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INFLUENCE OF TEACHERS' CHARACTERISTICS ON EFFECTIVE TEACHING AND LEARNING OF AGRICULTURAL SCIENCE IN ASA L.G.A., KWARA STATE

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Abstract

Education being a very important tool for individual and national development cannot be neglected and undermined. This study was conducted to determine the influence of teachers' characteristics (teacher's qualification, experience etc) on effective teaching and learning of Agricultural science. The design adopted was a descriptive design of the survey type. A sample of 100 students was randomly selected from 10 schools in Asa, Kwara State. The instrument used was a structured questionnaire divided into five sections. Frequency count was used to answer the research questions, while Analysis of Variance (ANOVA) was used to test the hypotheses. The findings of the research showed that teachers qualification, teaching experience, method of teaching and their attitude all have significant influence on effective teaching and learning of Agricultural Science. Based on the findings, it was recommended that during delivery of instruction, teachers should use a variety of teaching methods/equipment; Teaching and learning materials and ICT tools including computers should be made readily available in schools by the authorities and teachers should endeavor to attend workshops and seminars to improve on their teaching skills and effectiveness.

Introduction

Nigeria as a nation is struggling to be self-sufficient in all facets of life and also in the race to change her status, from developing country to a developed one. For us to achieve this, science and technology need to be better developed. Adu & Tadu, (2015) stated that there have been various efforts by government in improving the scientific and technological development of the nation. In the process of improving science

and technology, more emphasis was laid on science education. Olorundare (2014) as cited by Adeniyi (2014) found that Science education is responsible for discovering, developing and evaluating methods and strategies to be used in teaching science.

Agricultural science is one of the core vocational curricular subjects taught at both junior and senior secondary schools in Nigeria. Egbule in Modebelu (2013) defined agricultural science as a process of training

learners in the process of Agricultural productivity as well as the techniques for the teaching the subject, it is a subject taught in secondary schools as a means of self-reliance and preparation for further studies.

Attainment of goals and objectives of Agricultural science depends on the effectiveness of teaching and learning. Waliki and Usman (2009) described teaching as a systematic, rational and organized process of transmitting knowledge, skills etc. in accordance with professional principle. Naturally, the outcome of teaching is learning. Learning is an overt product of teaching which the major function of the teacher is. Effective teaching will definitely give rise to effective learning of Agricultural science. A teacher affects eternity, he can never tell where his influence stops.

The education axiom that when a learner has not learnt that the teacher has not taught is true and directly relates to the concept of teaching and learning as a process of inculcation. The responsibility of imparting knowledge revolves around the teacher who plans, organizes and implements the teaching-learning process. The term teachers' characteristics can be referred to as qualities that can be measured with test or derived from their academic or professorial records. Wakili & Usman (2009) opined that every Agricultural science teacher must be effective, liberally educated, current in the subject matter and its pedagogy, aware of what is expected of teachers and schools, skilled and conscientious in planning, preparing for, carrying out instruction, respectful towards students and concerned about their welfare, activity involved in faculty, professional and community affairs. Wirth and Perkins (2013) indicated that teacher's attitude and characteristics

contribute significantly to students' attention in the classroom.

Okureme (2003) posited that an effective science teacher should be a master of subject taught, as well as grounded in methods of teaching and be able to relate science concepts to real life situations. Huang & Moon (2009) stated that teacher's qualification accounted for approximately 40 to 60 percent of the variance in average of students' performance. Hardy & Smith (2006) also revealed that some studies in which students taught by certified teachers consistently outscored those taught by uncertified ones and posited that a poorly trained teacher will likely produce a poor doctor, engineer, agriculturist and fellow teachers and the likes. Olaleye (2011) also observed that teacher's attitude is a good predictor of students' performance particularly in science subjects. Springfield & Teddle (1991) opined that more experienced teachers are considered to be more concentrated on the most appropriate way to teach a particular topic to students who differ in their abilities, prior knowledge and backgrounds.

Statement of the Problem

The ultimate reason for teaching and learning is to achieve good academic performance by students at both internal and external examinations, but in recent times, most educationists especially in the field of science education are becoming worried about the unsatisfactory and poor academic performance of students.

Several researches have been carried out in teaching and how it affect students' performance but few on teachers who are the drivers to their success, hence the researcher's interest in the area. A growing

body of evidence suggests that teachers' characteristics towards the teaching-learning process can make a great difference in students' achievement.

This study was in part driven by the fact that classroom practices which contribute to effective teaching are influenced by teachers' characteristics; such as their experience, qualification, motivation, gender, attitude, teaching method amongst others, in other words equipping teachers with pedagogical and professional training would not be enough to establish a positive, learnable, and teachable classroom climate. As primary recipients of instruction, the literature is clear that students' view of teachers' characteristics are appropriate for evaluating student-instructor interactions.

According to the literature, most of the studies investigated teachers' effectiveness on students' achievement while some studies were conducted on students' attitude towards their teachers. So far few studies has been conducted on the influence of teachers' characteristics on the effective teaching and learning of Agricultural science, hence necessitated the researcher's interest to investigate it.

Purpose of the Study

The main purpose of this study is to investigate the influence of teachers' characteristics on effective teaching and learning of Agricultural science in Asa Local Government Area of kwara state. Specifically, the study intends to investigate:

- a) The influence of Teacher's experience on the teaching and learning of Agricultural science.

- b) The influence of Teacher's attitude on the effective teaching and learning of Agricultural science.
- c) Influence of Teacher's method of teaching on the effective teaching and learning of Agricultural science.

Research Questions

- a) Does teachers' experience have any significant influence on the effective teaching and learning of Agricultural science?
- b) What is the influence of teachers' attitude on the effective teaching and learning of Agricultural science?
- c) Does teachers' method of teaching have any significant influence on the effective teaching and learning of Agricultural science?

Research Hypotheses

Ho₁: Teachers' teaching experience does not have any significant influence on the effective teaching and learning of Agricultural science.

Ho₂: Teachers' attitude does not have any significant influence on the effective teaching and learning of Agricultural science.

Ho₃: Teachers' method of teaching does not have any significant influence on the effective teaching and learning of Agricultural science.

Data Analysis and Results

Analysis of Research Questions

Research Question 1

Does teachers' experience have any significant influence on effective teaching and learning of Agricultural science?

Table 1: Effectiveness of Teachers Teaching Experience in Teaching and Learning of Agricultural Science

S/N	STATEMENT	A (%)	D (%)	Mean
1	Teachers' years of teaching experience have significant influence on effective teaching and learning of Agricultural Science	86	14	3.32
2	Teachers' who attend conferences, in-service training, etc. perform better in classroom	85	15	3.30
3	Teachers' effectiveness in making difficult subject seem simpler have significant influence on their teaching experience	67	33	2.97
	Grand Mean			3.14

A= Agreed
D= Disagreed

Table 1 showed the significance of teachers experience in teaching and learning of Agricultural Science in Asa Local Government, Kwara State, where in item 3 which seeks to determine whether Teachers' effectiveness in making difficult subject seems simpler has significant influence on their teaching experience. A mean score of 2.97 was obtained which is greater than the

standard mean score of 2.50. Hence, teachers' teaching experience has significant influence on effective teaching and learning of Agricultural Science.

Research Question 2

Does Teachers attitude have any significant influence on the effective teaching and learning of Agricultural science?

Table 2: Effectiveness of Teachers' Attitude in Teaching and Learning of Agricultural Science

S/N	STATEMENT	A (%)	D (%)	Mean
1	Teachers' lateness to class have significance influence on students' performance in Agricultural Science	65	35	2.90
2	Teachers' who are nice and friendly to students have significant influence on students' performance	90	10	3.41
3	Teachers' emotional stability have significant influence on effective teaching and learning of Agricultural Science	89	11	3.30
4	Teachers' health status have significant influence on effective teaching and learning of Agricultural Science	81	19	3.10
	Grand Mean			3.09

A= Agreed
D= Disagreed

Table 2 showed the significance of teacher's attitude on effective teaching and learning of Agricultural Science where item 3 which seeks to know whether Teachers' who are

nice and friendly to students have significant influence on students' performance. A mean score of 3.41 was obtained which is greater than the standard mean of 2.50. Hence,

teachers' attitude has significant influence on the effective teaching and learning of Agricultural Science.

Research Question 3

Does Teachers method of teaching have any significant influence on the effective teaching and learning of Agricultural science?

Table 3: Effectiveness of Teachers' Method of Teaching in Teaching and Learning of Agricultural Science

S/N	Statement	A (%)	D (%)	Mean
1	Teachers' use of varied forms of teaching method makes learning easy	82	18	3.14
2	Teachers' use of textbooks and instructional material have significant influence on effective teaching and learning of Agricultural Science	82	18	3.24
3	Teachers' use of assignment sometimes have influence on effective teaching and learning of Agricultural Science	78	22	3.09
4	Teachers' clarification of difficult terms/concepts have significant influence on effective teaching and learning of Agricultural Science	66	34	2.81
	Grand Mean			3.08
	A= Agreed			
	D= Disagreed			

Table 3 showed the significance of teachers' method of teaching on effective teaching and learning of Agricultural Science where item 2 which seeks to determine whether teachers' use of textbooks and instructional material have significant influence on effective teaching and learning. A mean score of 3.24 was obtained which is greater than the standard mean score of 2.50. Hence, teacher's method of teaching has significant influence on effective teaching and learning of Agricultural science.

Hypotheses Testing

Based on research questions 1-3, the following research hypotheses were formulated. The results related to the four hypotheses earlier formulated in this study are shown in the table below. All hypotheses were tested at 0.05 level of significance.

Hypotheses One

H₀₁: Teachers' teaching experience does not have any significant influence on the effective teaching and learning of Agricultural science.

Table 4: ANOVA showing the influence of Teachers' experience on effective teaching and learning of Agriculture Science

Variables	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.38	10	0.64	1.5	0.15

Within Groups	37.73	89	0.42	1
Total	44.11	99		

From Table 4, it can be deduced that there is no significant difference between teachers' experience and effective teaching and learning of Agricultural science with a significant value of 0.15 which is greater than the alpha value of 0.05, thus the hypotheses is not rejected.

Hypotheses Two

H₀₂: Teachers' attitude does not have any significant influence on the effective teaching and learning of Agricultural science.

Table 5: ANOVA showing the influence of Teachers' attitude on effective teaching and learning of Agricultural Science

Variables	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.87	11	0.81	2.01	0.03
Within Groups	35.24	88	0.40		
Total	44.11	99			

From table 5, it can be deduced that there is significant difference between teacher's attitude and effective teaching and learning of Agricultural science with a significant value of 0.03 which is lesser than the alpha value of 0.05, hence the hypotheses is rejected.

Hypothesis Three

H₀₃: Teachers' method of teaching does not have any significant influence on the effective teaching and learning of Agricultural science.

Table 6: ANOVA showing the difference between Teachers' method of teaching and effective teaching and learning of Agricultural Science

Variables	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.44	11	0.49	1.13	0.35
Within Groups	38.67	88	0.44		
Total	44.11	99			

From table 6, it can be deduced that there is no significant difference between teacher's method of teaching and effective teaching and learning of Agricultural science with a significant value of 0.35 which is greater than

the alpha value of 0.05, hence the hypothesis is not rejected.

Discussion

The significant influence of teachers' teaching experience on teaching and learning of Agricultural science was examined in research question one. Result also shows that teachers' teaching experience has significant influence on effective teaching and learning of Agricultural Science. These findings agree with Gibbons, Kimmel & O'shea (1997) who reported that students taught by more experienced teachers achieve at a higher level, because of teachers mastery of content and acquired classroom management skills to deal with different classroom situations.

The other way is to describe effectiveness in terms of professional competency. Moreover, experience, positive attitudes toward teaching, job satisfaction, etc., have resulted in effective teaching Garba (2004) affirmed that comprehensive teacher competencies are "verbal communication," "knowledge of subject matter," "interaction with students and student motivation in the classroom situation," to create an environment which will develop the "students' ability," "salable skills," and provide them with "necessary information" which will enable students to solve their present and future life problems.

The influence of teachers' attitude on the effective teaching and learning of Agricultural science was examined in research question two. It was also summated that there is significant difference between teachers' attitude and effective teaching and learning of Agricultural Science since the significant value is lesser than the alpha value. This finding agreed with Adesoji and Olatunbosun (2008) which found that the basic factors of good teaching are democratic behavior by teachers, use of the

primarily concerned knowledge and skills, readiness of a teacher and the student, learning by solving of Agricultural problems, motivation to learn more about a given topic, well organized structure, feedback as a basis for continued improvement in performance, and discovery teaching and learning. Okureme (2003) reported that the variables of effective teaching behaviors are productive teaching techniques, organized structured classroom management, positive interpersonal relations, and professional responsibilities.

The significant influence of teachers' method of teaching on the effective teaching and learning of Agricultural science was examined in research question three. The findings of the study revealed that teachers' method of teaching have significant influence on effective teaching and learning of Agricultural Science since it shows from item 2 that teachers use of instructional material to give instruction has the highest mean score therefore it shows the effective use of instructional. The findings agreed with Ayodele (2006) who further concluded that students react differently to different teaching methods, and that the selection of the proper method is critical to the learning style of those being served by the instruction. There is an assumption that students learn with different styles, at different speeds, different levels of prior knowledge and different environments when the subject matter is given by way of a variety of teaching strategies.

Conclusion

In conclusion, the study indicated that teachers' teaching experience and teachers' method of teaching have significant influence on effective teaching and learning of Agricultural Science. However, it was also summated that there is significant influence

between teachers' attitude and effective teaching and learning of Agricultural Science.

Recommendations

It is therefore recommended that:

1. During delivery of instruction, teachers should use a variety of teaching method/tools.
2. Teachers should endeavor to attend conferences, workshops and seminars to improve on their teaching skills and effectiveness. This will make them more experienced.
3. Teaching and learning materials and tools including computers and other resources should be made available in schools for effective teaching and learning to take place.

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