GENDER INTEREST IN STUDYING PHYSICS IN EKITI STATE TERTIARY INSTITUTIONS

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Abstract

The study examined the gender interest in studying Physics in Ekiti State Tertiary Institutions. The purpose of the study is to find out the way number of students that are showing interest in studying Physics at higher institution level in Ekiti State. The study employed a descriptive survey design. A sample of eighty (80) respondents was reached. It comprised students offering physics in Ekiti state higher institutions of learning. Purposeful sampling technique was used in selecting the higher institutions that constitute the sample. The results showed that: that there was significant difference between the male and female students' interests in studying Physics in Ekiti state Tertiary institutions; there was significant difference between the urban area institutions and sub-urban area institutions students' interests in studying Physics and there was significant difference between the federal institutions and state institutions students' interest towards studying Physics. Based on the findings of the results it is therefore recommended that: lecturers of physics should teach the subject in a livelier and stimulating manner that would attract more students, particularly the female students to study physics.

Introduction

Physics, according to Britannical Dictionary (2020) is a branch of science that deals with the structure of matter and the interactions between the fundamental constituents of the observable universe. More broadly, it is the general analysis of nature, conducted in order to understand how the universe behaves. Physics is one of the oldest academic disciplines, perhaps the oldest through its inclusion of astronomy. Over the last two millennia, physics was a part of natural philosophy along with chemistry, certain branches of mathematics, and biology, but during the scientific revolution in the 16th century, the natural sciences emerged as unique research programmes in their own right.

It is of obvious fact that the study of physics cannot be effectively carried out without an empirical analysis of some of the factors that do impede the study of the course. One of these is interest. The term 'interest' usually refers to preference to engage in some types of activities rather than others. An interest may be regarded as a highly specific type of attitude: When we are interested in a particular phenomenon or activity, we are favorably inclined to attend to it and give time to it.

Several researchers have identified a number of factors affecting students' interest towards science in general which included gender, personality traits, structural variables, and curriculum variables. Of these, the most significant is gender. Overseas

Development Institute(2008) defines the term gender as —the array of socially constructed roles and relationships, personality traits, attitudes, forms of behaviour, values, relative power and influence that society ascribes to the two sexes on a differential basis.

Studies completed in the last three decades have shown that girls and boys have different interests and attitudes toward studying science and different perceptions of scientists' science careers. Many studies have reported that males have more positive interest toward science than females(Francis and Greer, 2009; Walper et al.,2013) while others found no statistically significant gender differences (Jones et al., 2000; Menis, 2003; Sjoberg, 2003, 2000a,b; Selim and Shrigley, 2003 Weinburgh, 2005; Baran,2016).

Statement of the Problems

The way number of students that are showing interest in studying Physics at Tertiary institutions level is reducing day to day is a worrisome situation to well meaningful Nigerians. The apathy both male and female students have for studying physics related courses in the universities, polytechnics and colleges of education leave much to be desired. One wonders where this nation is heading to in the scientific worlds. It is crystal clear the physics is one of the bedrocks of science.

If this menace is not quickly arrested things may get out of hands. There is urgent need for stakeholders in education sector to look into the interest of students in studying physics in Tertiary institution of learning. Thus, this study is poised to cross-examine the gender interest in studying physics in Ekiti State Tertiary institutions.

Purpose of the Study

The general objective of this study was to investigate gender interest in studying Physics in Ekiti State Tertiary Institutions. Also, it specifically intended to:

1. find out the difference between the male and female students' interests in studying Physics in Ekiti State Tertiary Institutions;
2. examine the difference between the male and female students' attitudes towards studying Physics in Ekiti State Tertiary Institutions;
3. identify the difference between the federal institution and state institution students' attitudes towards studying Physics and
4. ascertain the causes of disparity between the urban area institution and sub-urbanarea institution students' interests in studying Physics.

Research Hypotheses

The following hypotheses were formulated:

1. There is no significant difference between the male and female students' interests in studying Physics in Ekiti State Tertiary Institutions.
2. There is no significant difference between the male and female students' attitudes towards studying Physics in Ekiti State Tertiary Institutions.
3. There is no significant difference between the federal institutions and state institutions students' interest in studying Physics.

Significance of the Study

The result of study helped the lecturers to understand fully the importance of gender interest in studying physics in Tertiary institutions. Apart from this, the result of the study equally helped the curriculum planners in designing lecturer education curriculum to consider the interest of students in teaching and learning of physics in higher institutions. Similarly, the result of this study helped the students to know the

several opportunities and benefits available for them in studying physics in different Tertiary institutions.

Research Design

The study employed a descriptive survey design .A descriptive survey design was used due to the fact that it enabled information to be obtained from a representative sample of a targeted population in order to describe situations as they exist.

Population, Sample and Sampling Technique

The targeted population for this study consisted of students in Ekiti state tertiary institutions, Nigeria. A sample of eighty (80) respondents was reached. It comprised students offering physics in Ekiti state tertiary institutions of learning. Purposeful sampling technique was used in selecting the tertiary institutions that constituted the sample.

Data Analysis

T-test was used in analyzing the data collected.

Testing of Hypothesis

Hypothesis 1: There is no significant difference between the male and female students' interests in studying Physics in Ekiti state Tertiary institutions.

Table 1: A t-test Analysis comparing the male and female students' interests in studying Physics in Ekiti state Tertiary institutions.

Group	N	X	S.D	df	Calculated value	Critical value
Male	40	34.49	3.96	78	5.25	1.96
Female	40	33.39	2.95			

Significant at 0.05 probability level

The data in table1 shows that the calculated t-value of +5.25 is higher than the critical value 1.96 on the basis of this, the difference is statistically significant. Hence, the null hypothesis which states that there is no significant difference between the male and female students' interests in studying Physics in Ekiti state Tertiary institutions was rejected (t-5.25, 78df).

Hypothesis 2: "There is no significant difference between the urban area and sub-urban area institutions students' interests in studying Physics."

Table 2: A t-test Analysis comparing urban area institutions and sub-urban area institutions students' interests in studying Physics.

Variable	N	X	S.D	df	calculated value	Critical value
Urban	38	30.83	3.05	78	3.16	1.96
Sub-urban	42	27.99	4.98			

Significant at 0.05 probability level

The data in table 2 indicates that the calculated t-value of 3.16 is higher than the critical value 1.96. On the basis of this the difference is statistically significant. Hence, the null hypothesis which states that "there is no significant difference between the urban area institutions and sub-urban area

institutions students' interests in studying Physics was rejected (t = 3.16, 78 df).

Hypothesis 3: "There is no significant difference between the federal institutions and state institutions students' interest towards studying Physics."

Table 5: A t-test Analysis comparing the federal institutions and state institutions students' attitudes towards studying Physics.

Variable	N	X	S.D	df	calculated value	Critical value
Federal	35	27.07	3.11	78	3.35	1.96
State	45	24.99	4.27			

Significant at 0.05 probability level

The data in table 5 indicates that the calculated t-value of 3.35 is Tertiary than the critical t-values of 1.96. On the basis of this the difference is statistically significant. Hence, the null hypothesis which states that "there is no significant difference between the federal institutions and state institutions students' interest towards studying Physics" was rejected (t = 3.35, 78df). This implies that there is difference on the basis of school attended in students' attitudes towards studying Physics.

Discussion of Results

The foregoing shows the analysis of data collected for this study. As indicated in the findings, students have difference interests towards studying physics in their various institutions. The testing of the first hypothesis showed that there was significant difference between male and female students' interest towards studying of Physics which contradicted earlier findings of Jones et al., 2000; Menis, 2003; Sjoberg, 2003, 2000; Selim and Shrigley, 2003; Weinburgh, 2005; Baran,2016 which revealed that there was no statistically significant gender differences between male and female.

Males responded with a statistically higher degree of good interest and attitudes toward studying physics. These finding could indicate that males were more receptive to physics than females which confirmed previous findings of Francis and Greer (2009); Walper et al (2013) that reported that males have more positive interest toward science than females.

Summary

This study aimed at investigating the gender interest in studying physics in Ekiti state tertiary institutions. It was discovered from the findings of the study: there was significant difference between the male and female students' interests in studying Physics in Ekiti state tertiary institutions in favour of male students. Equally, there was significant difference between the federal institutions and state institutions students' interest towards studying Physics in favour federal institution.

Conclusion

Learning interest in Physics is an important element to study Physics which has been considered as being a difficult course for most students. Following from the results and discussion above, the fact that the male students even have good better interest in Physics than their female counterparts towards studying physics was reflected in their responses to the research

questionnaire. This suggests that the male students are more intellectual endowed in term of difficult or calculating courses than their female counterparts in tertiary institutions.

It may therefore be concluded that physics is gender sensitive as we were made to believe over ages from the past research works. The low female students' enrolment in physics therefore may be traceable to students' interest in one course or the other, which may be the focus of another investigation.

Recommendations

Based on the findings of the results it is therefore recommended that:

(i) Lecturers of physics should teach the course in a more lively and stimulating manner that would attract more students, particularly the female students to study physics;
(ii) In order to achieve (i) above, physics lecturers should always use relevant instructional materials to make their lessons not only meaningful but also participatory;
(iii) Physics lecturers should endeavour to encourage the students generally, and the female ones in particular to show interest in the study of physics through pieces of advice, emphasizing the importance and the advantages of geography to mankind and
(iv) Government through the ministry of education should ensure the provision of adequate and up-to-date instructional materials to facilitate the teaching of physics in schools in general and physics practical in particular

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