

EFFECT OF DEMONSTRATION TEACHING METHOD ON ACADEMIC PERFORMANCE OF SENIOR SECONDARY SCHOOL STUDENTS IN AGRICULTURAL SCIENCE IN ADAMAWA STATE, NIGERIA

BY

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Abstract

The study determined effect of demonstration method of teaching on academic performance of Senior Secondary School Students in agricultural science in Adamawa state. The study also determined how moderating variable like school location and gender affect students' academic performance in agricultural science. Five research questions and five null hypotheses guided this study. The study adopted Nonrandomized control group pretest-posttest quasi experimental design. The population of the study was 115,497 students in Senior Secondary Schools (SSS II) who offered Agricultural Science subject in Adamawa State, Post Primary Schools Management Board, 2019. The sample size that was used for this study was 20 intact classes, four schools each zone, which consist of 769 Senior Secondary School (SSS II) Students (416 males and 353 females; 425 Urban and 344 Rural; 390 Demonstration and 379 lecture) who offer Agricultural Science subjects in Gombi, Numan, Mubi and Yola Education Zones of Adamawa State. Purposive sampling technique was used to select 20 co-educational Senior Secondary Schools in Adamawa State. The instrument that was used for data collection in this study was Agricultural Science Performance Test (ASPT) developed by the researcher. The instrument was validated by three experts and a reliability coefficient of 0.85 was obtained using Cronbach Alpha method. Mean was used to answer the five research questions while ANCOVA was used test the null hypotheses at 0.05 level significance. Findings of the study revealed that there is a difference between the mean performance scores of agricultural science students taught with demonstration method and those taught with lecture method in favour of demonstration method and there is a positive mean difference between the mean performance scores of male and female agricultural science students taught using demonstration method in favour of the males. The study recommended among others that secondary school teachers should integrate demonstration teaching strategy in teaching agricultural science to improve students' academic performance, Adamawa State Ministry of Education should regularly organize workshops and seminars for urban and rural schools on teaching methods which will enable teachers to understand the effectiveness of demonstration teaching method in improving students' academic performance in learning of agricultural science.

Keywords: *Demonstration Method, Teaching Method, Academic Performance, Agricultural Science*

Introduction

Agricultural Science is one of the core subjects taught in senior secondary schools in Nigeria because of its promising role in promoting self-reliance through the provision of employment opportunities and production of staple foods for the populace together with raw material supply for the agro-allied industries. The Federal Republic of Nigeria in its attempt towards the attainment of these laudable goals outlined the basic objectives of teaching agricultural science

at the secondary school level as follows: to stimulate and sustain students interest in agriculture, to inculcate in students farming skills, to enable students acquire basic knowledge and practical skills in agriculture, to prepare students for future studies in agriculture and to produce prospective future farmers (Federal Republic of Nigeria, 2013). The subject agricultural science should be taught at the secondary school level by experts (science educationists) who are thoroughly grounded in

science education (Zudonu, 2011). This is because they are specialists and they are abreast on how to go about teaching their learners (Zudonu, 2011). Ajene (2003) asserted that science teachers themselves may have been poorly taught, this may have culminated to their inability to teach effectively. Most of the science teachers are unqualified (Terngu, 2010). From the view point of Terngu, it is a strong index that unqualified teachers may not be conversant with pedagogical methodology and this may have contributed to the usage of inappropriate/unsuitable methods which has snowballed to poor academic performance in agricultural science. It should be borne in mind that the word “unqualified” in this context, may not necessarily connote not possessing the appropriate certificate meant for the teaching job’, however, it may be anchoring on professionalism or teaching method.

Teaching method is the series of actions or activities planned by the teacher and systematically presented to the learner to enable him/her receive and process the information; retain and recall it in order to be able to use it to tackle emerging life tasks and problems. Teaching methods are used to impart knowledge to students, they are the means by which the teacher attempts to impart the desired learning or experience (Ndirangu, 2007). The choice of a particular teaching method by the teacher are determined by number of factors which include the content to be taught, the objectives which the teacher plans to achieve, availability of teaching and learning resources and the ability and willingness of the teacher to improvise if conventional teaching aids are not available.

Teaching method involves the teacher skills and manipulations on the subject matter and the learning situations in order to stimulate positive

and desired response from the learner. Kimweri (2014) defined teaching methods as a variety of ways of organizing the participants and the type of methods to be used to facilitate learning process which are determined by different factors such as number of students, age and the topic to be taught. A teaching method denotes the strategy by which a teacher delivers his/her subject matter to the learners based on some predetermined instructional objectives in order to promote learning in the students. For a teacher to effectively adopt any teaching method, some factors must be considered. The effective implementation of any curriculum depends to a large extent on the availability of various methods of teaching. Thus, a teaching method helps to impart knowledge and attempts to help the learner have a change of attitude and acquire skills through a series of planned activities (Buseri and Dorgu, 2011).

Demonstration method refers to the type of teaching method in which the teacher is the principal actor while the learners watch with the intention to act later. Here the teacher does whatever the learners are expected to do at the end of the lesson by showing them how to do it and explaining the step-by-step process to them (Ameh, Daniel and Akus, 2007). Mundi (2006) described it as a display or an exhibition usually done by the teacher while the students watch with keen interest. He further added that, it involves showing how something works or the steps involved in the process. Some of the advantages of this method as outlined by Mundi (2006) include:- It saves time and facilitate material economy; the method is an attention inducer and a powerful motivator in lesson delivery; students receive feedback immediately through their own products; it gives a real-life situation of course of study as students acquire skills in real-life situations using tools and

materials; it help to motivate students when carried out by skilled teachers and it is good in showing the appropriate ways of doing things. Demonstration method is a method of teaching concepts, principles of real things by combining explanation with handling or manipulation of real things, materials or equipment (Akinbobola and Ikitde, 2011). Therefore, the engaging nature of demonstration method helps raise student interest and reinforce memory retention because they provide connections between facts and real-world applications of those facts. Hence, the rationale for adopting it in this study in order to ascertain if it can improve the performance of agricultural students in secondary schools of Adamawa State.

Lecture method on the other hand, contains a verbal presentation of ideas, facts, concepts and generalizations. The practice of this method is that of spoon-feeding the learners with facts or information. The students remain passive and obtain information from their teacher (Vincent and Akpan 2014). Lecture is a teacher-centred approach and most often a one way communication where teacher talks to students for a lengthy period and in its pure form, the students have little opportunity to ask questions or offer comments during the lesson. The strengths of lecture method are that it is useful when introducing new subject matter or presenting over view summaries to student, it can be used for teaching group of any size and helps the teacher to cover a lot of content in short space of time. Despite the strengths of lecture method it has limitations. According to Sharma (2020), this method makes the students passive listeners. There is very little scope for pupil activity and is against the principle of learning by doing. It does not take into consideration individual differences. It does not develop power of rezoning of the students and it becomes monotonous to the students. Sharma further stated that though this

method has much limitation, it is still the most used method. The lecture method can be made effective by if it is made more interactive and interesting for students. Lecture method is convenient for institutions and cost-efficient, especially with larger classroom sizes. While lecture method gives the instructor or teacher chances to expose the students to unpublished or not readily available material, the students plays a passive role which may hinder learning. This passive role could be one of the reasons for poor academic performance of agricultural students in secondary schools of Adamawa State.

Academic performance is an active rather than passive acquisition. Olamie (2012) defines academic performance as how students deal with their studies and how they cope with or accomplish different tasks given to them by teachers. According to Bilgin (2009), academic performance is a measure of the degree of success in performing specific tasks in a subject or area of study by students after a learning experience. It is the outcome of education that indicates how well a student or class of students are performing academically. Academic performance is a major issue to teachers, students, parents and guardians as well as other stakeholder in the education industry. According to Komba, Hizza, and Jonathan (2013), academic performance refers to the accomplishment of a given task that is measured against predetermined standards of accuracy, completeness, cost and speed. It also refers to the act of academics in which students are engaged in their studies and how well they meet the standards set out by the authorities responsible. Joel, Kpolovie, Osonwa, and Iderima (2014) view academic performance as the achievement of the student in terms of aggregates obtained in a test or examination in specific subjects that cover a given academic programme. Academic

achievement of students which is synonymous to academic performance or academic attainment means the extent to which students have achieved their short or long term educational goal. Academic achievement is commonly measured through examinations or continuous assessments but there is no general agreement on how it is best evaluated or which aspects are more important. Asikhia (2010) discovered that qualifications of teacher and students involvement do not influence students' academic performance but teachers' method of teaching influence academic performance. Other determinants of student academic performance include gender and school location.

Gender has been found to influence the academic performance of students. Bagamery, Lasik, and Nixon (2005) identified gender as one of the factors that explain academic performance of students, but research results regarding which gender group performs better than the other have not yielded conclusive results. Pillow (2008) examined the influence that gender differences among students has on their academic performance and the study revealed that in an individuals' background characteristic, his/her cognitive and non-cognitive domain is one of the most significant and influential characteristics in academic performance. Gender is a variable that was considered in this study. Gender refers to the fact of being male or female (Quirk, 2008). Kanno (2008) referred to gender as an analytic concept that describes sociological roles, cultural responsibilities and expectations of men and women in a given society or cultural setting. Ezeh (2013) explains that gender describes the personality traits, attitudes, behaviours, values, relative power, influence, roles and expectation (femininity and masculinity) that society ascribes to the two sexes on a differential basis'. Therefore, gender is a psychological term and a

cultural construct developed by society to differentiate between the roles, behaviour, mental and emotional attributes of males and females. Gender is a specially constructed phenomenon that is brought about as society ascribes different roles, duties, behaviours, and mannerisms to the two sexes (Mangvwat, 2006). It is a social connotation that has sound psychological background, and it is used to refer to specific cultural patterns of behaviour that are attributed to human sexes. Gender, according to Lahey (2003), is a psychological experience of being a male or female. It has to do with personality and central components of self-concept. Unlike sex, which is concerned with, only the distinction between male and female based on biological characteristics, gender encompasses other personality attributes as roles, orientation and identity based on individual's conceptualization of self. Singh (2010) opines that gender refers to a socio-cultural construct that connotes the differentiated roles and responsibilities of men and women in a particular society. According to Betiku (2002), gender refers to all the characteristics of male and female, which a particular society has determined and assigned each sex. For the purpose of this study, gender encompasses the male and female agricultural science students of senior secondary schools in Adamawa State.

Gender issue in Nigeria has become an issue of concern for some years now. As schools and educational institutions are more structured, gender difference takes up new and more focus of researchers. Gender relates to the difference in sex (that is, either male or female) and how this quality affects their dispositions and perception toward life and academic activities. Mbaba (2010) showed that gender disparity is still very prevalent in Nigeria and perhaps the whole African countries. This is in line with the finding

of Jimoh (2004) that male students performed better than female students in cognitive, affective, and psychomotor skill performance. This shows that there is a strong association between gender and response to science education. Okeke, (2007) sees gender as a socially/culturally constructed characteristics and roles, which are associated with males and females in any society. According to Okeke, it is different from sex which is a biological distinction in appearance (morphology) and function (physiology) as well as contributions of men and women. Cheung (2009) conducted a comprehensive review of the literature regarding gender issues related to agricultural science education. The study revealed that girls had a more favourable attitude towards studying agricultural science than did boys. In another study by Okwor, Agu and Ukwuaba (2006), they reported that there is no significant difference in the performance of males and females in agricultural science and physics. This study will indeed, verify the veracity of the claims of these authors.

Gender factor in academic performance has been the concern of educational researchers and administrators over the years. Yang (2010) defined gender as the social attributes and opportunities associated with being male and female and the relationships between women and men; girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. Gender refers to the social meanings associated with being a male or a female, including the construction of identities, expectations, behaviours and power relationships that are derived from social interactions (Ambe-Uva, Iwuchukwu and Jibrin 2008).

Surprisingly, most teachers of agricultural science in our secondary schools today are still known to have difficulty in teaching some agricultural science concepts thus leading to students' poor performance in such areas especially in prescribed external examinations like West African Senior Secondary School Certificate Examination (WASSCE), National Examination Council (NECO) and National Technical Education Board (NATEB) (Egun, 2007).

Again, there has been a general perception of agricultural science by an average Nigerian student, that it is a course that is dominated with practical and is majorly meant for students that are intellectually incapacitated (Adah, 2011). The way and manner students perceived the course, arises from the fact that instructional approaches adopted by teachers both in the classroom and on the field during teaching and learning process are not impressive. The effect of this is lack of interest and poor performance of students in the course. To arrest students' attention, interest, curiosity and promote their performance, the use of activity stimulating and student-centered approach like demonstration method instead of depending on the conventional approach need to be embraced. As revealed by Olayinka and Oyenuga (2010), classrooms are heavily dominated by the use of traditional teaching methods such as lecture and these methods emphasizes procedure of instruction in which majority of learners are merely passive listeners, while teacher plays the role of dispenser of knowledge.

Furthermore, there is the issue of gender which continues to permeate our schools; and as it were, also determines the academic performance of students. For example, some researchers (Ransford *et al.*, 2016; Dike *et al.*, 2018)

revealed that there was no significant difference in the performance of male and female students in agricultural science while some studies (Ameh and Dantani, 2012; Nnamani and Oyibe, 2016; Nnena and Adukwu, 2018) observed significant difference in the student's academic performance. Additionally, Udoh (2007) reports zero effect of gender, maintaining that given the right condition and method of teaching to both male and female students, they will perform equally.

The findings of this study are significant to the following: Agricultural science students, Agricultural science teachers, Researchers and Curriculum planners. The finding of the study will assist students to perform high in agricultural science and have increased interest in agricultural science which will make them to choose agricultural science courses in higher institution and also appreciate the world of things around them. The findings of the study will also benefit students of agricultural science as the teacher's use demonstration method of teaching, it will facilitate teaching and simplify the lesson to the understanding of the students, which in turn will improve their level of academic performance. The findings of the study will benefit the agricultural science teachers, as the teachers use demonstration method of teaching, which will make teaching and learning process more interesting because student's academic performance will be improved upon and their interest sustained, thus enabling the realization of the stated instructional objectives.

The findings of the study will be of significance to the researchers, as the result from this study will create an insight for researchers on demonstration method of teaching, also will be a base-line data as well as a reference material for future studies.

The findings of the study will benefit the curriculum planners, as the result from this study will provide bases for developing and implementing the use of the demonstration method that has a greater effect in improving students 'performance and interest in agricultural science.

Purpose of the Study

1. to determine the mean performance scores of agricultural science students taught with demonstration method and those taught with lecture method.
2. to determine the mean performance score of male and female students taught with demonstration method as measured by Agricultural Science Performance Test (ASPT).

Research Questions

The following research questions were formulated to guide this study

1. What are the mean performance scores of agricultural science students taught with demonstration teaching method and those taught with lecture method?
2. What are the mean performance scores of male and female agricultural science students taught with demonstration method?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

HO₁: There is no significant difference between the mean performance scores of agricultural science students taught with demonstration method and those taught with lecture method.

HO₂: There is no significant difference between the mean performance scores of male and female agricultural science students taught using demonstration method.

Methodology

The study adopted nonrandomized control group pretest-posttest quasi-experimental design. A quasi-experimental research is an empirical interventional study used to estimate the causal impact of an intervention on target population without random assignment. The area of the study is Adamawa State which was created on 29 August, 1991 out of the defunct Gongola state. Adamawa state is located at the north-eastern part of Nigeria. Adamawa state is geographically located at latitude 9.33° North and longitude 12.50° East. It occupies $36,917\text{Km}^2$ with a population density of 3,178,950 people as at 2006 (Federal Republic of Nigeria, 2006). Population for the study comprised 115,497 students in Senior Secondary Schools (SSS II) who offered Agricultural Science subject in Adamawa State. (Adamawa State Post Primary Management Board, 2019).

The sample size that was used for the study was 20 intact classes which consist of 769 Senior Secondary School (SSS II) Students (416 male and 353 female; 425 Urban and 344 Rural; 390 Demonstration and 379 lecture) who offer Agricultural Science subjects in Gombi, Numan, Ganye, Mubi and Yola Education Zones of Adamawa State. Purposive sampling technique was used to select 20 Co-educational Senior Secondary Schools in Adamawa State. Four co-educational Senior Secondary Schools were selected from each zone. The instrument that was used for data collection in this study was Agricultural Science Performance Test (ASPT) developed by the researcher. It consists of 30 multiple-choice objective questions derived from the topics: (i) Ornamental Plants (ii) Weeds (iii) pests of crops and (iv) Diseases of Crops. The questions were based on the content that was taught in the lesson. The students were asked to choose the correct option from the options given.

The researcher and research assistants (agricultural science teachers) in the 20 schools collected data for the study through pre-test and post-test using Agricultural Science Performance Test (ASPT). The pre-test was administered to the subjects before the treatment to measure the performance of students and provide the researcher with baseline data about the subject while post-test was administered to the students after the treatment. The data (performance scores of the students) obtained from the administration of the pre-test and post-test was used for data analysis.

The intact classes of agricultural science students of SS II were selected from each sampled school. Additionally, balloting was used to determine which schools will constitute the experimental or control groups. The subject for the study in their intact classes of Agricultural Science students (SS2) were given pre-test by the researcher and the research assistants to determine the level and pattern of their mean score before the commencement of the treatment, which is usually referred to as entry behaviour. After the pre-testing exercise, the researcher and the research assistants commence the treatment exercise using the same weekly lesson plan schedule per week. The researcher and the agricultural science teachers conducted the treatment process for the experimental group. Demonstration and lecture methods of teaching were used in teaching students in intact classes which consist of male and female students in the same class. This treatment process was applied in 10 schools that were used for the experimental group of this study. Post-test was administered to the same groups of students to collect data for the study. The experimental group was taught agricultural science using demonstration method of teaching while the control group was taught agricultural science using lecture method of teaching.

The data that was collected from the pre-test and post-test were analyzed using Mean, Standard Deviation and Analysis of Covariance (ANCOVA) at 0.05 level of significance. The calculated Mean and Standard Deviation were used to answer the research questions while Analysis of Covariance (ANCOVA) at 0.05 level of significance was used to test the hypotheses. To determine the decision for the research

questions, Mean Gain was used. A positive mean gain indicated that there was an improvement in performance of the students after treatment. In testing the null hypotheses, where the p -value was greater than .05 ($p > .05$), the null hypothesis was accepted and where p -value was less than or equal to .05 ($p \leq .05$), the null hypothesis was rejected. Statistical Package for Social Sciences (SPSS) was used.

Results

Research Question 1

What are the mean performance scores of agricultural science students taught with demonstration teaching method and those taught with lecture method?

Table 1: Mean and Standard Deviation of performance scores of agricultural science students taught with demonstration teaching method and those taught with lecture method

Scores	Lecture (n = 379)		Demonstration (n = 390)	
	$\bar{x}$	σ	$\bar{x}$	σ
Pre-Test	27.09%	11.83	32.94%	12.12
Post-Test	61.59%	16.99	68.86%	16.36
Mean Gain	+34.50%		+35.92%	

Key: n= Number of Students, $\bar{x}$ = Means Scores, σ = Standard Deviation

The result presented in Table 1 showed that students taught with lecture method had a mean score of 27.09% in the pre-test and 61.59% in the post-test, resulting in a pretest-posttest mean gain of +34.50%. Students taught with demonstration method on the other hand had a mean score of 32.94% in the pretest and a posttest mean of

68.86%, resulting in a pretest-posttest mean gain of +35.92%. With this result, students taught with demonstration method performed better than those taught with lecture method. Hence, demonstration method is more effective for teaching agricultural science in senior secondary schools in Adamawa State.

Research Question 2

What are the mean performance scores of male and female agricultural science students taught with demonstration method?

Table 2: Mean and Standard Deviation of performance scores of male and female agricultural science students taught with demonstration method

Scores	Male (n = 191)		Female (n = 199)	
	$\bar{x}$	σ	$\bar{x}$	σ
Pre-Test	32.19%	12.40	33.65%	11.82
Post-Test	69.93%	15.62	67.83%	17.01
Mean Gain	+37.74%		+34.18%	

Key: n= Number of Students, $\bar{x}$ = Means Scores, σ = Standard Deviation

The result presented in Table 2 showed that male students taught with demonstration method had a mean score of 32.19% in the pre-test and 69.93%

in the post-test, resulting in a pretest-posttest mean gain of +37.74%. Female students taught with demonstration method on the other hand

had a mean score of 33.65% in the pretest and a posttest mean of 67.83%, resulting in a pretest-posttest mean gain of +34.18%. With this result,

Hypothesis 1

ANCOVA of mean performance scores of agricultural science students taught with demonstration method and those taught with lecture method

Dependent Variable: PostTest100

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	21904.146 ^a	2	10952.073	41.633	.000
Intercept	323873.731	1	323873.731	1231.159	.000
PreTest100	11741.388	1	11741.388	44.633	.000
Teaching Method	5218.314	1	5218.314	19.837	.000
Error	201507.154	766	263.064		
Total	3500442.495	769			
Corrected Total	223411.301	768			

The result on Table 6 reveal $F = 19.83$ with a p -value (Sig) of 0.00. Since the p -value is less than the alpha level of the test ($p < .05$), the null hypothesis is rejected. This means that there is a significant difference between the mean

male students taught with demonstration method performed better than the females.

performance scores of agricultural science students taught with demonstration method and those taught with lecture method.

Hypothesis 2

HO₂: There is no significant difference between the mean performance scores of male and female agricultural science students taught using demonstration method

ANCOVA of mean performance scores of male and female agricultural science students taught with demonstration method

Dependent Variable: PostTest100

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2676.928 ^a	2	1338.464	5.106	.006
Intercept	179865.206	1	179865.206	686.113	.000
PreTest100	2250.784	1	2250.784	8.586	.004
Gender	550.027	1	550.027	2.098	.148
Error	101452.433	387	262.151		
Total	1953565.736	390			
Corrected Total	104129.361	389			

The result on Table 7 reveal $F = 2.09$ with a p -value (Sig.) of 0.14. Since the p -value is greater than the alpha level of the test ($p > .05$), the null hypothesis is accepted. This means that there is no significant difference between the mean performance scores of male and female

agricultural science students taught using demonstration method.

Discussion of the Study

Firstly, the result of the research question one revealed that students taught with demonstration

teaching method performed better than those taught with lecture teaching method. It is therefore pertinent to state that the use of demonstration teaching method in teaching of agricultural science in senior secondary schools of Adamawa State will go a long way to improve the performance of the students. This improved performance may not be unconnected with the social interaction and friendliness that the demonstration teaching method provides for the students. This is corroborated by Mayer (2004) who stated that demonstration method is one of the teaching methods presented to encourage students to become more active in learning through answering a chain of question or solving problems designed in order to reach the general concept. The corresponding hypothesis to research question one (research hypotheses one) indicates that there is a significant difference between the mean performance scores of agricultural science students taught with demonstration method and those taught with lecture method. The result of the hypotheses is similar to that of Ochogba, Ogide and Ogide (2019) who found that there was a significant difference in the mean score of students taught with demonstration method and those taught with lecture method in the production of wood and metal.

Findings of research question two revealed that male students taught with demonstration method performed better than the females. This finding is analogous to Nnenna and Adukwu (2018) who showed that there was a significant difference in the mean performance score of male and female students; male students achieved higher than their female counterparts in Biology Performance Test. Additionally, the finding is similar to Anyaegbu, Irebuisi and Onyeyiri (2016) who reported that there is significant difference between the academic performance of boys and

girls in agricultural science, the male students performing better than female students. On the other hand, the finding is in contrast with that of Nnamani and Oyibe (2016) who revealed that the mean performance score of female secondary school students was higher than the mean performance scores of male students when taught using demonstration method. The corresponding hypothesis to research question two (research hypothesis two) revealed that there is no significant difference between the mean performance scores of male and female agricultural science students taught using demonstration method. This implies that even though the male students performed better, the score gap wasn't that large to be significant. This finding is similar to the study by Ransford, Shouqi, Frema, Offei, Junping and Ansah (2016) that indicated that gender had no significant influence on students' attitude towards the learning of agricultural science. Along the same vein, Dike, Anyanwu, Zachariah, Dalhatu and Samuel (2018) revealed that there was no gender disparity in the students' academic performance in all the subjects and overall science when taught using demonstration method.

Conclusion

The findings of the study has shown that demonstration method is significantly better than lecture method in improving students' performance in teaching and learning of Ornamental Plants, Weeds, Pests of crops and Diseases of Crops in agricultural science subject in Adamawa state.

Furthermore, the findings of the study has shown that male students taught with demonstration method performed better than the females and male students taught with lecture method performed better than the females.

Recommendations

From the result of this study, the following recommendations were made:

Secondary school teachers should integrate demonstration teaching strategy in teaching agricultural science to improve students' academic performance.

1. Secondary school teachers should pay adequate attention to both male and female students in teaching agricultural science to improve students' academic performance

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