with the present study lies within their contents, theoretical frameworks and methodology, in areas of the research design, study area, location, population, sample and sampling techniques, method of data analysis, among others. Many of these studies focused on only the aspect of school facilities without investigating their situations, state and conditions coupled with their influence on students' academic performance. This marks a great difference between these previous studies and the present study, therefore, motivating the researchers to conduct this study. The present study however, concentrated on investigating the situation of school plant facilities and influence on secondary school students' academic performance in Delta State.

Statement of the Problem

School plant facilities such as the electronic plant facilities, instructional plant facilities and infrastructural plant facilities play significant role in every teaching and learning. School plant facilities also has positive impact and influence on promoting students' academic performance. Never minding the important role of utilizing various school plant facilities on students' academic performance in the teaching and learning situations, yet in most secondary schools including those in Delta State lack the necessary facilities that will improve students' academic performance. This is evident in the high level of failure recorded in both internal and external examinations. Therefore, one begins to wonder whether teachers do not utilize sufficient facilities to promote teaching and learning? Also, whereby the facilities are available in the schools, the question to answer is whether they are in good state and condition in order to influence students' academic performance? Where the school plant facilities are in good condition or state, this will lead to high students' academic performance. Thus, the need to find out the situation of school plant facilities and their influence on secondary school students' academic performance in Delta State is therefore needed. There is therefore need to seek more dynamic approach to combating this problem concerning the situation of school plant facilities and their influence on secondary school students' academic performance especially in secondary schools in Delta State, Nigeria. In order to fill the gap for quality education to triumph, investigating the situation of school plant facilities and influence on secondary school students' academic performance in Delta State remains the problem of this study.

Purpose of the Study

The purpose of this study is to examine the Situation of School Plant Facilities and Influence on Secondary School Students' Academic Performance in Delta State. Specifically, the study aimed at finding out:

1. The situation of electronic school plant facilities on secondary school students' academic performance in Delta State.
2. The situation of instructional school plant facilities on secondary school students' academic performance in Delta State.
3. The situation of infrastructural school plant facilities on secondary school students' academic performance in Delta State.
4. The influence of the situation of school plant facilities on secondary school students' academic performance in Delta State.

Research Questions

The following research questions guided the present study:

1. What is the situation of electronic school plant facilities on secondary school students' academic performance in Delta State?
2. What is the situation of instructional school plant facilities on secondary school students' academic performance in Delta State?
3. What is the situation of infrastructural school plant facilities on secondary school students' academic performance in Delta State?
4. What is the influence of the situation of school plant facilities on secondary school students' academic performance in Delta State?

Research Method

The study adopted a descriptive survey research design. The study population comprised a total of 15,531 teachers within 471 public secondary schools in Delta State (Source: Planning, Research and Statistics Department, Post Primary Education Board – PPEB, Delta State, 2022). Justification for choosing only teachers is because, they are in a better position to disclose the situation of school plant facilities and influence on secondary school students' academic performance in Delta State in the area of study. The sample for this study constituted a total of 777 teachers from 236 public secondary schools within 13 Local Government Area (LGA) of Delta State selected using the multi-stage sampling technique of the stratified random sampling technique and proportionate random sampling technique. Five percent (that is, 5%) of the entire teacher population in the public secondary school were selected as sample for the study using the stratified random sampling technique; while the LGAs and public secondary schools were selected at fifty percent (50%) using the proportionate random sampling technique. The instrument for data collection was a self-structured questionnaire by the researcher, containing 41 items and titled: Situation and Influence of School Plant Facilities on Secondary School Students' Academic Performance Questionnaire (SISPFSSSAPQ). The response for each of the items in the research instrument were structured on a 4-point scale and weighted as follows: (a) Very Good State (VGS) – 4, (b) Good State (GS) – 3, (c) Fair State (FS) – 2, and Bad State (BS) – 1, for answering research questions 1-3. And response items as: (a) Very High Influence (VHI) – 4, (b) High Influence (HI) – 3, (c) Low Influence (LI) – 2, and Very Low Influence (VLI) – 1, were used for answering research questions 4. The questionnaire was validated by two experts from Educational Foundations Department (Educational Management expert) and one Measurement and Evaluation expert, from Federal College of Education (Technical) Asaba, Delta State.

The experts reviewed and affirmed the face and content validation. Regarding the content items, these experts from various departments in the College made some observations and corrections on vague and double-barreled items. Some items were removed and new ones added based on the comments of the experts. The researchers corrected the questionnaire following the directives of the experts before the final print out. Reliability of the instrument was established through a pilot-test. This method involved distributing 15 copies of the questionnaire to 15 teachers from 3 public secondary schools in Delta State, which were not part of the study. Thereafter, copies of the questionnaire were collated and their scores calculated using the Cronbach Alpha formula. Results of the distributed copies of the questionnaire yielded a reliability coefficient of 0.77, 0.73, 0.65 and 0.85 respectively for each cluster, amounting to a total reliability value of 0.75. The method of using Cronbach Alpha formula to calculate scores was adopted in order to ensure the internal consistency for reliability of research instrument which was arranged in four clusters. The result indicated the internal consistency of the instrument, which is considered satisfactory and suitable for the study. Reliability of the questionnaire showed that the instrument was reliable, dependable, likewise trust-worthy. Nworgu (2015) identified that the Cronbach Alpha statistical method refers to the degree of consistency with which the item of an instrument measures a given trait and provides a measure of how homogeneous or otherwise the items are.

Copies of the questionnaire were administered to the respondents on face-to-face basis by the researchers with the help of five (5) research assistants who were NCE students from Federal College of Education (Technical) Asaba. These research assistants were given briefings concerning the purpose of the study in order to administer and retrieve the filled copies of questionnaire from the teachers. Both the researchers and research assistants took permission from the principals before communicating with the teachers. The respondents filled all the questionnaire presented to them immediately on the spot. Distributing all printed copies of the questionnaires took the researchers and research assistants a period of one week after which they were collated for analysis. A total of 777 copies of the questionnaire were distributed to the respondents and all copies were retrieved as well. The rate of return was 100%. Data were analyzed using mean and standard deviation statistics. All the copies of the questionnaire were collated using Mean scores, Grand mean and Standard deviation for answering research questions 1-4. The decision rule for the research questions was based on the mean score, which was benchmarked on 2.50. Only mean scores which rated 2.50 and above was regarded as an indication of 'Good State' and 'High Influence' in agreement with the statement. While mean scores that rated 2.49 and below was regarded as an indication of 'Bad State' and 'Low Influence' in disagreement with the statement. Data was also coded into the SPSS (Statistical Software Package for Social Sciences) for computer analysis.

Research Question 1: What is the situation of electronic school plant facilities on secondary school students' academic performance in Delta State?

Table 1: Mean Rating and SD of Teachers on the Situation of Electronic School Plant Facilities on Secondary School Students' Academic Performance in Delta State (N = 777 Teachers)

S/N	Statements: Give your opinion concerning situation of the under listed electronic school plant facilities on students' academic performance in your school	VGS	GS	FS	BS	$\bar{X}$	SD	Decision
1.	Television set to promote real life presentation of lesson in the classroom	10	23	288	456	1.47	0.62	Bad State
2.	Desktop computers to support teaching-learning	13	85	366	313	1.74	0.72	Bad State
3.	Tablets with Internet connectivity to support teaching	9	20	349	399	1.54	0.61	Bad State
4.	Radio cassette player for playing recorded lessons in the classroom	11	151	290	325	1.80	0.79	Bad State
5.	DVD player connected to support presentations in classroom	14	106	399	258	1.84	0.72	Bad State
6.	Smart phones for quick reference to support teaching in the classroom	193	396	123	65	2.92	0.86	Good State
7.	Printers for printing documents to support teaching	106	214	245	212	2.28	1.01	Bad State
8.	Duplicating machine for photocopying academic documents	99	200	329	149	2.32	0.93	Bad State
9.	Personal laptops for preparation of lesson	89	109	213	366	1.90	1.03	Bad State
10.	CD player to support teaching in the classroom	86	120	273	298	1.99	0.99	Bad State
11.	Electrical fans together with other electrical fittings in the classrooms	101	133	259	284	2.07	1.03	Bad State
12.	Generator set for lighting in the classroom	81	188	233	275	2.10	1.00	Bad State
13.	School bus for academic field trips, excursions	88	141	200	348	1.96	1.04	Bad State
14.	Projectors for presentation of lessons in the classroom	12	69	285	411	1.59	0.72	Bad State
	Grand Mean and Standard Deviation =					**1.97**	**0.95**	Bad State

Analysis of result as presented in Table 1 from the respondents' (teachers) responses revealed that only item 6 was rated above the acceptable mean score of 2.50 by the teachers in agreement with the statement, showing that only the teachers smart phones was in good state. Other items from 1 to 5, and 7 to 14 were rated below 2.50 by the teachers in disagreement with the statements, showing that these items were in bad state. The grand mean and standard deviation of 1.97 and 0.95 showed the respondents high negative reactions concerning the situation of electronic school plant facilities on secondary school students' academic performance in Delta State. This result further indicated that the electronic school plant facilities was in bad state.

Research Question 2: What is the situation of instructional school plant facilities on secondary school students' academic performance in Delta State?

Table 2: Mean Rating and SD of Teachers on the Situation of Instructional School Plant Facilities on Secondary School Students' Academic Performance in Delta State (N = 777 Teachers)

S/N	Statements: Give your opinion concerning situation of the under listed instructional school plant facilities on students' academic performance in your school	VGS	GS	FS	BS	$\bar{X}$	SD	Decision
15.	Nature corner with real objects for real life presentations	118	139	268	252	2.16	1.04	Bad State
16.	Printed materials which includes reference books, updated textbooks of various subjects, journals, pamphlet, dictionaries, syllabuses, periodicals, encyclopedia, newspapers, fiction with nonfiction books, booklets, workbook, teacher's guide, handbooks, word-processed documents to support teaching	145	298	172	162	2.55	1.02	Good State
17.	Charts, maps, pictures, cartoons, graphs including graphic materials to support teaching in the classroom	163	274	191	149	2.58	1.02	Good State
18.	Natural displays models, two/three dimensional objects, jigsaw puzzles, shapes to support teaching-learning	125	119	287	246	2.16	1.04	Bad State
19.	White boards with chalkboards/markers including flannel boards for teaching in the classroom	131	321	152	173	2.53	1.02	Good State
20.	Schemes of work, lesson plans including lesson notes prepared for instructional delivery in the classroom	298	304	99	76	3.06	0.95	Good State
21.	Counting equipment like blocks, stones or beads, calculators for teaching arithmetical subjects	129	110	277	261	2.14	1.06	Bad State
22.	Educative wall charts, wall pictures, posters displayed in the classroom	130	195	250	202	2.33	1.04	Bad State
23.	Workshop tools with other kits, equipment for teaching practicals	127	135	247	268	2.16	1.07	Bad State
24.	Science laboratory specimens with kits, chemicals for teaching practicals	121	141	299	216	2.21	1.02	Bad State
25.	Equipment including tools for teaching vocational subjects	116	212	204	245	2.31	1.02	Bad State
26.	Materials, tools for teaching arts subjects	119	134	273	251	2.16	1.04	Bad State
	Grand Mean and Standard Deviation =					**2.36**	**1.07**	Bad State

Analysis of result as presented in Table 2 from the respondents' (teachers) responses revealed that items 16 to 17 and 19 to 20 were rated above the acceptable mean score of 2.50 by the teachers in agreement with the statement, indicating that the printed materials such as charts, maps, graphs, graphic materials, whiteboard/chalkboards with marks/chalks including flannel boards, scheme of work, lesson plans and notes were in good state. Other items from 15, 18 and 21 to 26 were rated below 2.50 by the teachers in disagreement with the statements, showing that these items were in bad state. The grand mean and standard deviation of 2.36 and 1.07 showed the respondents high negative reactions concerning the situation of instructional school plant facilities on secondary school students' academic performance in Delta

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State. This result further indicated that the instructional school plant facilities was in bad state.

Research Question 3: What is the situation of infrastructural school plant facilities on secondary school students' academic performance in Delta State?

Table 3: Mean Rating and SD of Teachers on the Situation of Infrastructural School Plant Facilities on Secondary School Students' Academic Performance in Delta State (N = 777 Teachers)

S/N	Statements: Give your opinion concerning situation of the under listed infrastructural school plant facilities on students' academic performance in your school	VGS	GS	FS	BS	$\bar{X}$	SD	Decision
27.	Well-equipped libraries to support students' learning	79	209	239	250	2.15	0.99	Bad State
28.	Art studio to engage students in visual arts, including drawing, painting, and sculpture	82	169	315	211	2.16	0.94	Bad State
29.	Furniture such as desks and seats for students' comfort during instructional delivery	79	195	254	249	2.13	0.98	Bad State
30.	Well-constructed buildings for science laboratories, technical workshop, art laboratories/studio, computer laboratories with Internet connectivity to support all practicals	66	143	263	305	1.96	0.96	Bad State
31.	Well-constructed classrooms including auditoriums to promote effective teaching-learning activities	90	166	257	264	2.11	1.00	Bad State
32.	Recreational accessories which include playgrounds, lawns, parks, garden, farm. and other outdoor learning spaces which utilizes the natural environment for educational activities, encouraging experiential and environmental education	81	188	259	249	2.13	0.98	Bad State
33.	Music rooms designed for musical instruction and practice	64	176	222	315	1.99	0.98	Bad State
34.	Language labs to enhance language learning through activities like listening, speaking, and pronunciation practice	89	131	273	284	2.03	1.00	Bad State
35.	Inclusive facilities designed to accommodate diverse learning needs, and supportive for all students, including those with disabilities	78	194	268	237	2.15	0.97	Bad State
36.	School health clinics which provides basic medical services, health education, as well as, support for the physical well-being of students	60	155	247	315	1.95	0.95	Bad State
37.	Sports field to support students' sports activities in school	102	169	229	277	2.12	1.04	Bad State
38.	Comfortable offices for students' consultations	108	123	285	261	2.10	1.02	Bad State
	Grand Mean and Standard Deviation =					**2.08**	**0.99**	Bad State

Analysis of result as presented in Table 3 from the respondents' (teachers) responses revealed that none of the items were rated above the acceptable mean score of 2.50 by the teachers in agreement with the statements in order to indicate that the infrastructural school plant facilities was in good state. All the items from 27 to 38 were rated below 2.50 by the teachers in disagreement with the statements, showing that these items were in bad state. The grand mean and standard deviation of 2.08 and 0.99 showed the respondents high negative reactions concerning the situation of infrastructural school plant facilities on secondary school students' academic performance in Delta State. This result further indicated that the infrastructural school plant facilities was in bad state.

Research Question 4: What is the influence of the situation of school plant facilities on secondary school students' academic performance in Delta State?

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Table 4: Mean Rating and SD of Teachers on the Influence of the Situation of School Plant Facilities on Secondary School Students' Academic Performance in Delta State (N = 777 Teachers)

S/N	Statements: Give your opinion concerning influence of situation of the under listed school plant facilities on students' academic performance in your school	VHI	HI	LI	VLI	$\bar{X}$	SD	Decision
39.	Electronic facilities which includes audio-visuals, multimedia, mechanical devices, among others	83	115	313	266	2.02	0.96	Low Influence
40.	Instructional facilities which includes real objects, printed resources, dimensional objects, specimens, workshop tools, laboratory tools, graphic materials, and so on	153	188	243	193	2.39	1.06	Low Influence
41.	Infrastructural facilities which includes building for offices, library, workshops, science laboratory, language laboratory, music lab, computer lab, art studio, vocational workshops, recreational accessories, sport facilities, furniture, among others	112	161	260	244	2.18	1.03	Low Influence
	Grand Mean and Standard Deviation =					**2.20**	**1.03**	Low Influence

Analysis of result as presented in Table 4 from the respondents' (teachers) responses revealed that none of the items from 39 to 41 were rated above the acceptable mean score of 2.50 by the teachers in agreement with the statements, in order to that bad state and situation of the school plant facilities had high influence on students' academic performance. All the items from 39 to 41 were rated below 2.50 by the teachers in disagreement with the statements, indicating that the bad situation of these items, that is, the school plant facilities had low influence on students' academic performance. This shows that the bad state of school plant facilities poorly influenced students' academic performance. The grand mean and standard deviation of 2.20 and 1.03 showed the respondents negative reactions concerning the influence of the situation of school plant facilities on secondary school students' academic performance in Delta State. This result further indicated a low influence of situation of the existing school plant facilities on secondary school students' academic performance in Delta State. The means that the bad state and situation of the school plant facilities less and poorly influenced secondary school students' academic performance in Delta State; and this was a negative influence.

Discussion of Findings

Findings of the study indicated that the situation of all the school plant facilities investigated, which included: the electronic school plant facilities, instructional school plant facilities, and infrastructural school plant facilities were all in bad state in order to influence students' academic performance. The bad situation of these school plant facilities had low influence on students' academic performance. They poorly influenced students' academic performance in secondary schools in Delta State. However, these findings have been discussed in different sub-headings of:

It was discovered through the finding of this study that only teachers' smart phones were in good state; while the other electronic school plant facilities were in bad state. This means that majority of the electronic school plant facilities were in bad state. This finding further indicated that there existed a bad situation of electronic school plant facilities which had low influence on secondary school students' academic performance in Delta State. The finding further revealed that the television set which promotes real life presentation of lesson in the classroom in order to influence students' academic performance, including the desktop computers which supports teaching-learning, tablets with internet connectivity which supports teaching, the radio cassette player for playing recorded lessons in the classroom, DVD player connected to the television set which support presentations in classroom, smart phones for quick reference which supports teaching in the classroom, printers for printing documents to support teaching, duplicating machine for photocopying academic documents, personal laptops for preparation of lesson, CD player which supports teaching in the

classroom, electrical fans together with other electrical fittings in the classrooms, generator set for lighting in the classroom, school bus for academic field trips, excursions, and projectors for presentation of lessons in the classroom in order to influence students' academic performance; were all in a bad state. This finding corroborates and agrees with the studies of Agi and Uba (2020), Chanda, Phiri and Nkosha (2013), Khan (2016) which found out that the school facilities were inadequate, in bad state and condition. The facilities in schools were in poor conditions and that the existing ones have outlived their usefulness. The finding also concurs with Osaro and Wokekoro (2018) study which discovered that most of the facilities including electronic resources in the schools were in bad state whose worse situation and condition was caused by such factors as over-crowdedness, negligence, lack of maintenance, incompetent contractors, inadequate fund allocated to schools for maintenance works, deferred maintenance, among others. The study also revealed that the building electronic components of the schools were in poor state.

This finding indicated that instructional school plant facilities such as printed materials like reference books, updated textbooks of various subjects, journals, pamphlet, dictionaries, syllabuses, periodicals, newspapers, fiction with nonfiction books, booklets, workbook, teacher's guide, handbooks, word-processed documents to support teaching, cartoons, pictures, charts, maps, graphs, graphic materials, whiteboard/chalkboards with marks/chalks including flannel boards, scheme of work, lesson plans and notes were in good state. Other instructional school plant facilities were in bad state. This means that the instructional school plant facilities were in bad state making it difficult to positively influence students' academic performance. The finding further indicated that there existed a bad situation of instructional school plant facilities which affected secondary school students' academic performance in Delta State. The finding further indicated that instructional school plant facilities which includes: nature corner with real objects for supporting real life presentations in the classroom in order to influence students' academic performance, natural displays models, two/three dimensional objects, jigsaw puzzles, shapes which supports teaching-learning, counting equipment like blocks, stones or beads, calculators for teaching arithmetical subjects, educative wall charts, wall pictures, posters displayed in the classroom, workshop tools with other kits, equipment for teaching practicals, science laboratory specimens with kits, chemicals for teaching practicals to influence students' academic performance, equipment including tools for teaching vocational subjects, and materials, tools for teaching arts subjects which would influence students' academic performance in secondary schools in Delta State; were all in bad state. This finding corresponds and concurs with Oladipo study cited in Agi and Uba (2020) which found out that teaching facilities including audio-visual materials were not only inadequate but absent in many secondary schools. Also, many of these teaching facilities were already in bad state and condition. The study further discovered that in many schools, books were inadequate and obsolete. The present study finding is equally in line with Ajayi study cited in Agi and Uba (2020) which discovered that the instructional materials required for effective teaching and learning in Nigerian schools were grossly inadequate, likewise, in a very bad state.

This finding indicated that there existed a bad situation of infrastructural school plant facilities on secondary school students' academic performance in Delta State. This means that all the infrastructural school plant facilities were in bad state in order to have high positive influence on students' academic performance. The finding further revealed the following that; well-equipped libraries to support students' learning in order to influence students' academic performance, art studio which engage students in visual arts, including drawing, painting, and sculpture, furniture such as desks and seats for students' comfort during instructional delivery, well-constructed buildings for science laboratories, technical workshop, art laboratories/studio,

computer laboratories with internet connectivity to support all practicals, well-constructed classrooms including auditoriums which promotes effective teaching-learning activities, recreational accessories which include playgrounds, lawns, parks, garden, farm. and other outdoor learning spaces which utilizes the natural environment for educational activities, encouraging experiential and environmental education, music rooms designed for musical instruction and practice, language labs which enhance language learning through activities like listening, speaking, and pronunciation practice, inclusive facilities designed to accommodate diverse learning needs, and supportive for all students, including those with disabilities, school health clinics which provides basic medical services, health education, as well as, support for the physical well-being of students, sports field which support students' sports activities in school, and comfortable offices for students' consultations in order to influence students' academic performance; were all in bad state.

This finding agrees and does not deviate from the findings of Agi and Uba (2020) study which discovered that many secondary schools in Nigeria lacked adequate essential infrastructure to enable them function as safe, efficient and effective schools. Agi and Uba (2020) narrated the deplorable state of infrastructure in the public secondary schools. They discovered that school plant facilities in schools were in poor conditions and that the existing ones have outlived their usefulness. This poor state of infrastructure was found in both urban and rural schools. The physical state and conditions of classrooms was very poor with floors full of holes, roofs and broken ceilings. In some instances, some furniture was stolen, and classrooms used as toilet. The study further confirmed that this situation was going to affect the academic achievement of the students who were made to learn under such bad conditions as they lack the desired comforts that will make them learn. Finding of the present study corroborates with Oladipo study cited in Agi and Uba (2020) which found out that teaching facilities including audio-visual materials were not only inadequate but absent in many secondary schools. There were no laboratories at all in most schools where there were introductory technology workshops; all the nuts of the machines were missing, and the workshops were long-abandoned. The study further reported that libraries were available in many schools and where they were, books were inadequate and obsolete. The present study finding also concurs with Akomolafe and Adesua (2016) study which found out that the status of physical facilities, especially, in the public secondary schools have been in bad condition and state. The provision of these school facilities have dwindled over the years, perhaps due to increase in school enrolment rate which had led to population explosion in public schools. The findings showed that inadequate physical facilities had some adverse effect on students' interest to learn. Hence, this invariably affected their academic performance. In a situation where students were not having access to normal facilities like library equipment and inadequate seats in the classroom it is was found out that these situations contributed to low academic performance of students (Akomolafe & Adesua, 2016). The same view was given by the study of Olasunkanmi, Akande and Adelani (2022) which revealed that most of the classroom buildings in the selected secondary schools had varied levels of classroom building obsolesce; schools' classrooms were in poor condition and noticeable across the selected schools.

This finding indicated that there was a low influence of the existing situation of school plant facilities on secondary school students' academic performance in Delta State. The bad state and situation of the school plant facilities such as the electronic plant facilities, instructional plant facilities, and infrastructural plant facilities less and poorly influenced secondary school students' academic performance in Delta State. This situation had a negative influence on secondary school students' academic performance. This present finding agrees with the findings of the previous studies of Agi and Uba (2020), Chanda, Phiri and Nkosha (2013), Khan (2016) which indicated that the school facilities were inadequate, in bad state or

condition. The bad situation and state of school facilities which was considered as the status of facilities in schools investigated by these previous studies affected students' academic performance and achievement. In line with findings of these previous studies, Ikegbusi (2019) study confirmed that anyone who is familiar with the public secondary school classrooms in Nigeria would agree that no meaningful teaching and learning activities can effectively take place in most of them, which is as a result of the bad state and conditions of the facilities. Additionally, finding of the preset study agrees with Ibrahim, Umar and Clement (2017) study on the impact of school facilities on senior secondary school students in Bauchi State of Nigeria which found out that there was no statistically significant influence in the areas of school facilities and students' academic achievement. This present study finding also deviates from Osuji (2016) study which found out that there was positive influence of school building on students' academic achievements in the schools investigated.

Conclusion

The presence of school plant facilities in the school will definitely have positive and high influence on students' academic performance. The bone of contention in this study, is not the extent of mobilization of these plant facilities but their situation and state which will always either less or highly influence students' academic performance. Therefore, this study concluded that the electronic school plant facilities, instructional school plant facilities, and infrastructural school plant facilities were all in a bad state in order to highly influence students' academic performance. The bad situation of all the school plant facilities had low influence on students' academic performance. They poorly influenced students' academic performance in secondary schools in Delta State. Failure to curb the resolve all problems in connection with the situation of various electronic, instructional and infrastructural school plant facilities in secondary schools in Delta State, this could have negative influence on students' academic performance, which might have serious consequences on the products of the secondary school system and on national development.

Recommendations

The following recommendations have been proffered in the study;

1. Delta State government through the assistance of Post Primary Education Board (PPEB) should provide sufficient funds by conducting effective needs assessment which will ensure adequate mobilization of electronic school plant facilities in order to improve the situation of electronic facilities for secondary school students' high academic performance.
2. Principals should collaborate with Parent Teacher Association (PTA) to support the improvement of the situation of instructional school plant facilities for positive influence on secondary school students' academic performance in Delta State.
3. Principals should solicit alternative sources of funds likewise other non-financial assistance from external bodies like the private individuals, financial institutions, voluntary organizations and business enterprises to improve the situation of infrastructural school plant facilities for significant influence on secondary school students' academic performance in Delta State. The design of infrastructural facilities should be done with focus on creating supportive and conducive learning environments. This includes paying attention to factors such as natural lighting, acoustics, temperature control, and ergonomic furniture to promote student comfort and well-being.
4. Cooperative efforts from education stakeholders such as the State government, PPEB, private sectors, curriculum developers and foreign agencies should be highly encouraged in order to improve the situation of the existing school plant facilities for high influence on secondary school students' academic performance in Delta State.

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