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INFLUENCE OF GENDER AND ACADEMIC PERFORMANCE ON THE PERCEPTION OF BIOLOGY TEACHERS ON THE TEACHING OF ECOLOGY IN THE SENIOR SECONDARY SCHOOLS

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Abstract

This study examined the influence of gender and academic performance on the perception of biology teachers on the teaching of Ecology in the senior secondary schools in Kwara State. This study sample included 450 biology teachers in Kwara State selected by random sampling technique. The researcher designed teachers' questionnaires which were administered to four hundred and fifty (450) teachers selected from eight (8) Local Government Areas of Kwara State. Researcher-designed validated questionnaire was used to elicit information from the respondents on the teaching of ecology. Three research questions and two hypotheses were formulated. Frequency counts and Chi-square statistics were used to analysis the data collected. Finding of this study revealed that 68% of Biology teachers agreed that ecology teaching was properly teaches while 32% disagreed. However both male and female Biology teachers were of the view that ecology teaching was not properly done due to lack of instructional materials. Similarly, both qualified and unqualified teachers had viewed ecology teaching the same way that is ecology teaching was not properly done due to the fact that some Biology teachers skip certain areas of the syllabus that they find difficult to teach. Based on the findings, the following were recommended: adequacy of resources for Ecology teaching in schools should be provided, fieldwork and practical on Ecology should be carried out satisfactory in the schools, male and female biology teachers should be encourage and also qualified and unqualified biology teachers should be sponsored to seminars and workshops specifically on Ecology teaching.

Keywords: *Gender; Qualification; Perception; Biology teacher; Ecology*

Introduction

Biology at the senior secondary school level can be grouped under such headings as: Cell and Unicellular Organisms, simple multicellular animals, insects, the arthropods, higher animals, reptiles and birds, mammals, flowerless plants, flowering plants, physical processes found in living organisms, respiration, food substances, nutrition of green plants, transport systems, excretion, ecology, etc. The following are the objectives for teaching senior secondary school Biology:

1. To provide basic literacy in Biology for functional living in the society.
2. To acquire essential scientific skills and attitudes as a preparation for the technological application of Biology.
3. To acquire basic concepts and principles of Biology as a preparation for further studies.

4. To stimulate and enhance creativity (National Biology Curriculum, 2005 page 20-22.

Ecology is the study of interactions of organisms with their physical environment and with each other. No plant or animal is independent of its environment.

If organisms must survive, then the environment must provide suitable conditions for their existence because they are likely to be affected by conditions around them (Stone & Cozens 1990). Ecological studies deal with any of the three levels of the organization of the organism, the individual, the population and communities. It deals also with the way in which the organisms at each of these levels of organization function in harmony with the non-living physical environment. Ecology has many useful applications aimed at maintaining a healthier and more productive biosphere for the life of humans and other living organisms. It provides for the judicious use of natural resources often referred to as conservation. (Ndu, 1990). The sub topics under ecology at the senior secondary school level are basic ecological concepts, Aquatic habitants, Fresh water, Swamps, Marsh, Estuary, Grassland, Major biomes of the world, ecology of Population study, Problem of survival etc.

Ecology is one of the difficult concepts to both teachers and students of Biology (Abimbola 1998: NERDC, 1993). Researchers reported that most teachers in Nigeria secondary schools grossly neglect the teaching of topics or concept like ecology and genetics. The Chief Examiner's report on Ecology revealed low achievement in ecology by students (WAEC, 2004). In all the studies examined, ecology was difficult due to the following reasons:

i. Neglect of ecology by most secondary school teachers
ii. Academic ability and area of specialization of teachers

There is need for this study to examine the influence gender of teachers and academic qualifications of biology teachers.

Abidoye and Abimbola (2015) observed the effect of location and qualification of Biology teachers on the status of ecology teaching in Kwara State. The result indicated that urban and rural Biology teachers did not view ecology teaching the same way that is ecology teaching was taught well in rural areas due to the natural resources and features that are available to use to carry-out the field work successfully but not available in urban areas intent. Qualified and Unqualified teachers had the same views about ecology teaching in Kwara State.

Abimbola and Abidoye (2014b) also observed the effect of qualification and experience of Biology teachers on the status of Ecology teaching in Kwara State. The result indicated that both qualified and unqualified teachers were of the view that ecology teaching was not being properly taught as some Biology teachers skipped certain areas of the syllabus that they find difficult to teach. Similarly, experienced and less experienced teachers had the same views about ecology teaching that it was not taught properly the way it should being done in Kwara State.

Purpose of the Study

The purpose of this study was to examine the influence of gender and academic performance on the perception of biology teachers on the teaching of Ecology in the senior secondary schools in Kwara State.

Research Questions

Three were three research questions were answered in this study:

1. What is the state of ecology teaching in senior secondary schools in Kwara State?
2. What is the influence of the perception of male and female Biology teachers in the teaching of ecology?
3. What is the influence of the perception of qualified and less qualified Biology teachers in the teaching of ecology?

Research Hypotheses

1. There is no significant difference in the perception of male and biology teachers on the teaching of ecology.
2. There is no significant difference in the perception of qualified and less qualified biology teachers on the teaching of ecology

A total numbers of 450 biology teachers were randomly selected from one hundred and forty two (142) public schools. 500 copies of questionnaire were distributed to biology teachers in selected secondary schools in Kwara State, but four hundred and fifty (450) copies were filled and returned for the study.

Data Analysis and Results

Table 1:

Number and Percentages of Teachers' Responses

Variable	Number of teachers	Total	Percentage distributed
Male	276	450	61.3
Female	174		38.7
Qualified	209	450	46.4
Unqualified	241		53.6

Table 1 show that there were 276 males and 174 female respondents and there were 209 qualified and 241unqualified Biology teachers.

Research Question 1: What is the state of ecology teaching in senior secondary schools in Kwara State?

Table 2:
The number and percentages of Biology Teachers' responses on the teaching of Ecology

CONTENTS	Agreed (%)	Disagreed (%)	Total (%)
General responses of the Biology teachers	68	32	100

The general response to the contents was that 68% of the Biology teachers agreed that teaching of Ecology was not done properly and 32% said it was alright. This shows that there should be improvement on the teaching of Ecology by the Biology teachers. The total respondents percentages was hundred percent.

Research Question 2:

4. What is the influence of the perception of male and female Biology teachers in the teaching of ecology?

Research Question 3:

What is the influence of the perception of qualified and less qualified Biology teachers in the teaching of ecology?

Table 3: Chi-square Analysis of Average overall of the Responses on the basis of gender (Male and Female) and Academic Qualifications (Qualified and Unqualified) Biology Teachers on Ecology Teaching.

GENDER	χ^2	ACADEMIC QUALIFICATUIONS	χ^2
Male		Qualified	
	0.67		
Female		Unqualified	0.41

The average results of the analysis related to the research questions as are shown in table 3. From Table 3, the Chi-square calculated (X^2 Cal) for gender was 0.67, while the table value was 3.84 at 0.05 alpha levels, with degree of freedom of 1 this shows that the influence of the calculated X^2 for academic qualification of teachers was 0.41 while the table value gender of Biology teachers on the teaching of Ecology did not have significant difference. With this, the null hypothesis (H_{02}) was not rejected. This table 3 shows that both the male and female have similar opinion.

The table 3 also revealed that there was no significant difference in the influence of the qualified and unqualified Biology teachers in the teaching of ecology. The null hypothesis (H_{03}) was not rejected since the chi-square calculated for qualification was 0.41 while the table value was 3.84 at 0.05 alpha levels. The qualified and unqualified

Biology teachers have similarly opinion about the teaching of Ecology in Kwara State, that is, Ecology teaching was not properly taught.

Summary of Major Findings

In this study, the major findings are

1. Ecology teaching was accorded low in teaching in Kwara State with 68% agreement of Biology teachers that said that there should be improvement in the Biology curriculum of some Ecology concept that are lacking.
2. Both male and female biology teachers agreed that ecology teaching was not properly done due to lack of instructional materials.
3. Both qualified and unqualified biology teachers agreed that Ecology teaching was not due to the fact that some Biology teachers skip certain areas of the syllabus that they find difficult to teach.

Discussion of Results of State of Ecology Teaching

In this study, it was found out that ecology teaching by the Biology teachers had low teaching state in Kwara State. The results of the study indicated that many Biology teachers had the views that the state of teaching is very important in the teaching of Ecology. The preceeding findings is in agreement with the finding of Abimbola and Abidoye (2013) examine the effect of qualification and experience of Biology teachers on the status of ecology teaching. The result revealed that the teaching of ecology is significant. Abidoye and Abimbola (2015) observed the effect of location and qualification of Biology teachers on the state of Ecology teaching and the result of the finding revealed that the teaching of ecology was accorded low.

It was found that gender of Biology teachers on the teaching of Ecology did not have significant difference. This may be due to that the instructional materials to teach the students were not available. The preceeding finding is in line with the finding of Abimbola and Abidoye (2013) observed the views of Kwara state senior school Biology teachers on the status of Ecology teaching and the result revealed that there was no significant difference in the male and female Biology teachers. And in addition to the gender, the male agreed with their female counterparts that Ecology Teaching was poor due to lack of instructional materials. The findings agreed with the findings of Alasi (1998) and Oyebanji (2000).

It was found that that academic qualification of Biology teachers on the teaching of Ecology did not have significant difference. This may be due to the fact that some certain concept is difficult to teach by the Biology teachers. Also Abimbola and Abidoye (2014b) observed the perception of Biology teachers on the teaching of ecology in secondary schools and result indicated that there was no significant difference in the teaching of the qualified and unqualified Biology teachers.

Recommendations

Adequate resources for ecology teaching in schools should be provided for science subjects generally and ecology aspect of Biology, in particular. Adequacy of resources for Ecology teaching in schools should be provided; fieldwork and practicals on Ecology should be carried out satisfactory, male and female biology teachers should be encourage and also qualified and unqualified biology teachers should be sponsored to seminars and workshops specifically on Ecology teaching.

Suggestions for further Studies

The following suggestions are made for further studies: this research work can be replicated in other part of Kwara State of the country since this study is limited to eight Local Government Areas of Kwara State. Also the Science education students could start from where this work end by creating many instructional aides that could be used to teach Ecology and other concept that are perceived difficult by many Biology teachers.

Moreover, other researchers can equally examine other variables such as area of specialization, type of schools and others that have not been addressed in this study.

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