

Topic: Influence of Physics Teachers Qualification on The Performance Of Students In External Examination In Awka Education Zone Anambra State, Nigeria.

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ABSTRACT

The research examined the influence of the qualification of physics teachers on the performance of secondary school students in external examinations. The population of study was 2036 physics students in 22 schools in Awka education zone from where a sample of 623 students and 4 teachers was drawn by purposive sample 4 secondary schools. A co-relational Research Design was adopted in the study and three research questions asked. Teachers' academic qualification and the performance of students in external examination (WAEC 2011-2013) formed the data which were analyzed using simple percentage and Pearson product moment correlation. Findings of the research revealed that there is a high relationship between the teacher's academic qualification and students' performance. From the findings of this research, teachers professional qualification influenced students academic performance in physics, the government and all state holders in education sector should endeavor to implement its policy on basic education for all schools and thus, create an enlightened society in which every physics teacher would be educated enough to have a positive influence on their physics students for better performance in the subject.

INTRODUCTION

The mastery of a subject is indicated by the students' performance in such subject. Any interactive activity between a teacher and the student is expected to produce learning outcome in the learners. The importance of students in science generally is a major concern to science educators. Sakiyo and Sofeme (2008) noted that students' performance in the science subject is low in both national and state examinations. Survey from schools by Ajayi (2007) revealed that inadequacy of materials, laboratory facilities in the school, teachers methods of teaching, science curricula were factors that affect negatively the effective learning of physics in the secondary schools.

Anago (1990) stated that students' poor performance in physics globally is basically due to lack of involving the students' in teaching and learning activities, lack of materials and qualified personnel as well as insufficiency of laboratories materials.

The impact of teachers in the performance of students is germane. The teachers are the facilitators who are to impact in the students the concepts to be learnt. Nwagbo (2001) is of the opinion that ignorance of teachers and neglect of activity oriented methods by teachers grossly contribute to students' low performance in physics. One thing is to be grounded in conceptual understanding of a subject another is to be well acquitted with the best method to pass the concepts across to learners for proper comprehension. In this regard professional teachers are desirable.

Corroborating this, Owolabi (2007) stated that government should find all possible means to retain veteran and experienced teachers who are willing to serve so that they can contribute their wealth of experience to improve the system. The Baguada Seminar Reports on Qualities in Nigerian Education NERC 2006, shared the consensus that teachers are the main determinants of quality in education "if they are apathetic, uncommitted, uninspired, lazy, unmotivated immoral and anti-social, the whole nation is doomed.

Based on the aforementioned statement, the study examines the influence of physics teachers on the students' performance in secondary school physics external exams. This is necessary as it will give insight to professional development planners and identification of the factors contributes to increase students' performance.

To Ahiakwo (2003), quality is the bases and indispensable feature of a thing which differentiates it from other things. A high quality physics teacher is one who can competently achieve the objectives of science education and affect students' performance positively. At this point, it will be permanent to state that a professional science teacher is a professionally prepared teacher in content and methods of teaching any science subjects (i.e. biology, physics, chemistry). The classroom effect of this teacher and the non-professional is either positive or negative

The problem of the present study is what is the influence of the qualification of physics teachers on the academic performance of secondary school students in external examinations in Awka education zone?

PURPOSE/SIGNIFICANCE

The purpose of the study is to find:

1. The academic qualifications of physics teachers in Awka education zone
2. The academic performance of physics students in Awka education zone?
3. The relationship between teachers' academic qualifications and students' academic performance in physics.

The findings of this study will be useful to both teachers, students, parents and government. It will help teachers with strong sense of efficacy to take teaching seriously and in turn make students excel. School administrators and government will be informed.

Research Questions: The following questions were raised to guide the study:

1. What are the academic qualifications of physics teachers in Awka education zone?
2. What is the academic performance of physics students in Awka education zone?
3. What is the relationship between teachers' academic qualifications and students' academic performance in physics?

METHOD/IMPLICATIONS

A co-relational research design which seeks to find out the influence of the qualification of physics teachers on the academic performance of secondary school students in external examination in Awka Education Zone was used in the study.

The area of study with a total of eighteen (18) secondary schools. The population consists of physics students who took physics in WAEC, 2011-2013 in Awka Education Zone and the qualification of teachers that prepared and presented the students for the examination.

The sample of the study consists of 4 Senior Secondary School which was chosen by random sampling. There were a total of 603 students and 4 physics teachers.

The instrument was authorized letter and the data containing the students' academic performance in WAEC (2011-2013) and teachers' qualification. The descriptive statistics was employed to

analyze the data gathered for this study. Students’ academic performance is shown with percentages and mean and the Pearson Product Moment Correlation Coefficient was used to establish the relationship between teacher’s academic qualification and students’ academic performance in physics using the students’ mean scores.

The data collected was analyzed and used in answering research questions:

Research Question 1: What are the academic qualifications of physics teachers in Awka Education Zone?

Table 1: Qualification of physics teachers in the sample

Schools	Ph.D	M.Sc.	B.Sc. (Ed)	B.Sc.	NCE
A	-	-	-	2	-
B	-	-	-	2	-
C	-	-	3	-	-
D	-	4	-	-	-

Table 1 show that physics teachers in the selected schools passes at least a minimum of first degree in physics.

Research Question 2: What is the academic performance of physics students in Awka Education Zone?

Table 2: 2011/2012/2013 performance of school A

S/N	Score range	Grade	2011 no of stn	2012 no of stn	2013 no of stn	2011-13 mid score	2011 %	2012 %	2013 %	2011 Fx	2012 Fx	2013 fx
1.	0-39	F	5	3	0	19.5	17.86	10.71	0.00	97.5	58.5	0
2.	40-44	E	2	5	5	45	7.14	17.86	16.67	90	225	225
3.	45-49	D	11	6	7	47	39.29	21.43	23.3	517	282	329
4.	50-64	C	10	14	16	57	35.71	50.00	53.3	570	798	912
5.	65-69	B	0	0	2	67	0.00	0.00	6.67	0	0	134
6.	70-100	A	0	0	0	85	0.00	0.00	0.00	0	0	0
	Total		28		30		100%	100%	100			

Mean 2011 = 46

Mean 2012 = 49

Mean 2013 = 53.3

S/N	Score range	Grade	2011 no	2012 no	2013 no	2011-13 mid score	2011 %	2012 %	2013 %	2011 Fx	2012 Fx	2013 fx
1.	0-39	F	0	0	0		0	0	0	0	0	0
2.	40-44	E	4	0	4		4.76	0	9.76	180	0	180
3.	45-49	D	5	0	3		5.95	0	7.32	235	0	141
4.	50-64	C	26	18	16		30.95	32.73	39.02	1482	1026	912
5.	65-69	B	30	19	7		47.62	34.55	17.07	2010	1273	469
6.	70-100	A	19	18	11		22.62	32.73	26.83	1615	1530	935
	TOTAL		84	55	41		100%	100%	100%	5522	3829	2637

Pass = 75, weak pass = 9

2011 mean = 66 2012 mean = 70 2013 mean = 64.3

School B pass = 91.11% weak pass = 8.89%, fail = 0%

Av mean for school B = $2003.3/3 = 67$ Actual Mean

Table 4: 2011 – 2013 Academic Performance for School C

S/N	Score range	Grade	2011 no	2012 no	2013 no	2011-13 mid score	2011 %	2012 %	2013 %	2011 Fx	2012 Fx	2013 fx
1.	0-39	F	0	0	0	19.5	0	0	0	0	0	0
2.	40-44	E	1	0	3	45	0.99	0	4.17	45	0	135
3.	45-49	D	2	0	4	47	1.98	0	5.56	94	0	188
4.	50-64	C	47	48	19	57	46.53	47.06	26.39	267.9	273.6	1083
5.	65-69	B	31	20	25	67	30.69	19.61	34.72	2077	1340	1675
6.	70-100	A	20	34	21	85	19.80	33.33	29.17	1700	2890	1785
	TOTAL		101	102	72		100%	100%	100%	6595	6966	4866

2011 mean = 65.3 Pass = 98 weak = 3 Fail = 0
 2012 mean = 68.3 Pass = 102 Weak = 0 Fail = 0
 2013 mean = 68

Table 5: 2011-2013 Academic Performance for School D

S/N	Score range	Grade	2011 no	2012 no	2013 no	2011-13 mid score	2011 %	2012 %	2013 %	2011 Fx	2012 Fx	2013 fx
1.	0-39	F	0	0	0	19.5	0	0	0	0	0	0
2.	40-44	E	0	0	1	45	0	0	45	0	0	45
3.	45-49	D	0	0	5	47	0	0	235	0	0	23.5
4.	50-64	C	8	7	1	57	29.63	29.17	57	456	399	57
5.	65-69	B	9	10	10	67	33.33	41.67	670	603	670	670
6.	70-100	A	10	7	14	85	37.04	29.17	1190	850	595	1190
	TOTAL		27	102	31		100%	100%	2197	1909	1664	2197

Mean 2011 = 71 Pass = 25 Weak pass = 6 Fail = 0
 Mean 2012 = 69.3
 Mean 2013 = 71 Pass = 92.68% weak pass = 7.32% Fail = 0%
 AV mean = $211.3/3 = 70$ Actual = 70

Table 6: Summary of Students' Performance

S/N	Name of School	Pass in %	Pass in %	Failed in %	Mean Score
1.	A	48.84%	41.86%	9.30%	49.43
2.	B	91.11%	8.89%	0%	67
3.	C	96.36%	3.64%	0%	67.2
4.	D	92.68%	7.32%	0%	70

The summary of students performance shows that physics students in the sample schools has more than 50% pass, except in school A where we have 48.84% pass and mean scores of 49.43; 67, 67.2 and 70 respectively which reflect the qualification of the teachers.

Research Question 3: What is the relationship between teachers academic qualifications and students academic performance in physics?

Table 7: Teachers' academic qualification and students' mean academic performance in physics.

S/N	Name of school	Teachers Qualification	Rating	Students' mean score	Product moment correlation
1.	A	B.Sc.	2	49.43	
2.	B	B.Sc.	2	67	0.70
3.	C	B.Sc. (Ed)	3	67.2	
4.	D	M.Sc.	5	70	

The product moment correlation coefficient of teaching academic qualification and mean of students' academic performance in physics is 0.70 decision. If the coefficient is equal to 0.70 there is a high correlation that is a case when a change in one variable is associated with either but not equal degree in the other.

DISCUSSION

The findings reveal that there is a high but not a perfect relationship between teachers qualification and students academic performance. As a result, not all physics teachers in Awka Education Zone have the required professional qualifications to teach physics. From tables, it is seen that teachers with B.Sc. only has lower students' mean score, this implies that knowledge of the subject matter alone is not enough for teachers qualification and teachers with B.Sc. qualification should undergo in-services training in education to learn how to impact the pedagogical knowledge to students.

This is in line with Asikhia (2010) who found that teachers qualification influences students academic performance. It can be concluded that teachers academic qualification only is not enough to positively affect academic performance of students but a professional qualification in a specified field of study. Also learning depends on way of presentation and environment within which the learning takes place.

IMPLICATION/RECOMMENDATION

The educational implication of the finding shows that the professional qualification of teachers influences students' academic performance in physics positively.

Recommendation is that teachers

1. With professional qualifications at high level should teach physics in schools
2. Government should encourage the professional teachers in physics through incentives and science allowances.
3. Practicing physics teachers should undergo in service training such as seminars, post graduate diploma course in education to effectively discharge duties.

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