ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 05, pp.50062-50068, May, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

STUDENTS' INTEREST, ATTITUDE AND ACHIEVEMENT AS CORRELATES OF CHEMISTRY TEACHERS' CLASSROOM MANAGEMENT BEHAVIOURS IN SENIOR SECONDARY SCHOOLS

***Dr. Iheanyi O. Igwe**

Department of Science Education, Faculty of Education, Ebonyi State University, Abakaliki

ARTICLE INFO

Article History:
Received 27th February, 2017
Received in revised form
17th March, 2017
Accepted 25th April, 2017
Published online 19th May, 2017

Key words:

Interest,
Attitude,
Achievement,
Classroom,
Management,
Behaviours.

ABSTRACT

In science teaching and learning, the teacher is seen as playing the crucial role of harnessing all resources and evoking students' activity for classroom success. That is why this study anchored on students' interest, attitude and achievement as correlates of chemistry teachers' classroom behaviours in Abakaliki Education Zone of Ebonyi state, Nigeria.. A correlation design was used for the study. A total of 410 senior secondary school chemistry SS 2 students constituted the population for the study and also the sample since the number is manageable. Data were collected using Chemistry achievement test (CAT), students' interest inventory, attitude questionnaire and teachers' classroom management behavior questionnaire. These instruments were face validated by three experts in psychology, chemistry and measurement and evaluation. The reliability of CAT was determined by Kurder-Richardson-20 and had a reliability coefficient of 0.72. The reliabilities of the students' interest inventory, attitude questionnaire were determined by Cronbach Alpha statistics after factor analysis to be 0.87 and, 0.77. The reliability of Teacher classroom management behavior questionnaire was 0.79 using the Cronbach alpha also. Three research questions and three hypotheses were used for the study. Data were collected using CAT, students' interest inventory and attitude questionnaire and Teacher classroom management behavior questionnaire. Correlation coefficient based on Pearson Product Moment Correlation (PPMC) was used to answer the research questions while the hypotheses were tested using stepwise regression statistic for the significance at 0.05 level based on ANOVA. The findings showed that students' interest in chemistry, attitude towards chemistry and achievement in chemistry had high positive relationship with teacher's classroom management behaviours. Based on the findings, it was recommended that chemistry teachers should make their teaching exciting through appropriate integration of practicals, cordiality and use of instructional materials. Chemistry teachers should exhibit positive attitude towards the teaching of chemistry which will make the students to develop same for better achievement in chemistry.

Citation: Dr. Iheanyi O. Igwe, 2017. "Students' interest, attitude and achievement as correlates of chemistry teachers' classroom management behaviours in senior secondary schools", *International Journal of Current Research*, 9, (05), 50062-50068.

INTRODUCTION

Chemistry is one of the vital science subjects studied in the Nigerian senior Secondary Schools. Chemistry as a key science subject refers to the study of composition, structure, properties and changes of matter (Bunge, 2002). The matter in question here is the non-living ones. The Federal Republic of Nigeria (2004) confirms the importance of Chemistry in Nigeria when it listed chemistry as one of the core science subjects which are made compulsory for all secondary school students in senior secondary school classes. Also, students who want to offer courses like Engineering, medicine, pharmacy and Anatomy must pass Chemistry at credit level in Senior Secondary School Examination (SSCE) to gain admission into any Nigerian Tertiary Institutions. This shows how important chemistry is as a prerequisite course to the above mentioned career courses. Although, there is inconsistent rise in the percentage of credit passes from 1999- 2011 in the West African Examinations Council (WAEC) Senior Secondary Certificate Examination (SSCE) results for a period of 13 years, the rise remained below 50% of the total population of students who obtained their results at credit level (WAEC, 2012). Further evidences from the WAEC Chief Examiners Reports for the May/June 2011 and 2012 revealed that students rarely read the prescribed texts because of their negative attitude to reading and poor linguistic background. As a result of the above, shallow answers and responses were given to the examination questions. The poor performance of candidates was because they did not study their text on chemistry which points to lack of interest in the subjects and subsequent development of negative attitude towards chemistry.

Corresponding author:* **Dr. Iheanyi O. Igwe
Department of Science Education, Faculty of Education, Ebonyi State University, Abakaliki

It should be noted that the students' poor performance in Chemistry is against actualizing the aims and objectives of teaching Chemistry in the senior secondary schools and also the philosophy of Nigeria on education as stated in the National Policy on Education document (2004). Chemistry is a veritable tool for students to harness and explore his environment, but due to poor performance in the subject, there is a shortfall in students' enrollment in disciplines like medicine, biochemistry; medical laboratory; and applied chemistry. The effort to actualize the aims and objectives of teaching and learning chemistry and that of fulfilling the goals of National Policy on Education have therefore become a mirage thereby depriving the nation of the needed economic growth and development accruable through the application of chemistry. Many factors have been identified to be responsible for the poor state of students' performance in Chemistry which includes: students' low interest, students' negative attitude to reading, poor methods of teaching, poor reading habit, students' low language proficiency among others (Lawal, 2000; Ogunnaike, 2002; Ezeokoli, 2002; Igwe & Nwali, 2015). Interest and attitudes are two congenial terms that need not to be isolated when analyzing students' academic achievement in science. Lack of interest may have led to the negative attitude of students and possibly resulted to continuous poor performance. This could be inferred from the WAEC Chief examiner's report as stated above, that students rarely read their text. There is the need to establish an empirical position and this has necessitated this study to determine empirically if there is a relationship between chemistry students' interest and attitude towards chemistry and their achievement in the subject. Interest of students´ in a subject is important for achievement in that subject (Olaboopo, 1999; Odiaka, 2002 and Ogunnaike, 2002) and it is linked to attitude. Ayanniyi (2009) had found that the interest exhibited by learners in the learning process determine the importance students attached to that learning process and what they will gain from the learning situation. In line with the above, it is assumed that learners´ motivation (interest) to read a given chemistry text and to get engaged in learning activities are influenced by the feelings and dispositions they hold about such activities. This may obviously lead to a change in their cognitive development and learning outcome in Chemistry.

According to Adesoji (2008) and Igwe (2002), attitude is a hypothetical construct that indicates what an individual likes or dislikes towards an item. It may be positive, negative or neutral (Akinsola, 2007). Attitude is an approach, temperament, sensation and/or situation with regard to a person or thing. Attitude is a way of looking at things or a predisposition to respond in a favourable or unfavourable manner with respect to a given situation. Kara (2009) had also opined that attitudes towards learning Chemistry could have obvious influence on students' behaviors and consequently on their performance. The concern on the learners' attitudes towards the learning of Chemistry was emphasized by Gardner (2005) who stated that students' interest and attitude towards learning Chemistry play key roles in motivating them to learn the subject. This, in turn, affects on their performance in internal and external examinations. It could be argued that those students who possess positive beliefs about Chemistry have a tendency to increase their positive attitudes towards Chemistry (Igwe, 2006; Adesoji, 2008). Reconciling the issues of interest and attitude, Kolawole (2009) affirms that if nothing is done to improve the low reading interest of students in the secondary schools, students will soon get frustrated and lose sight of the benefits of good reading habits. This situation will definitely affect their achievement in examinations irrespective of the subject area. It is important therefore that scholars in Chemistry should rise up to find solutions to the declining situation of the poor study habit which could be hinged on low interest that may culminate into poor attitude and subsequently low achievement in Chemistry. Students' achievements at any level of education no doubt depend largely on the interplay of certain other factors that could influence their effective domain thereby increasing their learning of the subject matter. This could be through several strategies that involve participatory activities with students' literary text and learning outcomes (De Naplis, 2008). It is believed that the warm spirit in which information is communicated through participation in various literary activities spurs the learner's aspiration in the teaching and learning processes. All that is done in the classroom has various ways of facilitating or hindering the students in their quest to learn and achieve. On this premise, Cooke (2002) and Adegbile (2011) independently opine that the students' individual worth and genuine efforts could be practically exemplified/or identified though activity - based lessons and students' participation in literary club activities. These give room for healthy competition, collaboration and cooperation at appropriate times during the literary activities which will help to channel emotions away from disruptive behaviour into constructive relation. This brings in the teacher's role in behaviour classroom management

Teachers' leading role in students' participation and his/her classroom behavior management are of vital importance since he/she guides the students to correct their misconceptions helps to elaborate, expand, explain and expatiate what they have learnt, thereby laying a firm foundation for future aspiration and achievement. This will boost their ego and deflate their self-concept. The above cases will likely result in a fairly consistent, frequent and dramatic turn-out performance of the students as their interest and attitude may be enhanced to ensure emotional security in their learning of chemistry and thus achieve better achievement. It is very difficult to talk about Chemistry teaching and learning without thinking of reading as a tool for enhancing achievement in Chemistry, which can only come by effective classroom management behavior of the teachers. It is for this that Oyekan (2006) epitomizes that dynamic teachers who are suitably equipped with a broad spectrum of reflective cognition, intellectual vision and managerial dexterity are always tending towards contemporary and innovative pedagogical strategies to improve teaching-learning process in the classroom. These contemporary pedagogical strategies of the teachers which may be mostly activity-based are expected to explicitly allow students' participation in classroom instruction and relevant to the teaching and learning of Chemistry. This will help them take ownership of their learning and improve their learning outcomes. It is important to note that innovative teaching strategies are very important because according to Yore (2000), when students are provided with appropriate experiences, they use the skills and habits to construct their own knowledge base. Afolabi (2008) stated that such strategies tend to provide concrete, active learning experience and relevant information beyond classroom lesson activities and also give students the opportunity to develop the initiative for communication competence and other skills needed to become life-long learners. It is in realization of the above that the researchers wish to investigate interest, attitude and achievement as correlates of chemistry teacher's classroom

management behavior in senior secondary schools in Ebonyi state of Nigeria.

Statement of the Problem

In view of the crucial role chemistry plays as a science subject in the economy of Nigeria and in the senior secondary schools, students' low level of achievement sequel to negative attitude towards the subject and of course emanating from lack of interest are disturbing to education stakeholders and parents in particular. All these are heightened by teacher's classroom management behavior. There is hence the need to improve students' achievement and positive attitude towards chemistry as a subject through generating and sustaining interest of the students. Past WAEC results in chemistry had shown a decline in the performance of students. Students' negative interest and its attendant poor attitude have been implicated in the low achievement. Again, teacher's classroom management behavior may be corollary to all of these. Perhaps poor handling of the subject by inexperienced teachers who are not well versed in classroom dynamics such as poor teachers' attitude towards chemistry teaching, poor classroom management as well as poor methods of teaching have made students non-chalant towards chemistry learning. Therefore, the problem of this study in question form could be "how do students' interest, attitude and achievement in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone?

Purpose of the Study

The main purpose of the study was to ascertain how students' interest, attitude and achievement in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools. Specifically, the study aimed at determining how students':

1. Interest in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.
2. Attitude towards chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State
3. Achievement in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State

Scope of the Study

This study was geographically delimited to the public secondary schools in Abakaliki Education Zone of Ebonyi state. The content scope focused on the students' interest and attitude and achievement of students in chemistry. Senior Secondary 2 chemistry students were the subjects of the study.

Research Questions

The following research questions guided the study:

1. How does students' interest in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State?
2. How does students' attitude towards chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State?
3. How does students' achievement in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State?

Hypotheses

$H0_1$: There is no significant relationship between students' interest in chemistry and their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.

$H0_2$: There is no significant relationship between students' attitude towards chemistry and their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.

$H0_3$: There is no significant relationship between students' achievement in chemistry and their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.

Research Methodology

This study employed correlation design. The use of a correlation design allows the researcher to ascertain if there is any relationship between variables; how strongly the relationship is and the direction of the relationship that exists. The area for this study is Ebonyi State of Nigeria. This study was carried out within the Abakaliki Education Zone of Ebonyi state. The area has both private and public secondary schools. Also the inhabitants of the zone are majorly civil servants, businessmen and women as well as farmers. The population comprised Senior Secondary School Class-II chemistry Students from public secondary schools in Abakaliki Education Zone of Ebonyi State, Nigeria. A total of four hundred and ten (410) secondary school chemistry students from ten (10) secondary schools were used for this study as population, and the same number was used as sample for the study. Four instruments were used by the researchers for data collection: Chemistry students' Interest Inventory (CSII), a structured Students' Attitude Questionnaire (SAQ), Chemistry Achievement Test (CAT) and structured Teachers' Classroom Management Behaviour Questionnaire (TCMBQ). Initially, the chemistry students' interest inventory and students' attitude questionnaire had 21 items each. The respondents were required to indicate their opinions on a four (4) point rating scale of Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD) with values of 4, 3, 2 and 1 respectively for positive items and the reverse for the negative items. The Chemistry Achievement Test (CAT) had 20-item multiple-choice type questions which were administered to the chemistry students. The four options objective questions were scored five (5) points for each correct answer. The objective questions were drawn from the following topics; chemical bonding, balancing of equations, and electronic configuration which were certified to have been taught by the teachers in the respective schools chosen for the study. The teachers' classroom management behavior questionnaire had 30 items in the options of a four (4) point rating scale of Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD) with values of 4, 3, 2 and 1 respectively for positive items and the reverse for the negative items.

The instruments used in this research work were face validated by three experts; one from Psychology unit of Educational Foundations Department , one from chemistry option of Science Education Department and one from Measurement and Evaluation option of Science Education Department; all of Ebonyi State University, Abakaliki, Ebonyi State, Nigeria. Some items were restructured and amendments correctly affected to produce the final instruments for the study. The instruments were administered to a small group of thirty (30) students in a trial testing in Onueke Education zone, which is not included in the study area. The TCMBQ was also administered to twenty five chemistry teachers. Data collected were used to carry out both construct validation and determination of reliability indices. The attitude and interest instrument were subjected to factor analysis using the Principal Component Matrix in which the Varimax Rotated Matrix component was adopted. Four (4) items dropped from the attitude questionnaire for poor loading leaving 17 items while two (2) items dropped from the interest inventory leaving 19 items for the study. The Chemistry Achievement Test (CAT) was subjected to both face and content validation procedures involving item analysis of difficulty index and discrimination index. Five items dropped leaving fifteen (15) items behind from which a table of specification was established. The researchers adopted Cronbach Alpha approach to obtain reliability coefficient indices of 0.87, 0.77 and 0.79 for interest, attitude and teacher classroom management behaviour instruments respectively. These were adjudged to be of high internal consistency and therefore suitable for use for the study. The reliability coefficient of the chemistry achievement test was determined using Kuder-Richardson 20 procedure. This analysis yielded a reliability index of 0.72 which showed high stability, making the instrument suitable and usable. The copies of the instruments were distributed by the researchers and three research assistants to respondents in their individual schools, where the completed copies of questionnaire and answers to the chemistry achievement test instrument were collected back from the respondents on the spot to avoid losses. Maximum return of instrument was realized and the achievement test was scored on the correct options chosen from the multiple choice questions lettered A-D. These data were used for the final analysis. The Chemistry Achievement Test of a 15-item Multiple-choice type questions was administered to the chemistry students. The four options objective questions have five (5) points for scoring each correct answer. With respect to the three (3) research questions and three hypotheses, data collected for the study were analyzed using Pearson Product Moment Correlation (PPMC) coefficient for the research questions while stepwise linear regression statistic based on ANOVA was used to test the hypotheses at 0.05 level of significance.

RESULTS

The results were based on the research questions formulated to guide the study and the hypotheses tested. The results were presented in tables.

Research Questions One

How does students' interest in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State?

Table 1. Correlation Coefficient Index of responses on Students' Interest in Chemistry and Teachers' Classroom Behaviour

Variables	Interest	Teacher Classroom Behaviour
Interest	1.000	0.8523
	(410)	(410)
	P=	P=0.0016
Teachers' Classroom	0.8523	1.000
Behaviour	(410)	(410)
	P=0.0016	P=

R=0.85

The correlation coefficient of 0.85 indicates that there is relationship between students' interest in chemistry and their teacher's classroom management behaviour in secondary schools in Abakaliki Education zone. This relationship is at a high level.

Research Question Two

How does students' attitude towards chemistry correlate with their teachers' Classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State?

Table 2. Correlation Coefficient Index of responses on Students' Attitude towards Chemistry and Teachers' Classroom Behaviour

Variables	Attitude	Teacher Classroom Behaviour
Attitude	1.000	0.8168
	(410)	(410)
	P=	P=0.0001
Teachers' Classroom	0.8168	1.000
Behaviour	(410)	(410)
	P=0.0001	P=

R=0.82

The reliability coefficient of 0.82 reveals that there is a high positive correlation between students' attitude towards chemistry and their teacher's classroom behaviours in senior secondary schools in Abakaliki Education zone.

Research Question Three

How does students' achievement in chemistry correlate with their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State?

Table 3. Correlation Coefficient Index of responses on Students' Achievement in Chemistry and Teachers' Classroom Behaviour

Variables	Achievement	Teachers' Classroom Behaviour
Achievement	1.000	0.8791
	(410)	(410)
	P=	P=0.0000
Teachers' Classroom	0.8791	1.000
Behaviour	(410)	(410)
	P=0.0000	P=

R=0.88

The reliability index of 0.88 reveals that there is a high positive correlation between students' achievement in chemistry and their teacher's classroom behavior in senior secondary schools in Abakaliki Education zone.

Hypotheses Results

$H0_1$: There is no significant relationship between students' interest in chemistry and their teachers' classroom

management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.

Table 4. Significance of Relationship between Students' Interest in Chemistry and their Teacher's Classroom Behaviours

(a)

Multiple R - 0.25392
R – squares (R^2) – 0.06447537
Adjusted R squares – 0.06227
Standard error – 12.7206

F (1,409) = 27.292: P<0.05

(b) ANOVA Results on Chemistry Students' Interest as Correlate of Teacher's Classroom Behaviours

Variable	Sum of square	Df	Mean Square	F	Significance of F
Regression	9222.3540	1	9222.3540	27.29	0.0001
Residual	124124.227	409	259.337		
Total	133346.586	410			

From table 4(a), the multiple correlation was 0.25 with respect to students' interest based on the influence of teachers' classroom behaviours. The coefficient of determination (R^2 = 0.064) contributes only 6.4% to the variation in interest in chemistry. The F – ratio at the base of table 4(a) shows that the multiple correlation is significant and confirmed by the significance of F which is below 0.05 alpha level. Hence, there is a significant relationship between teachers' classroom management behavior and students' interest in chemistry.

$H0_2$: There is no significant relationship between students' attitude towards chemistry and their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.

Table 5. Significance of Relationship between Chemistry Students' Attitude and their Teacher's Classroom Behaviours

(a)

Multiple R - 0.28623
R – squares (R^2) – 0.08192761
Adjusted R squares – 0.06344
Standard error – 8.11515

F (1,409) = 20.701: P<0.05

(b) **ANOVA Results on Chemistry Students' Attitude as Correlate of Teacher's Classroom Behaviours**

Variable	Sum of square	Df	Mean Square	F	Significance of F
Regression	7314.2479	1	7314.2479	20.701	0.0002
Residual	116544.104	409	115.320		
Total	120258.352	410			

The results in table 5(a) show that multiple correlation is 0.28 with respect to students' attitude towards chemistry based on teacher's classroom management behaviour. The coefficient of determination (R^2 = 0.082) tends to contribute 8.2% to the variation in students' attitude towards chemistry. The value of the F – ratio at the base of table 5(a) reveals that the multiple correlation did not occur by chance; which implies that there is a significant relationship between teacher classroom management behaviour and students' attitude towards chemistry.

HO_3: There is no significant relationship between students' achievement in chemistry and their teachers' classroom management behaviours in senior secondary schools in Abakaliki Education Zone of Ebonyi State.

Table 6. ANOVA Results on Chemistry Students' Achievement as a Correlate of Teacher's Classroom Behaviours

(a)

Multiple R - 0.33014
R – squares (R^2) – 0.10899242
Adjusted R squares – 0.06883
Standard error – 5.15235

F (1,409) = 12.112: P<0.05

(b) ANOVA Results of Relationship between Chemistry Students' Achievement and their Teacher's Classroom Behaviours

Variable	Sum of square	Df	Mean Square	F	Significance
Constant	61.7633	1	61.7633		0.0000
Residual	116.3212	409	110.1724	13.264	0.0000
Total	178.0845	410			

The multiple correlation as shown in table 6(a) is 0.33 in respect of the relationship between teachers' classroom management behavior and students' achievement in chemistry. But the coefficient of determination (R^2 = 0.108) contributes only 10.8% to the variation in achievement in chemistry during the teaching of the course. All the same, the F – ratio at the base of table 6(a) indicates that the multiple correlation is a significant case. So, there is a significant relationship between teachers' classroom management behavior and students' achievement in chemistry.

DISCUSSION OF RESULTS

Correlate of Students' Interest with Teachers' Classroom Management Behaviour

Summary of result presented in Table 1 shows a correlation coefficient of 0.85 indicating that there is a high relationship between students' interest in chemistry and their teacher's classroom management behaviour in their secondary schools. This finding corroborates the views and findings of such studies when interest of students is low, there is bound to be a low performance and vice versa (Lawal, 2000; Ogunnaike, 2002; Ezeokoli, 2002). Factors that can cause this include: students' negative attitude to reading, poor methods of teaching, poor reading habit, students' low language proficiency among others. On the test of significance, the result in Table 4 revealed that there is a significant relationship between students' interest in chemistry with teachers' classroom management behavior in chemistry. This is a confirmation of the research question 1 which found that a high relationship exist between students' interest in chemistry with teachers' classroom management behavior in chemistry.

Correlate of Students' Attitude with Teachers' Classroom Management Behaviour

Summary of result presented in Table 2 indicated a high correlation coefficient of 0.82 indicating that there is a relationship between students' attitude towards chemistry and the teacher's classroom management behaviour in their secondary schools in Abakaliki Education zone. The finding is agrees with the views of Igwe (2002) and Adesoji (2008) that attitudes are congenial to the need of students when analyzing

students' academic achievement in science. According to them, attitude is a construct that indicates what an individual likes or dislikes towards an item. Hence, the finding of this study is quite interesting in the sense that it teaches that there is the need to find a match for learners' characteristics so as to maximize students' learning characteristics such as attitude in order to improve their outcomes irrespective of the cost implications. On the test of significance, the result in Table 5 revealed that there is a significant relationship between students' attitude in chemistry with teachers' classroom management behavior in chemistry. This is a confirmation of the research question 2 which found that a high relationship exists between students' attitude towards chemistry with teachers' classroom management behavior. The findings is also in line with the observation of Babalola (2000) who describe teacher as window for student future and expect them to behave well because they are role model to their students, through both their words and actions. He also emphasized positive ethical, scientific and professional behaviours in order to leave a strong impression on students as these attitudes play a significant role in the future of the students.

Correlate of Students' Achievement with Teachers' Classroom Management Behaviour

As shown in Table 3, the correlation coefficient of 0.88 indicates that there is a high relationship between achievement of students in chemistry and their teachers' classroom management behaviour. This finding is in line with the findings of Kara (2009) that interest and attitude towards learning Chemistry have an obvious influence on students' behaviours and consequently on their performance. The concern of the teachers should be to improve learners' attitude towards the Chemistry. Gardner (2005) stated that the learners' attitude towards learning Chemistry plays a key role in enhancing and motivating them to learn that subject for better performance. On the test of hypothesis 3, summary of result in Table 6 reveals a significant relationship between students' achievement in chemistry and teachers' classroom management behaviour in chemistry. The finding was clarified by Newton and Newton, (2011) which appraised the role of teacher classroom management behaviour and opined that it should be positive in order to boost students' success. They stated that, the achievement of students depends largely on the behaviour exhibited by the teacher in the classroom since teachers are invariably role models whose behaviours are easily mimicked by students. For Huitt (1999), more achievement would be recorded in chemistry if teachers should improve on their negative managerial behaviours which can actually have negative impact on students' achievement in chemistry.

Educational Implications

The findings for the study have educational implications to classroom situation as teachers should endeavor to avoid irrational and unethical form of behavior whether in the classroom or outside the classroom as many students look unto them as role models which is the key ingredients to students' achievement in life through their interest and attitude. The findings would enable the teachers and teacher trainers to pay adequate attention to the development and promotion of classroom management behaviours that positively relate to students' interest in and attitude towards chemistry. Specifically and through the findings of the study, interest boosting approaches like students' involvement in the class and use of varying activity based instructional approaches would be emphasized in science classroom as they would increase achievement. The findings will help curriculum planners to review and adequate provisions for good teaching methods for learning processes.

Recommendations

The following recommendations were made:

1. Chemistry teachers should create an encouraging atmosphere in the chemistry classes to promote the students' positive attitudes towards chemistry.
2. Teachers should motivate students to learn through the use of appropriate methods and activities of teaching chemistry effectively.
3. The use of instructional materials and supplementary resources should be emphasized.

Conclusion

This study centered on students' interest, attitude and achievement as correlates of chemistry teacher's classroom management behaviour. The findings of the study, which utilized three research questions and three null hypotheses, showed that there was high positive correlation between interest, attitude and achievement as correlates of chemistry teacher's classroom management behaviour. It is believed that if the recommendations adduced in this study are implemented, both students' interest, attitude towards chemistry and better achievement will be realized in chemistry.

REFERENCES

Adegbile, R. F. 2011. Towards bridging the perceived cultural declination through Chemistry in Nigerian Schools. *International Journal of Science Education,* 3(1), 201-204.

Adesoji, C. H. 2008. Effects of three modes of graphic organizers on senior secondary school students' comprehension and attitudes to expository and narrative texts. *Unpublished Doctoral Thesis.* University of Ibadan, Nigeria.

Afolabi, F. 2008. Effects of action learning and inquiry-based instructional strategies on learning outcomes of secondary school students in chemistry. *Unpublished Ph.D. Thesis.* University of Ibadan, Ibadan.

Ayanniyi, M. A. 2009. Effects *of advance organizer on secondary students' achievement in and attitude to chemistry in Ibadan metropolis. Unpublished Doctoral Thesis.* University of Ibadan, Nigeria.

Bablola J.B. 2000. Educational policy and planning in Nigeria: Problems and prospect in development and Sustainability in Nigeria Educational System. *Proceedings of the 2nd national conference of the Institute of Education. Olabisi Onabanjo University*. Ago Iwoye.

Bunge M. 2002. Motivation and attitudes towards learning Chemistry: A study of petroleum engineering undergraduates at Hadhramout University of Sciences and Technology. *GEMA Online Journal of Chemistry*, 9(2), 29-55.[Online]Available:

Cooke, B. 2002. Human nature and literary meaning: A theoretical model illustrated with a critique of pride and prejudice. *In J. Gottschall*. & D. S.Wilson (Eds.), *The*

Literary Animal (p. 176-196). Evanston, IL: Northwestern UP.

De Naplis, C. 2008. Generating criteria for evaluating teachers alertness. *Journal of Educational Research* 48(1), 1-20.

Ezeokoli, F. O. 2002. What West African Examinations (WAEC) Senior School Certificate Examination English Tests'. In A. Mansaray. & I. O. Osokoya (Eds.), *Curriculum Development at the Turn of the Century*: *The Nigerian Experience. Ibadan: Department of Teacher Education.*

Federal Republic of Nigeria 2004. *National policy on education.* (Revised Ed), NERCD Press: Abuja.

Gardner, R. 2005. *Attitudes and Motivation in Chemistry learning*. Rowley, MA: Newbury House. London.

Huitt, W. 1999. *Classroom Management*: Educational psychology interactive retrieved from http://chiron. Vaidosta. Edu/whuitt/edpsyc/first wk.html.

Kara, A. 2009. The efect of a learning theories' unit on students' attitudes towards Chemistry. *Australian Journal of Teacher Education*, 34(3), 100-113. [Online] Available: http://ro.ecu.edu.au/ajte/vol34/iss3/5 (August 10, 2011)

Kolawole, C. O. O. 2009. *Students reading interest in selected senior secondary schools in Akure Ondo State, Nigeria*. Department of Teacher Education, University of Ibadan, Ibadan.

Lawal, F. O. 2000. *Approaches to secondary school chemistry*. A text for teachers and undergraduates. Lagos: University of Lagos Press.

Newton P.D. and Newton D.L. 2011. Engaging science: Pre-service school teachers "notion of engaging science lesson. *International Journal of Science and Chemistry Education.* 9 (2), 327-345.

Odiaka O.O. 2002. Emerging trends in technological advancement in Chemistry. *Journal of Science Education*, 4, 10-16.

Ogunnaike, M. J. 2002. Relative effects of discussion and reading-questioning techniques on secondary school students' achievement in chemistry in Ijebu Ode Local Government Area. *(Unpublished Ph.D Thesis)*. University of Ibadan.

Olaboopo, A. A. 1999. Effects of error treatment, model- based and skill-based instructional strategies on students' attitude, *motivation and achievement in Journal of Language and Cultural Education,* 2(3).

Oyekan, S. O. 2006. *Foundations of teacher education*. Ibadan: Ben Quality Prints.

WAEC Examination Report ,Chief Examiner's Report in (2011 & 2012)

WAEC Examination Report ,Chief Examiner's Report in (1999-2011)

Yore, P. 2000. On teaching chemistry itself. in Watson (Ed.),: *Theory and Practice. Palgrave Macmillan.*

****