
ASSESSING THE EFFECTIVENESS AND EXPOSITORY METHOD ON THE ACHIEVEMENT OF BASIC SCIENCE STUDENTS IN DIFFERENT LEVELS OF SCIENTIFIC LITERACY

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ABSTRACT

This study investigated the effect of schools supervision on the academic performance of Basic science students in Ahoada East Local Government Area of Rivers State, Nigeria. Six research questions and six hypotheses were raised to guide this study. A descriptive survey design was adopted for the study with a study population of two hundred (200) junior secondary school students, and one hundred and seventy five (175) junior secondary schools was used for the study through a multi-stage sampling technique which was adopted to select three hundred and seventy – five (375) participants. Structured questionnaires were used for data collection and all were analyzed, using simple percentage and chi-square statistical tool to test the hypotheses at 0.05 level of significance. The result of the study revealed the level of effect school supervision has on the academic performance of secondary school students on Basic science which was 76.9% indicating that more than half of the total respondents as opposed to less than 40% of the respondents that indicated 24.1% and based on that, it was concluded that the rate of school supervision is directly proportional to the academic performance of secondary school students on Basic science as a hallmark for educational improvement. It was recommended that government should increase effort on finding school supervision as to improve the quality of education which are of great significance toward students' academic performance.

Keywords: *Effect, supervision, academic performance, basic science, students*

INTRODUCTION

Background to the study

In the colonial era, supervision started as a process of external inspection which involved the appointment of one or more local citizens to oversee both what the

teachers were teaching and what the students were learning. The inspection theme was to remain firmly embedded in the practice of supervision. The history of supervision as a formal activity exercised by educational administrators within a system of schools never began until the formation of the common school in the late 1830s. During the first half of the nineteenth century, population growth in major cities of the United States necessitated the formation of city school systems. While superintendents initially inspected schools to see that lessons, the multiplication of schools soon made this an impossible task for superintendents and the job was delegated to the school principals (Alphonso, 1997).

In the early decades of the twentieth century, the movement towards scientific management in both industrial and public administration had an influence on schools. At the same time, child-centred and experienced – based curriculum theories of European educators such as Fredrich Froebel, Johann Pestolozzi, and Johann Herbart, as well as the prominent American philosopher John Dewey, were also affecting schools. Thus, schools supervisors often found themselves caught between the demand to evaluate teachers scientifically and the simultaneous need to transform teaching from mechanistic repetition of teaching protocols to a diverse repertory of instructional response to student's natural curiosity and diverse levels of readiness. This tension between supervision as a uniform, scientific approach to teaching and supervision as a flexible, dialogue process between teaching and supervisor involving shared, professional discretion of both was continuing throughout the century (Anderson, 2018).

Roberts (2018) explained the concept of supervision is sometimes often used interchangeably with inspection yet some make certain distinctions, however, today's supervision are more humane in their duties as a result of human relation movement in practice. Educational supervision remains a branch of educational management that explains the day – to – day guidance of all education operations, co-ordination of the detailed work and the cultivation of good working relationship among all the people involved in the teaching – learning process, it remains the backbone of educational improvement and such services are made available by the inspectorate division of the ministry of education which had been carved out specifically to meet the purpose to ensure uniformity, improvement of standards, strengthening of bench-marks for improvement, inspiration, guidance, direction, diagnosis and improvement. It is obvious that when these efforts is jettisoned or marred in one way or the other, the quality of education is affected negatively since it does not compromise regular inspection and continuous supervision of

instructional and other educational services as provided in the National Policy on education (NPE, 2014:55).

Though in the recent time, the role of supervision of instructional materials are being altered by the day and is gradually going into the moribund level Orchestrated by decay of educational infrastructure without corresponding improvement in the number of personal (man-power), this is because the higher the man-power the higher the demand for effective supervision and as such when this becomes unmet needs, it drastically affects the entire system in the educational sector. It is pertinent to know that supervision goes in pari passu with the students' academic performance in secondary school students on Basic sciences. The era of regional political set up in Nigeria arising from Author Richard McPherson's constitutional provision of 1947 and 1952, respectively, resulted in greater attention and impetus being given to education at regional levels. For instance, the western region was divided into four educational zones for the purpose of adequate organization and supervision; these were present in Osun State vo2 Egba-Ijebu Zone with headquarters at Ijebu-Ode, Ijesa/Ife with headquarters. Thereafter, the perspective generated by research on effective schools and effective school that purported to have discovered the basic steps to effective teaching/learning skills and performance.

Statement of Problem

Supervision in schools are faced with multi-dimensional challenges according to Ibukun (2020) include poor styles of supervision by supervisors, financial constraints, lack of logistics, poor motivation, insufficiency of relevant materials, lack of proper training, inadequate exposure of supervisors to new trends in education, negative attitudes of teachers to correction, resistance to change and innovation, lack of motivation and strikes.

When put together, these problems that borders around insufficient allocation to education in the state. It has been observed that for years the state-annual budgets remains unincreased while the enrolments of pupils and students in primary /Post primary schools are on the continual increase which had gradually resulted in the neglect of educational services like supervision have been neglected. In spite of the efforts being made by the government to improve the quality of educational supervision, through effective management of educational infrastructure, instructional task and performance, the quality of output (students' performance academically) seem to be relatively low (below 40%), this situation had become a

matter of concern which needs immediate attention by the various stakeholders in the educational sector and society at large.

The dwindling academic performance may be attributed to the challenges of inadequate supervision of instruction which had impacted negatively on the student's academic performance of science students in secondary schools. The performance of Novice teachers graduating from the universities have been declining over the years, but in the midst of that, there had been reports of lack of competencies of trained teachers to teach effectively and assess learners, including setting and marking test as a result of inadequate content, (Udebunnu, 2018) asserts that many teachers exhibits the inability to interprets contents which had engendered an outcry to the public domain and thus contributing to the poor quality of teachers and students in our school today. Thus study is therefore aimed at investigating the affects of supervision on the academic performance of secondary school students on Basic science in Ahoada East Local Government Area in Rivers State in order to improve on these prevailing problem or menace.

Purpose of Study

The purpose of the study is to investigate the effects of supervision on the academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State. The specific objectives of the study include to:

Identify the impact of effective school supervision on the academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State

Highlight the factors that influence effective school supervision in secondary students in Basic science in Ahoada East Local Government Area of Rivers State

Ascertain the quality of teaching-learning materials and necessary skills on the part of the teachers and learners to affect the desired performance on Basic science in Ahoada East Local Government Area of Rivers State.

Find out the strength and weakness of school supervision on the student's academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State

Evaluate the role of effective school supervision on the academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State

- vi. Identify the importance of effective school supervision on academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- vii. Ascertain the willingness of school supervision yield to corrections on the desired improvement on student's academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State.
- viii. Find out if relationship exist between effective school supervision and that of the student performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State

Research Questions

To guide the study, the following research questions were raised;

- i. What are the impacts of school supervision on the academic performance of secondary schools students in Basic science?
- ii. What are the factors influencing school supervision of secondary school students on Basic science in Ahoada East Local Government Area of Rivers State.
- iii. What are the quality of the teaching – learning materials and necessary skills on the part of the teachers and learners to effects the desired performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- iv. What are the strength /weakness of school supervision on student academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State?
- v. To what extent will effective school supervision play a role in the students of secondary school academic performance in Ahoada East Local Government Area in Rivers State?
- vi. What are the importance of school supervision on the students'

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- academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State?
- vii. What is the degree of willingness of school supervision towards yielding to corrections/new approaches on the desire improvement in student academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State

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- viii. Does relationship exist between school supervision and academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State?

Hypothesis

The following hypotheses were stated to the study, and were tested at 0.05 alpha levels.

- i. There is no significant association between the impacts of school supervision and the academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- ii. There is no significant association between the factors influencing effective school supervision and the academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- iii. There is no significant association between the quality of teaching - learning materials and its effects on the desired performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- iv. There is no significant association between Age and the academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- v. There is no significant association between religion effective supervision and academic performance of secondary schools students in Basic science in Ahoada East Local Government Area of Rivers State
- vi. There is no significant association between importance, inadequate finance and the academic performance of secondary school students on Basic science in Ahoada East Local Government Area in Rivers State.

Significance of study

The study findings would identify the effect of school supervision on the academic performance of secondary schools students in Basic science education and also address the numerous challenges facing effective school supervision by;

1. Drawing the attention of the Government to ensure adequate planning through proper budget implementation in the educational sector as to enable improvement in Basic science among secondary school students which will intensify effective school supervision on instructional materials.

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2. Findings of this study would create awareness to the public on the need for effective school supervision and its importance on the academic performance of secondary schools students in Basic science.
 3. Findings of the study would reveal the hindrances to effective school supervision as a problem identified is as good as half-school, because we can only tackle problems if we have indentified them, hence the need for situation analysis on the educational system.
 4. Findings of this study would call for the attention of the local educational boards to put up request for the need to train and retrain science teachers on periodic basis to be abreast with the modern trend of instructional academic materials which will be turn bring about the willingness and change in their response to accepts correctional measures.
 5. Findings of this study would serve as baseline data for further research and review for further investigation on tackling the ugly trend of poor school supervision which had brought comatose to the academic performance of secondary schools students in Basic science
 6. The oil multi-national companies should also support in terms of provision of logistic facilities to support and intensive effective school supervision as to boost the overall academic performance of secondary school students which will be vital for their future academic endeavours.
 7. The Government both at the grassroots level, state level and federal should enact laws, policies to strengthen the school supervision exercise and also be pro-active in ensuring smooth implementation to foster educational development.
 8. The parents/guardian of the students in the secondary level of education should also assist to ensure that their wards are supervised, monitored and watched as to determine they are being followed up in the academic work by checking routinely their books, assignments and test/result manuscripts to ascertain their true performance academically.

METHODOLOGY

This chapter describes the methods adopted for the study, which were discussed under the following sub-headings, research design, area of the study, population for the study, sampling technique and sampling, instrument for data collection, validity of instrument, reliability of the instrument, method data collection, and method of data analysis.

Research Design

A descriptive survey research design was adopted for the study. It was considered appropriate for the study because it studied the relationship between the independent variables, schools and the dependent variables students' academic performance, without manipulating any of the variables, it also aided the description of variables or phenomenon in their original way in which they exist in a particular point in time. This design was successfully used by Adenyiet al (2017) the impact of instructional supervision on the academic performance of secondary school students in Nasarawa State, Nigeria. It was also used by Effionget al (2018) on the influence of principal supervision and academic performance of secondary school students in Ekiti state, therefore, it was considered appropriate for the study.

Area of the study

The study area is Ahoada East Local Government Area in Rives State. It consists of eighty one (81) communities and is located north west of Port Harcourt. It was extracted out in 1996 from the old Ahoada East Local Government that make up the present Orashi Region of Rivers State.

The occupation of the people is mainly farming, fishing and hunting. The Local Government Area is bounded by Ogba/EGBMA/Ndoni Local Government Area, West Abua/Odual Local Government Areas, Ahoada East Local Government Area in the East we have Besini and Yenagoa both of Bayelsa.

It was created in 1996 with it's headquarter located at Ahoadamain town, it covers alandmass of 132 square meters. It has five secondary schools which attract people from far and near giving room for more commercial activities due to urbanization occasioned by the influx of people to the local government. Ahoada East had an estimated population of two –hundred and thirty – three thousand, seven hundred (233, 700) with an annual population change between (2006-2016) according to the National Population Commission (1991). Ahoada East also has a zonal education board with its headquarters located at the Ahoada East Local Government Council where all the schools report directly through their various heads (principals). The zonal education board office also consists of the zonal supervision Department that is saddled with the responsibility of overseeing the overall academic activities of the zone through effective school supervision at the grassroots level.

Population of the study

The population of the study is made up of five (5) secondary schools located in the sandy areas, Ahoada East Local Government Area, two hundred (200) senior

secondary school students, and one hundred and seventy - five junior secondary students, and on hundred and seventy - five junior secondary schools respective were used for the purpose of the study.

Sample Size and Sampling Technique

The sample size for this study is three hundred and seven - five (375) which was determined using the Taro Yamene principle for finite population. A simple random sampling procedure was adopted, is twenty five persons were selected from each of the five (5) secondary schools through a multi stage sampling procedure.

Instrument of data collection or source of data

The instrument of data collection for this study were structured questionnaire which was divided into sections A, B and C respectively, an addressed socio-demographic data, B an address extract information on school supervision while section Can addressed information on the academic performance of student in senior secondary schools on Basic science education.

Validity of the instrument

The validity of the research instrument would be established by the project supervisor and two other lecturers in the Department of Integrated science all in the faculty of Natural and Applied Sciences, Ignatius Ajuru University of Education Port Harcourt. The lecturers will assess the face and content validity of the instrument and each of the lecturers will be assigned a copy of the research questions, hypotheses and copy of the questions. After which, the corrections made by the experts and supervisors will be effected on the instrument by the researchers, as to develop a standard questionnaire for the study.

Reliability of the instrument

The liability of the instrument will be ascertained by pre-testing twenty (20) copies of the validated questionnaire is a secondary school facility in Ahoada West local government area which is homogenous to the study area in order to ensure the internal consistence of the items in the instrument. A reliability will be recorded after subjecting the instrument to a reliability test using cronbach Alpha.

Method of data collection

The method of data collection will be done by a face to face delivery of the questionnaire to the respondent in course of the collection of data, the researcher

will explain the contents of the questionnaire to the respondents in the process of data collection. The respondents will be assured of their confidentiality and the process of data retrieval will not be done on durex and that the respondent also have the choice to either acceptor decline to give response. The willing respondent will be administered the instrument which will be retrieved immediately after completion.

Method of Data Analysis

Data collected will be analyzed using statistical package for social science (SPSS) and data will be presented using descriptive statistics to answer research questions and inferential statistics, which include chi-square to test the hypothesis at 0.05 alpha level. Frequencies and percentages were used to answer research question and for hypothesis analysis, chi-square test was used to test hypothesis.

RESULTS

This chapter present results of analysis of data to answer the research question and test hypothesis. The sample size for this study was 375 but not all the copies of the questionnaire were retrieved hence, the analysis was based on 360 giving a retrieval rate of 96%. The results were presented under the following sub-headings;

1. Socio-demographic data presentation
2. Presentation and Analysis of databased on research questions.
3. Socio Demographic characteristics of Respondents

Table 1: Socio - demographic characteristics of respondents

<i>Socio-demographic characteristic</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Age brackets</i>		
<i>10 – 14</i>	195	54.2
<i>15 – 19</i>	160	44.4
<i>> 20</i>	5	1.4
<i>Total</i>	360	100
<i>Living with Parents</i>		
<i>Yes</i>	341	94.7
<i>No</i>	79	5.3
<i>Total</i>	360	100
<i>Level of Education</i>		

<i>Primary</i>	9	2.5
<i>Secondary</i>	281	78.1
<i>Tertiary</i>	70	19.4
<i>Total</i>	360	100
<i>Religion</i>		
<i>Christianity</i>	200	55.6
<i>Moslem</i>	10	2.7
<i>Paganism</i>	50	13.9
<i>Traditional religion</i>	100	27.8
<i>Total</i>	360	100

- *None response excluded*

Table 4.1 shows the age brackets of respondents. 54.2% were within the age bracket of 10 - 14 years, 44.4% were within the age bracket of 15 - 19 years and 1.4% were within the age range of twenty 20 and above. It also revealed that 94.7% were living with their parents while 5.3% were not living with their parents. It further shows that 2.5% were in primary school (level of education), 78.1% of the respondents were in secondary level of education, 19.4 were in their tertiary level of education respectively.

SECTION B: Analysis of variables under study based on the research questions.

Research Question 1

Table 2: Impacts of school supervision on the academic performance of secondary school students on Basic science education.

<i>Item</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Improvement of instructional materials</i>		
<i>Yes</i>	260	72.2
<i>No</i>	100	27.8
<i>Total</i>	360	100
<i>Changes the attitude of teachers toward their willingness to change</i>		
<i>Yes</i>	280	77.8
<i>No</i>	80	22.2
<i>Total</i>	360	100

<i>Supervision improves the quality of learning</i>		
Yes	291	80.8
No	69	19.2
Total	360	100

- None responses excluded

Research question 2

Table 3: Factors influencing school supervision of secondary school students on Basic science education.

<i>Item</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Lack of infrastructure influences school supervision</i>		
Yes	191	53.1
No	169	47.0
Total	360	100
<i>Inadequate funding influences effective school supervision</i>		
Yes	220	61.1
No	140	38.9
Total	360	100

- None responses excluded

Table 3 above showed that 53% of the respondents responded positively to the question lack of infrastructure influenced effective school supervision as opposed to 47% that were negative in response,, 61.1% were positive, 38.9% were negative which indicated that those that were positive in responses were majority.

Research Question 3

Table 4: Quality of teaching and learning materials to effect desire performance of students on Basic science education.

<i>Items</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Higher quality of Instructurial materials</i>		
Yes	270	75
No	90	25
Total	360	100
<i>Moderate Quality of instructurial Materials</i>		

	300	83.3
<i>Yes</i>	60	16.7
<i>No</i>	360	100
<i>Total</i>		
	70	19.5
<i>Low Quality of Instructorial Materials</i>		
<i>Yes</i>	290	80.5
<i>No</i>	360	100
<i>Total</i>		

• *None responses excluded*
 Table 4; above indicated 75% respondents on high quality of instructorial materials, 83.3% for moderate quality in instructorial materials and 19.5% responses for low quality instructorial materials on the desired influence of student performance on Basic science education.

Research Question 4:

Table 5: What extents effective school supervision plays a role on the academic performance of secondary school students?

<i>Items</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Active Role</i>		
<i>Yes</i>	245	68
<i>No</i>	115	32
<i>Total</i>	360	100
<i>None responses excluded</i>		

Table 5 above revealed that 68% of the respondents affirmed that effective school supervision played an active role on the academic performance of secondary school students on Basic science education, 32% were negative in their academic performance?

<i>Items</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Teachers willingness</i>		
<i>Yes</i>	308	86
<i>No</i>	52	14
<i>Total</i>	360	100
<i>None responses excluded</i>		

Table 6 above indicated responses obtained which showed that 86% of the respondents were positive of teachers willing to yield to now changes/improvements on the desired improvement of students on their academic performance on Basic science education while only 14% responded negatively.

Research Question 6:

Table 7: Does relationship exist between school supervision and academic performance of secondary school students?

<i>Items</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Supervision increase academic performance</i>		
<i>Yes</i>	215	59.7
<i>No</i>	145	40.3
<i>Total</i>	360	100
<i>None responses excluded</i>		

Testing of Hypothesis

Hypothesis 1: There is no significant association between the impacts of school supervision and the academic performance of secondary school students on Basic science education. Testing the association between the two variables, the spearman’s correlation was adopted at 0.05 alpha significance level.

Table 7: Correlation between the impacts of school supervision and academic performance of secondary school students on Basic science education.

<i>Variables</i>	<i>Impacts of school supervision</i>	<i>r-value</i>	<i>p-value</i>
<i>Impacts of school supervision</i>	0.178	0.352	0.01
<i>Students academic performance</i>	0.051		
<i>Significant</i>			

The spearman’s correlation was used to investigate the relationship between impacts of school supervision and academic performance of secondary school students on Basic science education. The findings of the study shows that there is a significant association between the impacts of effective school supervision and the academic performance of secondary school students on Basic science education ($r=0.352$ $df = 360$ $\alpha < 0.05$). therefore the finding of this study is therefore rejected.

Hypothesis 2: There is no significant association between the factors influencing effective school supervision and the academic performance of secondary school students on Basic science education. To test this hypothesis, the chi-square test at 0.05 alpha significant level was employed.

Table 8: Chi - square test showing association between factors influencing effective school supervision and academic performance of secondary school students on Basic science education.

Table 8: Factors influencing effective school supervision

	<i>Students' performance</i>	<i>academic</i>	<i>Total</i>	<i>Df</i>	<i>x²-value</i>	<i>p-value</i>	<i>Decision</i>
<i>Yes</i>	95	20	115				
<i>No</i>	205	40	245	1	0.046	0.831	Accepted
<i>Total</i>	300	60	360				

Table 8 shows that the p-value is greater than 0.05 ($p > 0.05$) $x^2 = \text{value} = 0.046$, and $df = 1$, showing that there is no significant relationship. The null hypothesis that stated that there is no significant association between the factors influencing effective school supervision and the academic performance of secondary school students on Basic science education is therefore accepted.

Hypothesis 3: There is no significant association between the quality of teaching-learning materials and its desired effect on the academic performance of secondary school students on Basic science education.

Table 9: Chi - square test showing association between the quality of teaching learning material and its desired effect on the academic performance of secondary school students on Basic Science Education.

<i>Variable</i>	<i>x²-value = 22,465</i>			
<i>Students academic performance</i>	<i>Total</i>	<i>Df</i>	<i>p-value</i>	<i>Decision</i>
<i>Yes</i>	92	25	117	
<i>No</i>	208	35	243	1
<i>Total</i>	300	60	360	
<i>Significant</i>				0.000

Table 10 shows that the p-value is lesser than 0.05 ($p < 0.05$) with x^2 - value of 22.465, and $df = 1$, showing that there is a significant relationship. The null hypothesis that stated there is no significant association between the quality of

teaching -learning materials and its desired effect and the academic performance of secondary school students on Basic science education.

Hypothesis 4: There is no significant association between age and the academic performance of secondary school students on Basic science education.

Table 10: Chi-square test showing association between age and the academic Factors influencing effective school supervision performance of secondary school students on Basic science education.

<i>Variable</i>							
<i>Age</i>	F(1)	F(2)	Total	Df	x ² -value	p-value	Decision
<i>Yes</i>	80	38	118				
<i>No</i>	220	22	242	2	12.180	0.07	Rejected
<i>Total</i>	300	60	360				
<i>Significant p < 0.05</i>							

Table 10: revealed the chi-square test of association between Age and academic performance of secondary school students on Basic science education. Findings of the study showed that there was a significant association between age and academic performance of secondary school students on Basic science education. (x²-value =12.180, df=2, p< 0.05). Therefore, the null hypothesis which states that there is no significant association between age and academic performance of secondary school students on Basic science education was rejected.

Hypothesis 5: There is no significant association between religion and academic performance of secondary school students on Basic science education.

Table 11: Chi -square test showing association between religion and the academic performance of secondary school students on Basic science education.

<i>Variable</i>							
<i>Religion</i>	F(1)	F(2)	Total	Df	x ² -value	p-value	Decision
<i>Yes</i>	70	18	88				
<i>No</i>	230	42	272	2	33.082	000	Rejected
<i>Total</i>	300	60	360				
<i>Significant p < 0.05</i>							

Table 11 above revealed the chi-square test of association between religion and the academic performance of secondary school students on Basic science education. The findings of the study showed that there was a significant association between

religion and academic performance of secondary school students on Basic science education (χ^2 -value = 33.082, $df=2$, $p<0.05$) therefore, the null hypothesis which states that there is no significant association between religion and the academic performance of secondary school students in Ahoada East Local Government Area in Rivers state was therefore rejected.

Hypothesis 6: There is no significant association between inadequate finding and the academic performance of secondary school students on Basic science education.

Table 12: Chi-square test showing association between inadequate finding and the academic performance of secondary school students on Basic science education.

<i>Variable</i>	F(1)	F(2)	Df	χ^2 -value	p-value	Decision
<i>Inadequate finding</i>						
<i>Yes</i>	65	17	4	31.255	.000	Rejected
<i>No</i>	235	43				
<i>Total</i>	300	60				
<i>Significant = 0.05</i>						

Table 12 above revealed the chi-square test of association between inadequate finding and the academic performance of secondary school students on Basic science education in Ahoada East Local Government in Rivers State (χ^2 -value = 31.255, $df=4$, $p<0.05$). therefore, the null hypothesis which states that there is no significant association between inadequate finding and the academic performance of secondary school students on Basic science education was therefore rejected.

DISCUSSION OF FINDINGS, SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter was focused on the discussion of findings, summary, conclusion and recommendations, including suggestion for further studies and the chapter was organized under the sub-heading's below;

1. Discussion
2. Summary
3. Conclusion
4. Recommendation

The findings of the study are discussed below.

Research question 1: Impacts of school supervision on the academic performance of secondary school students on Basic science.

The findings of the study revealed the impacts of school supervision on the academic performance of secondary school students on Basic science revealed that more than half (76.9%) of the total respondents responded positively. The findings might be due to improvement of instructional materials through willingness to change in attitude towards accepting modern trends which had grossly influenced the quality of effective school supervision. The findings of this study corroborates that of Adeyinka (2019), Taiwo, Okekamakinde (2018) where it was reported that more than fifty (50) percent of the respondents (78.6%) strongly agree that effective school supervision posed greater impacts on the academic performance of students. The findings of this study is also similar to that of Akinpelu, (2019) which also reported that more than two-third of the respondents affirmed positively (77.8%) of the impacts of school supervision on the overall academic performance of secondary school students, the similarity in the gap of these findings of diverse studies might be due to several campaign on the curricular development and strengthening of teaching-learning innovations and the yielding of new changes in the recent teaching methods in schools in Nigeria.

Question 2: Factors influencing school supervision of secondary school students on Basic science

The findings of this study showed the level of influence basic factors had on the academic performance of secondary school students. The results of this study indicated that above fifty (50%) of the respondent representing 53% of the respondents responded positively that absence of infrastructure inadequate funding influenced the performance of the students.

The study was in consonance with the report of a similar study carried out by Ruden (2019) on factors affecting school supervision of Basic science students in secondary schools which reported that more than half of the respondents (58%) responded positively that political factors socio-economic factors hindered logistics to meet the challenge of modern school supervision and the slight variation in the study might be due to geographical location. The result of a similar study reported by Alzan, (2020) school supervision and its consequences on the academic development of students in secondary school. The findings of this study revealed that more than half of the respondents (56.3%) affirmed positively that basic academic amenities, bureaucratic bottlenecks hindered effective school supervision

exercise in secondary school which comparison of results of several similar studies bridges the gap of this study.

Question 3: Quality of learning – teaching instructional materials to effect the desired performance of secondary school students on Basic science education

The result of this study sought to find out if the quality of teaching-learning materials effects the desired performance of students and the findings of this study indicated that majority of the respondent which represent more than two-third of the total respondents (95.0%) agreed positively that the more the quality of the instructional materials for teaching-learning, the better the academic performance of secondary school students on Basic science education. The result of the findings of a similar study reputed that more than two-third (76.1%) of the respondents strongly agreed that the quality of supervision depends on the instructional materials used which exercises bearing effect on the students as opined in the study by Sadi, Lekwe and Ndali, (2020), the variations in the result of the findings might be due to several educational campaigns to strengthen educational supervision based on its paramount role in the educational development of any state Nation or country.

In another report of a similar study reveal that the results of it findings showed that two-third (77.1%) of the respondents affirmed that increase in the level of quality instructional materials had bearing improvement on the academic performance of secondary school students on Basic science. (Lassmall, Jerkin and Kum (2020). The slight variations in the results and findings of these studies bridges the gap that education standards in the country varies from one location and region to the other.

Question 4: To what extent does school supervision plays a role on student's academic performance of secondary school students on Basic science education.

The findings of this study sought to determine the level of role played by school supervision and the resides of this study indicated that more below two-third (68%) of the respondents responded positively that effective school supervision on secondary school students played an active rule on Basic science education.

The result of this study is in consonance with the report of Awoke, Agbo and Wuson (2016) which reported that 66.27% of the respondents strongly agreed that effective school supervision of secondary school students played an active role on their academic performance.. The study findings reported by Juoni (2017) reported

that less than two third (69.2%) of the respondents affirmed to active role of school supervision in Nigeria on the academic performance of secondary education on Basic science subject. The slight variations on the findings of this study and other studies could be attributed to variations in the study locations.

Question 5: What is the degree of willingness of supervisors towards yielding to corrections on new approach on the desired improvement?

The findings of this study sought to reveal that more than two-third (86%) of the respondents agreed that willingness to yield to new innovations had desired improvement on the academic performance of secondary school students. The result of the findings of this study was in consonance with a similar study. The findings showed that the report of a study investigated by Adams (2017) “Attitude of school supervisors towards improvement and its consequences on the academic performance of secondary school students on Basic science education which showed that more than two-third (84.2%)” of the respondents responded positively that increase in the supervisors willingness towards yielding to corrections on new approach brought a desire academic performance among secondary school students on Basic science education in the continent.

A similar study investigated by Cobams, Linda and Loanda, (2016) reported its findings that more than fifty (50) percent of teachers and supervisors sampled had difficulty accepting errors an promising to improve on the desire new approach of instruction materials which had bearing effect on the academic performance of secondary school students of Basic science in Kano state (Sagba Geri Local government. The slight variations in the results of the findings of the study might be attributed to the difference in the study sample and location which might be implicated for the difference between the two studies).

Question 6: Does relationship exists between school supervision an academic performance of secondary school students on Basic science education?

Research question 6 sought to investigate the findings of this study which revealed that majority of the respondent which showed that more than half (59.7%) of the respondents responded positively to the question that relationship exist between effective school supervision and that of the academic performance of secondary school students on Basic science education.

The result of this study is in consonant with a similar study reported by Johnson, Amiria, Shedrach and Jones, (2019) on the effects of school supervision on the academic development of schools and colleges “the results of this study revealed

that majority (more than half)” of the respondents representing 60.2% agreed ha relationship exist between school supervision and the academic performance of secondary school students on Basic science education. Supervision had played a pivotal role in student’s academic development, this is because without assessment, the students’ performance would not be evaluated.

This finding is also in line with Kamiki, Awonor, Williams and Janson, (2017) which showed that majority (58.5%) of the respondent attested that supervision in secondary school is proportional to the student’s academic performance, however, the finding of this study varies from that of Johnson, Amina, Shedrach, the variation in the study might result from the study locations and samples respectively.

Hypothesis testing

Impact of school supervision and academic performance of secondary school students

Hypothesis 1: It was revealed that there was a significant relationship between the impacts of school supervision and academic performance of secondary school students on Basic science education ($r=0.352$, $df = 360$, $p < 0.05$), therefore the findings of the study was rejected.

Factors influencing effective school supervision and academic performance of secondary school students

Hypothesis 2: It was revealed that there is no significant relationship between the factors influencing effective school supervision and academic performance of secondary school students ($P\text{-value} = 0.831$, $df = 1$, $\chi^2\text{ value} = 0.046$) the findings of the study was accepted.

Quality of teaching – learning materials and it desire effect on academic performance of secondary school students.

Hypothesis 3: It was revealed that there was a significant relationship between the factors influencing effective school supervision and academic performance of secondary school students on Basic science education ($p < 0.05$; $\chi^2\text{ value} = 22.465$, $df=1$) the result of the study finding was rejected.

Age and Academic performance of secondary school students on Basic science education

Hypothesis 4: The study finding revealed that there was a significant relationship between age and academic performance of secondary school students on Basic science education ($p < 0.05$, $df = 2$, $\chi^2\text{ value} = 12.180$ and the finding of the study was rejected.

Religion and Academic performance of secondary school students on Basic science education

Hypothesis 5: The study finding revealed that there was a significant relationship between religion and academic performance of secondary school students on Basic science education (χ^2 - value 33.082, p. value = 0.00, df = 2) and the finding of the study was rejected.

Inadequate finding and academic performance of secondary school students on Basic science education

Hypothesis 6: The finding of the study revealed that there is a significant relationship between inadequate finding of effective school supervision and the academic performance of secondary school students on Basic science education (χ^2 - value = 31. 255, df= 4 and $p < 0.05$) therefore the null hypothesis finding was rejected.

Summary

This study investigated effects of school supervision on the academic performance of secondary school students on Basics Science education in Ahoada East Local Government Area in Rivers State.

Six research questions and six hypotheses were raised to guide the study. Literatures were reviewed under conceptual, empirical and theoretical review, and summarized accordingly. A descriptive survey research design was adopted for this study population consisting of two hundred (200) senior secondary school students, and one hundred and seventy - five (175) junior secondary schools were used for the purpose of this study. A multi-stage sampling procedure was adopted to select three hundred and seventy-five participants. A structured questionnaire was used for data collection and was analyzed using percentage and chi-square statistical procedure.

The result of the study showed that the level of impacts of school supervision on the academic performance of secondary school students on Basic Science education was 76.9% indicating that more than half of the response has represented which revealed the level of quality of teaching/learning for educational improvement.

Conclusion

Based on the findings of the study, it was concluded that the effect of school supervision played a significant role in the academic performance of secondary school students on Basic Science education.

Recommendations

Based on the findings of this study, the following recommendations were made.

1. The Government should intensify efforts on the finding of educational supervision to improve the quality of education
2. The teachers should be sensitized through increasing their willingness to yield to corrections for improvement.
3. The private parastals should support the government in terms of provision of logistics to enable the ease of supervision exercise in rural schools.
4. The community leaders should also see supervision of schools as a priority and as a hallmark for the development in the quality of education given to students.
5. The students should avail themselves during school supervision as to intensify education evaluation to avoid alterations of ghost statistics

Suggestion for further studies

The following area was suggested for further studies.

1. Factors influencing effective school supervision on Basic Science in Obio-Akpor Local Government Area in Rivers State.
2. Poor instructional materials and its consequences on the academic performance of secondary school students on Basic Science in Eleme Local Government Area in Rivers Stat.

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