

AVAILABILITY OF PHYSICAL RESOURCES AND ACADEMIC PERFORMANCE
OF STUDENTS IN RIVERS STATE UNIVERSITIES

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Abstract

The purpose of the study was to establish the relationship between the availability of physical resources on academic performance of students in Rivers state Universities. A correlational survey design was adopted for the study. The population of the study was 1,708 lecturers and students from two state owned universities in Rivers State. The sample for the study was 324, which was determined by the Taro Yamen formula. The study adopted the stratified random sampling technique. Instruments used for data collection were questionnaires titled availability of Physical Resources Questionnaire and Academic Performance of Students Questionnaire. The questionnaires were validated by three experts in Measurement and Evaluation. The reliability coefficient of 0.80 and 0.79 were obtained using Cronbach Alpha. Data gathered were analyzed using the Pearson Product Moment Correlation Coefficient for the research questions and the t-test transformation was used to test the hypotheses at 0.05 level of significance. The result of the study showed the availability of library resources, classroom resources and instructional resources and Academic Performance of Students in Rivers State Universities and it was concluded. Based on the findings, it was recommended that physical resources such as library, classroom and information and communication technology tools should be adequately provided to enhance utilization towards better academic performance among students in the study area.

Keywords: Availability, Physical Resources, Academic Performance of Students

Introduction

The success in achievement of educational goal in any institution of learning is a function of availability of resources. One category of such resources is physical resources which according to (Amie-Ogan, 2021) are all the facilities used for enhancing instructional delivery. Examples of physical resources are classrooms, laboratories, libraries, technical workshops, assembly halls, recreational ground, botanical and zoological gadgets, farm land, projectors, chalkboards, whiteboards, interactive or smart boards, computers, staff offices, toilet facilities etcetera. Amie-Ogan further added that physical resources are used for effective

implementation of the curriculum towards achievement of educational goals.

In another view, Eric (2019) refers to physical resources as school facilities which include all instructional and non-instructional facilities used to make teaching and learning take place effectively, such as classrooms, chalkboards, desks, tables, charts and pictures, furniture, instructional materials, electricity, toilet facilities, playing facilities, laboratories, libraries, among others used to aid teaching and learning. According to Adeogun and Osifila (2008) physical resources include laboratories, libraries, classrooms and a host of other physical infrastructure while material resources include textbooks, charts, maps among others.

The importance of physical resources in schools cannot be overemphasized. Enumerating the importance of physical resources, Osuji (2016) stated that physical resources help learners to develop skills through extra-curricular activities, motivate the school teachers in the execution of their duties, help in the retention of teachers through friendly teaching environment and good allowances, help to reduce vices, truancy and drop-outs among learners, give room for researchers to carry out research, enhance the activities of teaching and learning, make room for continuity in education, help to reduce the fear of insecurity in the school environment, and give job satisfaction to teachers. Furthermore, they help in the actualization of educational goals through learner's and teachers' high performance. Physical facilities are fundamental for any educational institution and it is directly connected with school effectiveness as well as educational development. Obviously, physical facilities in the school motivate students to learn. Adequate attention is currently on physical facilities in Nigeria educational system and it has been repeatedly found to have positive relationship with standard and quality of educational system (Olanrewaju, Elongonye & Osuji, 2020).

Tertiary education plays significant role in the development of a nation. The goals of tertiary education as enumerated in the Nigerian national policy on education by the Federal Government of Nigeria (FRN, 2013) is to contribute to national development through high level manpower training; develop the intellectual capacity of individual to understand and appreciate their local and external environment and to acquire both physical and intellectual skills which enables individual to be self-reliant and useful members of the society. Tertiary education according to Semako (2019) plays significant role of imparting required knowledge in the learner to enable them contribute meaningfully to the nation's growth and development. He added that tertiary education helps in instilling in the learner, the spirit of commitment, good morals and values. This way, individual learners would be intellectually, morally, physically, mentally and psychologically sound, suitable for organizational, institutional and societal use.

As observed in Oyebola (2019), there are different variables considered as physical resources such as Classroom resources, library resources, recreational resources, instructional resources and safety facilities. Classroom resources imply the availability of functional classrooms that are well ventilated and spacious. Library resources include the availability of school library stocked with relevant textbooks and reading space for students and teachers. Recreational resources refers to school sports and games facilities where students can use their leisure or free periods like open field, basketball court, table tennis court and other sporting facilities. Instructional resources (teaching-learning materials, equipment and furniture) such as audio and visual aids, graphics, printed materials, classroom furniture, boards, laboratories and its equipment, display materials and consumable materials such as cardboards and others. Safety facilities refers to perimeter fencing in order to ensure there is adequate security for the students, fire extinguishers, fire alarm system, school entrance gates with qualify security men, first aid box, school clinic, school toilets, electricity and water supply infrastructure.

However, in this study, physical resources such as instructional resources, library resources and laboratory resources were considered. Lewis (2018) stated that instructional resources are any collection of materials including animate and inanimate objects and human and non-human resources that a teacher may use in teaching and learning situations to help achieve desired learning objectives. Instructional resources may aid a student in concretizing a learning experience so as to make learning more exciting, interesting and interactive. They are tools used in instructional activities, which include active learning and assessment. The term encompasses all the materials and physical means an instructor might use to implement instruction and facilitate students' achievement of instructional objectives. Instructional resources can be classified by type, including print, visual, and audiovisual, among others: print: textbooks, pamphlets, handouts, study guides, manuals; audiocassettes, microphone, podcast; visual: charts, real objects, photographs, transparencies; audio/visual: slides, tapes, films, filmstrips, television, video,

multimedia; and electronic Interactive ,computers, graphing calculators, tablets etcetera.

Anthony (2019), opined that Library resources are basically sources of information. Traditionally, these resources were mostly books, journals, newspapers and other editorials, and encyclopedias. But with the advent of the internet, digital sources of information have become prevalent. These digital sources of information include, online libraries and journals, online encyclopedias like the wikipedia, blogs, video logs like the youtube, etcetera. Even movie clippings especially from history have played a large role in modern research, and hence are classifiable under 'Library Resources'. Library resources encompass books, periodicals, related ordering, processing, cataloging or binding costs or services, reference databases, cataloging and/or security systems, maps, documents, microforms, computer software, or prerecorded audio-visual resources for the benefit of student learning. Ann (2017) mentioned library resources include DVDs, CDs, all types of programs for adults and children, concerts, quiet study spaces, maker spaces (think 3D printers), help for job seekers, help for senior citizens, tax preparation help and so much more.

A laboratory is a facility that provides controlled conditions in which scientific or technological research, experiments, and measurement may be performed (Latour, 2017). Laboratory services are provided in a variety of settings: physicians' offices, clinics, hospitals, and regional and national referral centers. Simeon, Thomas and Tosin (2017) identified some laboratory tools to include beakers, boiling tubes, conical flask and cylinder are available, flat bottom flasks, hand lenses, Ammeters, Resistance box, plastic mammalian models (heart, eye, ear, and skeleton) and First Aid box (fully equipped), Meter Rule, Rheostats, Connecting wires and Spatula.

Physical resources such as those discussed above could contribute immensely to the students' academic performance in tertiary institutions especially in Rivers State because they enhance teaching and learning and creating the enabling environment for students to truly understand contents and scope of a

subject matter being taught. To this end, Simeon, Thomas and Tosin (2017), in their study on assessment of laboratory resources, teachers' and students' involvement in practical activities in Basic Science in Junior Secondary Schools in Osun State Nigeria, found that on the average teachers do not use laboratory facilities to teach the students and students are rarely involved in practical activities in schools. The study concluded that laboratory resources are not available to teach students Basic Science in junior secondary school level, and as such affects the performance of students negatively especially in external examinations.

Statement of Problem

To achieve the goals of tertiary education in Nigeria, there is need for adequate provision of resources to enhance teaching and learning towards human capital development, towards national and economic development. It is however, observed that schools lack physical facilities such as classrooms, furniture, toilets, libraries, laboratories and equipment which in turn cause major barrier to effective teaching and learning. Some of the tertiary institutions do not have resources like libraries and where a library exists, it is full of obsolete textbooks. Problem of limited provision of physical resource is capable of causing hindrance to meaningful teaching and learning (Olanrewaju, Elongonye & Osuji, 2020).

Purpose of the Study

The purpose of the study was to investigate the influence of physical resources on academic performance of students in Rivers State universities. Specifically, the study intended to:

1. Ascertain the influence of library resources on Academic Performance of Students in Rivers State Universities.
2. Examine the influence of classroom resources on Academic Performance of Students in Rivers State Universities.
3. Determine the influence of instructional resources on Academic Performance of Students in Rivers State Universities.

Research Questions

1. What is the relationship between library resources on Academic Performance of Students in Rivers State Universities?

2. What is the relationship between classroom resources on Academic Performance of Students in Rivers State Universities?
3. What is the relationship instructional resources on Academic Performance of Students in Rivers State Universities?

Hypotheses

1. There is no significant relationship between library resources and Academic Performance of Students in Rivers State Universities.
2. There is no significant relationship between classroom resources and Academic Performance of Students in Rivers State Universities.
3. There is no significant relationship between instructional resources and Academic Performance of Students in Rivers State Universities.

Methodology

The study adopted a correlational research design. The population of the study was 1,708 lecturers and students from Faculty of Education in the two state owned universities in Rivers State comprising of 208 lecturers and 1,500 students. These comprised 106 from Rivers State University (RSU) and 102 from Ignatius Ajuru University of Education (IAUOE) for the lecturers while 625 students were from RSU and 825 from IAUOE. The sample size for the study was 324 respondents. The sample size was determined by Taro

Yamen formula. The stratified random sampling technique was adopted to selected the sample size of the study. The instruments for data collection were questionnaires designed by the researcher. The questionnaires were titled “Availability of Physical Resources Questionnaire (APRQ) and Academic Performance of Students Questionnaire (APSQ)”. The questionnaires were rated on a four point rating scale of Strongly Agreed (SA =4), Agree (A =3), Disagree (D =2) and Strongly Disagree (SD =1). It had two parts structured on a four point rating scale. The instrument was validated by three experts. One of the experts were from Educational Management while the other from Measurement and Evaluation. The instrument was subjected to reliability calculation using Cronbach Alpha statistics. This yielded reliability coefficients of 0.79 and 0.81. With the help of 2 research assistants, a total of 324 copies of the instrument was administered and a total of 324 were retrieved and used for data analysis. Data gathered were analyzed using the Pearson Product Moment Correlation Coefficient (r) for the research questions and t-test translation to test the hypotheses at 0.05 level of significance.

Results Presentation

Research Question 1: What is the relationship between availability of library resources and Academic Performance of Students in Rivers State Universities?

Table 1: Summary of PPMCC on the Relationship Between Availability of library resources and Academic Performance of Students in Rivers State Universities

		AVAILABILITY OF LIBRARY RESOURCES	ACADEMIC PERFORMANCE OF STUDENTS
AVAILABILITY OF LIBRARY RESOURCES	Pearson Correlation	1	.590**
	Sig. (2-tailed)		.000
	N	324	324
ACADEMIC PERFORMANCE OF STUDENTS	Pearson Correlation	.590**	1
	Sig. (2-tailed)	.000	
	N	324	324

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Researchers SPSS Data output (2022)

To answer this research question, questionnaire items 1-4 on availability of library resources as physical resources measure in Appendix A, section A and questionnaire 1-4 on academic performance of students in section C were taken. The result shown above on Table 1 indicates that there is a high and positive relationship between availability of library resources as physical resources measure and

Academic Performance of Students in Rivers State Universities with a correlation coefficient value of .590**.

Research Question 2: What is the relationship between availability of classroom resources and Academic Performance of Students in Rivers State Universities?

Table 2: Summary of PPMCC on the Relationship Between Availability of classroom resources and Academic Performance of Students in Rivers State Universities

		AVAILABILITY OF CLASSROOM RESOURCES	ACADEMIC PERFORMANCE OF STUDENTS
AVAILABILITY OF CLASSROOM RESOURCES	Pearson Correlation	1	.871**
	Sig. (2-tailed)		.000
	N	324	324
ACADEMIC PERFORMANCE OF STUDENTS	Pearson Correlation	.871**	1
	Sig. (2-tailed)	.000	
	N	324	324

** Correlation is significant at the 0.01 level (2-tailed).

Source: Researchers SPSS Data output (2022)

To answer this research question, questionnaire items 8-14 on availability of classroom resources as physical resources measure in Appendix A, section A and questionnaire 1-4 on academic performance of students in section C were taken. The result is shown above on Table 2 denotes that there is a high and positive relationship between availability of classroom resources as physical resources measure and

Academic Performance of Students in Rivers State Universities with a correlation coefficient value of .871**.

Research Question 3: What is the relationship between availability of instructional resources and Academic Performance of Students in Rivers State Universities?

Table 3: Summary of PPMCC on the Relationship between Availability of instructional resources and Academic Performance of Students in Rivers State Universities.

		AVAILABILITY OF INSTRUCTIONAL RESOURCES	ACADEMIC PERFORMANCE OF STUDENTS
AVAILABILITY OF INSTRUCTIONAL RESOURCES	Pearson Correlation	1	.805**
	Sig. (2-tailed)		.000
	N	324	324
ACADEMIC PERFORMANCE OF STUDENTS	Pearson Correlation	.805**	1
	Sig. (2-tailed)	.000	
	N	324	324

** Correlation is significant at the 0.01 level (2-tailed).

Source: Researchers SPSS Data output (2022)

To answer this research question, questionnaire items 15-21 on availability of instructional resources as physical resources measure in Appendix A, section A and questionnaire 1-4 on academic performance of students in section C were taken. The result is shown above on Table 3 indicates that there is a high and positive relationship between availability of instructional resources as physical resources measure and Academic Performance of Students in Rivers State Universities with a correlation coefficient value of .805**.

Testing of Hypotheses

The three hypotheses stated in the study were tested at 0.05 level of significant using the t-transition statistics with the formula: $t = \frac{r\sqrt{n-2}}{r^2}$

H₀₁: There is no significant relationship between availability of library resources and Academic Performance of Students in Rivers State Universities

Table 4: Summary of t-Test Result on the Significant Relationship between Availability of library resources and Academic Performance of Students in Rivers State Universities

Variables	N	Df	PPMCC	t-cal	t-crit.	LS	Decision
Availability of library resources	324	322	.590**	19.71	±1.96	0.05	Rejected Significant Relationship
Academic Performance of Students	324						

Source: Researchers SPSS Data output (2022)

The result on Table 4 showed a t-test transition of 19.71 which was greater than the t-critical value of ±1.96 at 0.05 level of significance with a degree of freedom of 322. Since the t-calculated (19.71) was greater than the t-critical (±1.96), the null hypothesis was rejected and the alternative upheld which states that there is a significant relationship between availability of library resources as physical resources measure and Academic Performance of Students in Rivers State Universities of Rivers

State. It was therefore concluded that there is a positive significant relationship between availability of library resources as physical resources measure and Academic Performance of Students in Rivers State Universities of Rivers State.

H₀₂: There is no significant relationship between availability of classroom resources and Academic Performance of Students in Rivers State Universities

Table 5: Summary of t-Test Result on the Significant Relationship between Availability of classroom resources and Academic Performance of Students in Rivers State Universities

Variables	N	Df	PPMCC	t-cal	t-crit.	LS	Decision
Availability of classroom resources	324	322	.871**	19.70	±1.96	0.05	Rejected Significant Relationship
Academic Performance of Students	324						

Source: Researchers SPSS Data output (2022)

The result on Table 5 showed that the t-test transition of 19.70 which was greater than the t-critical value of ±1.96 at 0.05 level of

significance with a degree of freedom of 322. Since the t-calculated (19.70) was greater than the t-critical (±1.96), the null hypothesis was

rejected and alternative upheld which states there is a significant relationship between availability of classroom resources as physical resources measure and Academic Performance of Students in Rivers State Universities of Rivers State. It was therefore concluded that there is a positive significant relationship between availability of classroom resources as

physical resources measure and Academic Performance of Students in Rivers State Universities of Rivers State.

H₀₃: There is no significant relationship between availability of instructional resources and Academic Performance of Students in Rivers State Universities

Table 6: Summary of t-Test Result on the Significant Relationship between Availability of instructional resources and Academic Performance of Students in Rivers State Universities, Rivers State

Variables	N	Df	PPMCC	t-cal	t-crit.	LS	Decision
Availability of instructional resources	324	322	.805**	19.70	±1.96	0.05	Rejected Significant Relationship
Academic Performance of Students	324						

Source: Researchers SPSS Data output (2022)

The result on Table 6 showed that the t-test transition of 19.70 which was greater than the t-critical value of ±1.96 at 0.05 level of significance with a degree of freedom of 322. Since the t-calculated (19.70) was greater than the t-critical (±1.96), the null hypothesis was rejected and alternative upheld which states there is a significant relationship between availability of instructional resources as physical resources measure and Academic Performance of Students in Rivers State Universities of Rivers State. It was therefore concluded that there is a positive significant relationship between availability of instructional resources as physical resources measure and Academic Performance of Students in Rivers State Universities of Rivers State.

Discussion of Findings

The first research question was on the relationship between the availability of library resources and academic performance in tertiary institutions in Rivers State. The result shows that the respondents agreed that: Libraries resources, Classrooms, Offices for members of staff, information and communication tools for teaching and learning, information and communication tools for administrative functions, laboratories for practical activities, materials for practical activities in laboratories, workshops for practical activities and materials

for practical activities in the workshops were available to a low extent.

The result for hypothesis one showed that there was a significant relationship between availability of library resources and Academic Performance of Students in Rivers State Universities. This indicates that the respondents had similar views regarding the extent of availability of physical resources in the study area. This result is similar to that of Anifowose and Lawal (2013) who found that the physical facilities in Nigerian tertiary institutions were inadequate. The result however disagrees with the result of Lawal and Kaegon (2021) who found that resources needed for instructional towards achievement of goals were available. The result further agrees with the result of Ememe, Onwuchekwa and Onuigbo (2012) who found that physical facilities were inadequate.

The second research question was on the relationship between the availability of classroom resources and academic performance of students in tertiary institutions in Rivers State. The result shows that the respondents agreed that: availability of Libraries resources, availability of Classrooms, availability of Offices for members of staff, availability of information and communication tools for teaching and learning, availability of information and communication tools for administrative functions, availability of

laboratories for practical activities, availability of materials for practical activities in laboratories, availability of workshops for practical activities and availability of materials for practical activities in the workshops were available to a high extent

The result for hypothesis two showed that there was a significant relationship between availability of classroom resources and Academic Performance of Students in Rivers State Universities. This indicates that the respondents had similar views regarding the extent available physical resources are utilized for teaching and learning in tertiary institutions in Rivers State. The result however agrees with the result of Lawal and Kaegon (2021) who found that available resources needed for instructional towards achievement of goals were utilized.

The third research question was on the relationship between availability of physical resources for teaching and learning and students' academic performance in tertiary institutions in Rivers State. The result shows that the respondents agreed that: availability of libraries resources enhances personal study for academic excellence among students, availability of well-equipped classrooms creates a conducive learning atmosphere for effective learning among students, Availability of offices for members of staff provides them comfort for effective productivity towards enhance learning outcome among students, availability of information and communication tools for teaching and learning generates interest towards effective learning for better performance among student, availability of information and communication tools for administrative functions provides enhancement towards effective service delivery for better educational goals achievement, availability of information and communication tools for administrative functions provides enhancement towards effective service delivery for better educational goals achievement, availability of materials for practical activities in laboratories aids retention of knowledge for better performance, availability of workshops for practical activities equips students with practical competences and availability of materials for practical activities in the workshops aids retention of ideas for better performance.

The result for hypothesis three showed that there was a significant relationship between availability of instructional resources and Academic Performance of Students in Rivers State Universities. This indicates that the respondents had similar views regarding the extent the influence of availability of available physical resources for teaching and learning on students' academic performance in tertiary institutions in Rivers State.

Conclusions

The result of the study showed that there is a significant relationship between the availability of library resources, availability of classroom resources and availability of instructional resources and Academic Performance of Students in Rivers State Universities. These results indications shows that exposure to activities that require availability of certain physical resources may be hampered. This in turn could impact negatively on students' academic performance. On the other hand, if physical resources are made available, lecturers would make use of them for enhancement of students' academic performance.

Recommendations

1. There should be adequate provision of information and communication technology tools in the library by government to enhance instruction in tertiary institutions.
2. Government should provide adequate projectors and other classroom resources to aid instructional activities in tertiary institutions.
3. There should be adequate provision of instructional resources and associated resources to enhance instruction in tertiary institutions.

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