



Educational Facilities Management For Public Secondary Schools Academic Improvement In The 21st Century

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ABSTRACT

This study investigated strategies needed for the management of educational facilities for public secondary schools academic improvement in Rivers State. Three research questions and three hypotheses guided the study. The descriptive research design was used. The population for the study comprise of 12 school managers and 240 school administrators totaling 252 respondents used for the study. Census sampling technique was used to draw the sample size. A self-designed questionnaire titled: “Management of Facilities for Public Senior Secondary School Improvement Questionnaire” (MFPSSSIQ)” was used to collect data from the respondents. The instrument was validated by three experts while Pearson Product Moment Correlation Coefficient was used to achieve a reliability index of 0.90. Mean and standard deviation was used to answer the research questions while z-test was used to test the hypotheses. Findings showed that school managers and school administrators determined relevant educational facilities required for academic improvement but were not fully in charge of procuring educational facilities and also had poor maintenance culture of educational facilities. Some recommendations made were: School administrators should be engaged in the determination of educational facilities, should be involved in the procurement of educational facilities as implementers of educational programmes and should be empowered by the government to achieve maintenance culture in public senior secondary schools.

Keywords: educational facilities, procurement, maintenance, school improvement

INTRODUCTION

The Federal Government through the Ministry of education provides the policies that guide the educational system and also oversee the implementation of these policies at the state level. On the other hand, the state government ensures the implementation of the National Policy on Education by providing the necessary educational facilities for school improvement. The teaching and learning process can only be effective with the use of educational facilities in quality and quantity.

Educational facilities refer to everything within the school premises which include the site, blocks of classrooms, equipment, electricity, water, visual and audio aids, furniture, workshops, libraries, storage space, playground and conveniences. Educational facilities consist of not only physical structure and the variety of building system, such as mechanical, plumbing, electricity and power, telecommunication, security and fire suppression system. The facilities also include furnishings, material and supplies, equipment and information technology, as well as various aspects of building grounds, namely athletic fields, playgrounds, areas for outdoor learning and vehicular access and parking (Picus, 2007).

Educational facilities are correlates of success of psychomotor, affective and cognitive domains of learning in senior secondary schools. The actualization of the goals and objectives of education require the provision, maximum utilization and appropriate management of educational facilities (Asiabaka, 2008). In agreement, Fenker (2004) averred that, educational facilities management entail determining the required educational facilities, providing the required educational facilities, monitoring the optimal use of educational facilities provided, maintaining breakdown and replacement of completely damaged facilities and reviewing educational facilities provision.

Educational facilities management should be prioritized in senior secondary schools. No wonder section nine (9) paragraph five (5) on project monitoring and impact assessment in the National Policy on Education, FRN (2008: 81) stated that, “when funds are not released for capital and non-capital projects, supervision and quality assurance procedures are usually weak”. Jimoh, Akinsolu and Ojo-maliki (2017) categorized educational facilities into nine, viz: the school landscape, trees, grasses, hedges and accompanying paths; security facilities; walls; gates; alarm system, phones and visitors books. Utilities include electricity, pipe-born water/borehole and transport facilities.

School improvement is an effort to make schools a better place for students to learn, and as a strategy for educational change that enhance student outcome as well as strengthen the school’s capacity for managing changes (World Bank, 2004). In addition, Weli (2017) stressed that, school improvement is the accountability guided by laws or acts enacted or set, imputing acceptable standards for schools. Again, to ensure standards in schools, the National Policy on Education (2004: 9) stipulated that, “education and training facilities shall continue to be expanded in response to societal needs and made progressively assessable to afford the individuals a far more diversified flexible choice”. This infers that educational facilities usage and school improvement are inseparable in the process of teaching and learning. In other words, an appreciable level of educational facilities must be provided, monitored, maintained, replaced and reviewed for the improvement of public senior secondary schools in Rivers State.

Conceptualization of Educational Facilities

School or educational facilities are for instructional, recreational, and utility purposes; and are made available in schools to enhance teaching and learning as well as to ensure school success. “Educational facilities, school facilities and school plant can be used interchangeably as the words imply the same” (Asiyai, 2012, p. 54). Educational facilities include permanent and semi-permanent structures such as machinery, laboratory equipment, other equipment as well as consumables. Educational facilities consist of not only physical structure and the variety of building systems, such as mechanical, plumbing, electricity and power, telecommunication, security and fire suppression system. Educational facilities also refer to non-human and non-financial resources which include all moveable and immovable materials which are used for teaching, learning and other school activities, to improve the school. There is no doubt that multiplicity of facilities and thorough management of the said facilities will enhance school improvement in the 21st century. On this note educational facilities could be utilized effectively for the following purposes; to illustrate concepts; provide opportunity for firsthand experience; for experimentation and demonstration; for scientific investigation and discovery; to provide diversity of thoughts; for observation and inquiry; for development of scientific attitudes and skills and to protect the individual and also provide comfort. It is against this knowledge that Allen (2015) posited that, a school that is not progressively moving forward is a school that is failing to use appropriate school facilities.

Determination of Relevant Educational Facilities required for the Improvement of Public Senior Secondary Schools

The determination of relevant educational facilities for school improvement entails ascertaining what facilities to provide, where to provide and how such educational facilities can be fully utilized for learning purposes. The International Facilities Management Association (2002), described school facilities management as the application of scientific methods in the planning, organizing, decision-making, coordination and controlling of the physical environment of learning for the actualization of the educational goals and objectives. It is observed that in some state secondary schools, the classrooms are over populated with students and the use of facilities is overstretched. This has induced poor teaching and learning in schools and debased school improvement. This corroborates with a report by the Data Centre of United Nations Educational Scientific and Cultural Organization (UNESCO), which stated that of all the 189 countries, Nigeria is among four (4) nations with the highest number of overcrowded classrooms in its secondary schools (allafrica.com). Adebayo (2009) asserted that, procurement of educational facilities is not just enough in the search for achieving school improvement, but the inclusion of educational managers and administrators consent and advice on the necessary educational facilities to be procured, in order to record school improvement. According to Lawal (2019), increase in pupils’

enrollment in Nigeria's public schools has been a concern to stakeholders, who also argue that there has been no commensurate attempt to improve on infrastructure and build more schools, classrooms and recruit more teachers. The determination of educational facilities could be based on a number of factors viz the age, gender, population of students, curriculum content, school programmes and educational goals to be attained based on the National Policy on Education. Ninikanwo (2014) in giving credence to the afore was of the opinion that, the determination of school plant requirement depend primarily on the nature of the schools programmes, methods of delivery, needs of students and staff of the school.

Procurement of Required Educational Facilities for the Improvement of Public Senior Secondary Schools

Effective management of educational facilities entail availability of facilities through procurement of quality educational facilities. This is in the bid to enhance teaching and learning as well as to achieve school improvement. According to Xaba (2012), procurement of school facilities is not enough to attain school improvement, it also requires some processes which will facilitate learning by ushering in monitored utilization which will set a possibility for teachers and learners to attain educational goals as a part to develop the nation. Yusuf, (2008:52) explained that, "it will be impossible for the curriculum to be completed if the physical facilities required for teaching and learning are not available". In agreement, Abdulkareem and Fasasi (2010) also posited that, programmes in education can only be implemented when there is procurement of adequate facilities in schools. This in essence indicates that if the facilities are not adequate for use by teeming number of students, acquisition of skills in technical training programs will suffer and will lead to the production of highly unskilled personnel who are unemployable and unproductive. Similarly, studies carried out by Ikoya and Onoyase (2008: 56), found out that "only twenty six percent (26%) of the schools across the country (Nigeria) have school infrastructure in adequate quality and quantity". This is an unfortunate case as the Federal Government of Nigeria's expenditure on education is approximately less than ten percent (10%), over the years, which far negates the twenty six percent (26%) benchmark of UNESCO recommendation for education. It can thus be said that poor financing of the education sector has also contributed immensely to non-procurement of adequate facilities in senior secondary schools.

Maintenance of educational facilities for the improvement of public senior secondary schools

In the contrary secondary school classrooms in Nigeria are characterized by broken windows and doors, collapsed ceilings, damaged roofs, leaking roofs, cracked walls, faded paints, broken furniture, inadequate seats, nonfunctional equipment, electrical fittings and damaged infrastructure, overpopulated and ill-equipped laboratories (Ogwo & Oranu, 2005; Asiyai, 2012). The afore depicts the non-maintenance of educational facilities which were provided in optimum condition for school improvement. The types of facilities maintenance plan that can be readily adopted as outlined by Asiabaka (2008), include; preventive maintenance, routine maintenance, emergency repairs and predictive maintenance. Preventive maintenance is a maintenance carried out on school facilities to avoid breakdown and ensure optimal performance of facilities. Routine maintenance is a scheduled activity to ensure that school facilities are serviced monthly, quarterly or annually depending on the agreed schedule. Emergency maintenance is urgent step or measures taken to remedy the situation of facility breakdown. Predictive maintenance involves the use of computer soft-wares to predict equipment failures based on age, user demand and performance measures. Educational managers and administrators should proactively develop and implement facilities maintenance plans for addressing facilities needs.

Statement of the Problem

The missionaries being the first initiators of secondary education in Nigeria and Rivers State specifically gave much attention to the determination and procurement of school facilities in the rural, semi-urban and urban areas of Rivers State. This was an obligatory practice to stimulate students' capacity to learn and motivate teachers to utilize varied pedagogical methods for school improvement.

However, in recent times, it has been observed that educational managers and administrators do not determine relevant instructional facilities required to achieve secondary education goals, neither the procurement of such facilities. The public senior secondary schools in Rivers State are perceived to

grossly lack instructional facilities which tend to affect school effectiveness and improvement. This perception is against the philosophy of Nigerian education because the National Policy on education, FRN (2004:75) stated that “education and training facilities shall continue to be expanded for a more diversified flexible choice”. Also, in corroboration Abdulkareem and Fasasi (2012) argued that provision and improvement of school facilities are likely to bring about school improvement. It is against this background that the researchers hope to investigate the extent to which instructional facilities are determined, procured and maintained for public senior secondary schools by the school administrators and managers; who are abreast with the kind of instructional facilities best fit for 21st century schools, based on their exposure in professional training and experience over the years.

Purpose of the Study

The purpose of this study was to investigate the management of educational facilities for the improvement of public senior secondary schools in Rivers State. Specifically, the study hopes to:

1. Investigate the extent school managers and school administrators determine the relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State.
2. Find out the extent school managers and school administrators procure educational facilities required for academic improvement of public senior secondary schools in Rivers State.
3. Examine the extent school managers and school administrators maintain educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Research Questions

The following research questions guided the study.

1. To what extent do school managers and school administrators determine relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State?
2. To what extent do school managers and school administrators procure educational facilities required for academic improvement of public senior secondary schools in Rivers State?
3. To what extent do school managers and school administrators maintain educational facilities required for academic improvement of public senior secondary schools in Rivers State?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

- HO₁: There is no significant difference between the mean opinion scores of school managers and school administrators on the determination of relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State.
- HO₂: There is no significant difference between the mean opinion scores of school managers and school administrators on the procurement of educational facilities required for academic improvement of public senior secondary schools in Rivers State.
- HO₃: There is no significant difference between the mean opinion scores of school managers and school administrators on the maintenance of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

METHODOLOGY

The research design used for this study was the descriptive survey design. The total population is 252 respondents consisting of 12 school managers and 240 school administrators in Rivers State. A sample size of 252 respondents representing 100% of the total population was used for the study, which infers the use of census sampling technique. A self-developed questionnaire titled: “Management of Facilities for Public Senior Secondary School Improvement Questionnaire” (MFPSSSIQ) was used to collect data from the respondents. The instrument had two (2) sections, sections A and B. Section A dealt with demographic information while Section B had 15 items. The response scale was structured on 4-point modified likert rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) with values 4, 3, 2 and 1 respectively. Pearson Product Moment Correlation Coefficient statistical tool was used to determine and obtain a reliability index of 0.90. Mean statistics was used to answer the research questions. The criterion mean was 2.50. Questionnaire items with ratings below 2.50 denotes ‘High Extent’ while 2.50 and above signifies ‘Low Extent’. The hypotheses were

tested using z-test statistics at 0.05 level of significance. Any response therefore, with a calculated z-value above the z-critical value of ± 1.96 was rejected and below ± 1.96 was accepted.

RESULTS

Research Question 1: *To what extent do school managers and school administrators determine relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State?*

Table 1: Mean response on the extent school managers and school administrators determine relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State.

S/N	ITEMS	School managers N=12		School administrators N=240		Average mean	Decision
		\bar{X}_1	SD ₁	\bar{X}_2	SD ₂		
1.	School furniture, chalkboard, whiteboard to be procured for use through a requisition list based on the age bracket of the students.	3.67	1.02	3.42	0.92	3.55	HE
2.	Library, laboratories, workshops, classrooms and dormitories are normally discussed in board meetings based on the policy on education.	2.55	0.71	3.83	1.09	3.19	HE
3.	I am informed when decisions on ICT facilities are made.	3.58	0.98	3.83	1.09	3.71	HE
4.	I take decision on the sports facilities.	3.83	1.09	1.00	1.18	2.42	LE
5.	I am involved in the decision making of health facilities.	1.96	0.78	2.50	0.71	2.23	LE
Aggregate Mean		3.02					

Table 1 shows that school managers and school administrators determine some relevant educational facilities with items 1, 2 and 3 having mean scores of 3.55, 3.19 and 3.71. In contrast items 4 and 5 showed that school managers and school administrators do not determine some relevant educational facilities with mean scores of 2.42 and 2.23. In spite of the afore an aggregate mean of 3.02 showed that school managers and school administrators determined relevant educational facilities required for academic improvement in public senior secondary schools in Rivers State.

Research Question 2: *To what extent do school managers and school administrators procure educational facilities required for academic improvement of public senior secondary schools in Rivers State?*

Table 2: Mean response on the extent school managers and school administrators procure educational facilities required for improvement of public senior secondary schools in Rivers State

S/N	ITEMS	School managers N=12		School administrators N=240		Average mean	Decision
		\bar{X}_1	SD ₁	\bar{X}_2	SD ₂		
6.	I am involved in the procurement of school furniture, chalkboard and whiteboard.	1.54	0.93	3.42	0.92	2.44	LE
7.	Learning facilities such as libraries, laboratories, workshops, classrooms and dormitories are built by the government.	3.83	1.09	1.17	1.10	2.50	HE
8.	Teaching facilities such as ICT facilities, computer sets, flip charts are procured by the government.	1.29	1.04	1.33	1.02	1.31	VLE
9.	The principal sometimes procure sporting facilities through P.T.A funds.	1.83	0.82	3.33	0.88	2.58	HE
10.	Health facilities are contracted out to favoured politicians of government.	2.42	0.71	2.33	0.72	2.38	LE
	Aggregate Mean	2.24					

Table 2 above shows a response which reveals that school managers and school administrators partially procure educational facilities with items 6, 8 and 10 having mean scores of 2.44, 1.31 and 2.38. Although items 7 and 9 showed mean scores of 2.50 and 2.58. In spite of the afore an aggregate mean of 2.24 showed that school managers and school administrators were not fully in charge of procuring educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Research Question 3: *To what extent do school managers and school administrators maintain educational facilities required for academic improvement of public senior secondary schools in Rivers State?*

Table 3: Mean response on the extent school managers and school administrators maintain educational facilities required for academic improvement of public senior secondary schools in Rivers State.

S/N	ITEMS	School Managers N=12		School administrators N=240		Average Mean	Decision
		\bar{X}_1	SD ₁	\bar{X}_2	SD ₂		
11.	There is maintenance culture of school buildings in public senior secondary schools.	4.00	1.18	3.25	0.85	3.62	VHE
12.	There is school buildings maintenance plan in public senior secondary schools.	2.21	0.73	2.17	0.74	2.19	LE
13.	There is an educational facilities maintenance committee in public senior secondary schools.	2.50	0.71	1.33	1.02	1.91	VLE
14.	Damaged generator sets are carefully disposed off in public senior secondary schools.	1.63	0.89	2.00	0.77	1.81	VLE
15.	Completely destroyed school furniture, chalkboard/whiteboard are promptly replaced in public senior secondary schools.	1.17	1.10	2.25	0.72	1.71	VLE
Aggregate Mean		2.25					

Table 3 above indicated poor maintenance of broken down educational facilities amongst school managers and school administrators as items 11, 12, 13, 14 and 15 had mean scores of 3.62, 2.19, 1.91, 1.81 and 1.71 respectively which gave an aggregate mean score of 2.25.

Hypotheses Testing

HO₁: There is no significant difference between the mean opinion scores of school managers and school administrators on the determination of relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Table 4: Summary of z-test analysis on the mean responses of school managers and school administrators on the determination of relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Respondents	N	X	SD	Df	SL	Z-cal.	Z-cri.	Decision
School Managers	12	3.12	0.92	250	0.05	0.73	±1.96	No difference
School Administrators	240	2.92	0.94					
Total	252							

Table 4 above revealed that z-calculated value of 0.73 was less than the z-critical value of ±1.96 at a degree of freedom of 250 at 0.05 level of significance. Since the z-calculated value of 0.73 was less than the z-critical value of ±1.96, the null hypothesis was accepted. This connotes that there is no significant difference between the mean opinion scores of school managers and school administrators on the determination of relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State.

HO₂: There is no significant difference between the mean opinion scores of school managers and school administrators on the procurement of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Table 5: Summary of z-test analysis on the mean responses of school managers and school administrators on the procurement of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Respondents	N	X	SD	Df	SL	Z-cal.	Z-cri.	Decision
School Managers	12	2.30	0.92	250	0.05	0.37	±1.96	No difference
School Administrators	240	2.20	0.82					
Total	252							

Table 5 above revealed that z-calculated value of 0.37 was less than the z-critical value of ±1.96 at a degree of freedom of 250 at 0.05 level of significance. Since the z-calculated value of 0.37 was less than the z-critical value of ±1.96, the null hypothesis was accepted. This connotes that there is no significant difference between the mean opinion scores of school managers and school administrators on the procurement of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

HO₃: There is no significant difference between the mean opinion scores of school managers and school administrators on the maintenance of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Table 6: Summary of z-test analysis on the mean responses of school managers and school administrators on the maintenance of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

Respondents	N	X	SD	Df	SL	Z-cal.	Z-cri.	Decision
School Managers	12	2.30	0.92	250	0.05	0.37	±1.96	No difference
School Administrators	240	2.20	0.82					
Total	252							

Table 6 above revealed that z-calculated value of 0.37 was less than the z-critical value of ±1.96 at a degree of freedom of 250 at 0.05 level of significance. Since the z-calculated value of 0.37 was less than the z-critical value of ±1.96, the null hypothesis was accepted. This connotes that there is no significant difference between the mean opinion scores of school managers and school administrators on the maintenance of educational facilities required for academic improvement of public senior secondary schools in Rivers State.

DISCUSSION OF FINDINGS

The findings on research question 1 revealed that school managers and school administrators determined relevant educational facilities required for academic improvement of public senior secondary schools in Rivers State, with an aggregate mean score of 3.02. This indicated that school managers and school administrators take decisions on the school furniture and chalkboard/whiteboard to be procured for use; take decisions on Library, laboratories, workshops, classrooms, dormitories, ICT facilities, sports facilities and health facilities which are normally discussed in Board meetings and are informed when required facilities are decided upon. The findings are in agreement with Adebayo (2009) who asserted that, procurement of educational facilities is not just enough in the search for achieving school improvement, but the inclusion of educational managers and administrators consent and advice on the necessary educational facilities to be procured, in order to record school improvement. The findings of this study also collaborated with Ninikanwo (2014) who stressed that, the determination of school plant requirement depend primarily on the nature of the school programmes, methods of delivery, needs of students and staff of the school.

Findings on research question 2 revealed that school managers and school administrators partially procure educational facilities required for academic improvement of public senior secondary schools in Rivers State, with an aggregate mean score of 2.24. This indicated that school managers and school administrators were not fully in charge of procuring school furniture, chalkboard and whiteboard. Learning facilities such as: libraries, laboratories, workshops, classrooms and dormitories; ICT facilities; sporting facilities and Health facilities are built by the government. These findings are in consonance with Yusuf (2008:52) who opined that, “it will be impossible for the curriculum to be completed if the physical facilities required for teaching and learning are not available”. In agreement also, Abdulkareem and Fasasi (2010) posited that, programmes in education can only be implemented when there is procurement of adequate facilities in schools.

Findings on research question 3 revealed poor maintenance of broken down of educational facilities amongst school managers and school administrators for academic improvement of public senior secondary schools in Rivers State, with an aggregate mean score of 2.25. This indicated that there is no maintenance culture of school buildings; no school buildings maintenance plan; no educational facilities maintenance committee; damaged generator sets are not carefully disposed off and completely destroyed school furniture, chalkboard/whiteboard are not promptly replaced. This findings connotes with Ogwo and Oranu, (2005); Asiyai, (2012) that secondary schools in Nigeria are characterized by broken windows and doors, collapsed ceilings, damaged roofs, leaking roofs, cracked walls, faded paints, broken furniture, inadequate seats, nonfunctional equipment, electrical fittings and damaged infrastructure, overpopulated and ill-equipped laboratories. Supporting the findings, Asiabaka (2008) pointed out facilities maintenance plans that can be readily adopted which include; preventive maintenance, routine maintenance, emergency repairs and predictive maintenance. He further buttressed that educational managers and administrators should proactively develop and implement facilities maintenance plans for addressing facility’s needs.

CONCLUSION

The school administrators are charged with the responsibilities of determination, procurement, utilization, maintenance and evaluation of educational facilities to ensure their proper management; but the study revealed that the opportunity to properly manage educational facilities elude school administrators in public senior secondary schools in Rivers State. The afore statement negates the chief function of school administrators as educational policy implements. Therefore, the researchers advocate that educational facilities management should be under the purview of the school administrators as chief accounting officers of human, material and financial resources in the school system. This is in a bid to having improved public senior secondary schools in the 21st century.

RECOMMENDATIONS

The study made the following recommendations:

1. School administrators should be engaged in the determination of educational facilities in public senior secondary schools.
2. School administrators should be involved in the procurement of educational facilities as implementers of educational programmes and policies in public senior secondary schools.
3. School administrators should be empowered by the government to achieve maintenance culture in public senior secondary schools.

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