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Impact Of School Quality On The Teaching Performance Of Physics Teachers In Rivers State Secondary Schools

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Abstract: ***School is an institution where knowledge is transmitted from generation to generation in an organized or formal manner. The quality of schools determines the quality of knowledge that is being passed to younger generations. Therefore, examining the school quality is essential. This study examined the impact of school quality on the teaching performance of Physics teachers in rivers state secondary schools. In specific terms, the study determine school qualities for effective performance of physics teachers in secondary schools, impact of adequate teaching infrastructure on physics teachers performance; effect of school administration on physics teachers performance and strategies to improve school quality so as to enhance performance of physics teachers in Rivers State Secondary Schools. A total of 30 physics teachers and 30 school administrators draw from 15 science teaching secondary schools in 5 local governments of Rivers State were used for the study. The instrument used for the study was a structured questionnaire. It was validated by experts in the department of science education, Rivers State University. 0.66 reliability coefficient was obtained as the instrument was subjected to cronbach alpa to test its internal consistency. Findings of the study has it that Standard classrooms, well equipped and standard science laboratory, well equipped science libraries, availability of internet systems for e-resources among others are the school qualities for effective performance of physics teachers in secondary schools. Also it was found that, adequate teaching infrastructure in schools improve quality of lesson delivery, enhance students interest in the lesson, simplify teachers' explanation of concepts and many more. Still on the findings of the study, the researcher also found that school administration; ensures teachers job satisfaction, maintains strict rules on quality lesson delivery, ensures students compromising attitude to teachers, sponsors all practical physics activities among others. Lastly, strategies to improve school quality so as to enhance performance of physics teachers include ensuring availability of teaching resources, availability and utilization of e-resource for better materials, ensuring teachers job satisfaction, maintenance of high moral standard among students, ensuring teachers optimum work load among others. It was therefore recommended that administrator should maintain school quality so as to ensure transfer of quality knowledge to learners.***

Keywords: School, quality, teachers, physics, performance,

I. INTRODUCTION

Education is the process of impacting future generation with value, norms, skills, knowledge of the society so as to enable them to be a contributing member of the society. Education according to Schall and Chesterton (2018) ''education is simply the soul of a society as it passes from one generation to another''. Whatever the soul is like, it will have to be passed on somehow, consciously or unconsciously; and that transition may be called education.

The society is tied to its level of educational attainment; hence education has been used as an instrument for effecting national development Education has been recognized as a tool for bringing about the change needed in the society. It is through education that societal norms cultures and aspirations are inculcated in people. However, society educates its people in diverse ways which may be formal, informal or non formal

education. Dib (1988) distinguished these types of education as follows; Formal education corresponds to a systematic, organized education model, structured and administered according to a given set of laws and norms, presenting a rather rigid curriculum as regards objectives, content and methodology. Non-formal education is more flexible than the formal, its characteristics are found when the adopted strategy does not require student attendance, decreasing the contacts between teacher and student and most activities take place outside the institution. Whereas, non formal education is aimed at students as much as at the public at large and imposes no obligations whatever their nature. There generally being no control over the performed activities, informal education does not of necessity regard the providing of degrees or diplomas; it merely supplements both formal and non-formal education.

School is an institution whereby education is transmitted to younger generation in a formal manner. It is a vehicle that conveys societal norms and values in a systematic, organized, modeled and structured manner. The standard of education is determined by the quality of the school. Education cannot be transmitted in a qualitative form when its channel is substandard. Therefore, quality school tends to transmit education at a standard mode. In other to buttress this claim, Eide and Showalter (1997) when working on the ‘‘effect of school quality on students performance’’ found that schools with quality resources impact quality knowledge in their students which enables their students to perform better than those whose school resources are substandard.

One if the major concern of every educational system in the world today is the achievement of quality education. In technical terms, quality means fitness of purpose. It presupposes that there is already set standard which when an education service meets, we say that it is qualitative but when it fails to meet this standard we say it lacks quality. Therefore, school quality in education is a multi dimensional concept which schools must embrace to function in all academic and non-academic actives, teaching and learning programs, quality of teachers’ classroom organization and health environment supervision of school program, e.t.c (Maduewesi, 2005).

The concern of quality has various meaning to different people. Knowles (2012) says that quality of education is a measure of excellence or state of being free from defects, deficiencies and significant variations. It is brought about by strict and consistent to certain standards that achieve uniformity of a product in order to satisfy customer or users requirement. The quality of any teaching process is usually determined by the teaching learning outcome (Uche, 2010). Educational curriculum has specified objectives which are achieved based on compartmentalized instruction. The achievement of the each instructional objective determines the learning outcome and the purpose of curriculum. Thus, efficient learning outcome amounts to the measure of school quality due to the fact that it is geared towards the general curriculum. It is undeniable facts that the realization of educational objective is the working of various factors among others are professional teachers, instructional resources, school facilities e.t.c. It is in this view that Azikiwe (2008) asserted that effective teaching and learning can only take place where schools are provided with adequate supply of professional teachers, administrators and other instructional facilities. Briggs (2006), also has it that the quality of good teaching can be expressed in terms of teaching skills and knowledge of the subject matters, instructional processes that are carried out by highly qualified teachers, creating effective learning environment, evaluation among students and teaching that brings drop-out rate among students. In the view of Eide and Showalter (1997), school quality can be effectively measured by the school resources and administration which greatly influence both students and teachers’performance . A school district with more experienced teachers will spend higher those schools with fewer experience teachers all other factors held constant.

In the thought of school quality and teachers performance, administrative factor should never be taken for granted. It holds the explanation for the regulation of the entire school system and teachers are not excluded. The quality of a school could be easily determined through its mode of administrating educational norms not only to the learners but also to those individual that carry out the teaching process. Wenno (2016) affirmatively asserted that school leadership affects teachers’ performance. Wenno asserted in the view that, effective and efficient school administration is perfect determinants of school quality and therefore, quality schools should possess good educational administrators that understands that his action does not only influence the performance of the teachers but also reducing the achievement level of the students. He also has it that managerial functions of school administrators ranges from planning, development, utilization and empowerment of all elements in the school, including teachers, students and infrastructure that exist in the schools to be used as possible to improve the quality of schools, teacher quality, and the quality of student. Once a teacher is properly motivated and held in high esteem by school administrators, efficiency in teaching would be guaranteed and this will in turn accelerate overall students’ achievement (Yusuf in Tunbosun and Umar, 2010).

Infrastructure as a significant aspect of the school holds a much in the teachers and students performances in teaching and learning process (Amadi & Ohaka, 2018). Adequacy of infrastructure provides physics teacher teachers better environment for impacting scientific knowledge in to learners. Although a school possesses experienced teachers who can effectively teach for excellence, they cannot function at their maximum potentials in environment with inadequate or lack of teaching infrastructure. Several empirical evidences affirmed that high-quality infrastructure facilitates better instruction, improves student outcomes, and reduces dropout rates, among other benefits. Bamiro (2012) also noted that general improvement of the teaching and learning environment ranging from lecture theaters, classrooms, laboratories, workshops and so on will help to shrink the negative impact of poor infrastructure on students schooling outcomes. Bakhda (2004) points out those available facilities should be adapted and utilized to suit the school curriculum and good performance.

Quality secondary education is seen as the access with which a school provides educational training which enable students to effectively achieve worthwhile goals and appropriate learning standard. Efforts have been made by the

government to ensure good standards are maintained in the schools. For instance, the employment of most teachers under the Universal Basic Education (U.B.E) scheme which is a way of reducing the students-teachers ratio is thereby improving the standard of public schools. Government has also organized annual training scheme for teachers through the UBE during long vacation with the aim of updating teachers knowledge on certain principles and skills in their various subject areas, school based assessment and general pedagogy. The question one may ask at this point is; to extent have these government efforts created the desired impact in the educational system with regards to students' performance in Physics. It is on this premise that this study is conceived, with the hope that if quality is pursued and sustained in secondary schools there will be a resultant positive achievement in students' academic performance in Physics. The study is considering impact of school quality on the teaching performance of physics teachers in Rivers State Secondary Schools.

PURPOSE OF THE STUDY

The major purpose of the study is to ascertain the impact of school quality on the teaching performance of physics teachers in Rivers State Secondary Schools. In specific terms, the study tends to determine;

- ✓ School qualities for effective performance of physics teachers in secondary schools
- ✓ The impact of adequate teaching infrastructure on physics teachers performance
- ✓ The effect of school administration on physics teachers performance
- ✓ Strategies to improve school quality so as to enhance performance of physics teachers in Rivers State Secondary Schools

RESEARCH QUESTIONS

The following research questions guided the study.

- ✓ What are the school qualities for effective performance physics teachers
- ✓ What are the impacts of adequate teaching infrastructure on Physics teachers' performance?
- ✓ What are the impacts of school administration on Physics teachers' performance?
- ✓ What are the strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools?

HYPOTHESES

The following hypotheses were tested at 0.05 level of significance.

- ✓ There is no significant difference in the mean responses of school administrators and Physics teachers on the school qualities for effective performance physics teachers
- ✓ There is no significant difference in the mean responses of school administrators and Physics teachers on the impacts of school administration on Physics teachers performance
- ✓ There is no significant difference in the mean responses of school administrators and Physics teachers on the strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools

II. METHODOLOGY

The study adopted a descriptive survey design. A total of fifteen (15) science teaching secondary schools were selected from randomly sampled five (5) local governments of Rivers State. However, 2 physics teachers and two school administrators were selected from the selected 15 schools. Making a total sample size of 30 physics teachers and 30 schoool administrators. The instrument for data collection was a structure questionnaire which was designed by the researcher titled "Impact of School Quality on the Performance of Physics Teachers (ISQPPT)". The questionnaire was structure in four point rating scale of agreement (SA-strongly agree, A-agree, D-disagree, SD-strongly disagree). The instrument's validation was done by two experts in the department of science education, Rivers State University in terms of its construct and content.. Cronbach alpha coefficient was used to determine the internal consistency of the instrument which yielded 0.66 as reliability co-efficient of the instrument. Copies of the questionnaire were administered and retrieved by the researcher to the respondents. Frequency mean and standard deviation were used to analyze the data gathered from the respondents. Mean scores less than < 2.50 were rejected and mean scores ≥ 2.50 were accepted. The null hypotheses were tested at 0.05 level of significance.

III. RESULTS AND DISCUSSION

RESEARCH QUESTION 1: what are the school qualities for effective performance of physics teachers?

S/N	Items	Administrators= 30			Physics teachers=30		
		Mean	S.D	Decision	Mean	S.D	Decision
1	Standard classrooms	3.66	0.53	Agreed	3.59	0.81	Agreed
2	Well equipped and standard science laboratory	3.42	0.72	Agreed	3.65	0.60	Agreed
3	Well equipped science libraries	3.54	0.82	Agreed	3.43	0.82	Agreed
4	Availability of internet systems for e-resources	3.73	0.79	Agreed	3.29	0.71	Agreed
5	Proximity of instructional materials when needed for practical	3.18	0.83	Agreed	3.37	0.92	Agreed
6	Neatness of environment	3.54	0.87	Agreed	3.50	0.86	Agreed
7	Good administrative conditions of the school	3.68	0.61	Agreed	3.58	1.02	Agreed
8	Teachers satisfaction packages	3.21	0.62	Agreed	3.32	0.64	Agreed

9	Simplified work load per teacher (teacher to student ratio)	3.28	0.89	Agreed	3.71	0.80	Agreed
	Grand mean and S.D	**3.47**	**0.74**		**3.49**	**0.80**	

Field Survey, 2018.

Table 1: Mean responses of administrators and Physics teachers on the school qualities for effective performance physics teachers

Table 1 presents the analysis of respondents' opinion on each of the items in research question one in terms of mean and standard deviation. Based on the acceptance mean value, the respondents agreed that standard classrooms (3.66 & 3.59), well equipped and standard science laboratory(3.42 & 3.65), well equipped science libraries (3.54 & 3.43), availability of internet systems for e-resources (3.73 & 3.29), proximity of instructional materials when needed for practical (3.18 & 3.37), neatness of environment (3.54 & 3.50), good administrative conditions of the school (3.68 & 3.58), teachers satisfaction packages (3.21 & 3.32), simplified work load per teacher(3.28 & 3.71) are the qualities of schools that enhance physic teachers' performance. This findings is in conformity with Briggs (2006), also has it that the quality of good teaching can be expressed in terms of teaching skills and knowledge of the subject matters, instructional processes that are carried out by highly qualified teachers, creating effective learning environment, evaluation among students and teaching that brings drop-out rate among students. Azikiwe (2008) supported that effective teaching and learning can only take place where schools are provided with adequate supply of professional teachers, administrators and other instructional facilities.

RESEARCH QUESTION 2: what are the impacts of adequate teaching infrastructure on Physics teachers' performance?

S/N	Items	Administrators= 30 Mean	S.D	Decision	Physics teachers= 30 Mean	S.D	Decision
	Adequacy of teaching infrastructure helps to;						
1	improve quality of lesson delivery	3.40	1.03	Agreed	3.54	0.60	Agreed
2	enhance students interest in the lesson	3.28	0.88	Agreed	3.33	0.77	Agreed
3	simplify teachers' explanation of concepts	3.21	0.93	Agreed	3.09	0.81	Agreed
4	enhance demonstration of practical concepts in physics	3.08	0.78	Agreed	3.61	0.89	Agreed
5	arouse teacher's explanatory context	3.23	0.65	Agreed	3.22	0.72	Agreed
6	enhance teachers' class management strategies	3.08	0.81	Agreed	3.32	0.75	Agreed
	Grand Mean and S.D	**3.21**	**0.84**		**3.35**	**0.76**	

Field survey, 2018

Table 2: Mean responses of Physics teachers on the impacts of adequate teaching infrastructure on Physics teachers' performance

Table 2 shows the analysis of gathered data from the respondents in terms of mean and standard deviation. Due to the mean acceptance, the respondents agreed that adequacy of teaching infrastructure; improve quality of lesson delivery (3.40 & 3.54), enhance students interest in the lesson (3.28 & 3.33), simplify teachers' explanation of concepts (3.21 & 3.09), enhance demonstration of practical concepts in physics (3.09 & 3.61), arouse teacher's explanatory context (3.23 & 3.22), enhance teachers' class management strategies (3.08 & 3.32). In the findings of Amadi and Ohaka (2018) it was observed that adequacy of teaching infrastructure holds retains a mammoth implication on both teachers' teaching effectiveness and learners achievement by giving a superior figure to teaching and learning process.

RESEARCH QUESTION 3: what are the impacts of school administration on Physics teachers' performance?

S/N	Items	Administrators= 30 Mean	S.D	Decision	Physics Teachers=30 Mean	S.D	Decision
	School administration						
1	ensures teachers job satisfaction	3.30	0.59	Agreed	3.26	0.81	Agreed
2	maintains strict rules on quality lesson delivery	3.11	0.82	Agreed	3.27	0.69	Agreed
3	ensures students compromising attitude to teachers	3.24	0.77	Agreed	3.20	0.80	Agreed
4	sponsors all practical physics activities	3.61	0.50	Agreed	3.42	0.76	Agreed
5	provides necessary resources for effective lesson delivery for teachers	3.56	0.71	Agreed	3.20	0.88	Agreed
6	ensure the school environment is highly controlled from external distractions	3.40	0.94	Agreed	3.53	1.06	Agreed
7	helps teachers to handle or reduce work stress.	3.02	1.03	Agreed	3.21	0.78	Agreed
8	consistently motivate teachers towards better performance	3.29	1.09	Agreed	3.40	0.89	Agreed
	Grand Mean and S.D	**3.32**	**0.81**		**3.31**	**0.83**	

Field survey, 2018.

Table 3: Mean responses of Physics teachers on the impacts of school administration on Physics teachers' performance

Table 3 presents the mean and standard deviation of the data collated from the respondents. Based on the acceptance mean value of the instrument, respondents agreed that School administration; ensures teachers job satisfaction (3.30 & 3.26), maintains strict rules on quality lesson delivery (3.11 & 3.27), ensures students compromising attitude to teachers (3.24 & 3.20), sponsors all practical physics activities (3.61 & 3.42), provides necessary resources for effective lesson delivery for teachers (3.56 & 3.20), ensure the school environment is highly controlled from external distractions (3.40 & 3.53), helps teachers to handle or reduce work stress (3.02 & 3.21), consistently motivate teachers towards better performance (3.29 & 3.40). The findings is consistent with Yusuf in Tunbosun and Umar (2010) who observed that once a teacher is properly motivated and held in high esteem by school administrators, efficiency in teaching would be guaranteed and this will in turn accelerate overall students' achievement.

RESEARCH QUESTION 4: what are the strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools?

S/N	Items	Administrators= 30 Mean	S.D	Decision	Physics teachers= 30 Mean	S.D	Decision
1	Ensure availability of teaching resources	3.70	0.59	Agreed	3.63	0.88	Agreed
2	Availability and utilization of e-resource for better materials	3.63	0.87	Agreed	3.49	0.96	Agreed
3	Ensure teachers' job satisfaction	3.43	0.82	Agreed	3.26	1.02	Agreed
4	Maintenance of high moral standard among students	3.20	0.74	Agreed	3.38	0.68	Agreed
5	Ensure teachers optimum work load	3.45	0.79	Agreed	3.27	0.88	Agreed
6	Ensure the availability and utilization of science laboratories and libraries	3.28	0.81	Agreed	3.32	0.72	Agreed
7	School appraisal and feedback	3.62	0.69	Agreed	3.41	0.60	Agreed
	Grand Total and S.D	**3.47**	**0.76**		**3.39**	**0.82**	

Field survey, 2018.

Table 4: Mean responses of the respondents on strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools

Table 4 presents the response analysis of school administrators and physics teachers on strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools. Based on the mean decision rule of the instrument, respondents agreed that ensuring availability of teaching resources (3.70 & 3.63), availability and utilization of e-resource for better materials (3.63 & 3.49), ensure teachers' job satisfaction (3.43 & 3.26), maintenance of high moral standard among students (3.20 & 3.38), ensure teachers optimum work load (3.45 & 3.27), ensure the availability and utilization of science laboratories (3.28 & 3.32),, ensure the availability and utilization of science libraries (3.62 & 3.41). The findings is in conformity with OECD (2010) which observed that enhancing the role of teachers requires setting clear standards of practice; ensuring high quality initial teacher preparation (ITP) programmes; attracting better candidates; professionalizing the recruitment, selection and evaluation of teachers; and linking teachers and their professional development more directly to schools' needs. Also, strengthening leadership and management of schools; providing training; professionalizing recruitment; supporting school autonomy; and ensuring social participation and better supported with stable sources of funding that respond to their specific needs.

HYPOTHESES

H_{01}; There is no significant difference in the mean responses of school administrators and Physics teachers on the school qualities for effective performance physics teachers

Groups	Mean	S.D	N	Lev. Of sig.	T-cal	T-crit	Decision
Administrators	3.46	0.74	30	0.05	0.10	1.96	Not sig.
Physics teachers	3.46	0.80	30				

Table 5: T-test analysis of mean responses of school administrators and Physics teachers on the school qualities for effective performance physics teachers

Table 5 shows the hypothetical analysis of the data gathered on school qualities for effective performance physics teachers. The mean responses of school administrators and Physics teachers were compared using t-test statistical tool. It was thus found that the difference in the response of school administrators and Physics teachers on school qualities for effective performance physics teachers was insignificant. The null hypothesis was therefore accepted

H_{02}; There is no significant difference in the mean responses of school administrators and Physics teachers on the impacts of school administration on Physics teachers performance

Groups	Mean	S.D	N	Lev. Of sig.	T-cal	T-crit	Decision
Administrators	3.32	0.81	30	0.05	0.39	1.96	Not sig.
Physics teachers	3.31	0.83	30				

Table 6: T-test analysis of mean responses of school administrators and Physics teachers on the impacts of school administration on the teaching performance of Physics teachers

Table 6 also presents the analysis of the null hypothesis which states that **t**here is no significant difference in the mean responses of school administrators and Physics teachers on the impacts of school administration on Physics teachers' performance. Based on the result in the table, the t-cal shows that the difference between the both group of respondents is not significant to conclude that both groups have different perspective on the impact of school administration on Physics teachers' performance. Thus, the null hypothesis was upheld.

H_{03}: There is no significant difference in the mean responses of school administrators and Physics teachers on the strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools

Groups	Mean	S.D	N	Lev. Of sig.	T-cal	T-crit	Decision
Administrators	3.47	0.76	30	0.05	0.047	1.96	Not sig.
Physics teachers	3.39	0.82	30				

Table 7: T-test analysis of mean responses of school administrators and Physics teachers on the strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools

Table 7 presents the hypothetical analysis of the data gathered from both groups of respondents on the strategies to improve school quality so as to enhance physics teachers' performance in Rivers State secondary schools. Based on the result on the table, the value of the t-cal shows that the responses were not contrasting. Therefore, the null hypothesis was accepted.

IV. CONCLUSION

The findings of the study concluded that;

Standard classrooms, well equipped and standard science laboratory, well equipped science libraries, availability of internet systems for e-resources, good administrative

conditions of the school among others are the school qualities for responsible effective performance physics teachers.

Secondly, the study found that adequate teaching infrastructure in schools improve quality of lesson delivery, enhance students interest in the lesson, simplify teachers' explanation of concepts, enhance demonstration of practical concepts in physics, among others.

Furthermore, the study also tends to find out the contribution of school administration as an aspect of school quality on the performance of Physics teachers. Based on the findings, the researcher concluded that school administration; ensures teachers job satisfaction, maintains strict rules on quality lesson delivery, ensures students compromising attitude to teachers, sponsors all practical physics activities, provides necessary resources for effective lesson delivery for teachers among others.

Finally, in the quest to unveil strategies to improve school quality so as to enhance performance of Physics teachers, the researcher concluded that; ensuring availability of teaching resources, availability and utilization of e-resource for better materials, ensuring teachers job satisfaction, maintenance of high moral standard among students, ensuring teachers optimum work load and others in the table 4, are the strategies to improve school quality so as to enhance physics teachers' performance.

V. RECOMMENDATIONS

Based on the findings, the following recommendations were made

- ✓ Administrator should maintain school quality so as to ensure transfer of quality knowledge to learners.
- ✓ School administrators should consistently motivate Physics teachers so as to ensure improve performance.
- ✓ School administrators should maintain a quality standard of education in terms of providing all the necessary resources for impactful lesson delivery
- ✓ School administrators should engage in proper management of teaching facilities provided by the government as the poor conditions of teaching resources may reduce the school quality.

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