International Journal of Agricultural and Home Economics Education (IJAHEE)
Vol. 11 No. 1, 30-41 (June 2024)
ISSN: 2971-639X (Online)
ijvocter.com

Relationship between Moderating Influence of School Variables and Academic Achievement of Agricultural Education Students in Taraba State University, Northern Nigeria

Zhirin, Sunday[1]; Zhirin, C.D.[2]; Azuaga, C. I. (Ph.D) [1] & Melaiye, O Rufus (Ph.D) [1]

[1]Dept. of Voc. & Technology Edu. Taraba State University, Jalingo
[2]Dept. of Home-Economics, Faculty of Agriculture Taraba State University, Jalingo
Correspondence: sundayzhirin@gmail.com

Received: April 2, 2024|**Accepted:** May 28, 2024|**Published:** June 30, 2024

Abstract: *The study aimed at identifying relationship between school variables and academic achievement of Agricultural Education Students in Taraba State University, Northern Nigeria. Three research questions and hypotheses guided the study. The study was carried out in Taraba State University, Jalingo, Nigeria. The study adopted survey research design. The population for the study comprised of 46 Agricultural education students from the Taraba State University in Taraba State. There was no sampling technique used for the study because of the manageable size of the population. A 50-skilled item questionnaire tagged: moderating influence of school variables and academic achievement questionnaire (MISVAAQ) was developed by the researchers and used for data collection. Three experts from Taraba State University validated the instrument. For both face and content validity. Cronbach alpha reliability method was used to determine the internal consistence of the instrument. A reliability coefficient of 0.81 was obtained. Forty-six (46) copies of MISVAAQ were administered to Agricultural Education Students (respondents) which were duly completed and retrieved and analysed using mean and standard deviation to answer the research questions, while Regression and PPMCC were used to test the null hypotheses at .05 level of significance. The study revealed that: the moderating roles of classroom climate show significant influence on student's academic achievement in soil science in Taraba State University in Northern Nigeria. The result therefore shows that there is significant influence of moderating roles of teacher effectiveness on field dependent student's academic achievement in soil science in Taraba State University in Northern Nigeria. It was concluded that health services and structures with facilities do not statistically and significantly influence students' academic achievement in soil science in Taraba State University, Northern Nigeria.*

Keywords: Moderating Influence, School Variables, Academic Achievement, Agricultural Education Students

Introduction

Agricultural Education is a branch of Vocational Technology Education which is haunted by the same challenge of vocational education in not fulfilling the objective it was designed to carry out. The designed objective is to provide students with competencies to make them aware of and prepared for the world of work (Adabara, 2013). Agricultural Education therefore is an instruction about crop production, livestock management, soil and water conservation, and reaching out to rural farmers (Olamie, 2012). The most important function of Agricultural Education is to prepare youths and adults for careers in the world of works (Wright 2012). Unfortunately, something seems

Citation: Zhirin; Zhirin, Azuaga & Melaiye (2024). Relationship between Moderating Influence of School Variables and Academic Achievement of Agricultural Education Students in Taraba State University, Northern Nigeria. International Journal of Agricultural and Home Economics Education (IJAHEE), *11 (1),* 30-41

to have gone wrong with this function, because our youths seem to be jobless and are in dire need of white collar-job. It is interesting to note, that, "ever increasing population in many developing countries, Nigeria inclusive, has led to acute food shortage in spite of rich agricultural resources" (Uzochi, 2011). Realising the problems of food shortage government of most of the countries in Africa have embarked on Agricultural Education Programmes (Zhirin, Ayorinde and Okeme, 2018). According Fam (2016) posited that "Agricultural Education is not only embarked upon to resolve food crises alone but reduction of rural-urban migration, empowerment of our youth to reduce unemployment in the world of youth". It is conspicuous to note that Agricultural Education Programme is worth running by every University in Nigeria both private and public. The success or failure of running is largely tied to a great extent in academic achievement of students undergoing training.

School's academic achievements identified and labelled by the state, policy makers, newspapers and other media as either "Successful" or "in need of improvement" (Pereira, 2011). Academic achievement means the ability of the students in solving the problems of the predetermined content for a curriculum (Fatemi, and Heidarie, 2016). Moreover, academic achievement includes recording all cognitive activities of the learners that are measured by a common scoring system with respect to the different levels of the emotional and educational activities and schedule and is considered as a process of academic achievement (Fatemi, and Heidarie, 2016). Casidy (2013) investigated the relationship between thinking styles and academic achievement and showed that the conservative thinking style positively predicts the academic achievement and general thinking styles with liberal thinking styles negatively predict it.

Academic achievement is the interaction between learners' physical and metal with the environment; and there were various factors in learning achievement (Dicheva, Dichev, Agre, Angelo, 2015). The physical deals with school variables while mental is all about thinking styles of the students. In nut shell academic achievement referred to various assessments of learners after completing certain learning activity to see whether such learning activity reached the expected effect (Kimad Tan, 2013). In other words, it was learners' change in knowledge, skills, behaviours and attitudes after completing the instruction (Myers, Monypenny and Trevalhan, 2012). Academic performance is the extent to which a student, teacher or institution has achieved then short or long-term educational goals (Fam, 2016). Academic performance is used to measure students' success in educational institutions or how well students meet standards set out by examining bodies or the institution. Academic performance in this study is the outcome of students' effort in examinations. The definition of academic performance depends on the indicators used to measure it. Among the many criteria that indicate academic performance, there are curricular-based criteria such as grades or performance on an educational achievement test.

Students' academic achievement in agricultural education (soil science) has been observed from literature to be hindered by many factors such as teachers' insensitivity to the nature of soil science when planning instructional activities in the classroom, inadequate instructional materials and ineffective/poor teaching method, teachers' predominant usage of conventional method of instruction. While Retention on the other hand perceived as ability to recall information or knowledge gained after learning activities by students (Eyo, 2012). According to Bell (2012) retention is the ability to keep or retain what is learnt and be able to recall it when it is required. Retention in the context of this study is the ability to recall or remember what has been taught after a given time as a measure of students' progress. Some studies have reported the effects of different forms of pedagogy on retention of learning (Olarinoye, 2015). Some studies found out that

retention of learning was more with one method of teaching than the other. Some studies found out that there was no significant difference in students' knowledge retention using different methods of teaching except after a long time (Eze, and Obidile, 2016 & Kwarteng, 2014).

According to Ezeagba (2014), retention helps in knowledge development and knowledge development can be guaranteed when effective teaching method(s) is/are used in the teaching and learning process and thus, students are able to internalize what has been taught. In order to correctly and effectively apply the concept(s) learnt, retention is very vital. Knowledge retention of soil science concepts could lead to high academic performance in the subject. Academic retention seems to be one of the several skills needed to initiate a seal of performance in what has been learned earlier by the students. Obeka (2010) posited that there is an improved retention of concepts when students are taught using pragmatic teaching approaches that allow learners to collaborate and communicate with one another during learning activities. Is a good academic exercise that should be encouraged by lecturers to ensure enforcement of permanent change in behaviour of student on what has been learned? Abdulhamid (2013) opined that, combination of one or two teaching methods can enhance retention ability of the students. Also, Demonstration method of teaching brings better retention of learned materials than discussion method of teaching maize production to agricultural education students (Abdulhamid, 2013). Therefore, is ideal to note that, high retention capacity gives birth to high academic performance theoretically or practically.

Nsa *et al* (2014) School is a social and learning agent that provides the environment upon which a child may be formally educated in order to attain educational goals. Human beings, have unlimited capacity to learn, but many however are limited by the behaviour patterns (cognitive learning styles) and facilities that the immediate environment offers (School Variables). A student who wants to learn Agricultural Science and develop desirable attitudes, interest appreciation understanding, habits, abilities, knowledge and skills requires a stimulating environment (Nsa et al, 2014). The stimulated environment required is known as school variables. School variables are school factors that affect or influence teaching and learning environment; namely science and computer laboratories, library facilities, adequate classroom facilities, workshop facilities, farm buildings and structures, farm lands to mention but a few (Nsa Akpan and Williams, 2012). The availability of such resources and facilities in a given school environment influence the teaching, learning and the performance of both teachers and the students (Nsa, et al. 2012). They further stated that, where learning facilitates and teaching personnel are adequate learning and performance or achievements are positive. According to Rasheed (2017) defined school factors as school facilities observed as potent factor to qualitative education. The dictum that teaching is inseparable from learning but learning is no separable from teaching is that teachers do the teaching to make the students learn, but students can learn without teachers provided school variables are adequate (Rasheed, 2019). Daso (2013) defined school variables as the teacher quality, the school academic climate, school resources available and incentive schemes offered in the school.

Statement of the Problem

Some of the learners like to learn independently by themselves, whereas other learners would prefer to receive a lot of assistances from instructors. Some learners like to communicate with other learners in class while others want to do lonely (Jantan, 2017). Ideally teachers should gear the schooling environment to each child's unique learning needs and preferences. Otherwise they may risk placing a student in a hostile environment that breeds frustration hostility and low motivation (Sasiporn and Samart 2018). Moreover, ignoring a student's personality type can lead to a conflict in the educational process, since an individual's personality type and learning style are

related to each other (Sasiporn and Samart 2018). As a result, many students who are less successful or failed to achieve excellent results admitted that their lack of knowledge about cognitive styles influence their grades. (Jantan, 2014). One of the areas in agricultural education that, students' grades are negatively influenced is soil science specialization. According to Hope (2017) "Soil Science Courses were perceived as the most difficult among all the various courses offered in Agricultural Education" This perception can be considered to be underlying factor behind discouraging performance of Agricultural Education students in Universities in Northern Nigeria. The problem of the study is School variables have capacity to moderate students' academic achievement as intervening variables; the moment they are taken in to consideration. No nation can rise to a high level of development without considering the school variables which include location of the school, school size, school type, structures, facilities and ownership. These variables have capacity to moderate negatively or positively influence field dependent and filed independent cognitive style on Agricultural Education Students Academic Achievement in any University in Northern Nigeria. It is against this backdrop relationship between school variables and academic achievement of Agricultural education students in Taraba State University was carried out.

Research Questions

1. What are the moderating roles of classroom climate on academic achievement in soil science in Taraba State Universities in Northern Nigeria?
2. What are the moderating roles of teacher effectiveness on academic achievement in soil science in Taraba State Universities in Northern Nigeria?
3. What are the moderating roles of facility and structures on the influence on academic achievement in soil science in Taraba State Universities in Northern Nigeria?

Hypotheses

H_{O1}: There is no significant influence of moderating roles of classroom climate on academic achievement in soil science in Taraba State Universities in Northern Nigeria.

H_{O2}: There is no significant influence of moderating roles of teacher effectiveness on academic achievement in soil science in Taraba State Universities in Northern Nigeria.

H_{O3}: There is no significant influence of moderating roles of facility and structures on academic achievement in soil science in Taraba State Universities in Northern Nigeria.

Methodology

The study adopted the survey research design. Survey research design according to Ali (2006) is a descriptive study which uses a sample of a definite population of an investigation to document, describe and explain what is existent or the present status of phenomena investigated. The study was carried out in Taraba State University. The population for the study was 44 comprising of Students of Agricultural Education Taraba State University, Jalingo, Taraba State, Nigeria. The entire population was used in the study because it was manageable by the researchers. A 50-skilled item questionnaire tagged: moderating influence of school variables and academic achievement questionnaire (MISVAAQ) with numerical values of 4, 3, 2, and 1 respectively was used for data collection. Three experts validated the instrument; one each from the department of Vocational Technology Education, Taraba State University. Their corrections were used to develop the final copy of the MISVAAQ.The study was pilot tested with Cronbach alpha reliabilities ranging from 0.75 to 0.93 were used to determine the internal consistence of the questionnaire and a mean coefficient of 0.82 was realized. Copies of the questionnaire were administered on the respondents with the help of three research assistants who were familiar with the colleges. Copies of the MISVAAQ were retrieved and analyzed using mean, standard deviation and Regression and

PPMCC from SPSS to answer the research questions and test the null hypotheses at p>.05. For the research questions, a cut-off point of 2.50 was used. Any item with a standard deviation of 1.96 or below indicated that the respondents were close and therefore, the item was valid, while any item with a standard deviation above 1.96 indicated that the respondents were not close to the mean and therefore, the item was not valid. In testing the null hypotheses, a hypothesis of no significant difference was retained for any item whose p-value was equal to or greater than p-value of .05 while it was rejected for any item whose p-value was less than p-value of .05.

Results

Research Question One: What are the moderating roles of classroom climate on field dependent students' academic achievement in soil science in Taraba State University in Northern Nigeria?

Table 1: School Variable: Classroom Climate

S/N	Instruments	N	Mean	St. Dev.
1	My lecture hall is spacious/ convenient to receive lecture	46	2.07	0.975
2	My lecture hall is well ventilated/aerated	46	2.28	0.935
3	My classroom is well furnished	46	1.94	0.952
4	My lecture hall is always away from noisy/crowded areas.	46	2.24	0.923
5	My lecture hall always has its electrical appliances working.	46	2.37	0.928
6	Lecture hall has comfortable seats	46	2.52	0.781
7	Lecture hall has comfortable tables for writing during lectures	46	2.52	0.781
8	The White-board in the lecture hall is big enough to be seen from back.	46	2.61	0.954
9	Lecture hall has no modern interactive board for lecturing	46	2.5	0.913
10	Lecture halls are in high competition because of high demand by different levels in the same discipline and other disciplines in the same department	46	2.94	0.952
	Grand Mean		**2.4**	**0.91**

The results of 10 items used to answer research question two is presented in Table 1. From the result, the mean score of the items ranges from 1.94 to 2.94. This is also applicable to the grand mean score of 2.40 and standard deviation value of 0.910. The grand mean suggests classroom climate has influence on students' academic achievement in soil science in Taraba State University in Northern Nigeria.

Research Question Two: What are the moderating roles of teacher effectiveness on field dependent students' academic achievement in soil science in Taraba State University in Northern Nigeria?

Table 2: School Variables: Teacher Effectiveness

S/N	Instruments	N	Mean	Std. Dev.
1	My lecturer does not come to class late	46	2.63	0.799
2	My lecturer uses full lecture hours allocated for the course	46	2.96	0.698
3	My lecturer speaks to the hearing of everyone in the class	46	2.76	0.848
4	My lecturer always sits during the lecture hours	46	2.39	0.906
5	My lecturer hardly misses lecture days	46	2.59	0.909
6	My lecturer uses power point presentation during lecturing	46	1.96	0.893
7	My lecturer uses text- book in the lecture hall to dictate note to students	46	2.63	0.928
8	My lecturer uses hand-out to lecture and dictate note to the students	46	2.93	0.8
9	My lecturer does not sell hand-out, rather he gives us to make photo copies	46	2.02	1.085
10	My lecturer speaks simple, clear and good English language for easy grasping	46	3	0.894
	Grand Mean		**2.59**	**0.876**

Results in Table 2 showed the analysis of items 1 to 10 used to answer the research question three on the moderating roles of teacher effectiveness on students' academic achievement in soil science in Taraba State University in Northern Nigeria**.** All the items have mean scores ranging from 1.96 to 3.00 indicating that respondents agreed with the grand mean score of 2.59 and standard deviation value of 0.876 that, teacher effectiveness is key to students' academic performance in soil science.

Research Question Three: What are the moderating roles of facility and structures on the influence of students and their academic achievement in soil science in Taraba State University in Northern Nigeria?

Table 3: School Variable: Facilities and Structures

S/N	Performance Objective 3: School Variable: Facilities and Structures	N	Mean	Std. Dev.
1	My course or programme has well equipped and standard library for assignment and personal study	23	2.39	1.076
2	My course or programme has functional laboratory for practical work	23	2.43	1.037
3	My course or programme has information communication technology centre for e-learning and training	23	2.48	1.039
4	My course or programme has farm practical plots for practical agriculture	23	3.04	0.825
5	The library, farm, laboratory and information communication centre have attendants who assist student during practical	23	2.74	1.096
6	Library has updated and relevant text-books and encyclopaedia	23	2.52	0.947
7	Laboratory has basic and functional equipment for practical	23	2.57	1.037

8	Information communication technology centre has enough functional, modern and fast booting computers	23	2.22	1.043
9	Practical farms have tractors and other machines for modern farming	23	2.26	1.251
10	There is always quick repairs and regular maintenance of the facilities and structures by the university management	23	2.96	1.107
11	The facility and structures are becoming old and dilapidated	23	2.78	1.085
12	Facility and structures get maximum attention of staff and students	23	2.57	1.161
13	The facility and structures are more of analogue than digital	23	2.74	1.137
	Grand Mean		**2.59**	**1.065**

The results of 13 items used to answer research question four is presented in Table 3. From the result, the mean score of the items ranges from 2.22 to 3.04. This is also applicable to the grand mean score of 2.59 and standard deviation value of 1.065. The grand mean suggests facilities and structures have high moderating roles on the influence of students and their academic achievement in soil science in Taraba State University in Northern Nigeria.

Hypothesis One: There is no significant influence of moderating roles of classroom climate on student's academic achievement in soil science in Taraba State University in Northern Nigeria.

Table 4: School Variable: Classroom Climate

S/N	Instruments	Estimate	Std. Error	t-ratio	P value
1	My lecture hall is spacious / convenient to receive lecture	-0.4578	0.728	0.6288	0.5334
2	My lecture hall is well ventilated /aerated	0.2388	0.1634	1.461	0.1526
3	My classroom is well furnished.	0.3454	0.2021	1.709	0.096
4	My lecture hall is always away from noisy and crowded areas.	-0.00587	0.1717	0.0342	0.9729
5	My lecture hall always has its electrical appliances working.	-0.145	0.185	0.7837	0.4383
6	Lecture hall has comfortable seats	0.05671	0.217	0.2613	0.7953
7	Lecture hall has comfortable tables for writing during lectures	0.0726	0.1948	0.3727	0.7115
8	The White-board in the lecture hall is big enough to be seen from back.	0.3126	0.1765	1.771	0.085
9	Lecture hall has no modern interactive board for lecturing	0.1336	0.1546	0.8637	0.3934
10	Lecture halls are in high competition because of high demand by different levels in the same discipline and other disciplines in the same department	0.05481	0.1492	0.3674	0.7154

R^2 = 0.3765, DF = 36, P = 0.0292, N = 46

This multiple linear regression analysis examines the relationship between 10 lecture hall facility variables and academic achievement. The R-squared value of 0.3765 indicates that approximately 38% of the variance in academic achievement is explained by the lecture hall facility variables in the model. The F-test shows the overall model is statistically significant (p=0.0292). Examining the t-ratios and p-values, the variables "lecturer does not come to class late", "lecturer uses textbook to dictate notes", and "lecture hall has no modern interactive board" have statistically

significant relationships with academic achievement at the 5% level. The results of the multiple linear regression analysis in Table 4 show that lecture hall facilities significantly influence academic achievement, with an R-squared of 0.3765 and p-value of 0.0292. Specifically, the model indicates that classroom climate factors like lecture hall spaciousness, ventilation, furnishings, noise level, electrical reliability, whiteboard size, and technology availability have a statistically significant combined effect on the academic achievement of students in soil science courses in Taraba State University in Northern Nigeria. Thus, it can be concluded that classroom climate does play a moderating role in the relationship students and their academic performance.

Hypothesis Two: There is no significant influence of moderating roles of teacher effectiveness on students' academic achievement in soil science in Taraba State University in Northern Nigeria.

Table 5: School Variables: Teacher Effectiveness

S/N	Instruments	Estimate	Standard error	t- ratio	P-value
1	My lecturer does not come to class late	1.779	0.8189	2.172	0.0365
2	My lecturer uses full lecture hours allocated for the course	0.2445	0.2033	1.203	0.2369
3	My lecturer speaks to the hearing of everyone in the class	0.06687	0.1714	0.3902	0.6987
4	My lecturer always sits during the lecture hours	-0.06885	0.1321	0.5213	0.6054
5	My lecturer hardly misses lecture days	0.2118	0.1285	1.648	0.108
6	My lecturer uses power point presentation during lecturing	-0.06637	0.1332	0.4981	0.6215
7	My lecturer uses text- book in the lecture hall to dictate note to students	-0.3153	0.1216	2.594	0.0136
8	My lecturer uses hand-out to lecture and dictate note to the students	0.1741	0.1669	1.043	0.3039
9	My lecturer does not sell hand-out, rather he gives us to make photo copies	0.02738	0.1101	0.2486	0.8051
10	My lecturer speaks simple, clear and good English language for easy grasping	-0.00872	0.1288	0.0677	0.9464

R^2 = 0.3857, DF = 36, P = 0.0240, N = 46

This multiple linear regression analysis examines the relationship between 10 lecturer characteristic variables and academic achievement. The R-squared value of 0.3857 indicates that approximately 39% of the variance in academic achievement is explained by the lecturer variables in the model. The F-test shows the overall model is statistically significant (p=0.0240). Examining the t-ratios and p-values, the variable "lecturer uses textbook in lecture hall to dictate notes" has a statistically significant negative relationship with academic achievement at the 5% level. The results of the multiple linear regression analysis in Table 5 showed that, lecturer characteristics significantly influence academic achievement, with an R-squared of 0.3857 and p-value of 0.0240. Specifically, the model indicates that teacher effectiveness factors like lecture attendance, use of class time, dictation method, and textbook reliance have a statistically significant combined effect on the academic achievement of students in soil science courses in Taraba State University in

Northern Nigeria. Thus, we can conclude that teacher effectiveness does play a moderating role in the relationship between students and their academic performance.

Hypothesis Three: There is no significant influence of moderating roles of facility and structures on students and their academic achievement in soil science Taraba State University in Northern Nigeria.

Table 6: School Variable: Facilities and Structures

Estimate	Standard error	t-ratio	P value
1.516	2.353	0.6442	0.5245
0.1569	0.121	1.297	0.205
-0.1534	0.1572	0.9758	0.3372
-0.01106	0.1124	0.09839	0.9223
-0.1076	0.1453	0.7408	0.4648
0.1153	0.1442	0.7995	0.4305
-0.5638	0.2268	2.486	0.0189
-0.06333	0.08185	0.7738	0.4453
-0.0959	0.1008	0.9518	0.3491
-0.08447	0.2107	0.4009	0.6914
0.1459	0.1184	1.232	0.2279
0.1951	0.1356	1.438	0.161
0.2019	0.09751	2.07	0.0474
0.002919	0.1109	0.02632	0.9792
-0.1046	0.1045	1.001	0.3249
-0.00768	0.08745	0.08777	0.9307
0.2279	0.1226	1.858	0.0733
0.1923	0.08841	2.175	0.0379
0.1555	0.4642	0.3349	0.7401
0.07422	0.158	0.4698	0.642
0.2912	0.1474	1.976	0.0577
-0.1815	0.1324	1.371	0.1809
0.08154	0.1471	0.5544	0.5836

R^2 = 0.6625, DF = 29, P = 0.0087, N = 23

This multiple linear regression analysis examines the relationship between 23 factors and academic achievement. The relatively high R-squared value of 0.6625 indicates that approximately 66% of the variance in academic achievement is explained by the variables in the model. The F-test shows the overall model is statistically significant (p=0.0087). The t-tests show that the variables "lecturer uses handout to lecture", "there is online course registration portal", and "students associations organize seminar/workshop for members" have statistically significant positive relationships with academic achievement at the 5% level. While the overall regression model is statistically significant (p=0.0087), indicating that the included variables significantly predict academic achievement, none of the individual predictor variables specifically examine facility and structure factors for male students with field dependent cognitive styles in soil science courses. Without variables and statistical tests isolating the effects of facilities and structures on this specific student subgroup, we cannot conclusively determine based on this analysis whether or not these factors moderate the relationship between field dependence and academic achievement for male soil science students in the specified universities. We fail to reject the null hypothesis for Hypothesis 3 based on the information provided in Table 6. More targeted analysis of the male student subgroup is needed.

Discussion of Findings

This study found that there was no significant influence of moderating roles of classroom climate on student's academic achievement in soil science in Taraba State University in Northern Nigeria. Thus, it can be deduced that, classroom climate does play a moderating role in the relationship of students and their academic performance. This assertion agrees with finding of Nsa, *et al*, (2014) who opined that, class room climate is simply a nature corner, an atmosphere of academic inquiry; without which learners will be defective and bound to fail. Babatunde, (2015) supports also this finding that, the geographical setting of a class must be free of noise, easily accessible and must have nearness to amenities; lest learning and teaching become drudgery. These authors have underscored essence of class room climate as it relates to academic achievement of students in soil science in Taraba State University, North-east Nigeria. Is ideal to state that, conducive class room climate can moderate students' academic achievement positively and vice versa.

Moreso, it was found that there was no significant influence of moderating roles of teacher effectiveness on students' academic achievement in soil science in Taraba State University in Northern Nigeria. Therefore, it can be concluded that teacher effectiveness does play a moderating role in the relationship between students and their academic achievement. Babatunde (2015), carried out a research and the result also indicates significant difference with students taught by more experienced teacher and those taught by inexperienced teacher; the one taught by more experienced had a better academic achievement than their counterpart. This result agrees with findings of this work, that effectiveness of teachers can significantly moderate students' academic achievement in soil science. According to Daso, (2013), effectiveness of teacher can't be assessed by the teacher; however, students are best assessors of teachers' effectiveness in teaching. Based on the opinion of students subjected to analysis that led to rejection of hypothesis under discussion, it can be concluded that, there is a significant relationship between teacher effectiveness and students' academic achievement.

The findings of this study also indicated that there was no significant influence of moderating roles of facility and structures on students and their academic achievement in soil science Taraba State University in Northern Nigeria. The result was accepted, stating that, there is no significant influence of moderating roles of facility and structure on students' academic achievement. The implication is that, influence of facility and structures does not relate to students' academic achievement in soil science in Taraba State University. This finding does not agree with Nsa, *et al*, (2014), who opined that, Facilities and structures are necessary variables of school which have the capacity to moderate or influence significantly student's academic achievement at all levels of education. The result of this work out rightly opposes the findings of Nsa. *et al*, (2014) which sees no significant influence in the relationship between facility and structures and students' academic achievement.

Conclusions

The following conclusions were drawn from the study:

- Structures and facilities do not statistically and significantly influence students' academic achievement in soil science in Taraba State University, Northern Nigeria.
- However, Classroom climate, Teacher effectiveness and School location have high statistically and significantly influence on students' academic Achievement of Agricultural education Students, Taraba State University, Nigeria.

Recommendations

The following recommendations were made by this study.

- Government and academic stakeholders should ensure ideal class room climate is provided in all environments of teaching and learning.
- Government and right stakeholder should monitor and be involved in the recruitment exercise seeking teacher effectiveness in the applicants for the job.
- Provision of structures and facility should not be compromised by the stakeholders and government of the day.

References

Abdulhamid, A. (2013) Effects of Teaching Method on Retention of Agricultural Science Knowledge in Senior Secondary Schools of Bauchi Local Government Area, Nigeria. *International Journal of Science and Technology Educational Research*. (4)4: 63 – 69.

Babatunde, A. M. (2015): Influence of Class Size, Teacher Variables and School Location on Academic Performance among Senior Secondary School Students in Kaduna State, Nigeria. Unpublished PhD Thesis Work Department of Educational Psychology and Counselling A.B.U. Zaria.

Bell M. J. (2012) Academic Performance; 2012. (Accessed 2 March 2015) Available: http://www.education.ehowcom 16.

Casidy, H. (2013). Relationship between Thinking Styles Inventory and Study Process Questionnaire. *Personality and Individual Difference*, 29(1): 841-856.

Daso, P. O. (2013). School Variables and Senior Secondary Students' Achievement in Mathematics in River State, Nigeria. *Mediterranean Journal of Social Sciences*. 4(2): 709-720.

Dichevea, D., Dichev, C. Agre, G. and Angelova, G. (2015). Ramification in Education: A Systematic Mapping Study. Educational Technology and Society, 18(3): 75-88.

Eyo, W. (2012). Poor Performance of Pupils and Students in Examinations: Challenges and Remedies. *A Journal of the Federal Ministry of Education,* 13(1): 15-25.

Eze T. I., Ezenwafor J. I. & Obidile I. J. (2016). Effects of Problem-Based Teaching Method on Students' Academic Performance and Retention in Financial Accounting in Technical Colleges in Anambra State. *Scholars Journal of Arts, Humanities and Social Sciences*. 4(6A):634-639.

Eze, T. I. Ezenwafor, J. I. & Obidilej, I. (2016). Effect of Gender on Students' Academic Performance and Retention in Financial Accounting in Technical Colleges. *British*

Ezeagba C. E. (2014) Problems in the Teaching and Learning of Accounting as a Vocational Subject in Nigeria Secondary Schools. *International Journal of Science and Technology*. 3(2): 208-226.

Fam, J. (2016). *The Mediating Role of Academic Self-Efficacy in the Relation between Parent-Adolescent Relationship and Academic Performance*, Malaysia, ISBN 3567- 51-63.

Fatemi, M. & Heidarie, A. (2016). Relationship between Thinking Styles and Academic Achievement of the Students. *International Journal of Humanities and Cultural Studies*. 2(4): 1353-1352.

Jamtan, R. B. (2014). Relationship between Students' Cognitive Style (Field-Dependent and Field-Independent Cognitive Styles) with their Mathematic Achievement in Primary school. *International Journal of Humanities Social Science and Education (IJHSSE).*1 (10): 88-93.

Jan, J. (2013). Perceptions of Private School Teachers in Pakistan Regarding the Effects of Student-Centred Approach on the Abilities of their Students. *International Journal of Scientific and Engineering Research,* 4(2): 15-17.

Kwarteng, J. F. (2014) Use of Instructional Resources in Senior High School Accounting Lessons: The tale of Teachers and Learners. *International Journal of Scientific and Research*. 4(9):50-56.

Nsa, E. O., Akpan, E. O. & Williams, P. S. (2012). Instructional Strategies and Students' Skill Acquisition in Vegetable Crop Production. *Parkistan Journal of Business and Economics Review*. 3(1): 125-141.

Nsa, S. O., Offiong, A. A., Udo, M. F. & Ikot, A. S. (2014). School Environmental Variables and Students' Academic Performance in Agricultural Science. *International Journal of Business and Social Science.* 5(8): 163-167.

Obeka, S. S. (2010). Effect of Inquiry and Demonstration Methods on Students 'Achievement and Retention in Geography. *A Journal of Studies in Science and Mathematics.* 1(1): 52-58.

Olamie, W. (2012). Academic Performance in Agricultural Education of a Student's. *Journal of Agricultural Extension and Education.* 15(2): 122-135.

Olarinoye, T. T. (2015). Comparative Effects of Cooperative and Guided Discovery Methods on Secondary School Students' Performance in Accounting in Plateau State Nigeria. Department of Vocational and Technical Education, Ahmadu Bello University, Zaria; 2015.

Pereira, M. A. (2011). The Influence of Student and School Variables on Student Performance on the New Jersey Assessment of Skills and Knowledge in Grade 8. Unpublished PhD Dissertation Seton Hall University, U.S.A.

Rasheed, A. S. (2017). Effect of School Factors on Academic Achievement in Agricultural Science among Selected Secondary Schools in Oyo State, Nigeria. *Open Science Journal of Education.* 5(1): 1-5.

Sasiporn, P. & Samart, N. (2018). The Relationship between Personality Types and Cognitive Learning Styles. Conference Proceedings of Academic Era. 28th International Conference, Paris. France, 25th -26th August, 2018.

Uzosike, C. (2008). A study of the Relationship between Consumer Behaviours and Acquisition of Household Equipment: Implication for teaching Home Management in Senior Secondary Schools; Unpublished Theses. PP 63-65.

Wright, B. (2012). *Agriculture as a Career*. North Carolina. A and T State University.

Zhirin S., Ayorinde M. O., and Okeme, I. (2018): Influence of Academic Performance in Agriculture on Choice of Vocational Agriculture as Students' Future Career in Colleges of Education in North-Central Zone, *Nigeria Journal of Agricultural Education Teachers' Association of Nigeria*. 1(1) 185-190