



Evaluation of Causes of Poor Academic Achievement in Basic Science in Secondary Schools in Rivers State: The Parents, Teacher's Perspective

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ABSTRACT

Poor academic achievement of students in basic science in secondary schools has been a serious concern to all the major stakeholders in the education industry. The actual causes of this downward trend have been the major worry of researchers and the Government. In recent times studies have shown that the causes were partly students' curriculum and the school environment. However, the contribution of parents of the students and their teachers were not exhaustively x-rayed as to know how they contributed to the poor academic achievement or otherwise. Consequently, this study was raised to critically evaluate the roles of parents and teachers to the poor achievement of the students. The study adopted a survey design to evaluate the variables with a population of all the students and teachers alongside their parents in all the junior secondary schools in the state. The sample of three hundred students and one hundred teachers were selected through a stratified random sampling technique. Three research questions guided the study while three null hypotheses were formulated and tested at 0.05 levels of significance. The Students Achievement and Teachers Questionnaire was used to gather data. The data were analyzed using mean and standard deviation for all the research questions and the Analysis of Variance (ANOVA) for testing of the null hypotheses. The result of the findings revealed that parental and teachers variables are the major areas that connects the students' achievements either positively or negatively while the SES of parents are significantly related to students' poor academic achievement. The findings also revealed that teachers' sex has no link to students' poor achievement. Based on the findings and conclusion some recommendations were made.

Keywords: evaluation, education, poor academic achievement, basic science, parents and teachers

INTRODUCTION

Education at the secondary level is fundamental for many purposes; it is the bedrock and foundation towards higher knowledge; it is seen as an investment for the children, teachers, parents and the government and as well as an instrument to achieve a more rapid economic, social political technological, scientific and cultural dimensions of development in the modern society especially in the era of globalization.

The National Policy on Education, the policy instrument of Nigeria education (2014) explicitly stated that secondary education is the vista for national development which again promotes the worth and overall development of the individual and for further academic and social development in the society. In other words, the fundamental role of secondary education is to lay a good foundation for further education for the citizenry and if a good foundation is set at this level there is the likelihood that the

perceived academic problems at the other strata or levels of education will be minimized. This means that, the development of any nation or country depends largely on the quality of the education the nation has and operates upon. The general belief of every nation is that the basis of any true and meaningful development hinged on the development of human resources and these human resources must have its development from the nation's education put in place for the citizens. Consequent upon the importance of education to the overall development of any nation, and its present trend in the poor students' performance generally and basic science specifically, it is pertinent to thoroughly evaluate the causes of these poor performance of students at this level of education and why frantic efforts have not then taken to stem it.

Basic Science is the gateway science and is crucial to the nation's future scientific and technological development. However, in recent times, the poor achievement of students in Basic science in the present 9 years Universal Basic Education (UBE) programme in Nigeria in general and Rivers State in particular has been a source of concern to the stakeholders and there has been a quest by educators and researchers, even the parent, teachers and Government to disentangle the cause(s) of this observed poor performance. This national concern is imperative because of the great importance that education and science have on the overall development of nations and people. There is a consensus of opinion about the fallen standard of education in Nigeria (Adebale,2004) especially at this basic level of education. Parents and government are in total agreement that their huge investments on education are not really yielding the desired dividend. More so, Teachers have also complained of students' poor performance in both internal and external examinations which the reasons are still unknown. Good Academic achievement and education attainment of citizens are the reasons for government huge investment in this sector. On the contrary, the overall aim is rather different among Nigerian students in general and basic science in particular especially in the public schools. Thus, it is the reason for one to hear people criticize the falling standard of education and the resultant poor achievement of students. The factors associated with the downward trends in students' achievement included the following; students low retention, parental factors, association with negative peers influence, low achievement motivation but Nwobodo(2010) in her findings attributed students poor performance to factors such as parents educational background, socioeconomic factors, home environment, religious and social factors. The purpose of this study therefore is to evaluate the contributions of these factors enunciated above to students' academic achievement either positively or negatively.

The Concept of Academic Achievement

Before we examine the contributions of parents and teachers to, and their effects on students' poor academic achievement, it would be proper we first of all understand the concept "Academic Achievement"

Academic achievement is a construct coined to explain and describes the end process of teacher-students' engagement, that is, the teaching and learning process in a formal class room setting guided by a curriculum. The concept has been viewed by different scholars as well as different school of thoughts. Educational or academic achievement is the specified level of attainment or proficiency in academic work as evaluated by the teacher in a teacher made test or Standardized test or by a combination of both (Deepa & Chamundeswari, 2014). Joseph and Ikechukwu (2015) cited Dictionary of education (1959) defined achievement as knowledge acquired and skills developed in school subjects, generally indicated by marks obtained in a test. The concept of academic achievement has been viewed by Avoseh (1985) as how well an individual learner has done his/her cognitive tasks, that is, the capacity of learners to prove mastery concerning their offered subjects compared to a specified standard which he called pass Mark, and this can be evaluated through teacher made test or standardized test. Academic achievement is interestingly an essential issue; a fundamental premium upon which all teaching-learning activities are evaluated using some criteria of excellence in expressible statement such as good academic performance; poor academic achievement or performance and academic failure. Academic achievement according to the Cambridge University Reporter (2003) is frequently defined in terms of examination performance. Academic achievement refers to what the student have learned or what skills the student

has learned and is usually measured through assessments like standardized tests, performance assessments and portfolio assessments (Santrock, 2006). The descriptive assessment information will usually be translated through grading system such as Grade Point Average (GPA) and course grade.

Academic achievement is generally a didactic terminology used while determining learning outcome of students' success in a formal education and which is measured through reports, examinations, researches, and rating with numerous factor or variable exerting influence, (Omotere, 2011). As the importance of achievement in science has been more widely and officially promoted, educational researchers have increased their attention on the factors that influence student's achievement in science. Through the study of these variables, it is hoped that students' achievement can be maximized as far as possible. Additionally, such an understanding has the potentials to help researchers, educators, and policy makers in developing new interventions that will help in changing the trend.

The factors that have been implicated for students achievement either positively or negatively have been studied under different headlines and are categorized as follows; (1) School related factors, (2) Student related factors (3) Teacher related factors (Dosselt & Munoz, 2013) environmental related factors (Nwewe, 2014, Joseph & Ihenko, 2018) and parents related factors (Joseph & Owo, 2017; Nwobodo, 2014). Among these factors, the teacher factors especially teacher quality, have generated a great deal of attention while the parents perspectives has not been given a serious attention.

Concept of poor academic achievement

Academic achievement has special importance for the learners (students) and teachers as well as the key players of education around him or her (EL-anzi, 2005). To the learners, it shows their progress and levels of literacy. It helps them to understand the levels of development academically which will help them to make inform decisions about their career and well being. To the teacher, it helps them to evaluate the achievement of the objectives and their competences, while to the other the achievement of students is an indicator of how the education system is built is the backbone with which the academic achievements of students are assessed. The authors further noted that academic achievement can either be positive (good academic achievement) or poor academic achievement (failure). Akinde, in Nwobodo (2010)) explained that poor academic achievement is likened to an athlete who started a marathon race well and become weak towards the finishing point which eventually missed the prize. To Adison (2002) poor academic achievement is linked to a situation where a student's level of performance tends to fall below average based on the set standard for the evaluation.

According to Uwaifor, in Joseph (2018) poor academic achievement of students or children may be linked to several factors of combined nature ranging between personal and institutional factors. According to the author, the personal factors are individual intelligence, knowledge and the learners' academic ability, while institutional factors are family or parental influence. Akinde (2002) also lend credence to the above assertion as he highlighted some factors that may likely causes of poor academic achievement in basic science. Accordingly, he enumerated the factors to include students characteristics; such as poor study habits, poor achievement motivation, poor intellectual ability, poor language acquisition, negative attitude to studies and examinations, financial problems and psychological problems, poor self-concept social factors in terms of school setting and location, lack of essential teaching-learning facilities and so on. In this study, the main trust is to examine the contributions parents and teachers to students' poor academic achievement in basic science in secondary schools in Rivers state.

Parents' perspective

Success in an educational setting is measured by academic performance or achievement of the students over the years, therefore their positive performance in school has become the common indicator for their progress concern of parents, teachers and all other stake holders. To achieve these, parents have a lot to contribute in other to actualize these dreams. The parents which constitute the home is the first contact point and agent of civilization of the child. The first obvious contribution of parents to their children educational achievement is their resources. Bell (2002) said that parents devote a lot of resource, financial and other forms of support to enhance their children's education because they believed that when their children acquire good education, it will guarantee a stable future for them.

Besides the economic commitment of parents, there are other aspects of parental supports which if well harnessed may contribute positively to their success; such supports include parents' educational qualification, attitude towards science learning and Other home variables which may in one way or another influence their academic successes. But what has caused the downward trends in the achievement of these children in basic science at the secondary level of education is still not certain. According to Wilkins (2001) many educators and researchers have sought to find out the reasons for these downward trends.

The first thing that comes to mind over these disturbing scenario is the parents perspective, that is, the contributions of parental variables to academic progress of students and how its affects them particularly, socioeconomic status of parents and its effect on the academic process of students and the educational level of the parents.

Parents Socioeconomic Status and students' Academic Achievement

Family setting is the major bedrock to a student life and outside of school is the most salient influence on students learning and includes factors such as SES, parenting practices and aspiration (Majoribanks, 1996) Socio economic status (SES) combines both economic factors such as a person's income and material possession or wealth, alongside with none economic characteristics such as social prestige and educational background (Adler & Rehkoft, 2008, Bradley & Crowyn 2002). The family SES as viewed by (Mueller and Parcel, (1981) is the relative rating position of individuals or family within a hierarchical social structure, based on their access to, or possession of wealth, prestige and power. The correlation between SES and academic achievements in some literature is called socioeconomic gradient. According to Adler et al (1994) Willms, (2003) it is called gradient because it is gradually and increase across the range of SES in other words, it can also be referred to as socioeconomic gap, because it implies a gap in academic achievement between students in the schools.

The effect of parent SES on students' academic progress has been severally studied. Hanson and Mastekaasa (2003) showed that parents' low socioeconomic status prevents access to vital resources and creates additional stressful situation at home. While Eamon 2005, Jenynes, (2002) harangued that socioeconomic status stands to be the major bridge of educational inequality in the educational success of a child or learner. Consequently, parents who are disadvantaged economically and socially influenced the academic achievement of their children negatively while on the other hands, parents who are advantaged socially and economically foster their academic standing of their children positively. Considine and Zappala (2002) found that families where the parents are advantaged socially, educationally and economically promote and create an atmosphere for high level of academic achievement in their children through the development of skills necessary for success at the school.

Joseph and Ikechi (2018) pointed out that virtually in all countries, children or parents whose SES is high have far better opportunities of gaining entry into good secondary schools, also, into the best tertiary institution than equally brilliant children of peasant workers or farmers, additionally, children whose parents are at the bottom of the SES hierarchy are not as inclined to seek or gain access to available educational facilities as the children with families whose SES hierarchy is in the median or top. (Dill, 2006). Family income has a remarkable impact on the educational opportunities available to learners or children or the chances of educational success, and that due to residential stultification and secretion, low income students usually attends schools with poor funding, have reduced achievement motivation and much higher risk of educational failure when compared with their more affluent counterparts, low SES learners or students receives lower grades, earn lower scores on standardized test and are much likely to drop out of school.

Parents' attitude towards science

Parents' involvements level on their children another way Parental attitude towards science influences students' science achievement was the involvement of parent in their children's science studies. Parental involvement can be either direct participation in science activities such as taking students to science museum, visits to ecological sites or sacred groves and indirect support by helping their children with homework. Whichever way, George and Kaplan (1998) found that parental attitude has a positive

relationship with students' attitude and achievement in science. One other way parents influenced students' attitude and achievement as revealed by Szechter and Carey (2009) is their views of science and scientists, which propelled them to take their children to a number of museums, science exhibitions and increase visits to other scientific sites.. Corroborating the former, Tare et al. (2011) noted those parents' views on the importance and understanding of science increase educational quality of the museum visit.

Parents Educational Attainment

Students' motivation and encouragement for school may have better strength from parents who are educated. Parents who had passed through the same process will better be informed and as such would bring their experience to bear on the children schooling. This fact has been supported by a lot of studies. For instance, the results of the study of Devi and Kiran (2002) reported that low educational status of parents was detrimental to students' academic achievement.

Dick (2007) said that uneducated parents know little about the value of education, as a result may not have the dear need to motivate and encourage their children for continuous education of their children due to the surface value placed on education. Supporting the views expressed above. Bahago (2011) and Sharma and Tahira (2011) the results indicated that academic achievement of the students was influenced by parental education levels. The findings revealed the relevance of parental education in academic achievement of students in

Ezewu in Nyekwu (2013) supported the former; again he stated that most children of uneducated/illiterate parents have feeling of inferiority complex when they interact with their fellow students. In the same vein Ogunlade (2006) corroborated the stance of Ezemu that educational attainment of parents is an added advantage to their children who are in school. He added that children from literate home perform better than those from illiterate homes. Consequently, a child from a deprived background would likely not perform well.

Educated parents are at better place to understand the dynamics of academic processes, the importance of books and learning materials that a child should have to enable the student excel in his/her academics endeavour. On the other hand, the illiterate parent may not have the dues and may not understand the dynamics of the academic process; the consequence may be poor academic achievement on their children. The roles of parents' education on their children academic achievement seem not to be sacrosanct. Therefore there is need to investigate further on the role of this aspect of parents on their children academic achievement.

Teachers Perspective

For proper learning to take place effectively, the teacher has a lot to contribute, especially as he occupies the centre stage. This is to say that the teacher plays a significant role during the learning process and can directly or indirectly influence the students' achievement. Adodo (2007) opined that one important and averring facet for the success of students' academic achievement is the teacher because of the role and contribution to the overall development of the child academically mentally morally and otherwise.. The stance implies that teachers main role in preparing students to succeed academically is very crucial and cannot be overestimated. The most and strongest factors that have been identified to influence students achievement is the teacher related variables or factors (Doselt & Munoz, 2013). Among these identified factors or variables, the teacher factors have attracted a great deal of attention/concern. It is however, recognized that the most salient variable contributing to poor students achievement may be educational qualification of teachers who are in the system taking teaching as a profession. Godhaber, (2004).Teachers factors in the context of this paper refers to the characteristics that make a teacher to discharge his/her teaching duties creditably i.e., the factors that promote teacher effectiveness in the teaching learning process. These factors include teacher qualification (TQ); teacher subject specialization (TSS); teacher teaching experience (TTE); teachers gender (TG); teacher attitude (TA); and teacher interest in the subject. However, this paper considers the contributions of only three of teacher variables; TQ, TTE, and TSS.

Teacher Qualification

Teacher qualification refers to the educational attainment or level of the teacher academically while in teaching. In other words, the highest qualification a teacher acquired in his/her subject area that earns him the job. Teacher's qualification means the measure of educational attainment of the teacher in any subject discipline. In Nigeria, qualifications are grouped into two main categories; professional qualifications and non professional qualifications. The professional qualification include those which is attached to education and they include certificate (Nigeria certificate in education, NCE) , Bachelor of education, Master of education and Doctoral Degrees .B. Ed; B,Sc Ed, M.Ed; M.Sc Ed and Ph.D in education

When a teacher possess any of the qualifications recognized in the nations educational scales and is engaged in the teaching job, there is the likelihood that the qualification will contribute to the academic success of the students. Few studies have shown their influence with some positive and others negative. has been found to have positive influence on students' academic achievement (Rice, 2003, Joseph & Ikechukwu, 2014). The qualification of the teacher handling he students correlates with the learners' outcome (i.e. academic achievement) and has direct relationship with the outcome or performance in terms of cognitive development. Literatures have shown that teachers' academic qualifications are positively correlated with students' outcome in the sciences. To this end Ibrahim (2000) said that the teacher qualification and exposure are essential ingredients for students' high academic achievement at whatever level of academic pursuit. If the success of students in terms of academic (cognitive) achievement is to be guaranteed the teacher qualification should be considered

Zan and Rice (2003) agree with the above ascertain that teachers' academic qualification has direct relationship with the student's academic cognitive development. To Rice (2003) having advanced or higher degree in their teaching subjects or discipline produces positive impact or results on the academic achievement of students in basic science. The effect of the teachers' qualification can cause influence on academic achievement either negatively or positively as been discovered in the various studies. To Betts, Zau & Rice, (2003) Wayne & Young's, (2003) they found a positive relationship between students achievement and teachers qualification, while Ehrenberg & Brewer, (1994) saw a contrary result, that despite the teachers highest qualification in the subject discipline students achievement were negatively influence. However, this fact was attributable to other factors that are not considered in this paper. Supporting the position Greenberg, et al (2004) said that obtaining a higher degree were not significantly related to student's achievement

The poor achievement observed in recent times in basic science among students are been implicated by the shortage of qualified teachers in the schools and this stance conformed the findings of Ademulegon (2001) in Gbore, (2013) that students that were handled and taught by teachers with his/her qualification and who have reasonable teaching experience akin adequate knowledge of the subject matter produce better achievement than students taught by teachers who have less qualification and even though they have good teaching experience. To Adepoju (2002) there is a significant relationship between teacher variables and students' academic achievement though contrary to the above findings Igwe (1990) found no significant relationship between teacher's qualification and students achievement.

Ogbonna (2016) citing Sanders & Rivers 1996, Collias, Pajak & Rigden, 2000) lamented on the predominance of teachers not qualified to teach as one explanation for perennial poor academic achievement. Studies also show that the impact of a teacher either positively or negatively is cumulative and having a lasting measurable effect on students' academic achievement (Sanders & Rivers, 1996) and accounting for the discrepancy between gifted and remedial. The single greatest factors affecting academic growth of students population was the different in classroom teachers' effectiveness. He further observed that high skilled teachers are the key to improving students' achievement academically. Given the trend and recurrence of disappointing achievement of Nigerian students in basic science at both Junior Certificate exams and other external examinations level, it is likely that too many of the students are not taught by qualified teachers. Gorse (2004) attributed poor achievement of students in mathematics to teacher qualification, inadequacy of materials as well as administrative factors.

Years of Teaching Experience

Teacher according to Rice (2010) show greatest productivity gains during their first few years on the job after which their performance tends to level off. The finding further show that on average, teachers with more than 29 years of experience are more effective than teachers with no experience, but are not much more than those with 5 years of experience (Ladd. 2008).

Years of teaching experience has been seen to have positive correlation with student's achievement. Betts, Zau & Rice (2003) in their studies found a significant correlation between student achievement and the teacher years of teaching experience in mathematics this implies that the teacher who handles the students gain more insight in the subject he teaches and the behavior of the students in the process of teaching. The centre for public education (2005) found a consistent result, that there is a positive correlation between teaching experience and higher students' achievement. Teachers with more years of teaching experience are found to more effective than those of your years of teaching experience. Gede & Lawanson (2011) show that there was a significant positive relationship between experience and job performance of employees. Their findings show a relationship because the more experience the employee acquired as a result of long service in the job the more are higher the performance of the employee. Jenifer (2010) found that teachers experience is one of the key factors in personal policies that affect employees. In the same vein, Ladd (2008) supported the former, that teachers with more than 20 years of teaching experience are more effective than teachers with no experience.

Subject Specialization

According to ISBE (2002) a competent teacher is qualified in a given field of study or area of specialization and such a teacher demonstrate in-depth knowledge or content knowledge in the area or subject matter. Such a teacher with deep content knowledge demonstrates understanding of the central concepts, methods of inquiry and structure of the discipline, and it enables the teacher to teach the content in a logical and advanced level. Subject specialization helps the teacher to be able to adequately handle higher order question in the field of study thereby enabling the teacher to display understanding of the subject matter. However, Nwachukwu in Ezeudu & Utazi (2014) show that area of specialization or subject major of unqualified Basic Science Teachers affect students achievement. In a related survey, Koledoye (2011) observed that English language teachers study that have master's degree in English language with teaching qualification perform better than their counterparts who are without a good qualification subsequently, teachers knowledge about the subject affect their teaching attitude and the academic achievements of the students under that teacher. Goldharber and Brewer (1997) found that mathematics students who were taught by teachers with advanced degree in mathematics achieved higher scores and performed better than those their counterparts taught by teachers without equivalent advanced degree in mathematics.

Research Questions

The study was guided by the following research questions

- 1 what are the factors responsible for students' academic achievement?
- 2 what are contributions of parental (i) educational attainment (ii) SES to students' poor academic achievement
- 3 what are the contributions of teachers (i) educational qualification (ii) teaching experience (iii) subject specialization to students poor academic achievement

Hypotheses

Ho1. There is no significant difference in the factors responsible for students' poor academic achievement between (i) male and female students (ii) Urban and rural schools

Ho2 There is no significant difference in the contributions of parental factors (i) educational attainment (ii) SES on students' poor academic achievement

Ho3 There is no significant difference in the contribution of teachers' factors (i) educational qualification (ii) teaching experience (iii) subject specialization on students' poor academic achievement

METHODOLOGY

in order to properly evaluate the causes of poor academic achievement of the students in basic science in school schools, the survey designs was adopted, because the study was mainly to evaluate the causes which has already taken place. The study made use of all the students in all the selected junior secondary school in Rivers State including all the science teachers teaching basic science at this level of education. The population was purely drawn from all the public school alone. A sample size 300 students were randomly selected from all the students selected school in the state. The stratified random sampling techniques were used to train down the school. The school were first stratified to urban and rural were 10 schools were randomly selected to give a total of 20 schools in the two strata's. from the two strata 15 students were then randomly selected given a sample size of 300 students. Also 1 basic science teacher from the twenty selected school were also randomly selected to participate in the study. The instrument used for the collection of data was a self made titled student and teachers performance questionnaire (STPQ). The instrument has three sections, the demographic section, the perceived section, and the parents and teachers sections. The instruments was structured with modified likert scale with strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) as the guide keys for the opinions. The instrument were subjected to for both face and content validity while the split half reliability was used and the cronbach alpha were used to test the reliability coefficient given $r=0.97$. the data gathered were analyzed, the mean and Standard Deviation for the research questions while the Analysis of Variance ANOVA used for the null hypothesis.

RESULTS

1. *What are the factors responsible for students' academic achievement?*

Table 1: Factors responsible for students' poor academic achievement in the secondary schools in Rivers State

S/N	ITEMS	Mean	SD	Decision
1	Lack of professional teachers in the subject	2.72	1.13	agree
2.	Lack of teaching materials	3.07	1.00	agree
3	lack of textbooks for the basic science	2.98	1.10	agree
4	inadequate period allowed for the subject per week	2.71	1.05	agree
5.	lack of motivation	2.50	1.05	agree
6	lack of interest in the subject	2.44	1.05	disagree
7	negative peer influence	2.50	1.08	agree
8	Unseriousness on the path of students	2.23	1.14	disagree
9	Parents are poor, could not provide the basic school needs	2.46	1.13	disagree
10	parents could not pay my school fees on time	2.21	1.04	disagree
11	my parents could not afford my textbooks	2.40	1.07	disagree
12	Lack of food, caused ill health	2.00	1.11	disagree
13	my parents are not employed so could not afford to provide			

	my school fees	2.34	1.08	disagree
14	my parents do not have good home for private study after school	2.10	1.17	disagree
15	No motivation from my parents	2.31	1.19	disagree
16	No availability of learning material at home	2.75	1.19	agree
17	Do not organize extra morale classes for me	3.07	1.03	agree
18	my parents do not like education	1.69	0.92	disagree
19	my parents are not educated	2.17	1.25	disagree
20	No library at home for studies	3.07	1.11	agree
21	lack interest in the subject	2.43	1.11	disagree

The Table above revealed that nine (9) major factors are responsible for students poor academic achievement in basic science, They include lack of professional teachers, lack of adequate text books lack of teaching materials or resources, inadequate and insufficient period of teaching of the subject allocated to the subject in the timetable, negative peer influence, absence of library both in the school and at the homes of students

2. *What are contributions of parental (i) educational attainment (ii)SES to students poor academic achievement*

3. *What are the contributions of teachers (i) educational qualification (ii) teaching experience (iii) subject specialization to students poor academic achievement*

Table 4: Mean and Standard Deviation on Teacher’s qualification, Gender and Subject Specialization Affect Students Academic Performance in Integrated Science

Variable		N	X	SD	%X
	Chem.	5	15.40	3.13	38.5
	Bio.	3	17.67	5.03	44.18
	Chem. Pet	1	25.00	-	62.5
	Edu	1	23.00	-	57.5
	ITS	4	18.25	6.75	45.63
ISS	Math	9	19.67	5.48	49.180
	Math. ITS	1	13.00	-	32.5
	Math. Sta	1	18.00	-	45
	Pet	1	20.00	-	50
	Phy	3	12.00	0.00	30
	Total	29	17.76	5.12	43.4
					51.25
TQ	BED	11	17.36	4.95	62.5
	BSc	2	20.50	0.71	40.2
	Master	1	25.00	-	54.18
	NCE	12	16.08	5.20	43.3
	PGDE	3	21.67	4.73	56.
	Total	29	17.76	5.12	
					43.3
	Male	19	17.32	5.39	56.25
Gender	Female	10	22.50	3.31	

The table above clearly showed that teachers who major in other subject area outside integrated science constitute the highest percentage (62.5%) and education (57.5%) which contributed to students' poor academic achievement. On the teachers' qualification, those teachers who were not professionals (B.Sc, masters and PGDE) contributed to students' poor academic qualification. The table further revealed that female teachers contributed to the poor academic failure of the students in basic science

Ho1. There is no significant difference in the factors responsible for students poor academic achievement between (i) male and female students (ii) Urban and rural schools

Gender	N	Mean	SD	df	t-cal	t-crit	decision
Male	67	64.46	11.90	134	.636	1.960	NS
Female	69	65.77	12.03				

Location	N	Mean	SD	df	t-cal	t-crit	decision
Urban	24	64.27	14.18	134	-.365	1.960	S
Rural	114	65.77	11.52				

Ho2 There is no significant difference in the contributions of parental factors(i) educational attainment (ii)SES on students poor academic achievement

Table 2 : summary of ANOVA on the difference in the factors responsible for secondary school student's poor academic performance in integrated science based on (i)parent's socio-economic background.

Source of variation	sum of squares	df	mean	f	sig	decision
Between group	1322.358	3	440.786	3.24	3.247	S
Within group	17920.517	132	135.761			
Total	19242.875	135				

S=Significant $P \leq .05$

The table2 above shows that there was a significant difference in the factors responsible students poor academic achievement in secondary schools due to parents SES($F_{1, 132}=3.247, P \leq .05$) The post hoc test of multiple comparison also shows that the observed mean differences are statistically significant

Table 3 : One-way ANOVA on the difference in the factors responsible for secondary school student's poor academic performance in integrated science based on (ii)Parent's Socio-Economic Background.

Source of variation	sum of squares	df	mean	f	sig	decision
Between group	164.352	3	54.784	.379	.768	S
Within group	19078.523	132	144.534			
Total	19242.875	135				

NS= Not Significant $P \leq .05$

The table 3 above shows that there was a significant difference in the factors responsible students poor academic achievement in secondary schools due to parents SES ($F_{1, 122} = .379, P \leq .05$) The post hoc test of multiple comparison also shows that the observed mean differences are not statistically significant
H₀₃ There is no significant difference in the contribution of teachers factors (i) educational qualification (ii) teaching experience (iii) subject specialization on students poor academic achievement

Table 5 Summary of ANOVA on the difference in the students' scores in basic science based on teacher academic Qualification

Source of Variation	Sum of Square	df	mean Square	F	sig
Between	19056.910	2	9528.455	21.690	.000
Groups	123001.867	280	439.292		
Within					
Groups					
Total	142058.777	282			

The table shows that there is a significant difference in the students score in basic science based on the teachers qualification ($F_{2, 280} = 21.690, P = .000$) The null hypothesis one was rejected

Table 5: ANOVA on the contribution of (a) Teachers' Teaching experience on Students' Academic Performance in Basic Science

Source of Variation	Sum of Square	df	mean Square	F	sig
Between	19056.910	2	9528.455	21.690	.000
Groups	123001.867	280	439.292		
Within					
Groups					
Total	142058.777	282			

TTE=Teacher Teaching Experience.

The table shows that there is a significant difference in the students score in basic science based on the teachers experience (F2, 280=21.690, P=000) The null hypothesis one was rejected

Table 6: ANOVA on the Influence of (b) Teachers' Subject Specialization on Students' Academic Performance in Basic Science

Source of Variation	Sum of Square	df	mean Square	F	sig
Corrected Model	268.694	9	29.855	1.216	.342
Intercept	5317.777	1	5317.777	216.53	.000
Tss	268.694	9	29.855	3	.342
Error	466.617	10	24.559	1.216	
Total	9881.000	29			

TSS. Teacher Subject Specialization

Table 7 Summary of ANOVA on the difference in the students' scores in basic science based on(c) Teacher Academic Qualification

Source of Variation	Sum of Square	df	mean Square	F	sig
Between Groups	19056.910	2	9528.455	21.690	.000
Within Groups	123001.867	280	439.292		
Total	142058.777	282			

The table shows that there is a significant difference in the students score in basic science based on the teachers qualification(F2, 280=21.690, P=000) The null hypothesis one was rejected

DISCUSSION

The study revealed that the factors that contributed to students' poor academic achievement in basic science in secondary schools in Rivers state are of four basic categories. They are: 1. Teachers factors 2. Parental factors 3 teaching and learning materials and 4. Curriculum factor. On the teachers' factors; the study identified lack of professional teachers as well as inadequacy of basic science teachers handling the subject as the most ranking factor. Consequently, teachers who studied other subject specialization are drafted or deployed to handle the students in a highly specialized subject. The implication of this was that students may be drastically affected in their academic advancement. The finding agreed with the stance of Wobodo (2010) who found a positive relationship between adequate professional teachers and students' academic achievement in basic science. The finding therefore means that if the schools are under staffed with qualified and professional teachers there is the tendency that students may perform poorly academically. Joseph and Ikechukwu, (2014) also reported a similar result, that poor teachers' quality was one of the major factors contributing to students poor academic achievement in the subject. Also, supporting the findings of the study was the study of Joseph and Green (2019) who discovered similar scenario that lacks of professional teachers in our schools affect the adequate utilization of instructional materials which in turn adversely contributes to the poor achievement of students in basic science. Other researchers with similar findings include Ferguston, (1991), Dangana (2002), Echeonwu (2004) and Achuonye (2004).

Besides the inadequacy of professional teachers, the study also identified teachers' qualification as another major teacher factor that contributed to student's poor academic performance in basic science. The study revealed that a lot of the teachers handling the subject were not qualified in terms of educational attainment and area of subject specialization. Teachers whose specialties are different from the field are drafted to teach the subject because the schools lack qualified teachers. For example teachers who acquire degree in Petroleum and Petrochemical, Physical Education, Agricultural Science are identified as the main teachers handling basic science in most of the schools under study. The implication of this is that students are compelled to adjust to the level of the teachers which may also contribute to their poor performance of students. Teachers' qualification is a major teacher factor which cumulatively contributes to the perennial students' poor achievement in the subject. The results confirms the study of Doselt and Munoz (2013) who also identified teachers qualification as the most alarming factor in the students poor achievement. Teachers' qualification among the teachers' factors was the most rated characteristics that affect students' poor achievement. The findings of this study is congruent to the this study of Ogbanna (2016) who lamented the predominance of unqualified teachers teaching our students in most secondary schools in both rural and urban areas as one of the most classified reasons for students poor academic achievement in basic science.

Parents perspectives; the study identified the parents of the students as the greatest contributors to poor academic achievement of students in the subject. The key aspects of the parents' perspective that contributed to the menace were the Socio Economic Status (SES). The SES of the parents contributed to students poor academic achievement in many ways; parents cannot afford textbooks for their wards, unable to pay children fees as at, and when due making students to stay away longer than necessary at home missing their studies, the economic conditions of parents makes them engage their children and wards in domestic chores, street hawking and other menial jobs to augment for the lack of resources to cater for their children school needs. Sharma and Tahira (2011) investigated the influence of parental education, parental occupation and family size on science education. The findings indicated that family variables including parental education had significant relationship with the academic achievement of their children, meaning that when the parents economic gradient is low it does contribute to the poor academic achievement of students.

Also indicated by the study was that the SES of their parents caused lack of food to eat, the aftermath was malnutrition and eventual ill health which hampers their learning. The findings of the study are similar to the findings of Joseph and Ikechi (2018) that identified similar conditions as some plaguing parents' characteristics that contributed to the prevalent students' poor academic achievement in basic science. Their findings also proved a significant relationship between the SES of the parents and students poor academic achievement in sciences.

Considering whether, the educational attainment or levels of the parents contributed to the poor achievement of students, the findings, proved strong relationship between parents' level of education and students' poor academic achievement. The study revealed that a lot of the responses agreed that their parents were not educated and as a result do not encourage, motivate and assist them in their academic activities. The present study agreed with the findings of Okah (2015) who investigated the relationship between parental education and students' academic achievement in sciences. The findings revealed significant effect of parental education on academic achievement of their children, while Sharma and Tahira (2011) found that children whose parents were educated performed higher in academics than the children whose parents were uneducated or illiterate. Further the results indicated that parental education was significantly related to academic achievement of the students in Basic science in either ways .

They never provided textbooks in the sciences; rather they engaged them in other activities that are economically based that will yield money to the family. Other aspects of parents' contribution to students' poor academic achievement are lack of interest in science related subjects. Parents' lack of interest affects the students' interest in those fields as well as they are discouraged by their attitude. This negative attitude shown also affected the scientific literacy and subsequently they usually decline from involving themselves in their students' academic activities and the effects of all these was the poor academic achievement of the students in the subject

The study further revealed that among other factors contributing to students poor academic achievement was the contribution of the curriculum. The result indicated that curriculum was one of the contributors of students' poor academic achievement in basic science.

Finally, lack of teaching and learning materials or resources, inadequate time allotted for the subject on the time table for the week, negative peer influence, and school location, lack of library both in the schools and the homes, parents not supporting the students by organizing extra morale classes whenever they come from the school hours were all indicated as some causes of students poor academic achievement in basic science in secondary schools.

CONCLUSION

Findings of this study has clearly shown that students poor academic achievement was not accidental but are deeply tied to variables that are related to students themselves, parents, their teachers, curriculum, teaching and learning materials and school related factors. On the parents' perspective, it was clear that the teachers' qualification, subject specialization and their interest and attitudes were major characteristics that were found contributing to students' poor academic achievement. In a similar manner, parent's level of education, socio-economic status, interest as well as the world view of science was identified as some covert and overt factors that contributed to students' poor achievement. Curriculum, teaching and learning resources added to the woes while teachers gender though plays a significant role in students' academic achievement does not in this contributed to poor achievement to the students in basic science. It is the researchers view that if due attention is given to the above factors identified in this study; the trend may change from the sorry state of poor performance to a desirable state.

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