Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

Teachers' Variables and Academic Achievement of Community Health Students in Basic Science in Cross River State

Michael Abang Otu

Department of General Studies, College of Health Technology, Calabar, Cross River State Email: mykab2002@yahoo.com

doi: https://doi.org/10.37745/bjmas.2022.04207

Published November 17, 2024

Citation: Otu M.A. (2024) Teachers' Variables and Academic Achievement of Community Health Students in Basic Science in Cross River State, *British Journal of Multidisciplinary and Advanced Studies* 5(6),12-24

Abstract: Many factors are attributable to the academic achievements of students among which Teachers' variable is a major attribute. The limitations of the teacher as a supporting agent in the area of Basic Science hinder academic achievement of students in learning of Basic Sciences. The quality of instructions from the teacher at all levels of education determines the acquisition of competencies necessary for self-reliance and effective service delivery. The teacher's attitude to work, knowledge of subject matter and instructional competence have a relationship with students' academic achievements. The poor quality of students' academic quality among community health students' in Basic Sciences in CrossRiver State may be as a result of these variables. This study therefore examined Teachers' variable and academic achievement of community health students' in Basic Sciences in Cross River State. To achieve the purpose of this study, four (4) specific objectives were raised to guide the study, which were then converted to four (4) research questions and transformed to research hypotheses. Related literatures we reviewed in line with the variables of the study. The study adopted correlational research design, which is a non-experimental approach between a set of variables and naturally cannot be manipulated. The research area is Cross River State, Nigeria. The target population of study was year 1 Community Health students. Sample of study was415 students randomly selected from ten schools for the 2023/2024 academic session. The instrument employed was questionnaire designed by the researcher. Cronbach Alpha reliability method was used to determine the reliability estimate of the instrument which range from 0.73 to 0.81. Data was analysed using Multiple Linear regression. The findings of the study revealed that all teachers' variables had significant positive relationship with students' academic performance in Basic Sciences in Cross River State. It was recommended among others that teachers should adopt positive attitudetowards their teaching profession especially in secondary schools.

Keywords: teachers' variable, academic achievement, community health students and basic science

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

INTRODUCTION

Teachers are the core influential aspects in students and achievement. Other essential contributors may include but are not limited to the school attended, the social and economic levelsof the students' families, as well as the students' abilities and characteristics. However, the most powerful and influential contributor to the students' academic performance will always remain to be the teachers. Effective teachers have many characteristics that recognize their quality. The characteristics include content knowledge, teaching experience, training and credentials and overall academic ability (Policy Studies Associates, 2005).

The contribution of science towards the quality of human life cannot be overemphasized. This justifies it's pride of place in the curricula of schools in Nigeria (Ihejiamaizu, Ukor&Neji, 2018). The prime goal of science teaching in the contemporary period is to prepare students to compete in the global world. It evokes in them Socrates learning method which is discovery through inquiry, thereupon, the process of learning takes place in it's true essence. It also helps them to nourish and garnish their knowledge and skills at individual and collective levels and subsequently use these in a broad spectrum. Secondary level science education prepares the students to develop all the three areas which include cognitive, psychomotor and affective domains in order to understand the phenomena present in their physical environment. Learning science also helps in developing socially acceptable behaviour.

Positive responses towards learning, area of subject and methods of teaching are vital for the students as they strongly influence the process of learning, internalization of concepts gained in the past and also to find out future possibilities (Safdar, 2007). The learning of basic scientific concepts in Nigerian schools is generally regarded as being difficult for most students (Oloyede, 1998). The general inability of students to tackle most of the numerical (problem solving) questions has been reported. This poor problem- solving ability has led to the poor performance of chemistry students in WAEC examinations (Jimoh, 2004; Njoku, 2007) with a general show of evidence in performance from 2007 to 2009 (WAEC, 2010). These poor performances as reported in problem-solving ability points to a likely deficiency in the method of instruction which is one of the teacher variables. Generally, failure of students to perform well in basic science subjects is attributed to the instructional strategies employed by teachers. (Gongden&Delmang, 2016).

A trained teacher is one who is trained in the art of teaching to impart knowledge to the learners. Mkpa in Okoro and Afurobi (2008) identified a trained teacher as someone who has undergone and completed a formal teacher training program, a planned programme of training, among other areas in principle and practice of education and have been exposed to an observed period of internship or training.

The above view of Mkpa agrees with Obiefuna, Okoro and Iwuamadi (2010) which points out among others that a teacher is trained to acquire the necessary skills that enable him to administer the content of curriculum to the learners. The teacher is a factor that influences learning and academic achievement. This is through the extent of the teachers' mastery of the

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

content, poor administration of instructional method and strategies, lack of dedication to duty, conversion of classroom into shopping centres and personality. Other factors associated with the teacher in relation to students achievement include teachers self-efficacy, teachers' attitude and qualification, motivation and teachers workload.

Basic science and technology is supposed to contribute to the achievement of the national education by providing the required science, technical and vocational skills. In the last few years, precisely between 2009 and 2013, the percentage failure in national examinations, conducted by West African Examination Council (WAEC) and National Examinations Council (NECO), respectively has been rather high. The core science subjects, particularly mathematics and physics are worst (Joshua, 2014). Results of the examinations conducted by NECO in May/June, 2009 revealed that only 126,500 (i.e. 10.68%) of the 1,184,907 candidates that sat for the examinations passed with credit in five subjects including mathematics. In 2010, out of the 1,113,177 candidates that sat for the examinations only 285, 146 (i.e. 25.62%) passed with either distinction or credit in mathematics. The total number of 870, 305 (i.e. 78%) of the candidates failed to obtain credit passes in English language. Since obtaining credit pass in English and Mathematics is a compulsory prerequisite condition for admission into any Nigerian university, the implication is that 78% of the total number that sat for the examinations that year would not be able to have access to university education. In 2011, out of the 1,190,511 candidates, 295,961 (or 24.86%) passed mathematics at credit level and only 263,777 (i.e. 22.16%) obtained credit level pass in English language. The basic science and technologically based subjects like physics and chemistry were not spared of the woeful performance either (Sunday, Punch, October 9, 2011, p.13). The ugly situation should be a source of concern to all stakeholders.

Several factors have generally been identified as predictors of poor academic achievement (Tella, 2008). Agyeman (1993) posited that a teacher who doesn't have both the academic and professional teaching qualification would undoubtedly have a negative influence on the teaching and learning of his/her subject. Apart from teachers' qualification, other variables which can positively or negatively predict the students learning in basic science subjects also exist. It is against, this background that this study critically examines teachers' variables and academic achievement of basic science students among community health students of Colleges of Health Technology in Cross River State. The study focused on teachers' self-efficacy, attitude, qualification, experience, workload, subject specialization on academic achievement of Basic Science students in Cross River State.

LITERATURE REVIEW

Teachers' attitude to work and students' academic performance

The classroom climate which is often times set by the teacher is determined by the teacher's attitude. Attitude as a major determinant of a person's behaviour influences the way a teacher relates with the students and thus affects students' academic performance. A study by Ekperi, Onwuka and Nyejirime (2019) examined teacher's attitude as a correlate of students' academic performance in geography. Descriptive survey design was adopted and a sample size of 400 selected from a population of 968 using the Taro Yamane sample size formula. Two research

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

questions and a research hypothesis were proposed in line with the study objectives. Average Mean Score was used to analyze responses for the research questions while Multiple Regression Analysis was used to test the research hypotheses. The findings showed that attitude of teachers correlated positively and significantly with students' academic performance. The study recommended among others thatteachers should go beyond Instruction and focus on the interpersonal aspects of teaching; constant in-service training should be provided for teachers and also provision should be made for teachers to attend educational conferences both locally and internationally as this would help them grow on the job and thus develop positive self-image.

A study by Baidoo-Anu (2018) was carried outto determine the impact of students and teachers attitudes on the academic performance of students in Asikuma-Odoben-Brakwa District, Ghana. A descriptive design was used. The target population for this study consisted of school children and teachers. The study population was made up of students, and teachers of Asikuma Circuit Junior High Schools. Simple random sampling was used to select four public Junior High Schools from the circuit. The researcher also used all the teachers in the selected Junior High Schools for the study. The sample size was 205 students. The questionnaires items were designed respectively for school teachers and students. Percentages and frequencies were used to analyze the background information of the participants and the two research questions. The finding revealed that teacher attitudes that contributed to the low academic achievement of the students in Asikuma Circuit Junior High Schools included: teacher's regular absence from school and teacher's lateness to school.

The study by Uluga, Ozden and Eryilmaz (2011) was to uncover how attitudes of teachers affect the personalities and performances of students. Sample group of research consisted of all 353 students from different departments of Istanbul Kultur and Maltepe Universities. By giving a questionnaire the students were asked to give samples of their primary, secondary, high school and university teachers' attitudes and behaviours as well as to say how these effected their personality development and performances. The most important findings of the research were that teachers' positive attitudes have positively influenced students' personality as well as their life performances. Based on these findings, teachers' role in lifespan education as beyond a simple knowledge transformation was discussed.

Kurgat and Gordon (2014) examined the effect of teacher characteristics and attitudes on students' performance in Economics. The study was a field based survey conducted in secondary schools offering Economics in the Rift Valley Province of Kenya. Simple purposive sampling was used to get the representative sample for the study. The representative sample, constituted all of the fourth form students of economics in all the secondary schools in the Rift Valley Province of Kenya, Inspectors of schools in districts where economics was being offered and teachers from the schools where the subject was offered. A total of 187 students, 32 teachers and 4 district inspectors took part. Data was collected from the sample using questionnaires. The study revealed that teachers have a positive attitude towards the subject though poor performance was attributed to other factors than teacher attitudes. It was observed that teachers' attitude to work had significant positive influence on the students' academic performance in Economics.

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

Teachers' knowledge of subject matter and students' academic performance

The performance of senior secondary school students in English language has been dwindling for many years in Nigeria. The problems have been blamed on the way the teaching and learning of English are handled in the classroom by the teachers. Among the predominant teacher related factors that are adduced as influencing students' performance are teachers' subject mastery and teachers' questioning behaviour. In mainstream education, teachers have been acknowledged to have a great impact on student learning outcomes and so these factors call for a closer scrutiny. However, the study by Olowoyeye and Alonge (2014) was born from this premise that the teacher remains the first resource in teaching and learning processes and that no educational program can rise above the level of its teachers. To carry out the study, relevant literature considering the teacher related factors in English language teaching and learning process were reviewed and the descriptive research design of the survey type was adopted for the study. A total of 500 students and 10 teachers constituted the sample selected through simple random sampling procedure. The major instruments for the study were: Teachers' Questioning Behaviours Observations Checklist (TQBOC), Teachers' Subject Mastery Observation Checklist (TSMOC) and Achievement Test in English Language. (ATEL) Three research questions were raised and the data collected were collated and coded with descriptive statistics as well as Multiple Classification Analysis. It was concluded that there was: (1) a positive relationship between teachers' subject mastery and students' performance in English language (2) that teachers' questioning behaviour was not a significant determinant of students' learning outcomes in English language among senior secondary school students in Ikere Metropolis.

A study by Olasehinde-Williams, Yahaya and Owolabi (2018) investigated the predictive value of Teachers' Depth of Subject Content Knowledge and Depth of Pedagogical Knowledge on Students' Academic Achievement in English Language and Mathematics. The sample comprised seventy-eight English Language and Mathematics teachers from thirty-two randomly selected secondary schools in Kwara State; and the intact SS II classes taught by the teachers. Quantitative data were collected through tests, observations and vignettes; and analysed using descriptive and inferential statistics. Findings showed that subject content knowledge of teachers was a significant predictors of students' academic achievement. These findings raised concerns of profound implications for teacher education curriculum in Nigeria.

Jega and Bashir (2018) examined the relationship between teachers' variables and students' interest and achievement in Mathematics. One research question and two (2) research hypotheses guided this study, the research question was answered using percentages, Mean and Standard Deviation while the research hypotheses were tested using Multiple Regression and ANOVA. The findings from the study revealed that all teachers' variables (pedagogical knowledge, subject matter knowledge, teacher-student relationship, teachers' qualification and experience) when taken together made significant contributions to students' interest and achievement in Mathematics

Abubakar (2014) investigated the perception of the relationship between teachers' quality and students' academic performance in Hausa language of senior secondary schools of Kano metropolis. A total sample size of 250 SSII students were randomly selected out of a population of 9,938 students in the metropolis. All the seventy five (75) teachers teaching Hausa language in the schools were selected to represent the sample for the teachers. Survey design was used in the

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

study and the instruments for data collection were a 40 item questionnaire for teachers and Hausa Language Performance Test (HLPT). The research hypotheses were tested using inferential statistics such as r-test and F-test (ANOVA) and the result revealed that knowledge of subject matter played a significant role in the performance of students. It was concluded that teachers with deeper knowledge of subject matter produced better students, than those with shallow knowledge of subject matter.

Teachers' instructional competence and students' academic performance

The study by Rabo (2018) centred mainly on the relationship between teacher competence, school climate and students academic performance. The research design adopted for this study was correlation research design, under the descriptive survey research. The study was based on Maslow's Hierarchy of Need which is a motivational theory. The study was carried out using questionnaire, achievement test and focus group discussions. The population was all the public senior secondary school students in Sokoto State. A total number of twelve public senior secondary schools, with 3,428 as the population of SSII students, were purposively selected within the six educational zones to represent the total sample. The judgmental sampling technique was used to select the schools. The qualitative data collected were analyzed through thematic analysis by coding and transcription, while the quantitative data were analyzed using Pearson Product Moment Correlation Co-efficient. The major finding of the study was that teacher competence has relationship with student's academic performance. It was recommended that the government should look at how programme developers, university researchers, and national and international agencies can directly conduct carefully constructed studies to create and support teacher professional competence within the school and ascertain their impact on providing good academic performance in schools.

The objective of the study by Muzenda (2013) was to analyze the effect of lecturers' competences on Students' academic performance in higher education and training schools. A sample of 115students was selected and used for the study using simple random sampling procedure. A structured questionnaire was used to gather data on students' level of agreement on the extent to which distinct variables measuring lecturers determine their academic performance. The data collected using the survey instrument was processed and analysed using Statistical Package for the Social Sciences (SPSS). The scale reliability Cronbach's alpha of 0.822 and the sampling adequacy Keiser-MeyerOlkin of 0.769; with a total declared variance of 66.519 percent were obtained from the analysis. Four hypotheses were tested using Stepwise Regression approach. Results indicate that subject knowledge, teaching skills, lecturer attendance and attitude have significant positive influence on students' academic performance.

Onyilo and Shamo (2017) investigated teacher competence as a tool for effective and sustainable human capital development in selected Public Secondary Schools in the Federal Capital Territory (FCT), Abuja, Nigeria. Descriptive survey design was used for the study while simple random sampling technique was used to draw the sample for the study in two area councils in the FCT. The data generated was analysed using means scores, standard deviation, t-test and Analysis of Variance (ANOVA). The dependent variables for the study were knowledge impartation, teacher commitment to work and classroom management. The findings revealed a highly commendable level of teacher competence in service delivery. However, no significant relationship was found between the independent and dependent variables with significant values standing at 0.660.389

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

and 0.345, respectively (P>0.05). The authors recommended that other psychological constructs such as self efficacy and emotional intelligence as independent variables should be used to gain more insight into teacher competence in the aforementioned ramifications. Regular career guidance should also be made as an integral part of capacity building for optimum and sustainable impact on human capital development.

The study by Nbina (2012) investigated the influence of teacher's competence on students' academic performance in senior secondary chemistry. A random sampling technique was used to select 6 secondary schools out of 10 secondary schools in Tai Local Government Area of Rivers State. 200 students, 20 teachers and 6 principals were used in the study. A survey design was adopted. Three researcher-made instruments namely: School principal Questionnaire (SPQ), Teachers Competence Questionnaire (TCQ) and Chemistry Achievement Test (CAT) were used to gather data for the study. Data were analyzed using the Pearson Product Moment Correlation (PPMC) and t-test. Results revealed that there was significant relationship between teachers' competence and students' academic performance in chemistry. Chemistry students taught by qualified and experienced teachers. Recommendations were made on how to promote further development of science teachers in Nigeria.

The study by Ugbe and Agim (2009) investigated the influence of teachers' competence on students; academic performance in senior secondary school chemistry. A random sampling technique was used to select 6 secondary schools out of 12 secondary schools in Yala Local Government Area of Cross River State. 200 students, 20 teachers and 6 principals were used in the study. A survey design was adopted for the study. Three researcher – made instruments namely School Principal Questionnaire (SPQ), Teachers Competence Questionnaire (TCQ) and Chemistry Achievement Test (CAT) were used to gather data for the study. Data were analyzed using the Pearson Product Moment Correlation (PPMC) and t-test. Results revealed that there was significant relationship between teachers' competence and students' academic performance in Chemistry. Chemistry students taught by qualified teachers performed significantly better than those taught by unqualified teachers.

Purpose of the study

Specifically, the objective of the study was to investigates:

- 1. The relationship between teachers' attitude to work and students' academic performance in Basic Science
- 2. The relationship between teachers' knowledge of subject matter and students' academic performance in Basic Science
- 3. The relationship between teachers' instructional competence and students' academic performance in Basic Science
- 4. The combined predictive impact of teachers' variables on students' academic performance in Basic Science

Research questions

The following research questions guided the study:

1. What is the relationship between teachers' attitude to work and students' academic performance in Basic Science?

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

- 2. What is the relationship between teachers' knowledge of subject matter and students' academic performance in Basic Science?
- 3. What is the relationship between teachers' instructional competence and students' academic performance in Basic Science?
- 4. What is the combined predictive impact of teachers' attitude to work, teachers' knowledge of subject matter and instructional competence and students' academic performance in Basic Science?

Statement of hypotheses

The following hypotheses guided the study.

- 1. There is no significant relationship between teachers' attitude to work and students' academic performance in Basic Science
- 2. There is no significant relationship between teachers' knowledge of subject matter and students' academic performance in Basic Science?
- 3. There is no significant relationship between teachers' instructional competence and students' academic performance in Basic Science?
- 4. There is no significant relationship between combined predictive impact of teachers' attitude to work, teachers' knowledge of subject matter and instructional competence and students' academic performance in Basic Science?

METHODOLOGY

The study adopted correlational research design. Correlational research design according to Idaka and Anagbogu (2012) is a non-experimental research approach that attempts to find the nature of the relationships between a set of variables. This means that the relationship between variables are not determined by the researcher and that it cannot also be manipulated, rather it is naturally present within a group or sample. For the purpose of this study, prediction design was adopted to identify variables that can effectively predict some outcome or criterion. The variable being predicted is called the criterion variable, and the variable or variables being used to predict the criterion are called predictors.

The sample for the study comprised of 415 Community Health students of Colleges of Health Technology randomly selected from ten schools in Cross River State. The instruments used in data collection for the study were "Teacher Variables Questionnaire" (TVQ) and Basic Science Achievement Test (BSAT). The reliability of the TVQ was determined using Cronbach Alpha reliability method which gave a reliability coefficient that ranged from .73 to .81 and the BSAT was analyzed using Guttman split-half reliability estimate which gave a coefficient of .73 with Spearman Brown prophesy coefficient of .78 for the first reliability. Data collection was done in the sampled schools by the researcher with the assistance of the Mathematics teachers available in the selected schools. The data collected were analyzed using Multiple Linear Regression Analysis and tested at .05 level of significance.

Print ISSN: 2517-276X Online ISSN: 2517-2778

OTHINE 1331 1. 2317 277 0

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

Presentation of results: testing of hypotheses

Hypothesis one

There is no significant relationship between teacher variables (teachers' attitude to work, knowledge of subject matter and instructional competence) and students' academic performance in Basic Science. The inter-correlation coefficient among the variables was presented in Table 1.

Table 1: Descriptive statistics and Inter-correlation among the variables (N=415)

Variables	Mean	SD	1	2	3	4
Academic performance	18.33	5.12	1.000			
Teachers' attitude to work	14.63	4.15	.128*	1.000		
Knowledge of subject matter	14.95	4.81	.230*	.085*	1.000	
Instructional competence	15.28	4.54	.202*	.037	.099*	1.000

^{*}Significant at .05 level of significance. Critical r-ratio = 0.08

The result in Table 1 showed that the mean scores obtained by the subject as regards teachers' attitude to work was 14.63 with a standard deviation of 4.15 while the mean score of 14.95 with a standard deviation of 4.81 was obtained as regards to teachers' knowledge of content matter. On the other hand, it was revealed that the mean scores obtained by the subject as regards teachers' instructional competence was 15.28 with a standard deviation of 4.54 while the mean score of 18.33 with a standard deviation of 5.12 was obtained as regards to students' academic performance in Basic Science. The result in Table 1 further showed that the inter-correlation among the variables revealed that all the independent variables had significant positive relationship with students' academic performance in Basic Science. Furthermore, it was observed that teachers' knowledge of subject matter had significant positive relationship with their attitude to work and instructional competence while teachers' attitude to work had positive relationship with their instructional competence but it was not statistically significant.

Hypothesis two

There is no significant combined predictive impact of teacher variables on students' academic performance in Basic Science. The composite contribution of all the teacher variables on academic performance in Basic Science was checked and the result was presented in Table 2.

Table 2: Multiple Regression Analysis showing the combined predictive impact of teacher variables on students' academic performance in Basic Science

Multiple R		=	0.310		
Multiple R ²		=	0.096		
Multiple R ² (Adjusted)		=	0.090		
Standard Error of Estimation		=	4.885		
Source of variance	Sum of squares	df	Mean square	F-ratio	p-level
Source of variance Regression	Sum of squares 1044.897	<u>df</u> 3	Mean square 348.299	F-ratio 14.597*	p-level .000
Regression	1044.897	3	348.299		

^{*}Significant at .05 level.

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

The result in Table 2 showed that the analysis of variance of the multiple regression data yielded an F-ratio value which was statistically significant at .05 level of significance; $F_{(3, 411)} = 14.597$. This result indicates that when the teacher variables when taken together, they significantly predicted students' academic performance in Basic Science. The combined contributions of the independent variables (teacher variables) to students' academic performance in Basic Science produced a coefficient of multiple regression (R) of 0.310 and an adjusted (standardized) multiple R-square (R^2) of 0.090. The adjusted multiple R-square (R^2) of 0.090 implies that when the independent variables were taken together, they accounted for 9.0% of the total variance in students' academic performance in Basic Science.

Hypothesis three

There is no significant relative predictive impact of teacher variables on students' academic performance in Basic Science. The composite contribution of all the teacher variables on academic performance in Basic Science was checked and the result was presented in Table 3.

Table 3: Test of regression weights for contributions of each of the teacher variables on students' academic performance in Basic Science

1					
Variables	В	Std. Error	Beta	t	p-level
(Constant)	10.138	1.321		7.675*	.000
Teachers' attitude to work	.128	.058	.104	2.203*	.028
Knowledge of subject matter	.217	.050	.204	4.310*	.000
Instructional competence	.201	.053	.178	3.786*	.000

Dependent variable: Students' academic performance in Basic Science.

Table 3 shows the standardised regression weights (beta), t-ratio and probability level for each of the variables. As presented, the standardised regression weights (Beta) obtained for the teachers' attitude to work was .104 while the Beta weight for teachers' knowledge of subject matter was .204 and teachers' instructional competence produced a Beta weight of .178 indicating that all the independent variables had significant prediction on students' academic performance in Basic Science. In terms of magnitude of the contribution: teachers' knowledge of subject matter contributed most to the prediction of students' academic performance in Basic Science followed by teachers' instructional competence and teachers' attitude to work respectively.

DISCUSSION OF FINDINGS

The result of the data analyses revealed that all the teacher variables had significant positive relationship with students' academic performance in Basic Science. Also, it was observed that the teacher variables when taken together, significantly predicted students academic performance in Basic Science. The result further revealed that teachers' attitude to work, teachers' knowledge of subject matter and teachers' instructional competence significantly predicted students' academic performance in Basic Science with teachers' knowledge of subject matter having the greatest prediction, followed by teachers' instructional competence and teachers' attitude to work respectively.

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

The result was not surprising that teachers' attitude to work, teachers' knowledge of subject matter and teachers' instructional competence had significant positive relationship with students' academic performance in Basic Science because when the teachers have good knowledge of subject matter, they will definitely be competence in their instructional delivery which makes them to have positive attitude to their work. This, in turn will make them deliver their lectures effectively and would improve students' academic performance especially in Basic Science.

The finding of this study is in accordance with that of Ekperi, Onwuka and Nyejirime (2019) who examined teacher's attitude as a correlate of students' academic performance in geography and concluded that attitude of teachers correlated positively and significantly with students' academic performance. Also, with thatby Uluga, Ozden and Eryilmaz (2011) who showed how attitudes of teachers affect the personalities and performances of students and found out that teachers' positive attitudes have positively influenced students' personality as well as their life performances.

The finding is also in accordance with the finding of the study by Kurgat and Gordon (2014) that examined the effect of teacher characteristics and attitudes on student performance in Economics subject and found out that teachers have a positive attitude towards the subject thus poor performance could be attributed to other factors than teacher attitudes. It was observed that teachers' attitude to work had significant positive influence on the students' academic performance in Economics. The finding also concurred with that of the study by Olowoyeye and Alonge (2014) which was based on the premise that the teacher remains the first resource in teaching and learning processes and that no education program can rise above the level of its teachers. It was concluded that there is a positive relationship between teachers' subject mastery and students' performance in English Language.

The finding also agreed that Jega and Bashir (2018) who examined the relationship between teachers' variables and students' interest and achievement in Mathematics and found out that subject matter knowledge had significant influence on students' achievement in Mathematics. The finding is also in line with that of the study by Abubakar (2014) which investigated the perception of the relationship between teachers' quality and students' academic performance in Hausa language of senior secondary schools in Kano metropolis and found out that knowledge of subject matter played a significant role in the performance of students and therefore it led to the general conclusion that teachers with deeper knowledge of subject matter produced better students, than those with shallow knowledge of subject matter.

The finding agreed with that of the study by Rabo (2018) which centred mainly on the relationship between teacher competence, school climate and students academic performance and found out that teacher competence has relationship with student's academic performance. Finally, the finding is in line with that of Muzenda (2013) whoanalyzed the effect of lecturers' competences on Students' academic performance among higher education and training schools and found out that subject knowledge, teaching skills, lecturer attendance and attitude have significant positive influences on students' academic performance.

Recommendations

It is recommended among others that:

Print ISSN: 2517-276X

Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

- 1. Teachers should adopt positive attitude towards their teaching profession especially in the secondary school.
- 2. Teachers should have a better understanding of the subject matter so as to be able to cover the content area and carry the students along
- 3. The government should look at how programme developers, university researchers, and national and international agencies can directly conduct carefully constructed studies to create and support teacher professional competence within the school and ascertain their impact on providing good academic performance in our schools.

REFERENCES

- Abubakar, G. M. (2014). Perception of the relationship between teacher quality and students' academic performance in senior secondary schools in Kano Metropolis. A thesis submitted to post graduate school Ahmadu Bello University, Zaria.
- Baidoo-Anu, D. (2018). Students and teachers attitudes responsible for poor academic performance of junior high school students. *Asian Journal of Education and Social Studies*, 2(2), 1-8.
- Ekperi, P. M., Onwuka, U., &Nyejirime, W. Y. (2019). Teachers' attitude as a correlate of students' academic performance. *International Journal of Research and Innovation in Social Science (IJRISS)*, 3(1), 205-209.
- Gongden, E. J. &Delmang, T. K. (2016). Ameliorating students' performance and attitude towards chemistry problem –solving techniques (CPST). *International Journal of Scientific Research in Education*, 9(2), 41-47.
- Ihejiamaizu, C.; Ukor, D &Neji, H. (2018). Utilization of 5Es constructivist approach for enhancing the teaching of difficult concepts in Biology. *Global Journal of Educational Research*, 17, 55-60
- Jega, S. H., & Bashir, K. (2018). The relationship between teachers' variables and students' achievement and interest in mathematics in Kebbi State. *International Journal of Education and Evaluation*, 4(3), 29-44.
- Jimoh, S. B. (2016). Methods of teaching agricultural science: In methods of teaching science, basic technology and computer studies in Nigerian secondary schools. (pp. 25-29). Ilorin published by Department of Science Education, University of Ilorin, Ilorin, Nigeria.
- Kurgat, S. J., & Gordon, T. J. (2014). The effects of teacher characteristics and attitudes on student achievement in KCSE Economics examination. *International Journal of Education Learning and Development*, 2(5), 33-43.
- Muzenda, A. (2013). Lecturers' competences and students' academic performance. *International Journal of Humanities and Social Science Invention*, 3(1), 6-13.
- Nbina, J. B. (12). Teachers' competence and students' academic performance in senior secondary schools Chemistry: is there any relationship? *Global Journal of Educational Research*, 1, 15-18.

Print ISSN: 2517-276X Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Published by the European Centre for Research Training and Development UK

- Obiefuna, C. A.; Okoro, I. F. &Iwuandi, F. N. (2010). Basic principles and methods of teaching and learning. Owerri: Career publishers.
- Okoro, I. F. & Afurobi, A. O. (2008). Teacher factor as an impediment to primary school curriculum implementation: The way forward for 21st century. *Multidisciplinary Journal of Research Development*, 10(2), 80-86.
- Olasehinde-Williams, F., Yahaya, L., & Owolabi, H. (2018). Teachers' knowledge indices as predictors of secondary school students' academic achievement in Kwara State, Nigeria. *IAFOR Journal of Education*, 6(1), 73-90.
- Olowoyeye, C. A., & Alonge, S. (2014). Impact of teachers' subject mastery and questioning behaviour on students' performance in English Language in selected senior secondary schools in Ikere Metropolis. *Research on Humanities and Social Sciences*, 4(14), 127-131.
- Oloyode, O. I. (1998). The effects of pre-test, feedback and overview on senior secondary school students achievement. *Journal of Science Teachers Association of Nigeria*, 33 (1&2), 26-31.
- Onyilo, B. O. &Shamo, I. I. (2017). Teacher competence as a tool for effective and sustainable human capital development in the federal capital territory: Implications for career guidance. *International Journal of Psychology and Counselling*, 9(3), 17-22.
- Ugbe and Agim (2009). Influence of teachers' competence on students academic performance in senior secondary school chemistry. *Global Journal of Educational Research*, 8(1&2), 61-66.
- Uluga, M., Ozden, M. S., & Eryilmaz, A. (2011). The effects of teachers' attitudes on students' personality and performance. *Procedia Social and Behavioural Sciences*, *30*(2011) 738-742.