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MANAGING SCHOOL INFRASTRUCTURES FOR TEACHER QUALITY EDUCATION DELIVERY IN PUBLIC SENIOR SECONDARY SCHOOLS IN PORT HARCOURT LOCAL GOVERNMENT AREA OF RIVERS STATE

Boma IHUA

Department of Educational Management,
Faculty of Education,

Ignatius Ajuru University of Education, Nigeria

tanceliacraft@gmail.com, ihuaboma@yahoo.com

<http://orcid.org/0009-0005-5357-5945>

ABSTRACT

This study investigated managing school infrastructures for teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. Four research questions and four null hypotheses were used for the study. A Descriptive Survey Research Design was used for the study. The population of this study comprised 708 teachers in public senior secondary school in Port Harcourt Local Government Area of Rivers State. A sample of 354 teachers representing 50% of the 16 public senior secondary schools in Port Harcourt Local Government Area of Rivers State was used for the study. Stratified random sampling technique was used to arrive at the sample size for the study. The instrument that was used for collection of data for the study was a 20 items self-structured questionnaire titled: Managing School Infrastructures For Teacher Quality Education Delivery Questionnaire (MSITQEDQ). A 4point likert rating scale was used, in the form of: Very high extent (VHE), High extent (HE), Low extent (LE), and Very low extent (VLE). The reliability index was determined by the use of Cronbach alpha reliability statistics tool which yielded .82. The statistical tools used for answering the research questions was mean and standard deviation; while t-test was used to test the null hypotheses at .05 Alpha level of significance. The findings of the study showed that library facility, laboratory facility, teachers' resource center facility and creation center facility as school infrastructures to a high extent enhance teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. Based on the findings, the study therefore conclude that a well-designed and adequately equipped environment, including library facility, laboratory facility, teacher resource centers facility, and creation centers facility, can significantly enhance the overall teaching and learning experience. The study recommended that; Rivers State government should establish Creation Centers facility to provide multimedia creation tools for teachers to develop engaging and interactive educational content, promoting creativity in teaching methods. Also, Rivers State government should invest in fully equipped laboratory facility to facilitate hands-on learning experiences, particularly in science and technology subjects.

Keywords: Managing, School Infrastructures, Teacher Quality Education Delivery, Public, Senior Secondary Schools.

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INTRODUCTION

Education is a crucial sector in any nation development. Being a major investment in human capital development, it plays a critical role in long-term productivity and growth at both micro and macro levels (Fullan, 2016). The major determinant factor of quality education delivery imperatively rests on the hands of teachers who required the appropriate motivation of the school infrastructures to yield the expected educational result. The effective management of school infrastructures holds pivotal significance in shaping the landscape of education, directly influencing the quality of education delivered by teachers. School infrastructures encompass not only physical spaces like classrooms, laboratories, and libraries but also extend to the broader environment that surrounds the teaching and learning process. The management of these infrastructures becomes a linchpin for fostering an atmosphere that is conducive to optimal teacher quality education delivery (Danielson, 2007).

In Port Harcourt Local Government Area of Rivers State, the infrastructure of public senior secondary schools plays a pivotal role in facilitating the delivery of quality education by supporting teachers in their instructional endeavors. For some time, there has been a dramatic increase in student failures relative to success in our schools. These failures could certainly be due to the accentuation of the lack of school facilities or obsolete ones that do not promote good working conditions in general and apprenticeships in particular (Agi & Yellowe, 2012). The effective management of school infrastructures poses a multifaceted challenge that significantly impacts the quality of education delivered by teachers. One of the central issues lies in the inadequacies and disparities in physical facilities, including classrooms, laboratories, and libraries. Insufficient space, outdated equipment, and a lack of modern technology hinder teachers' ability to employ innovative and interactive teaching methods, limiting the overall educational experience for students. Additionally, the maintenance and upkeep of school infrastructures often face financial constraints. Budgetary limitations may result in delayed repairs, affecting the functionality and safety of facilities. This, in turn, creates an environment that is not conducive to optimal teaching and learning, placing an additional burden on teachers who must navigate these challenges to deliver quality education (Ibara, 2015).

Managing School infrastructure involves strategic planning, maintenance, and improvement of physical facilities, including classrooms, libraries, laboratories, teacher resource center and recreational spaces. A well-organized infrastructure enhances the overall educational experience, promoting student engagement and success. According to several studies on school facilities, we need to signify here that school infrastructures mean buildings, classrooms, laboratories, dormitories, administrative facilities, Teacher Resource Center, Creation Center, athletic facilities, or related facilities operated in connection with a school. They are major factor in ensuring quality teacher education delivery (Harris & Sass, 2011). In this study, it should be limited to only four: library facility, laboratory facility, Teacher Resource Center facility and Creation Center facility.

Library facility as a school infrastructure refer to an organized collections of information resources, typically housed in a physical or digital space, with the primary purpose of providing access to knowledge and supporting learning, research, and recreational reading. These resources can include books, periodicals, multimedia materials, digital databases, and more. Library facility plays vital role in facilitating access to information, promoting literacy, and serving as community hubs. Harris and Sass (2011) stated that functional libraries play a crucial role in facilitating high-quality education delivery by providing teachers with essential resources,

fostering professional development, and creating a conducive learning environment. Rockoff (2004) in his study affirmed that library facility offer a diverse range of resources, including books, journals, multimedia materials, and digital resources, ensuring that teachers have access to a rich repository of educational materials to enhance their teaching methods. A study by Filmer and Fox (2014) showed that libraries serve as dynamic spaces for professional development, offering teachers access to the latest research, educational literature, and teaching methodologies. This continual learning supports teachers in staying informed about best practices. Well-designed libraries align their resources with curricular goals, providing teachers with materials that complement and enrich their instructional plans. This support helps teachers create engaging and effective lessons (Chepkuto & Siangla, 2016).

Laboratory facility as school infrastructure refers to a controlled environments equipped with specialized tools, equipment, and facilities designed for scientific research, experimentation, and practical learning. These spaces are dedicated to conducting experiments, analyzing data, and exploring scientific principles across various disciplines such as physics, chemistry, biology, and engineering. Laboratory facilities are characterized by their focus on hands-on activities, systematic observation, and the application of theoretical knowledge in a controlled setting. They play a crucial role in scientific discovery, education, and research, providing a space where scientists, researchers, and students can engage in practical exploration and contribute to advancements in their respective fields (Duflo, 2009). A Study by Kosgey (2018) highlighted that well-equipped laboratories create resource-rich environments, providing teachers with tools and materials to design interactive and hands-on learning experiences. Study by Yilmaz (2016) affirmed that functional laboratories contribute to teachers' ability to facilitate practical demonstrations, enhancing students' conceptual understanding by allowing them to directly observe and experiment with scientific or technical principles. Research by Earthman (2002) highlights that laboratories play a crucial role in developing practical skills among students. Teachers, when supported by well-designed laboratories, can guide students in applying theoretical knowledge to real-world situations. Laboratory facilities are recognized for promoting critical thinking skills among students. Teachers, with access to well-equipped laboratories, can design activities that encourage students to analyze, evaluate, and draw conclusions based on evidence (Cardelle & Smith, 2012).

Teacher Resource Center facility (TRC) as a school infrastructure refer to a dedicated facility or organization that provides educators with a range of teaching materials, resources, and professional development opportunities to enhance the quality of education delivery. TRCs are designed to support teachers in their instructional practices by offering access to curriculum-aligned materials, teaching aids, technology resources, and a collaborative space for professional growth (Gumus & Bellibas, 2015). A Study by Moura and Filho (2018) highlighted that well-established TRCs enhance resource accessibility for teachers, providing a centralized location where educators can access a diverse range of teaching materials, curriculum resources, and professional development tools. Study by Turner (2010) affirmed that TRCs are often positioned as hubs for professional development, offering workshops, training sessions, and access to educational literature. This continual learning supports teachers in staying updated on pedagogical methods and subject matter. Research by Hines and Pearl (2012) highlighted that TRCs contribute to teachers' quality education delivery by offering curriculum-aligned resources, supplementary materials, and lesson plans. This support aids teachers in creating engaging and effective lessons. According to Cardelle and Smith (2012), TRCs often serve as collaborative spaces, facilitating interactions among teachers. This collaborative environment fosters the

sharing of best practices, collaborative lesson planning, and the exchange of ideas to enhance teaching quality.

A Creation Center facility as a school infrastructure refer refers to a dedicated space or facility designed to foster creativity, innovation, and hands-on learning experiences for educators. It serves as a hub where teachers can explore and experiment with various teaching methods, develop innovative instructional materials, and collaborate with peers. These centers often provide access to a range of resources, including art supplies, technological tools, multimedia equipment, and other materials that support the creation of engaging and interactive educational content. The goal of a Creation Center is to inspire and empower teachers to enhance the quality of education delivery by integrating creative and innovative approaches into their teaching practices (Goldhaber & Anthony, 2007). A study by Earthman (2002) affirmed that functional Creation Centers are recognized for enhancing teachers' creativity by providing a dedicated space equipped with tools and resources to design innovative teaching materials and activities. Studies by Downs et al (2009) highlighted that Creation Centers contribute to hands-on learning experiences for teachers. The availability of materials like art supplies, technological tools, and interactive resources supports the development of engaging lessons. Creation Centers are aligned with the principles of inquiry-based learning (Andrabi & Khwaja, 2008). Research by Chepkuto and Siangla (2016) affirmed that teachers can design activities that encourage students to ask questions, explore solutions, and apply critical thinking skills in a hands-on manner. Research by De Moura and Filho (2018) highlights the collaborative nature of Creation Centers. Teachers can share ideas, collaborate on projects, and collectively develop innovative teaching strategies, fostering a supportive professional community.

A well-organized and adequately equipped school infrastructure provides teachers with the essential tools and resources needed to create dynamic and engaging learning experiences. Modern classrooms with appropriate technology, well-stocked libraries, and functional laboratories empower educators to employ innovative teaching methodologies, facilitating a more profound understanding of subjects among students (Ibara, 2015). Moreover, the management of school infrastructures directly impacts the overall well-being of teachers. Comfortable and functional spaces contribute to a positive work environment, enhancing teacher morale and job satisfaction. Adequate professional development spaces and opportunities within the infrastructure ensure that educators stay abreast of the latest pedagogical trends, allowing them to continuously improve their teaching skills (Hattie, 2009). Managing school infrastructures becomes even more pronounced in the context of educational equity. Ensuring that all schools, regardless of location or socioeconomic factors, have access to well-maintained and adequately equipped facilities is crucial for providing an equitable education. It helps bridge the gap between different educational institutions and creates a level playing field for both teachers and students (Fullan, 2016). An efficiently managed school infrastructure is indispensable for facilitating high-quality education delivery by teachers (Rivkin et al., 2005).

Furthermore, school infrastructure acts as the foundation upon which teachers build the educational journey for their students. When well-planned and effectively managed, it becomes an enabler for teachers to deliver high-quality education that is engaging, dynamic, and responsive to the evolving needs of students and the educational landscape (Ingersoll, 2013). Recent studies conducted in the United Kingdom have shown the impact of infrastructure on learners' educational outcomes and explain 16% of the variation in primary school students' academic achievement (Stronge et al., 2011). This analysis shows that the way school facilities are designed has an effect on learning processes based on three characteristics: They must be

natural (e.g., light and air quality), stimulating (e.g., colors and complexity), and individualized (e.g., flexibility of learning spaces) (Stronge et al., 2011). Teacher quality is equally crucial in delivering effective education. Educators serve as the cornerstone of the learning process, influencing students' understanding and engagement. Highly qualified and motivated teachers not only impart knowledge but also inspire and mentor students, nurturing their intellectual curiosity. In essence, the synergy between robust school infrastructures and high-quality educators forms the foundation of a comprehensive and impactful education delivery system, laying the groundwork for students' success and lifelong learning.

Statement of the Problem

For some time, there has been a dramatic increase in student failures relative to success in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. These failures could certainly be due to the accentuation of the lack of school facilities or obsolete ones that do not promote good working conditions in general and apprenticeships in particular (Agi & Yellowe, 2012). The effective management of school infrastructures poses a multifaceted challenge that significantly impacts the quality of education delivered by teachers. One of the central issues lies in the inadequacies and disparities in physical facilities, including classrooms, laboratories, teacher resource center, creation center and libraries. Insufficient space, outdated equipment, and a lack of modern technology hinder teachers' ability to employ innovative and interactive teaching methods, limiting the overall educational experience for students. Furthermore, the mismatch between school infrastructure management and educational advancements presents a persistent problem. Rapid changes in pedagogy and the integration of technology demand adaptable spaces, but the slow evolution of infrastructure fails to meet these evolving needs. This discrepancy hampers teachers' ability to leverage modern teaching tools and methodologies, hindering their capacity to provide a cutting-edge and comprehensive education. It is this situation that has prompted the researcher to examine the study managing school infrastructures for teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State was premised.

Aim and Objectives of the Study

The aim of this study was to investigate managing school infrastructures for teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. Specifically, the objectives of the study sought to:

- Investigate the extent to which managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.
- Find out the extent to which managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.
- Examine the extent to which managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

- Determine the extent to which managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Research Questions

The following research questions were raised to guide the study:

- To what extent do managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?
- To what extent do managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?
- To what extent do managing teacher resource center facility as a school infrastructure center enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?
- To what extent do managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?

Hypotheses

The following null hypotheses were formulated to guide the study and tested at .05 level of significance:

- **H₀₁**: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.
- **H₀₂**: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.
- **H₀₃**: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.
- **H₀₄**: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Theoretical Framework

The theory that supports this paper is the theory of Resource-Based View (RBV). The Resource-Based View theory was initially introduced by Wernerfelt (1984) and later expanded upon by scholars like Barney (1991) and Penrose (1959). The Resource-Based View (RBV) theory in management posits that a firm can attain and sustain a competitive advantage by possessing resources and capabilities that are valuable, rare, inimitable, and non-substitutable. These resources, which can be tangible or intangible, contribute to the firm's ability to outperform competitors (Goldhaber & Anthony, 2007). The RBV emphasizes the strategic importance of unique and difficult-to-replicate assets, fostering a long-term advantage. Dynamic capabilities, the ability to adapt resources to changing circumstances, are also crucial for maintaining competitiveness over time.

Resource-Based View" (RBV) theory in the context of education, this would involve optimizing the school's physical facilities, technology, teaching materials, and professional development opportunities for teachers. By aligning these resources with the goal of improving teaching quality, the RBV theory can contribute to creating an environment conducive to effective education delivery (Darling-Hammond, 2017). In the context of education, applying the RBV involves optimizing school resources, such as infrastructure and professional development, to enhance the quality of teacher education delivery (Chepkuto & Siangla, 2016).

CONCEPTUAL CLARIFICATION

Concept of School Infrastructures

School infrastructures refers to the physical facilities, buildings, and equipment that support the educational activities within a school. This includes classrooms, libraries, laboratories, administrative offices, playgrounds, sports facilities and other physical structures. Levin cited in Chepkuto and Siangla (2016) saw school infrastructure as a concept includes the tangible elements such as buildings and equipment, alongside intangible components like organizational structures and administrative systems. Owusu cited in Gay (2018) defined School infrastructure as the essential physical and organizational components of a school, infrastructure comprises facilities, equipment, and management systems vital for effective teaching and learning.

According to Avalos and Valenzuela (2017), school infrastructure refers to the combination of physical structures, educational resources, and administrative systems that create an environment conducive to quality education. School infrastructure plays a pivotal role in shaping the educational environment and directly influencing the quality of education delivery by teachers. It encompasses the physical and organizational elements that contribute to the overall learning experience. Adequate classrooms, well-equipped laboratories, libraries, and advanced technology are vital components (Goldhaber & Anthony, 2007). The synergy between well-designed infrastructure and effective teaching practices is crucial for fostering an environment where teachers can deliver high-quality education, ensuring students

Teacher Quality Education Delivery

Teacher quality education delivery refers to the proficiency, effectiveness, and skillful execution of teaching practices by educators. According to Ingersoll (2011), teacher quality education

delivery refers to the effective and engaging instruction that enhances students' understanding and skills, fostering a positive learning environment. Darling-Hammond (2017) defined teacher quality education delivery as the teacher's ability to employ pedagogical strategies that meet diverse student needs, ensuring equitable access to a rigorous and meaningful education. Stronge (2016) saw teacher quality education delivery to encompass the combination of content knowledge, pedagogical skill, and the ability to create a supportive classroom atmosphere that promotes student learning. According to Darling-Hammond (2017) teacher quality education delivery encompasses the ability to facilitate meaningful learning experiences, adapt to diverse student needs, and inspire academic growth. A teacher's competence in subject matter, instructional strategies, and the creation of a supportive classroom environment are pivotal elements in ensuring high-quality education delivery.

METHODS

The research design used in this study was descriptive survey research design. The population of this study comprised 708 teachers in public senior secondary school teachers in Port Harcourt Local Government Area of Rivers State (Source: Planning, Research Statistics Department; Rivers State Senior School Board). A sample of 354 teachers representing 50% of the 16 public senior secondary school teachers in Port Harcourt Local Government Area of Rivers State. Stratified random sampling technique was used for this study. The instrument that was used for collection of data for the study was a 20 items self-structured questionnaire titled: Managing School Infrastructures For Teacher Quality Education Delivery Questionnaire (MSITQEDQ). A 4point likert rating scale was used, in the form of; Very high extent (VHE)=4, High extent (HE)=3, Low extent (LE)=2 and Very low extent (VLE)=1.

The instruments were validated and reliability was carried out using Cronbach Alpha reliability statistics. The reliability coefficient of Managing School Infrastructures For Teacher Quality Education Delivery Instruments gave 0.82 respectively. Out of the 354 copies of the questionnaire that were distributed, 343 copies were retrieve giving a return rate of 97% and was used for analysis. The data collected from the respondents was properly organized in tables, coded and analyzed using SPSS package, mean and standard deviation statistics tools were used to answer the research questions while, t-test was used to test the null hypotheses at 0.05 level of significance. The decisional rule for interpretation of the mean scores was classified using real limits of numbers. Any value from 3.50-4.00 regarded as Very High Extent, any value from 2.50-3.49 regarded as High Extent, any value from 1.50-2.49 regarded as Low Extent, and any value from 0.50-1.49 regarded as Very Low Extent. In testing the hypotheses, the null hypotheses was accepted if the Sig. (2-tailed) is greater than ($>$) p-value of 0.05 level of significance and was rejected if the Sig. (2-tailed) is less than ($<$) p-value of 0.05 level of significance.

Answer to Research Questions

Research Question One: To what extent do managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?

Table 1: Mean Rating and Standard Deviation of the respondents on the extent to which managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

S/N	Library Facility as a School Infrastructure	N=343	Mean	SD.	Decision
1	Well-stocked library positively impact teacher quality education delivery.		3.80	.41	VHE
2	Access to educational resources in library enhance teacher quality education delivery.		3.20	.40	HE
3	Library play a role in supporting professional development opportunities for teachers.		3.44	.50	HE
4	Well-organized library positively influence teachers' lesson planning and instructional methods.		3.38	.43	HE
5	School's investment in expanding library resources lead to overall improvements in the quality of education delivered by its teachers.		3.43	.82	HE
Grand Mean			3.45	.51	HE

Table 1 showed the mean ratings and standard deviation of the respondents on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The table above showed; Well-stocked library positively impact teacher quality education delivery (Mean = 3.80, SD =.41), Access to educational resources in library enhance teacher quality education delivery (Mean = 3.20, SD =.40), Library play a role in supporting professional development opportunities for teachers (Mean = 3.44, SD =.50), Well-organized library positively influence teachers' lesson planning and instructional methods (Mean = 3.38, Std =.43), School's investment in expanding library resources lead to overall improvements in the quality of education delivered by its teachers (Mean = 3.43, SD =.82). The grand mean of (3.45 and SD of .51), which is above the criterion mean of 2.50 means to a high extent that managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Research Question Two: To what extent do managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?

Table 2: Mean Rating and Standard Deviation of the respondents on the extent to which managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

S/N	Laboratory Facility as a School Infrastructure	N=343	Mean	SD.	Decision
6	Well-equipped laboratory enhance teacher quality education delivery.		3.60	.45	VHE
7	Access to modern laboratory equipment contribute to effective science and STEM education.		3.15	.41	HE

8	School's investment in laboratory resources contribute to ongoing teacher professional development.	3.33	.57	HE
9	The integration of practical experiments in teaching lead to better understanding and retention of subject matter.	3.40	.41	HE
10	The utilization of laboratory resources by teachers enhance the overall quality of student learning outcomes.	3.36	.50	HE
Grand Mean		3.37	.47	HE

Table 2 showed the mean ratings and standard deviation of the respondents on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The table above showed; Well-equipped laboratory enhance teacher quality education delivery (Mean = 3.60, Std =.45), Access to modern laboratory equipment contribute to effective science and STEM education (Mean = 3.15, Std =.41), School's investment in laboratory resources contribute to ongoing teacher professional development (Mean = 3.33, Std =.57), The integration of practical experiments in teaching lead to better understanding and retention of subject matter (Mean = 3.40, Std =.41), and the utilization of laboratory resources by teachers enhance the overall quality of student learning outcomes (Mean = 3.36, Std =.50). The grand mean of (3.37 and Std of .47) that is above the criterion mean of 2.50. Which implies that to a high extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Research Question Three: To what extent do managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?

Table 3: Mean Rating and Standard Deviation of the respondents on the extent to which managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

S/N	Teacher Resource Center Facility as a School Infrastructure	N=343	\bar{X}	SD.	Decision
11	Easy access to teaching aids and materials in a resource center contribute to effective lesson planning.		3.41	.81	HE
12	Teacher resource center play a role in fostering a supportive community among educators.		3.45	.55	HE
13	Resource center support teachers in implementing innovative instructional methods.		3.40	.51	HE
14	The availability of diverse teaching resources in a center positively impact the inclusivity of education delivery.		3.44	.47	HE
15	Well-equipped teacher resource center positively impact the quality of education delivered by teachers.		3.61	.50	VHE
Grand Mean			3.46	.57	VHE

Table 3 showed the mean ratings and standard deviation of the respondents on the extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area

of Rivers State. The table above showed; Easy access to teaching aids and materials in a resource center contribute to effective lesson planning (Mean = 3.41, Std =.81), Teacher resource center play a role in fostering a supportive community among educators (Mean = 3.45, Std =.55), Resource center support teachers in implementing innovative instructional methods (Mean = 3.40, Std =.51), The availability of diverse teaching resources in a center positively impact the inclusivity of education delivery (Mean = 3.44, Std =.47), and Well-equipped teacher resource center positively impact the quality of education delivered by teachers (Mean = 3.61, Std =.50). The grand mean of (3.46 and Std of .57) that is above the criterion mean of 2.50. Which means that to a high extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Research Question Four: To what extent do managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State?

Table 4: Mean Rating and Standard Deviation of the respondents on the extent to which managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

S/N	Creation Center Facility as a School Infrastructure	N=343	Mean	SD.	Decision
16	A creation center, providing tools for content creation, positively impact the quality of education delivered by teachers.		3.41	.33	HE
17	Access to multimedia creation tools enhance teachers' ability to create engaging and interactive educational content.		3.46	.38	HE
18	Creation center support teachers in developing innovative teaching materials and resources.		3.33	.57	HE
19	Creation center play a role in fostering a culture of creativity and innovation among educators.		3.37	.51	HE
20	The availability of diverse creation tools positively impact the inclusivity and diversity of educational content.		3.60	.48	VHE
Grand Mean			3.43	.45	VHE

Table 4 showed the mean ratings and standard deviation of the respondents on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The table above showed; A creation center, providing tools for content creation, positively impact the quality of education delivered by teachers (Mean = 3.41, Std =.33), Access to multimedia creation tools enhance teachers' ability to create engaging and interactive educational content (Mean = 3.46, Std =.38), Creation center support teachers in developing innovative teaching materials and resources (Mean = 3.33, Std =.57), Creation center play a role in fostering a culture of creativity and innovation among educators (Mean = 3.37, Std =.51), and The availability of diverse creation tools positively impact the inclusivity and diversity of educational

content (Mean = 3.60, Std =.48). The grand mean of (3.43 and Std of .45) that is above the criterion mean of 2.50. Which means that to a high extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Test Hypotheses

H₀₁: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Table 5: Summary of t-test analysis result on the significant between male and female teachers on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State

Teachers	N	\bar{X}	Std.	Df	Sig. 2-(tailed)	t	Decision
Male	100	18.39	1.85	328	.183	.05	No Significant difference
Female	243	18.59	1.76				

Table 5 showed the summary of **t-test** analysis result on the male and female teachers on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. It indicates that the Sig. (2-tailed) of (.183) is greater than (>) p-value of .05 at df 328. The null hypothesis was therefore accepted. This implies that there is no significant difference in the mean ratings of male and female teachers on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

H₀₂: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Table 6: Summary of t-test analysis result on the significant between male and female teachers on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State

Teachers	N	\bar{X}	Std.	Df	Sig. 2-(tailed)	t	Decision
Male	100	18.77	1.58	328	.111	.05	No Significant difference
Female	243	19.02	1.47				

Table 6 showed the summary of t-test analysis result on the male and female teachers on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area

of Rivers State. It showed that the Sig. (2-tailed) of (.111) is greater than (>) p-value of .05 at df 328. The null hypothesis was therefore accepted. This implies that there is no significant difference in the mean ratings of male and female teachers on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

H₀₃: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Table 7: Summary of t-test analysis result on the significant between male and female teachers on the extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State

Teachers	N	\bar{X}	Std.	Df	Sig. 2-(tailed)	t	Decision
Male	100	18.39	1.85	328	.284	.05	No Significant difference
Female	243	18.59	1.76				

Table 7 showed the summary of t-test analysis result on the male and female teachers on the extent managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. It indicates that the Sig. (2-tailed) of (.284) is greater than (>) p-value of 0.05 at df 328. The null hypothesis was therefore accepted. This implies that there is no significant difference in the mean ratings of male and female teachers on the extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

H₀₄: There is no significant difference between the mean ratings of male and female teachers' on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

Table 8: Summary of t-test analysis result on the significant between male and female teachers on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State

Teachers	N	\bar{X}	Std.	Df	Sig. 2-(tailed)	t	Decision
Male	100	18.77	1.59	328	.111	.05	No Significant difference
Female	243	18.59	1.76				

Table 8 showed the summary of t-test analysis result on the male and female teachers on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area

of Rivers State. It showed that the Sig. (2-tailed) of (.111) is greater than (>) p-value of .05 at df 328. The null hypothesis was therefore accepted. This implies that there is no significant difference in the mean ratings of male and female teachers on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State.

DISCUSSION OF FINDINGS

Library Facility as a School Infrastructure / Teacher Quality Education Delivery

The findings in data presented in table 1 revealed that to a high extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The findings also showed that there is no significant difference in the mean ratings of male and female teachers on the extent of managing library facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. Thus, this finding is in line with the study by Filmer and Fox (2014) found that library serve as dynamic spaces for professional development, offering teachers access to the latest research, educational literature, and teaching methodologies. This continual learning supports teachers in staying informed about best practices. The findings is in tandem with the study by Rockoff (2004) who found that library offer a diverse range of resources, including books, journals, multimedia materials, and digital resources, ensuring that teachers have access to a rich repository of educational materials to enhance their teaching methods. Furthermore, in corroboration with the study, Chepkuto and Siangla (2016) found that well-designed libraries align their resources with curricular goals, providing teachers with materials that complement and enrich their instructional plans. This support helps teachers create engaging and effective lessons Harris and Sass (2011) stated that functional libraries play a crucial role in facilitating high-quality education delivery by providing teachers with essential resources, fostering professional development, and creating a conducive learning environment.

Laboratory Facility as a School Infrastructure / Teacher Quality Education Delivery

The findings in data presented in table 2 indicate that to a high extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The findings also showed that there is no significant difference in the mean ratings of male and female teachers on the extent of managing laboratory facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. This finding is in line with the study by Kosgey (2018) who found that well-equipped laboratory create resource-rich environments, providing teachers with tools and materials to design interactive and hands-on learning experiences. The finding is in tandem with the study by Yilmaz (2016) who found that functional laboratory contribute to teachers' ability to facilitate practical demonstrations, enhancing students' conceptual understanding by allowing them to directly observe and experiment with scientific or technical principles. Supported by the study of Earthman (2002) highlighted that laboratories play a crucial role in developing practical skills among students. Lastly, the finding is in corroboration with the study by Cardelle and

Smith (2012) who found that teachers, when supported by well-designed laboratories, can guide students in applying theoretical knowledge to real-world situations. Laboratory facility are recognized for promoting critical thinking skills among students. Teachers, with access to well-equipped laboratories, can design activities that encourage students to analyze, evaluate, and draw conclusions based on evidence.

Teacher Resource Center Facility as a School Infrastructure / Teacher Quality Education Delivery

The findings in data presented in table 3 revealed that to a high extent of managing Teacher Resource Center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The findings also showed that there is no significant difference in the mean ratings of male and female teachers on the extent of managing teacher resource center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. Thus, the findings is an agreement with the study by De Moura and Filho (2018) found that well-established TRCs enhance resource accessibility for teachers, providing a centralized location where educators can access a diverse range of teaching materials, curriculum resources, and professional development tools. Also, supported by the study by Turner (2010) found that TRCs are often positioned as hubs for professional development, offering workshops, training sessions, and access to educational literature. This continual learning supports teachers in staying updated on pedagogical methods and subject matter. The findings also in corroboration with the study by Gumus and Bellibas, (2015) found that TRCs are designed to support teachers in their instructional practices by offering access to curriculum-aligned materials, teaching aids, technology resources, and a collaborative space for professional growth. Research by Hines and Pearl, (2012) highlighted that TRCs contribute to teachers' quality education delivery by offering curriculum-aligned resources, supplementary materials, and lesson plans.

Creation Center Facility as a School Infrastructure / Teacher Quality Education Delivery

The findings in data presented in table 4 indicate that to a high extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The finding also showed that there is no significant difference in the mean ratings of male and female teachers on the extent of managing creation center facility as a school infrastructure enhances teacher quality education delivery in public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The findings is in tandem with the study of Earthman (2002) found that functional Creation Centers are recognized for enhancing teachers' creativity by providing a dedicated space equipped with tools and resources to design innovative teaching materials and activities. Also, supported by the studies of Downs et al. (2009) found that Creation Centers contribute to hands-on learning experiences for teachers. The availability of materials like art supplies, technological tools, and interactive resources supports the development of engaging lessons. The findings is also in corroboration with the research by Chepkuto and Siangla (2016) affirmed that teachers can design activities that encourage students to ask questions, explore solutions, and apply critical thinking skills in a hands-on manner.

Lastly, is in tandem with the research by De Moura and Filho (2018) highlights the collaborative nature of creation centers. Teachers can share ideas, collaborate on projects, and collectively develop innovative teaching strategies, fostering a supportive professional community.

CONCLUSION

Effective management of school infrastructures is pivotal for fostering high-quality education delivery by teachers. A well-designed and adequately equipped environment, including library facility, laboratory facility, teacher resource centers facility, and creation centers facility can significantly enhance the overall teaching and learning experience. These infrastructures serve as catalysts for innovation, collaboration, and continuous professional development among educators. The accessibility of modern resources in library empowers teachers to enrich their lessons, while laboratory provide hands-on experiences that contribute to a deeper understanding of subjects, especially in science and technology. Teacher resource centers offer essential tools for effective lesson planning and ongoing professional growth, fostering a community of supportive educators. Additionally, creation centers equip teachers with multimedia tools to create engaging and diverse educational content.

Recommendations

From the study, the following recommendations are made herewith based on the findings/result:

- Rivers State government should ensure well-stocked library facility with a diverse range of resources, including digital materials, to support varied teaching approaches.
- Rivers State government should invest in fully equipped laboratory facility to facilitate hands-on learning experiences, particularly in science and technology subjects.
- Rivers State government should establish Teacher Resource Centers facility of dedicated spaces equipped with teaching aids, technology, and collaborative areas to support effective lesson planning and professional development.
- Rivers State government should establish Creation Centers facility to provide multimedia creation tools for teachers to develop engaging and interactive educational content, promoting creativity in teaching methods.

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