FACTORS AFFECTING STUDENTS' ACADEMIC PERFORMANCE IN JUNIOR SECONDARY SCHOOL BASIC SCIENCE IN WARWAR SARDAUNA LOCAL GOVERNMENT AREA TARABA STATE.

BY

JUMVUH, NYIMCHIA SAMUEL

(PGDE/SE/12/0590)

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A PROJECT REPORT SUBMITTED TO THE DEPARTMENT OF SCIENCE EDUCATION, MODIBBO ADAMA UNIVERSITY OF TECHNOLOGY, YOLA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF POST GRADUATE DIPLOMA IN EDUCATION

FEBRUARY; 2015

DECLARATION

I hereby declare that this project report was written by me and it is a record of my own research work. It has not been presented before in any previous application for a higher degree. All references cited have been duly acknowledged.

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JUMVUH NYIMCHIA SAMUEL Date

DEDICATION

I dedicate this work to my lovely wife Mrs Victoria J.N Samuel and to all my lovely children.

APPROVAL PAGE

This project entitled "Factors Affecting Students' Academic Performance in Junior Secondary School Basic Science in Warwar Sardauna L.G.ATaraba State."Meets the regulations governing the award of Postgraduate Diploma in Education of the Modibbo Adama University of Technology, Yola and is approved for its contribution to knowledge and literary presentation.

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Head of the Department Date

(Name and Signature)

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Dean, School of Postgraduate Studies Date

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ABSTRACT

This studyinvestigated some of the factors affecting students' academic performance in Junior Secondary School Basic Science in Warwar Sardauna L.G.A Taraba State. The study was conducted in Warwar L.G.A of Taraba state. The target population comprised of 50 Basic Science teachers from the five Junior Secondary Schools within the local government and 300junior secondary school students. A questionnaire was used for collecting data. The results reveal that teacher professional qualification, teaching method, use of instructional materials, and teachers experience has significant effects on students' performance. Teacher's professional qualification, teaching method being the best factors affectingstudents' academic performance in Basic Science was followed by use of instructional materials and teachers experience which has partial effects. The study recommended that educational stakeholders should design and mount programme that considers those teachers factors that can enhance teacher's efficiency and competence. By so doing, they will be able to play their roles effectively in educational programmes that will eventually help the junior school students in Basic Science. The study also recommends that increased teacher in-service training should be encouraged to improve student academic performance in Basic Science.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

In this era of globalization and technological revolution, education is considered to be a pace-setter for every human activity with students being the most essential asset for the educational institutions. The academic performance of students play a vital role in proliferating the best graduates who will become great leaders and manpower for the country thus responsible for the country's economic and social development (Ali et al., 2009).

There is no gain saying about the fact that Basic Science is a subject that occupies a very sensitive position and concrete foundation in the field of medical science, engineering and related disciplines (Ferguson, 1992). This forms the basis of the several efforts geared towards studying Basic Science at Junior Secondary School (JSS) level of education. Basic science is the study of science courses which treats the fundamental concept of science in junior secondary schools. The discipline provides students with the ability to develop and appreciate scientific knowledge on basis of observation and experience. This includes practices such as interactive demonstrations, inquiry lesson, inquiry laboratory and hypothetical inquiry. It teaches selected topics in the major science subjects such as Biology, Chemistry, Physics, and Geography. Basic science lays a foundation for the students to study science subjects in the Senior Secondary School.

However, despite the key role and much emphasis placed on sciences, students at the junior secondary school level of education are still performing poorly in basic science. Poor performance in science has attributed to myriad of problems such as poor parenting, poor attitude of students toward their studies (Bassey, 2005). Yet, students' academic performance remains a top priority for educators (Parri,2006).

Thus, educators, trainers and researchers have long been interested in exploring factors contributing effectively to students' academic performance (Crosienoe et al., 2004). More so, from the Taraba state ministry of education, a retrospect on three years results, 2011-2013, of Junior School Certificate Examination (JSCE) in Basic Science shows that in 2011, 70% of the students got pass (P), 20% got credit (C) and 10% got distinction (A). subsequently, in 2014, about 75% got pass (P), 20% got credit (C) and 5% got distinction

(A) and in 2013, 67% of the students got pass (P), 26% got credit (C) and 7% got distinction (A).

Based on the above statistics from Taraba State Ministry of Education which shows that over 68% of students who sat for Junior School Certificate Examination (JSCE) in Basic science obtained ordinary pass. Ordinary pass is too low for students to perform well in senior secondary school. It is against this background that this study intends to investigate factors responsible for the poor performance among students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A of Taraba State.

1.2 Objective of the Study

The main objective of this study is to investigate the factors affecting academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A of Taraba State.

The specific objectives are;

i. To determine what teacher related factors affect academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State.

ii. To determine what student related factors affect academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State.

1.3 Statement of Problem

Basic science is a fundamental subject in the field of medical science, engineering and related science-based professions (Jegede et al., 1992). Hence, it is the major subject that one must pass well in the Junior School Certificate Examination (JSCE) in order to qualify to offer some science subjects in Senior Secondary School level of education. Despite the basic role and emphasis laid on science, students at Junior Secondary School level are still performing poorly in Basic Science Standardized examination (JSCE), as corroborated by WAEC report for Biology, Chemistry, Physics (WAEC, 2004).

A three year Junior School Certificate Examination (JSCE) result excerpt in basic science from Taraba State Ministry of Education (MOE), showed that from 2011 to 2013, about 62% students got pass (P), 28% got credit (C) and 10% got distinction (A).

Due to the fact that than half of students got ordinary pass which is too low for them to cope with science subjects in senior secondary schools, this study attempt to determine factors responsible for poor performance by students in Junior Secondary School Basic Science in Warwar, Sardauna Local Government Area, Taraba State.

1.4 Research Questions

The following questions will guide the study;

i. What teacher related factors affect academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State?
ii. What student related factors affect academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A Taraba State?

1.5 Research Hypothesis

i. There is no significant effect of teacher related factors on academic performance of student in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State
ii. There is no significant effect of student related factors on academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State

1.6 Significance of the Study

The findings of the study will broaden students' knowlwdge, steer up their interest in Basic Science and improve the teaching skills of teachers in various Junior Secondary Schools in the Study area and Nigeria at large. It is hope that the findings of this study will build a proper link between students' academic performance in Basic Science in Taraba State and quality needed for teachers' effectiveness in handling this subject across the state. It will as well provide education policy makers with novel practical knowledge for making policies that will affect learning in school.

1.7 Scope of the Study

The study will be delimited to teacher-related factors and student-related factors that affect students' performance in Basic Science in Junior Secondary Schools in Warwar Development Area, Sardauna Local Government Area, Taraba State.

1.2 Definition of Terms

The following key words are defined to give contextual clarity:

Basic Science: Is the subject that is taught in Junior Secondary School covering some topics in Biology, Chemistry, Physics and Geography.

Performance: These are the grades students obtained in Junior School Certificate Examination.

Teacher-related factor: These are factors related to teacher such as method of delivery of instruction, educational qualification of teachers, management of class and motivating students to learn.

Student-related factor: These are factors that facilitate students learning in school such as availability of infrastructure, instructional materials and peaceful environment.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The review of related literature will be under the following headings:

i. Teacher-related factors affecting student academic performances.
ii. Student-related factors affecting academic performance of students.

2.2 Teachers-Related Factors Affecting Students Academic Performance

2.2.1 Teacher's Professional Quality and Students' Performance

Educators are increasingly concerned about the need to improve academic achievement especially in science. Hence, research on students' academic achievement in the sciences is a testimony to this concern. Wenlinsky (1992) brought the argument that the simple largest factor affecting academic performance of vast population of students is differences in effectiveness of individual classroom teacher. Ferguson (1992) established in his study carried out in Ghana that professionally trained teachers are effective and enthusiastic, friendly, easy-going, able to develop rapport with learners, committed to the growth of their students, appreciable, interested in learners as people and always conscious of their status as role models that distinguishably impact on students' examination score. Another study carried out in Obafemi Awolowo University, Ile-Ife, Osun State, 2012 revealed that trained teacher is one who can translate the school curriculum into vivid reality, and can transmit vital information which positively impact on students'' performance (Marzano and Robert, 2007).

Rouse and Hollomon (2005) stated that the Nigeria public education system has been challenged to produce a better quality education for all students, thus, strong accountability has been laid on having quality teachers that are well trained to be an important component of educational policy reform. A professionally qualified teacher is effective and brings a wide range of skills and talents during classroom interaction ensuring that teaching is clearly present and stimulates high-order thinking skills, presents difficult concepts comprehensively and teaches memorably (Thibault et al., 2003).

In another development, Guskey (2002) declares that teachers with high degree are able to help students to achieve high. That trained teachers are committed to the work, thus, focuses on educational needs of students, work with passion and keen to uphold the educational goal. In view of the foregoing, Agusibo (2008), observes that the absence of

qualified teachers to teach basic science in Junior Secondary School will contribute vastly to the poor performance of students in the field of science and science-related disciplines.

2.2.2 Teaching Method

Teaching method is the principle and methods of instruction delivery in the class setting. Examples of teaching methods are: class participation, demonstration, recitation, memorization, collaboration and lecture (Nelson, 2006). For many decades, research for better teaching methods to provide the best learning has been the goal of education (Hosal et al., 2010). That, teaching method is not a one-size-fits-all proposition, but flexibility is crucial in adapting teaching methods in the class. Since all teachers are different, the strategies they use, and the way they use them will depend on the context and situation of their class as well as their own personality and biases with aim of improving learners' achievement. Robinson and Colleagues (1990) conducted a case study on several teaching methods in basic science to explore the reason for their significance, and perceptions of effectiveness. The result of their study suggested that various methods do influence teacher effectiveness (Campbell et al., 2009).

Bell et al (2004) studied thirteen teaching methods. These were suggested by empirical studies on teaching methods and students' perception for best learning. The finding of the study suggests that cooperative learning is closely related with students' achievement. Cooperative learning works together in today's pluralistic society and is seen as an integrative an holistic approach to learning (Schull, 2011). Jegede et al (1992) reported that the factor responsible for students' poor performance in science, technology and mathematics is due to inappropriate teaching methods.

It is revealed in another study that only effective methods of teaching can bring about effective learning; hence, teachers are to be creative and dynamic in this regard to ensure increase in an average student's performance in their subject area (Ferguson, 1992 and Kofinan, 1996). Knight (2002) in view of the forgoing declared that, for learners to carry out the expected behaviour at the end of the lesson, teacher's plan should include careful selection of teaching method.

2.2.3 Use of Instructional Materials and Students' Performance

Akinyemi and Orukota (1995) revealed in a study that the performance of Nigerian secondary school students in science was generally poor. This was attributed by the author

to many factors of teaching of which teaching aids itself was considered as an important factor. Choice of appropriate teaching materials in determination of objectives of the lesson should be paramount in the plan of the classroom teacher (Knight, 2006). It command interest, attracts and holds attention and develops perception in learners.

Omotosho (1991), reports in another study that for teacher to achieve the desirable objectives after an exposure of learners to a concept should include use of teaching tools and instructional materials to meet teaching objectives. In regard to the foregoing, Bassey (2005) posited that many Nigerian science teachers should employ professional commitment, creativity, mechanical skills, initiative and resourcefulness in improvising of instructional aids, which will help learners to develop perception of concepts taught and improve their academic achievement.

2.2.4 Teacher Experience and students' Performance

Teacher experience is an aspect of teacher quality that has not been given adequate attention, because it is generally believed that any one that can talk convincingly will do well as a teacher, not minding if he or she has the experience in pedagogy (Marzano, 2007). It is revealed in another study that teachers with years of experience in the profession, especially in science subject turned out students with higher academic performance due to the wealth of experience acquired in instructional technology and pedagogy (Soelein, 2010). The experienced professionally trained teacher's role in guidance programme as counsellor involves giving of guidance to students that are faced with problems of inability to develop positive attitude and study habit to improve their academic performance.

Most students in secondary schools are teenagers, during which they experience alienation, which is a syndrome comprising of distrust, anxiety, pessimism, egocentrism, meaninglessness, normlessness, and powerlessness that makes it difficult for them to understand their development, hence, they need the guidance and counselling service of a trained and experience teacher to assist them avoid getting into self-defeating behaviour which will affect their performance (Robert et al., 1990).

2.3 Student-Related Factors Affecting Performance of Students

The quality of students' performance remains a top priority for educators, trainers and researchers as they have been exploring factors contributing effectively to quality performance of learners (Henderson, 1998). Crosnoe et al (2004) further stressed that these factors are termed as students factors.

Students' factors are things that students do and it determines their performance or academic achievement.

2.3.1 Teenage Experience and Student Performance

Most secondary school students are in their teenage, and during that time, they experience alienation, a syndrome comprising of distrust, anxiety, egocentrism, normlessness which are altogether inimical to their academic performance (Robert and Elizabeth, 1990). Students are faced with maladjustment behaviour while in school. Makinde (2001) observes that maladjustment behaviour emanates from feeling of lost socially and psychologically when new students are admitted, their new environment no longer provide the psychological support of their parent, friends and former teachers, thus, having negative effect on academic performance of learners.

2.3.2 Anxiety

This conflict in student spring from a clash between incompatible impulses, desires and values, thus, the individuals are at odds with themselves (National Research Council, 1996). In a related situation, it is reported that secondary school students are seriously confronted with facts about themselves and their academic. This results in anxiety and tension which in turn affect their concentration in studies thereby end up in poor academic performance (Norhidaya et al., 2009). Self-concept is the sense of self (Davidson Lang, 1990). That the more a student believes about his/her teacher's evaluation of his/her academic achievement.

2.3.3 Poor Organization and Indiscipline

Mutie and Ndambuki (1999) observed that poor organization, laziness, being easily distracted and lack of self-confidence are among issues that contribute to students' poor performance. On the other hand, many secondary school students, they said, are faced with academic problems such as poor reading habits, whereby most of them are slow readers and do not comprehend what they read, and certainly results in poor performance. Lindsay (1993) brought the view that indiscipline is act of disorderliness in students are due to external and internal reasons. That internal reason involves fulfilling the need of teenage, while external reasons include individual, administrative and social community causes. That when the students' needs are not met, then they are frustrated and this affects their academic performance. It is reported that many students harbour feelings of failure in

academics and thus have low self-esteem, which prevents them from performing at their best (Makinde, 2001).

2.3.4 Student Attitude

Several studies showed that student attitude have a relationship with teaching method and academic performance. Like's (1995) study showed that students have various attitudes that are closely related to teaching methods. In another study, the result showed that the method used in teaching certain concept seemed to affect students' attitude towards the class, and this may be the factor that most influences learning (Barr, 2010). A study by Akkuzu and Akcay (2011) showed that a relationship between' attitude and their academic performance exist. They suggested that students' positive attraction toward certain kind of teaching may help increase their academic performance. Eastman et al (2011) suggested that when students have a positive attitude toward something, they will do the task well.

2.3.5 Class-size and Student Achievement

Class size is a measure of the average number of students in any given course in a school (Education Reform, 2013). It is the actual number of pupils taught by a teacher at a particular time (Akerhielm, 1995). Class size is more closely linked with learning (Barr, 2010). The number of students in a class has the potential to affect how much is learned in a number of different ways (Finn et al., 1990). He further stressed that class size affect students' interaction with each other as well as the level of social engagement, which may result in more or less noise and disruptive behaviour, which in turn affect the kind of activities the teacher is able to promote.

In another study, Bourke (1996) observed that class size affect how much time the teacher is able to focus on individual student and their specific needs rather than on the group as a whole. That since it is easier to focus on a smaller group, the smaller the class size, the more likely individual attention can be given and the higher the achievement. Jackson (2008) clearly observes that class size could also affect the teacher's allocation of time and, hence, effectiveness, in other ways too, when a teacher want to determine materials that can be covered. That teacher may choose different methods of teaching and assessment when they have smaller classes to enhance performance. In a recent study conducted, the findings proved that when it comes to the attainment of higher order

academic skills such as problem solving,written expression and critical thinking, students in smaller classes do acquire more of these skills than do students in larger classes (Evertson et al.,1989).

In a most extensive study of class size and student attitudes, Hargreaves et al (1997) concluded that students tend to be the most upset when confronted with larger classes, thereby express dissatisfaction. They further claimed that students seem to desire the positive impacts of smaller classes on the development of high order cognitive skills to improve their performance.

2.3.6 Gender and Academic Performance of Students

In a study conducted, Raychaudari et al (2010) reports that students' performance depends on many factors such as gender and age differences. A number of studies conducted in the 1990s revealed statistically that students from single-sex schools and/or classrooms are outperforming students from co-educational school (Hanushek, 1997). Kadidy and Ditty (2001) reported that gender role can be subverted in a single-sex environment; boys will be more likely to pursue the art, and girls more likely to pursue mathematics and science. Another study conducted on neurobiochemicals showed that female uses the left hemisphere of the brain more often; this area of the brain receives sound better, thus, females here better than males, which would call for males to seat closer to the front of the classroom to hear instruction in order to improve their academic performance, as males usually are seated in the rear of the classroom (Norman et al., 1998). They further concluded that females also have higher oestrogen in their brain, which reduces aggressive behaviour and create a calmer classroom environment. That under such atmosphere, without the presence of the opposite sex, students will be less distracted from their academic work.

A study conducted to determine if gender affects students' academic performance found that when students are separated according to gender, both boys and girls performed better when separated by gender as opposed to co-educational class (Finn et al., 1990).

Another study carried out on a similar situation on gender proof that females were significantly more intrinsic than males (Baggiano et al.,1991). That male students accord their interest level more than is the case for the female students and specifically, female

students' academic performance is less associated with their interest compared to the male students' academic performance (Schiefele et al., 1992).

2.4 Summary

Several related literature were reviewed to cover the contents of the topics which includes teacher-related factors. A close study of the topic revealed the following sub-topics under teacher-related factors; such as teachers' professional quality, teaching method, use of instructional materials and students' performance, and teacher's experience and students' performance. Subsequently, on the topic, students' student-related factors, the following sub-topics were covered: teenage experience and students' performance; poor organization and indiscipline; student attitude and academic performance; class-size and students' performance as well as gender and performance of students.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the procedures and techniques that will be used in the study as follow:

i. Research design
ii. Area of the study
iii. Population of the study
iv. Sample and sampling techniques
v. Validation of the instrument
vi. Reliability of the instrument
vii. Procedure for data collection
viii. Method of data analysis

3.2 Research Design

A survey research design will be used for this study. This research deals with collection of sample opinion, attitude or feelings from sample population by use of questionnaire, in order to determine factors responsible for poor performance of students in Basic Science in Warwar Junior Secondary Schools.

3.3 Area of the Study

This study is designed particularly to cover all the Junior Secondary Schools in Warwar Development Area in Sardauna LGA, Taraba State. Warwar is geographically located in the South-east part of Sardauna LGA. To the east, it share boundary with major village like Kabri, to the South. It also share boundary with Cameroun Republic, to the west it share boundary with Kurmi L.G.A. and to the North it share boundary with Gembu Town, the local government headquarters. Warwar is the place where the missionaries first settled in Mambilla Plateau in 1954, and where formal education is highly emphasized.

3.4 Population of the Study

The population of the study will consist of all male and female students and teachers of Basic Science from Junior Secondary School in Warwar, Sardauna Local Government Area, Taraba State. There are five Junior Secondary Schools in the area with total population of about 522 students. The population of teachers is about 102, with only two Basic Science teachers.

3.5 Sample and Sampling Technique

The sample consisted of 30 male and 30 female students from each school and 10 teachers from each school, which will give an overall number of 300 samples. Random sampling technique will be used to pick the number of JSS III male and female students for the study. The sample of this study will be JSS III male and female student from five schools; JSS Warwar, JSS Jehovah Jireh, Comprehensive Baptist College, JSS Shieleh, Community JSS Ndarup and JSS Mang.

3.6 Instrumentation

The researcher used questionnaire as instrument for data collection, in line with the research questions and hypothesis. The questionnaire will cover; teaching method teacher professional quality and student study attitude. The respondents ticked or circled from the alternatives- always, sometime, never.

The questionnaire also comprise of teacher section with ten test items and student section with ten test items. The response to the test items are: Always, Sometimes Never.

3.7 Validation of the Instrument

The instrument was given to lecturers in the Department of Science Education to critically assess validity of the items. And the observation was used in improving the quality of the items (questionnaire). The questionnaire is of two types, one for the teacher and the other for the students. That of the teacher is made up of nine (9) items to answer while that of the student is made up of six (6) items to answer by the students concern. In all three hundred and fifty (50) questionnaire were given out, fifty (50) for the teachers while three hundred (300) for the students.

3.8 Reliability of the Instrument

Reliability of the instrument was determined through a pilot study and analysis of the result obtained using split-half or test retest. The questionnaire has a Cronbach Alpha reliability of 0.90.

3.9 Method of Data Analysis

The data collected was analysed using mean and standard deviation. The hypothesis were tested using inferential statistics e.g Z-test

CHAPTER FOUR

RESULT

The result of the teachers related factors that affect academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State is shown in table one below:

Table 1: FACTORS AFFECTING TEACHERS PERFORMANCE

Factors	Always	Sometimes
a. Teachers professional qualification		
i. Academic qualification	20	15
ii. Teaching qualification	25	20
Mean	22.5	17.5
Standard Deviation	2.5	4.0
b. Teaching Method		
i. Assignment to students	17	13
ii. Asking question	22	18
iii. Reference to simple related topic	15	25
Mean	18.0	18.7
Standard Deviation	2.9	4.9
c. Use of instructional materials		
i. Instructional aids improvisation	18	23
ii. Use of drawing or chart	14	16
Mean	16.0	19.5
Standard Deviation	2.0	3.0
d. Teachers experience		
i. Teachers experience affecting students' performance	26	10
ii. Teachers with longer teaching experience	10	15
Mean	18.0	12.5
Standard Deviation	8.0	2.5

From the table above, teacher's professional qualification are considered in terms of academic qualification and possession of teaching qualification such as NCE and PGDE as shown in (a). Teaching method refers to method of delivery such as giving assignment to students, asking student's questions, and giving reference to simple related topic during teaching as in (b). Use of instructional materials involves the improvisation of instructional aids and the use of drawing or chart as contained in (c) above. Teachers experience involves those experiences affecting students' performance as shown in (d) above.

The mean and standard deviation of each of the item label a-d is computed in the result as shown in the table above. Results showed that only teacher professional qualification and Teaching method affects basic science achievement outcomes more than other variables e.g. Teachers experience, and use of instructional material which had partial effect on students' achievement in basic science.

The result of student related factors that affect academic performance of students in Junior Secondary School Basic Science in Warwar, Sardauna L.G.A, Taraba State is shown in table two below:

Table 2: FACTORS AFFECTING STUDENTS ACADEMIC PERFORMANCE

Factors	**Always**	**Sometimes**
a. Teenage experience	80	120
b. Anxiety	100	70
c. Poor organization and indiscipline	200	90
d. Student attitude to learning	170	100
e. Class size	70	130
f. Gender	70	20
Mean	115	105
Standard Deviation	49.24	20.61

The table above represent the factors affecting students' academic performance as shown by the lettered a-f which include teenage experience, anxiety, poor organisation and discipline, student attitude to learning, class size, and gender. The statistical analysis of those factors (i.e. means and standard deviations) as they affects students achievement in basic science are presented also in the table. The results of the analysis showed that always has a mean of 115 and standard deviation of 49.24, sometimes has a mean of 105 and standard deviation of 20.61.

The table below shows that there is no significant effect of teacher-related factors on academic performance of students in Junior Secondary Basic Science in Warwar, Sardauna L.G.A, Taraba State.

Table 3: NO EFFECTS OF FACTORS ON TEACHERS PERFORMANCE

Factors	Never
a. Teachers professional qualification	
i. Academic qualification	15
ii. Teaching qualification	5
Mean	10.0
Standard Deviation	5.0
Z-test	1.4
b. Teaching Method	
i. Assignment to students	20
ii. Asking question	10
iii. Reference to simple related topic	5
Mean	11.7
Standard Deviation	6.2
Z-test	1.7
c. Use of instructional materials	
i. Instructional aids improvisation	9
ii. Use of drawing or chart	10
Mean	9.0
Standard Deviation	0.5
Z-test	1.3
d. Teachers experience	
i. Teachers experience affecting students' performance	14
ii. Teachers with longer teaching experience	25
Mean	19.5
Standard Deviation	5.5
Z-test	2.8

From the above table, teacher's professional qualification has a mean of 10.0 and standard deviation of 5.0 compared to table (1) in which always has a mean of 22.5 and standard deviation of 2.5 while sometime has a mean of 17.5 and standard deviation of 4.0. This shows to some teachers, teachers professional qualification does not affect student performance. Same thing with teaching method which has a mean of 11.7 and standard deviation of 6.2 compared to table (1) in which always has a mean of 18.0 and standard deviation of 2.9 while sometime has mean of 18.7 and standard deviation of 4.9 as well.

The Z-test for teacher's professional qualification is 1.4 which is within the retention region make the hypothesis to be accepted. The Z-test for teaching method is 1.7, the hypothesis is also accepted. The Z-test for use of instructional materials is 1.3 also fall within the retention region of the table, thus the hypothesis is accepted. The Z-test for teachers experience is 2.8 which fall in the rejection region of the table thus making the hypothesis to be rejected.

The table below shows that there is no significant effect of student-related factors on academic performance of students in Junior Secondary Basic Science in Warwar, Sardauna L.G.A, Taraba State.

Table4: NO EFFECTS OF FACTORS ON STUDENTS PERFORMANCE

Factors	**Never**
a. Teenage experience	100
b. Anxiety	130
c. Poor organization and indiscipline	10
d. Student attitude to learning	30
e. Class size	100
f. Gender	110
Mean	80.0
Standard Deviation	42.2
Z-test	4.8

The above table indicate that student related factors have no effects on student performance, this can be seen from the mean which is 80.0 and standard deviation of 42.2 as compared to those in table (2) in which always has a mean of 115.0 and standard deviation of 49.24 and sometimes has a mean of 105.5 and standard deviation of 20.61.

The Z-test obtained is 4.8 which fall within the rejection region of the table, thus the hypothesis is therefore rejected.

CHAPTER FIVE

DISCUSSION

The result of this study indicated that, the mean and standard deviation in the academic achievement in basic science among junior secondary school students in Warwar Sadauna L.G.A was explained by linear combination of the teachers' academic and professional qualification, teaching method, use of instructional materials, teachers experience and students' factors. Students' factors has the most potent contribution to the academic performance followed by the teachers' qualification and use of instructional materials while teaching experience and teaching method shows the least contribution to the academic achievement in basic science. This finding corroborate the findings of (Onocha, 1985; Mukerjee, 2002; Houston et al., 2002; and Sidhu et al., 2011) who reported that teachers qualification explained more of the total variance than the children intelligence and that attitude of students towards science were linked with some personality factors through relationship with teachers.

The findings also revealed that teacher's factors such as professional qualification and teaching method has more effects on students' academic achievement and grade points in basic science than use of instructional materials and teachers experience which has partial effects. Statistically, students achievement and teachers factors are both tending towards the same direction, this may not signify high academic achievement because negative attitude on the part of students would also breed negative attitudes on the parts of the teachers that can lead to lackadaisical behaviour and frustration in learning the subjects. Hence, the students will automatically return poor achievement in their academic work in the subject. The findings did not undermine Omotayo (2002) argument that students bring into classroom acquired attitude which could hinder or facilitate learning. By implication, pedagogical teachers, should as a matter of necessity, make great effort and sacrifice in terms of time to design and inculcate attitude-shaping behaviours into the teaching/learning processes for the benefit of the learners in the school. This finding is in line with the finding of Adepoju (2002), Ogunwuyi (2000), and Gibbons et al. (1997).

Student factors such as poor organization and indiscipline, anxiety are another factor identified as having more effects on student's academic performance. Their effects are not as weighty as students' attitudes because attitude towards learning a subject may be positively correlated with achievement in the subject but that is not enough a yardstick to

conclude that the cause of such achievement is completely attitude. This finding further gave credence to the fact that attitude towards learning is a strong and potent weapon that can influence achievement in learning

The insignificant effect observable between teachers experience, teaching method, and students achievement in basic science could be due to lack of commitment on the part of the teachers, as well shallow knowledge of application of methodology and psychology of imparting the basic science course content by the teachers into the students. Teachers' qualifications deal with the mastery of secondary school basic science content alone and could not guarantee appropriate and effective transmission of acquired body of knowledge. Yet, the combination of appropriate training of personnel and application of appropriate methodology of teaching can achieve it.

This finding have shown that students' factors, teachers' qualification and use of instructional materials were the most important factors in the prediction of academic achievement in basic science among junior secondary school students. Teachers are supposed to be a role model to the students, and if student's attitude towards studying basic science is negative, the teacher(s) should device all methods possible to motivate students to develop positive attitudes to learning the subject.

CHAPTER SIX

SUMMARY, CONCLUTION AND RECOMMENDATION

SUMMARY

This study investigates some of the factors affecting students' academic performance in Junior Secondary School Basic Science in Warwar Sardauna L.G.A Taraba State. The study review some related literature on teachers related factors affecting students' academic performance such as teaching method, use of instructional material, teacher's experience, and also student related factors affecting academic performance of students such as teenage experience, anxiety, poor organization and indiscipline, student attitude, class size and gender.

The studies use a survey research design and cover Junior Secondary Schools in Warwar L.G.A Taraba State and involve 300 samples. Questionnaire was used for data collection and the data was analysed using mean and standard deviation.

The result of the study reveals that teachers professional qualification and teaching method has more effects on student performance while use of instructional material and teachers experience has partial effect on student performance. Also student factors such as poor organisation and indiscipline, student attitude to learning, anxiety has strong effect on student performance while teenage experience, class size and gender has partial effects on student performance.

CONCLUSION

Teachers, therefore, need to develop positive healthy work ethics, attitude and zeal towards their teaching job, and by implication, it becomes imperative that a would-be teacher should receive training on pedagogical teaching and educational psychology to guide would-be teachers in the "art of teaching".

Government, both at the Federal and States Ministry of Education level, should as a matter of concern, organize regular seminar and workshops for the teachers to refresh their memories about new developments and skills currently in use in the field of teaching basic science to junior secondary school pupils in order to improve the quality of teaching strategies of the teachers as well as improving the learning processes of the students.

Schools should encourage and support teachers to attend in–service training courses as it was established that there is a direct relationship between teacher characteristics and student performance in examination.

Government intervention in supporting teachers and resources is critical for better results in Basic science.

RECOMMENDATION

The study recommended that educational stakeholders should design and mount programme that considers those teachers factors that can enhance teacher's efficiency and competence. By so doing, they will be able to play their roles effectively in educational programmes that will eventually help the junior school students in Basic Science. The study also recommends that increased teacher in-service training should be encouraged to improve student academic performance in Basic Science.

Therefore, there is need for students of basic science in junior secondary schools to have positive attitudinal change towards learning of basic science accordingly to improve on the learning outcomes of secondary school basic science.

This research should caution those policy-makers who tend to conclude that teachers' academic and professional qualification, teaching method, use of instructional materials and teaching experience, are not indicators of quality. Such conclusions would be unwarranted. The qualifications which the present study dealt with should be treated as necessary but insufficient. Other important and more sensitive indicators of quality should be sought.

Another recommendation stemming from our study, is that policies related to recommended reforms in teacher education, rather than being broad and rigid, will need to account for differences in their effects that vary across subject area and across types of students.

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Dear Respondent,

RESEARCH QUESTIONNAIRE

I am a student of the above institution undertaking a post graduate diploma in education on project research topic: *factors affecting students' academic performance in junior secondary school basic science in Warwar Sadauna L.G.A Taraba State.* You are requested to kindly fill in this questionnaire, please be assured that the information giving will be strictly be used for the research purpose only and will be keep confidential.

Thank you,

Yours faithfully

JUMVUH, NYIMCHIA SAMUEL

TEACHERS SECTION

Section A: Teacher's Personal Data

Name……..

Sex: Male [ ] Female [ ]

Age: 20-39 [ ] 40- above [ ]

Qualification: NCE [ ] Degree [ ] Master [ ]

Section B

1. Teachers Professional Qualification.

   i. Do you think teachers academic qualification affects students' performance?.

   Always [ ] Sometimes [ ] Never [ ]

   ii. Do you think teachers without teaching qualification affects students' academic performance?. Always [ ] Sometimes [ ] Never [ ]

2. Teaching Method.

   i. Do you give assignment to students regularly?.

Always [ ] Sometimes [ ] Never [ ]

   ii. Do you ask questions and solicit for question when you are teaching?.

Always [ ] Sometimes [ ] Never [ ]

   iii. Do you refer to simple related topic when introducing new topic?.

Always [ ] Sometimes [ ] Never [ ]

3. Use of Instructional materials.

   i. Do you improvise instructional aids when not available?.

Always [ ] Sometimes [ ] Never [ ]

ii. Do you make use of drawing or charts where applicable when teaching?.

Always [ ] Sometimes [ ] Never [ ]

4. Teachers Experience.

i. Do you think that teachers experience affects students' academic performance?.

Always [ ] Sometimes [ ] Never [ ]

ii. Do you think that teachers with long teaching experience perform better than new teachers?. Always [ ] Sometimes [ ] Never [ ]

STUDENTS SECTION

Section A: Student Personal Data

Name……

Sex: Male [ ] Female [ ]

Age: 10-13 [ ] 14-20 [ ]

Section B

1. Do you think teenage experience affects student academic performance?.

Always [ ] Sometimes [ ] Never [ ]

2. Do you think that anxiety affects student academic performance?.

Always [ ] Sometimes [ ] Never [ ]

3. Do you think that poor organization and indiscipline affects students' academic performance?. Always [ ] Sometimes [ ] Never [ ]

4. Do you think that student attitude to learning affects his academic performance?.

Always [ ] Sometimes [ ] Never [ ]

5. Do you think that large class size affects student academic performance?.

Always [ ] Sometimes [ ] Never [ ]

6. Do you think that student gender affects his academic performance?.

Always [ ] Sometimes [ ] Never [ ]