

# **UTILIZATION OF RESOURCES AND ENROLMENT FOR QUALITY JUNIOR SECONDARY SCHOOLS IN RIVERS STATE**

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## **Abstract**

*The study focuses on the utilization of resources for quality junior secondary schools in Rivers State. Four research questions and four hypotheses guided the study. A sample of one hundred and sixty (160) principals representing 60% of the total population was obtained with the stratified sampling of the area along the 3-geo-political zones of the State. The “School Resource Inventory for School Principals” (SRISP) was designed by the researchers to elicit data. The frequency of the descriptive statistics and the chi-square statistics were applied to answer the research questions and test the hypotheses respectively. The study revealed that there was low relationship between the utilization of teacher stock and student enrolment, the utilization of physical facilities and student enrolment, the utilization of physical facilities and teacher stock requirements for enrolment, and the utilization of funds and projects/programmes requirements for enrolment with high enrolment in schools. Three hypotheses discerned a significant relationship and one no significant relationship. The trend of relationships no doubt resulted in diminishing returns of the inputs of existing resources measured by student enrolment, and consequently, is antithetical to quality education. Hence, the government should allocate adequate funds to equip schools with adequate physical facilities, adequate number of teachers and for more projects/programmes to match enrolment in the junior secondary schools in Rivers State.*

**Key words:** Utilization; resources; enrolment; quality; utilization of teacher stock; utilization of physical facilities, utilization of funds; projects/programmes

Education is an essential service geared towards the development of human resources for an economy. The educational system of a country produces the professionals needed by an economy who offer the requisite knowledge and skills for the administration and production of goods and services. This productive effort is made possible through the use of resources in the economy. Education resources, even though are relatively scarce in supply, and sometimes alternatively used, are expected to be utilized optimally for quality school output.

Education, as perceived by Coombs in Akungu(2014) consists of two components, inputs and outputs. Inputs consist of human, financial and material resources, and the outputs are the goals or outcomes of the educational process. Both inputs and outputs form a dynamic organic whole and if one wants to investigate and assess the educational system in order to improve its quality performance, influence of one component on the other must be verified.

Due to the importance of education, it becomes imperative to ensure that quality and standard is attained through the provision, utilization and maintenance of educational resources. This corroborates what Castaldi (1982) had earlier posited that excellent school resources and dedicated skilled teachers are the basic ingredients for a good education programme. No educational objective therefore can be achieved without adequate provision of resources in schools. For a curriculum to be properly implemented there has to be sufficient provision of learning resources for the learners to enable them discover, learn and gain from effective teaching situation; this by implication means that every school needs a wide range of resources.

These educational resources represent any object of study or stimulus for the student and all organizations need them for effective operation (Maicibi, 2003&Ezekoka,2009). In fact, when the right quantity and quality of human resources is brought together, it can manipulate other resources towards realizing institutional goals and objectives. Similarly, the Department for International Development (DFID) in Akungu(2014), confirms that the most consistent characteristics in improving student performance are the availability of physical resources, teachers and adequate funds. Logically, educational resources can yield quality result in learners if it is sufficient, properly utilized and maintained to avoid diminishing returns. Where education resource experience diminishing returns the goals and objectives are marred because teaching/learning process would face difficulty thereby producing students who are incompetent in contributing effectively to economic growth and development of the nation.

Essentially, in the school setting, resources can be measured in various magnitudes of over-utilization, optimal-utilization and under-utilization (Bello &

Adetoro, 2009). All things being equal, it is assumed that shortage of teachers relative to increasing enrolment can be a source of over-utilization, on the other hand, excess of teachers can be a source of under-utilization. But, appropriate corresponding number of teachers with available resources could be a source of optimal-utilization and this is the expectation for quality production of students. The education sector therefore needs to be allocated more resources in order to take care of its educational projects and programmes, which increases daily due to increase in enrolment. This observed continuous increases in enrolment with fixed allocation of education resources makes it difficult for effective and efficient teaching and learning processes in schools.

Pathetically, the junior secondary level of education, in order to achieve the goal of mobilization of the entire citizenry for mass literacy, is challenged with alarming enrolment, thus, experiencing student-teacher ratio above the prescribed norm of 1:35 (Federal Republic of Nigeria, 2014) as well as inadequacies in funding and materials to cater for the increasing school student population. The scenario may not be favourable to the schools' production system. However, the extent of utilization of existing resources vis-à-vis enrolment experienced in the junior secondary schools in Rivers state, is yet unknown. This makes it expedient for the study to examine the utilization of resources and enrolment in junior secondary schools in Rivers State. It is therefore imperative to fathom the current facts in order to address the trend for effective junior secondary schools' resource utilization for quality production.

### **Theoretical Framework**

The study hinges on the theory of utility and the theory of production. The theory of utility was propounded by the neo-classical economists Gossen and Jevons in the 19<sup>th</sup> century. The utility theory focuses on satisfaction of want, that is, the satisfaction the consumer derives from the consumption of additional unit of a commodity (Lipsey in Owhondah, 2017). Pettinger (2016) noted that utility is not constant and often times we experience diminishing marginal utility. In the school setting, the theory of utilization of education resources propounded by Castaldi (1982) states that the utility of a school resource is measured by the extent to which it satisfies both qualitative and quantitative requirements of a school programme.

The theory of production on the other hand, was also propounded by the neo-classical economist Gossen and Jevons in the 19<sup>th</sup> century. Production theory explains the process that combines various material inputs and non-material inputs to create goods or services for consumption (output), therefore production is the act of creating output that has value and can contribute to the utility of individuals. Education is an industry and undergoes production process using scarce human, financial and physical resources in the production of educated persons that contribute to the utility of the society.

The above two theories are logically relevant to the utilization of resources in the light of enrolment in junior secondary schools in Rivers State. It is important that the students who gain access into the schools must be trained with the available

resources. These resources must be relatively adequate to ensure the production of students in a qualitative manner. It is when these students are qualitatively trained that they can be useful to the economy through their meaningful contributions to the growth and development of the economy. It must be emphasized that both the environmental effects of socio-economic status or circumstances of the student and the school effects-financial, physical and human resources work separately, but harmoniously through the input of variables into the production of the output of the system (Jegaro, 2013; Owchondah & Eke, 2017). The quality and quantity of school inputs in this study is the major determinant of the quality of output.

### **Research Questions**

The study was guided by four research questions as stated below:

1. What is the relationship between the utilization of actual teacher stock and actual student enrolment in junior secondary in Rivers State?
2. What is the relationship between existing physical facilities and actual student enrolment in junior secondary schools in Rivers State?
3. What is the relationship between existing physical facilities and actual teacher stock enrolment to meet up enrolment requirements in junior secondary schools in Rivers State?
4. What is the relationship between the utilization of funds and projects/programmes to meet up enrolment requirements in junior secondary schools in Rivers State?

### **Hypotheses**

Four null hypotheses were tested for the study:

H<sub>01</sub>: There is no significant relationship between the utilization of actual teacher stock and actual student enrolment in junior secondary in Rivers State.

H<sub>02</sub>: There is no significant relationship between existing physical facilities and actual student enrolment in junior secondary schools in Rivers State.

H<sub>03</sub>: There is no significant relationship between existing physical facilities and actual teacher stock to meet up enrolment requirements in junior secondary schools in Rivers State.

H<sub>04</sub>: There is no significant relationship between the utilization of funds and projects/programmes to meet up enrolment requirements in junior secondary schools in Rivers State.

### **Methodology**

The ex-post facto and correlational research designs were employed for this study. The population of the study comprised 266 public junior secondary school principals spread through the 3-geo-political zones of Rivers State (Rivers State Basic Education Board, 2016). The principals of schools were respondents for the study because they are in-charge of all the resources in schools. A sample of 160 junior school

principals from the 3-geo-political zones was used, which represents 60% of the total population. The junior secondary schools were hereby stratified along the 3-geo-geopolitical zones in the area, namely: Rivers South East (41 schools), Rivers East (62 schools) and Rivers West (59 schools). The “School Resource Inventory from School Principals” (SRISP) was designed by the researchers to elicit data. The research questions were answered with frequencies and hypotheses tested with the chi-square statistics at the alpha level of 0.05.

### **Analysis of Data**

**Research Question 1:** What is the relationship between the utilization of actual teacher stock and actual enrolment in junior secondary in Rivers State?

**Table 4.1: Relationship between the Utilization of Actual Teacher Stock and Actual Enrolment in Junior Secondary Schools**

Zone	No. of schools	Actual no. of teacher	Actual student enrolment	Student-teacher ratio (STR)	Teacher Requirements 1:35	Teacher Demand (less)Teacher Supply
Rivers West	58	386	18564	48	530	144
Rivers East	61	692	60988	88	1743	1051
Rivers South-East	41	451	35146	78	1004	553
Total	160	1529	114698	214	3277	1748

Data on Table 4.1 reveal that the relationship between the actual teacher stock and actual student enrolment (student-teacher ratio) was (low) (indicating shortage of teachers relative to increasing enrolment) in the junior secondary schools in Rivers State. Thus, the available teachers were over-utilized when compared with the increasing enrolment, and that resulted in diminishing returns in the efforts of every teacher’s effort in schools in the area.

**Research Question 2:** What is the relationship between existing physical facilities and the actual enrolment in Junior Secondary Schools in Rivers State?

**Table 4.2: Relationship between the Utilization of Physical Facilities and Actual Enrolment in Junior Secondary Schools**

Zone	Physical Facilities	Total no. of facilities	Actual student enrolment	No. of school	Average no. of facilities per enrolment
<b>Rivers West</b>	• Classroom	• 38	18564	58	• 0.02
	• Library	6			• 0.001
	• Classroom furniture (desk and chairs)	• 32 • 14			• 0.90
	• Computer room	644			• 0.001
		• 25			
<b>Rivers East</b>	• Classroom	• 69	60988	61	• 0.01
	• Library	2			• 0.0008
	• Classroom furniture (desk and chairs)	• 52			• 0.80
	• Computer room	• 48			• 0.75
		542			
		• 46			
<b>Rivers South-East</b>	• Classroom	• 45	35146	41	• 0.013
	• Library	1			• 0.0007
	• Classroom furniture (desk and chairs)	• 20			• 0.59
	• Computer room	• 20			• 0.0004
		753			
		• 13			

Data on Table 4.2 show that there was a negative (low) relationship between the existing facilities and the actual student enrolment in Junior Secondary Schools in Rivers State. The facilities were generally over-utilized with an increasing enrolment, and that resulted in diminishing returns in the utilization of every facility.

**Research Question 3:** What is the relationship between existing physical facilities and actual teacher stock to meet up enrolment requirement in junior secondary schools in Rivers State?

**Table 4.3: Relationship between the Utilization of Physical Facilities and Actual Teacher Stock to Meet up Enrolment Requirements in Junior Secondary Schools**

Zone	Facilities	Total no of physical facilities	Actual no of teachers	No of schools	Average no of facilities per teacher
<b>Rivers West</b>	Office space available	162	386	58	0.42
	Office chairs and tables	307			0.80

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<b>Rivers East</b>	Office space available	373	692	61	0.54
	Office chairs and tables	658			0.95
<b>Rivers South East</b>	Office space available	143	451	41	0.32
	Office chairs and tables	420			0.93

Data on Table 4.3 reveal that the relationship was low between existing physical facilities and actual teacher stock to meet up enrolment requirements in junior secondary schools in Rivers State. The physical faculties available for teachers' utilization to meet up enrolment requirements in junior secondary schools in the area was generally insufficient, and were over-utilized by the available teacher stock, and thus, resulted in diminishing returns in the utilization of every facility.

**Research Question 4:** What is the relationship between the utilization of funds for projects/programmes to meet up enrolment requirement in junior secondary schools in Rivers State?

**Table 4.4: Relationship between the Utilization of Funds for Projects/Programmes to Meet up Enrolment Requirement in Junior Secondary Schools**

S/No.	Statements	Principals Responses (N=160)			
		SA	A	D	SD
1.	My school has no alternative sources of raising funds that are enough to serve projects/programmes to meet up enrolment requirements.	98 (61.2%)	62 (38.8%)	0 (0.0%)	0 (0.0%)
2.	The Government does not provide fund enough to my school that enables her carry out projects/programmes to meet up enrolment requirements.	86 (53.8%)	74 (46.2%)	0 (0.0%)	0 (0.0%)
3.	There are many projects/programmes needed but my school lacks the fund to carry them out to meet up enrolment requirements.	90 (56.2%)	70 (43.8%)	0 (0.0%)	0 (0.0%)
4.	Funds raised through the Parent-Teacher Association and administrative charges in my school are not enough to execute any project/programme to meet up enrolment requirements.	89 (55.6%)	71 (44.4%)	0 (0.0%)	0 (0.0%)
Total		363 (56.7%)	277 (43.3%)	0 (0.0%)	0 (0.0%)

Data on table 4.4 show that there is a low relationship between the provision of funds for utilization and projects/programmes to meet up enrolment requirements in junior secondary schools in Rivers State. Therefore, the provision of funds for utilization in projects/programmes to meet up enrolment requirements was directly low relative to projects/programmes in junior secondary schools in the area.

**H<sub>01</sub>:** There is no significant relationship between the utilization of actual teacher stock and actual student enrolment in junior secondary in Rivers State.

**Table 4.4: Chi-square Contingency on the Analysis of the of the Relationship between the Utilization of Actual Number of Teachers and Student Enrolment**

S/No.	Zone	Actual no. of teachers	Actual student enrolment	Total
1.	Rivers west	386 (249) 18769 75.4	18564 (18701) 18769 1.00	18950
2.	Rivers east	692 (811) 14161 17.46	60988 (60869) 14161 0.23	61680
3.	Rivers southeast	451 (468) 289 0.62	35146 (35129) 289 0.01	35597
<b>Total</b>		1529	114698	116,227

$X^2$  Calculated = 94.72, df = 2,  $X^2$  critical= 5.99 at 0.05 level of significance

Table 4.4 reveals that the  $X^2$  calculated (94.72) was greater than the  $X^2$  critical (5.99) at df=2 and significant level = 0.05. The null hypothesis was rejected and alternative hypothesis accepted. We, therefore, state that there is a significant relationship between the utilization of actual teacher stock and actual student enrolment in junior secondary in Rivers State.

**H<sub>02</sub>:** There is no significant relationship between the utilization of physical facilities and the actual student enrolment in Junior Secondary Schools in Rivers State.

**Table 4.5: Chi-square Contingency on the Analysis of the of the Relationship between the Utilization of Physical Facilities and Actual Student Enrolment**

S/No.	Zone	Actual number of facilities	Actual student enrolment	Total
1.	Rivers West	15087 (14390) 485809 33.76	18564 (19261) 485809 25.22	33651
2.	Rivers East	49372 (47194)	60988 (63166)	110360



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		4743684	4743684	
		100.51	75.09	
3.	Rivers South/East	21,237 (24112)	35146 (32,272)	56383
		8265625	8259876	
		342.80	255.15	
<b>Total</b>		85,696	114698	200,394

$X^2$  Calculated = 832.53, df = 2,  $X^2$  critical 5.99 at 0.05 level of significance

Data on table 4.6 show that the  $X^2$  calculated (832.53) was greater than the  $X^2$  critical (5.99) at 0.05 level of significance and df=2. The null hypothesis was rejected and the alternative hypothesis accepted. We, therefore, state that there is a significant relationship between the utilization of physical facilities and the actual student enrolment in Junior Secondary Schools in Rivers State.

**H<sub>03</sub>:** There is no significant relationship between the utilization of physical facilities and actual teacher stock to meet up enrolment requirements in junior secondary schools in Rivers State.

**Table 4.7: Chi-square Contingency on the Analysis of the Relationship between the Utilization of Facilities and Actual Teacher Stock to Meet up Enrolment Requirements**

S/No.	Zone	Total number of facilities	Actual number of teachers	Total
1.	Rivers West	15087 (15201.76)	386 (271.23)	15473
		13156.09	13172.15	
		0.86	48.56	
2.	Rivers East	49372 (49186.41)	692 (877.59)	50,064
		0.1681	34443.65	
		0.00	39.25	
3.	Rivers South/East	21237 (21307.82)	451 (380.18)	21,688
		5015.47	4928.04	
		.24	12.96	
Total		85,696	1529	87225

$X^2$  Calculated = 91.87, df = 2,  $X^2$  Critical = 5.99, Significant level = 0.05

Table 4.7 shows that  $X^2_{Cal} = 91.87$  was greater than  $X^2_{Crit} = (5.99)$  at  $df = (2)$  and 0.05 level of significance. The null hypothesis was rejected and alternative hypothesis accepted. We, therefore, state that there is a significant relationship between physical facilities and actual teacher stock to meet up enrolment requirements in junior secondary schools in Rivers State.

**H0<sub>4</sub>:** There is no significant relationship between the provision of funds for utilization and projects/programmes to meet up enrolment requirements in junior secondary schools in Rivers State

**Table 4.8: Chi-square Contingency on the Analysis of the Relationship between the Provision of Funds for Utilization and Projects/Programmes to meet up Enrolment Requirements in Junior Secondary Schools**

S/No.	Statements	Principals (N=160)				Total
		SA	A	D	SD	
1.	My school has no alternative sources of funding that are enough to serve student projects/programmes to meet up enrolment requirements.	98 (90.75) 52.5625 0.58	62 (69.25) 52.5626 0.76	0 (0) 0 0	0 (0) 0 0	160
2.	The Government does not provide fund enough to my school that enables her carry out projects/programmesto meet up enrolment requirements.	86 (90.75) 22.5625 0.25	74 (69.25) 22.5625 0.33	0 (0) 0 0	0 (0) 0 0	160
3.	There are many students' projects/programmes needed but my school lacks the fund to carry them outto meet up enrolment requirements.	90 (90.75) 0.5625 0.01	70 (69.25) 0.5625 0.01	0 (0) 0 0	0 (0) 0 0	160
4.	Funds raised through the Parent-Teacher Association and administrative charges in my school are not enough to execute project/programmesto meet up enrolment requirements.	89 (90.75) 3.0625 0.03	71 (69.25) 3.0625 0.04	0 (0) 0 0	0 (0) 0 0	160
Grand Total		363	277	0	0	640

$X^2_{Cal} = 2.01$ ,  $df = 9$ ,  $X^2_{Crit} = 16.92$ , and significant level = 0.05

Table 4.8 shows that  $X^2$  Cal =2.01 was less than  $X^2$  Crit =(16.92) at  $df = (9)$  and 0.05 level of significance. The null hypothesis was accepted and alternative hypothesis rejected. We, therefore, state that there is no significant relationship between the provision of funds for utilization and projects/programmes to meet up enrolment requirements in junior secondary schools in Rivers State.

### **Discussion of Findings**

The following discussions were made in relation to the findings of the study:

#### **Utilization of Actual Teacher Stock and Actual Student Enrolment**

The result of the study indicated that the relationship between the utilization of teacher stock and student enrolment was low, resulting in over-utilization and diminishing returns of teachers' efforts in junior secondary schools in the area. Its corresponding hypothesis discerned a significant relationship between the utilization of actual teacher stock and actual student enrolment in junior schools. The student-teacher ratio was high meaning that a teacher taught more 35 students in a classroom as stated by national policy on education. By this assessment, the teacher was over-utilized and the law of diminishing returns sets-in. This corroborates Okpe (2010) findings that student-teacher ratio was high in public schools, which led to diminishing returns due to over utilization of teachers (human resource) and thus an impediment to quality delivery of lessons. This finding gives credit to Owhondah, (2006) who stipulated that student enrolment is a vital parameter in the determination of teacher demand. The enrolment figure of a particular school in a given point in time primarily influences the number of qualified teacher supply.

#### **Utilization of Physical Facilities and Actual Student Enrolment**

There was also an indication that the relationship between the utilization of physical facilities and student enrolment was low (that is negative), resulting in over-utilization and diminishing returns of existing facilities in junior secondary schools in Rivers State. There was a significant relationship between physical facilities and the actual student enrolment when the null hypothesis was tested. It implies that the physical facilities were insufficient for the increasing student enrolment and were therefore over-utilized which made the facilities diminish in its returns. This is in consonance with the statement that for effective teaching and learning to take place all the basic facilities must be available in the school in the right quality and quantity (Owhondah, 2017;& Iheme, 2018).

#### **Utilization of Physical Facilities and Actual Teachers Stock to Meet up Enrolment Requirements**

Further, the relationship between the utilization of physical facilities and teacher stock to meet up enrolments was low (negative), and resulted in over-utilization

and diminishing returns of existing facilities in junior secondary schools in Rivers State. There was a significant relationship between physical facilities and actual teacher stock to meet up requirement in junior secondary schools in the State. Thus, physical facilities such as tables and chairs were insufficient when compared with the actual number of teachers to meet up enrolment requirements. This finding contradicts the earlier finding that chairs, tables and staffrooms were adequate for the teachers (Owhondah, 2017).

#### **Utilization of Funds for Projects/Programmes to Meet up Enrolment Requirements in Schools**

The relationship between the provisions of funds for utilization in projects/programmes to meet up enrolment requirements was indirectly low (negative), and resulted in under-provision of funds and diminishing returns in over-utilization of existing projects/programmes in junior secondary schools in Rivers State. There was no significant relationship between the provisions of funds for utilization in projects/programmes to meet up enrolment requirements in schools. It means financial resources were not provided by the government for capital and recurrent expenditures on projects/programmes. Financial resource can experience diminishing returns because it is a scarce resource and have alternative uses (Iheme, 2018).

#### **Conclusion**

It is evident from the facts of the study to say that the relationship between the utilization of teacher stock and student enrolment; the utilization of physical facilities and student enrolment; the utilization of physical facilities and teacher stock for enrolment requirements; and the utilization of funds and projects/programmes for enrolment requirements were low with high enrolments in schools. The relationships were lop-sided and resulted in diminishing returns of the input of every resource measured by student enrolment. Consequently, this is antithetical to quality education expectation that under-guards the articulation of the junior secondary school under the universal basic education. Therefore, for realization of quality production of students, it is expected that the government should allocate adequate funds to equip schools with adequate physical facilities and teachers, and embark on more projects/programmes in the junior secondary schools.

#### **Recommendations**

It is hereby recommended that:

1. The government should employ more teachers to remedy shortages and match increasing enrolments in schools.
2. The government should provide physical facilities adequately for teachers and students in schools to enhance teaching-learning quality.
3. The government should allocate more funds to equip schools with projects and programmes in response to increasing enrolments in schools.

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