



The Relationship between Teacher's Knowledge of Subject Matter and Students' Academic Achievement in Senior Secondary Schools in Adamawa State, Nigeria

Sadiq Ahmed

Department of Physical Sciences Education, Modibbo Adama University of Technology, Yola, Nigeria

Abstract: *This study investigated on the relationship between teacher's knowledge of subject matter and students' academic achievements in economics in senior secondary schools in Adamawa state, Nigeria. The study was set to achieve certain objectives, research questions and hypotheses, the researcher adopted this study will adopt a descriptive survey design; the area of the study is Adamawa State. The population of the study is 5465 comprising of 337 principals 5128 teachers in all the public secondary schools within the five education zones of Adamawa state. The sample size of 73 principals and 372 teachers' in both selected zone is determined by Taro Yamane formula for finite population from the selected zones. The instrument was questionnaire on teacher's knowledge of subject matter and a profroma for student academic achievement results from selected schools from 2015-2018 WASSCE that is WAEC results. The instrument was validated by four Senior Lecturers. A reliability coefficient of 0.83 was obtained using Cronbach Alpha Method. The data was collected through the administration of the questionnaires. The descriptive statistics such as mean and standard deviation was used to answer the research questions. While inferential statistics such as multiple correlations were used to test the null hypothesis. The hypothesis was tested at 0.05 level of significance. the result of the finding revealed that hypothesis tested at 0.05 level of significance was rejected and it was concluded that teachers' knowledge of the subject matter contribute to secondary school students' academic achievement in senior secondary schools in Adamawa state.*

Keywords: *Teacher's knowledge of subject matter and student academic achievements.*

INTRODUCTION

Knowledge of the subject matter is a variable that influences teachers' quality and also affects students' Achievement. Students understand lesson more and with keen interest when lesson was taught by a teacher who master his subject matter very well. A teacher that masters his subject matter teaches very well. He is able to perform his duty efficiently and effectively. He is capable of developing and implementing curriculum. The mastery of relevant knowledge is one of the most important attributes of the teacher, according to Odiri (2011) the teacher today must have a good grasp of the subject matter if he is to command respect of his students. Since the frontiers of knowledge keep expanding every day and the level of the students generally keep rising too, a Economics teacher therefore who wants to keep abreast in the area of specialization should not cease to learn.

This study investigated teachers' teaching experience and academic achievement in education is a continuous process in life. It is the process of training and developing the knowledge, skill, mind and character of people. It is also the process by which the latent abilities of individuals are developed so that they may be useful to themselves and the society (Adunola, 2008). Meaningful improvements in the quality of education that students receive are determined by the quality of teachers. Therefore, quality

teaching and learning are sine qua non for students' academic achievement. For a nation that wants to achieve rapid technological development, academic achievement in Mathematics and English Language is central to the attainment of this laudable goal. Mathematics is the foundation science subject for the other science subjects like, Physics, Chemistry, Biology, and Additional Mathematics, while English Language is an indispensable tool of expression and communication. A number of scholars citing the role that language played in the successful development experience of nations like Japan, China, Korea, former Soviet Union now Common Wealth of Independent States, and the Asian Tigers, have advocated for the use of Nigerian local languages in teaching Mathematics and other science subjects in the primary and secondary schools (Yara, 2009). This recommendation was made to address the public concern on the poor academic achievement of students in Senior Secondary Certificate Examination (SSCE) in Mathematics and English Language in recent years. This recommendation has not been implemented till date and the poor academic achievement in these two key subjects has persisted. The controversy over the falling standards of education in Nigeria has been on the front burner of national discourse over the past decades and it is apparent that the debates will continue for some time to come.

Statement of the Problem

In the result released by WAEC for the 2014 May/June Senior Secondary School Examination, only 31.28% (529,425) candidates out of 1,692,435 candidates who sat for the examination had credits in five subjects and above including Mathematics and Economics as against 38.81% and 36.57% in 2012 and 2013 May/June examinations respectively. Though the result of May/June 2017 had recorded increase in the pass rate with 923,486 candidates representing 59.22% of a total of 1,471,151 candidates who sat for the examination scoring a minimum of five credits including Mathematics and English Language as against 52.97% in 2016, there is a lot more to be done therefore to encourage pass rate in schools. Since one of the purposes of education is the acquisition of knowledge and skills, students' performance after graduation can be seen as a reflection of their achievements in school. This also borders on the quality of human and material resources which are available during their schooling. For many years, educators and researchers have debated on which of the school variables that influence students' achievement. There is need for this research in order to determine if there is any relationship between teacher's knowledge of subject matter and students' academic achievements in economics in senior secondary schools in Adamawa state, Nigeria.

Purpose of the Study

The specific objectives of the study are to determine:

1. The relationship between teacher's knowledge of subject matter and students' academic achievement in economics in Adamawa State senior secondary schools.

Research Questions

The following research questions were raised which will guide the study:

1. What is the level of teachers' knowledge of the subject matter in Adamawa State senior secondary schools?

Hypotheses

This hypothesis was formulated and tested at 0.05 level of significance to guide the study;

1. There is no significant relationship between teachers' knowledge of subject matter and students' academic achievement in economics in senior secondary schools in Adamawa state.

Methodology

The researcher adopted a descriptive survey design; the area of the study is Adamawa State. The population of the study is 5465 comprising of 337 principals, 5128 teachers in all the public secondary schools within the five education zones of Adamawa state. The sample size of 73 principals and 372 teachers' in both selected zone is determined by Taro Yamane formula for finite population from the selected zones. The instrument was questionnaire on teacher's knowledge of subject matter and a profroma for student academic achievement results from selected schools from 2015-2018 WASSCE that is

WAEC results. The instrument was validated by four Senior Lecturers. A reliability coefficient of 0.83 was obtained using Cronbach Alpha Method. The data was collected through the administration of the questionnaires. The descriptive statistics such as mean and standard deviation was used to answer the research questions. While inferential statistics of Pearson Product Moment Correlation Coefficient was used to test the null hypothesis.

Findings

Data Analysis and Presentation of Results

The research question was raised and answered using descriptive statistics of mean and standard deviation. The hypothesis was formulated and tested at 0.05 level of significance using regression analysis.

Research Question 1

What is the level of teachers’ knowledge of the subject matter in Adamawa State senior secondary schools?

Table 1: Mean and Standard Deviation for the level of teachers’ knowledge of the subject matter in Adamawa State senior secondary schools

Items	N	Mean	Std. Deviation	Remark
Teachers knowledge of the subject matter affect students’ achievement in economics.	445	3.39	1.215	ME
Teachers presentation of instructional materials influences students’ achievements in your school.	445	2.82	1.451	ME
Teachers broad knowledge of concepts in economics.	445	3.34	1.510	ME
Preparation of notes is best for teaching economics.	445	2.64	1.505	ME
Teachers manners of presenting lessons could influence students’ performance in your school.	445	2.58	1.284	ME
Frequent use of continuous assessment makes the teacher to know the performance of students.	445	2.72	1.419	ME
Teachers manners of presenting lesson cold influence students’ achievement in economics.	445	3.40	1.385	ME
GRAND MEAN	445	3.00		

The descriptive statistics in table 1 above shows the mean and standard deviation of responses to the level of teachers’ knowledge of the subject matter is moderate. The table indicates the result by the grand mean of 3.00.

Hypotheses Testing

The hypotheses were tested using Pearson Product Moment Correlation at 0.05 level of significance.

H0₁: There is no significant relationship between teachers’ knowledge of subject matter and students’ academic achievement in economics in senior secondary schools in Adamawa state

Table 2: Summary of Pearson Product Moment Correlation Statistic for Relationship between teachers’ knowledge of subject matter and students’ academic achievement in economics in senior secondary schools in Adamawa state.

Model		Salary	Job performance
knowledge of the subject matter	Pearson Correlation	1	.076
	Sig.(2- tailed)		.833
	N	166	166
Academic achievement	Pearson Correlation	.076	1
	Sig.(2- tailed)	.833	
	N	166	166

** . Correlation is significant at the 0.05 level (2-tailed).

The relationship teachers' knowledge of subject matter and students' academic achievement was investigated using Pearson Product Moment Correlation coefficient, which indicated significant relationship, since $p < 0.05$. Preliminary analyses were performed to ensure no violation of the assumptions of normality and linearity. There was a strong, positive correlation between the two variables, $r_{ho} = 0.83$, $n = 166$, $p < 0.05$, with moderate level of teachers' knowledge of subject matter and moderate level of students' academic achievement.

Conclusion

On the basis of finding of the study it was concluded that knowledge of the subject matter contribute to secondary school students' academic achievement in senior secondary schools in Adamawa state.

Recommendations

On the basis of the findings of this study, the following recommendations were made:

1. Acquisition of teaching skills should be the basis for promotion for secondary school teachers.
2. Periodic review of remuneration of teachers should be given top priority but it must be based on teachers' and students' performance.

References

1. Adunola, O. (2011). The Impact of Teachers' Teaching Methods on the Academic Performance of Primary School Students in iljebu-Ode Local Cut Area of Ogun State, Ego Booster Books.
2. Odiri, O. E. (2011). The Influence of Teachers Attitude on Students' learning of Mathematics in Nigerian Secondary Schools. *Journal of Research in Education*, 2(1), 15-21.
3. Yara, P.O. (2009). Relationship Between Teachers Attitude and Students Academic Achievement in Mathematics. in some selected senior secondary schools in Southwestern Nigeria. *European Journal of Social Sciences*, 11(3): 364-369.