EFFECTS OF STUDENTS' INTEREST AND ATTITUDE ON ACADEMIC PERFORMANCE IN BASIC SCIENCE IN EKITI STATE

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Abstract
This study investigated students' attitude and interest as predictors of academic performance in Basic Science in Ekiti State. The study adopted descriptive survey and expo-facto research design. The targeted population for the study were 16,256 Junior Secondary Schools three students in all the 209 public secondary schools in Ekiti State. A sample of 240 students' were selected using multi-stage sampling procedure. Two instruments titled "Students Variables Questionnaire" and Inventory on Junior Secondary School Certificate Examination" were used for the study. Face and content validity of instrument were ensured and test re-test method was used to establish a reliability coefficient of 0.89 for SVQ. The data collected were analyzed using descriptive and inferential statistics. The results showed that the level of secondary school students' academic performance in Basic Science in Ekiti State was moderate and that there were significant relationships between students' attitude and interest and academic performance in Basic Science. Upon these findings, it was concluded that students' variables such as attitude and interest were important factors that influence academic performance in Basic Science, It was therefore recommended that stakeholders should build and maintain positive attitude and interest in students for better academic performance in Basic Science.

Keywords: Students interest, attitude, academic performance, Basic Science.

Introduction
In the world today, Science has become a dominant development indicator as countries like United State of America, Russia, Japan and China are referred to as developed countries based on their development in the areas of science (Agbaje & Alake, 2014). The world is scientific in thinking and behaviour, without the knowledge of science, people might find it difficult to adequately function. The development of any nation is a function of the level of her development in science and technology. Science has become an indispensable

tool as it plays vital roles in the lives of individuals and in the society at large. Science can be referred to as the study of phenomenon and event around us through systematic observation and experiment (Adodo & Oyeniyi, 2013). This means that, science is a step by step approach in making students curious about the world around them towards the development of scientific thinking.

For a country to thrive through science and technology, more emphasis must be laid on the level of teaching of science education-subjects such as Basic Science, Biology among others. Basic science is a science subject which embraces all core science subjects such as Physics, Chemistry, Biology, Mathematics and Technology. It is a subject that cuts across the school curriculum and needed in all branches of science. No student should therefore be denied the proper grasp of the knowledge of Basic Science at the elementary level of Primary and Junior Secondary classes. Perhaps, that is why Joseph and Okere (2018) defined Basic Science as the gate way science which helps to study Science Subjects holistically. The objectives of Basic Science are to enable students develop interest in Science and Technology as well as acquire basic knowledge and skills in Science and Technology; applying what science has taught them to meet human needs and take up further studies in science and technology (Joseph and Okere, 2018)

Despite the utilitarian value of Basic Science in science and technological advancement and teachers' position in the realization of these objectives. The researchers, observed that students run away from Basic Science because they perceive it as being abstract. This invariably has reduced the students' interest and hence attitude towards having the subject.

The report of the Ekiti State Ministry of Education, Science and Technology (2013) reveal that despite the enormous roles that science plays in national development and the efforts of the government in improving science education, observations show that the results of students in internal examination at the junior level seem not encouraging and the consequent results in most certificate awarding examination bodies such as WAEC, NECO, and NABTEB have not been satisfactory.

Table 1: Academic performance of students in Basic Science in public JSSCE in Ekiti State from 2019-2021.

Year	Total	Distinction		Credit		Pass		Failed		Absent	
	N	N	%	N	%	N	%	N	%	N	%
2019	11,429	1789	8.3%	7784	35.9 %	1139	52.6 %	516	2.4 %	201	0.8 %
2020	19,227	2065	10.7 %	6223	32.4 %	9658	50.2 %	1096	5.7 %	185	1.0 %
2021	18,623	1563	8.4%	7607	40.8 %	8768	47.1 %	480	2.6 %	205	1.1 %

Source: Research and statistic unit, Ekiti State Ministry of Education (2025).

It is observed that more than 50% of students in the year 2019 that sat for the examination had pass while only 8.35% had distinction. In the year 2020, among the total number of students that sat for the exam, only 43.1% could be considered to have made their result at minimum of credit level. In the year 2021, 8.4% of students registered had distinction and credit. This analysis shows that the performance of students in Basic Science has not been encouraging.

The researcher observed that a lot of teaching strategies have been experimented in teaching the students which seemed to have a little improvement on the academic performance of students in Basic Science. This could be as a result of the observed student's nonchalant attitude towards the subject.

Adedayo (2015) submitted that attitude is a very crucial variable when dealing with the way one responds to an issue, especially learning of Basic Science. The attitude could be considered as the outcome of one's impression about something or better still, one's perception of something. Ayodele (2016) observed that negative attitude of students towards science subjects affected the enrolment and performance of students in sciences. Festus and Ekpete (2012) also reported that students' positive attitudes to science correlate highly with their science achievement. It can then be adjudged that one's attitude to something manifests in the way he/she would respond to issues that pertain to the thing. This is applicable to learning, which involves full concentration of the learners' attention. Thus, the attitude of students contributes immensely to their academic progress (Adedayo, 2015).

Interest in science subjects can be described as a positive feeling or a feeling of curiosity or concern towards science. It can also be viewed as what turns one's attention towards the study of science. Hornby (2010) describes interest as concern or curiosity for individual preferences for a particular type of activity or event. He went further to define interest as the feeling of wanting to know or learn about something. To show interest in science is to be actively involved in science. Students tend to study science subjects better and decide to choose science as a course in Senior Secondary School when they are interested in science (Jari, Reijo, Kalle, Veijo & Anna, 2012). Interest-based motivation to learn has positive effects both on studying processes and on the quality and quantity of learning outcomes. Student's misconception of science subjects as difficult is liable to cause lack of interest in the subjects which is capable of affecting the performance of students in Sciences.

Statement of the Problem

The Ekiti State Ministry of Education, Science and Technology emphasize that, Basic Science is one of the compulsory subjects every student must attempt and pass at the JSS level before promotion to SSS class. However, the researchers observed that the academic performance of JSS students in Basic Science has overtime been experiencing a decline despite the compulsory need of this subject for promotion to the higher class and more generally, for the technological advancement of the nation.

The researchers opined that the poor performance of students in Basic Science at the Junior Secondary School level could be attributed to students' character such as attitude and interest and of which it appears that enough attention has not been given to these in connection with the academic performance of Junior Secondary School students in Basic Science. Therefore, the study sought to investigate the impact of these students' variables on the academic performance of Junior Secondary School Students in Basic Science in Ekiti State

Purpose of the Study

The study investigated the effects of interest and attitude on academic performance of secondary schools students in Basic Science in Ekiti State. Specifically, the study examined the:

(i) level of students' academic performance in Basic Science in Ekiti State.

(ii) relationship between students' attitude, interest, and academic performance in Basic Science.

Research Questions

One research question was raised for the study:

- What is the level of secondary school students' academic performance in Basic Science in Ekiti State?

Research Hypotheses

The following null hypotheses were formulated to pilot the study:

1. There is no significant relationship between students' attitude and academic performance in Basic Science in Ekiti State.
2. There is no significant relationship between students' interest and academic performance in Basic Science in Ekiti State.

Significance of the Study

The findings of the study would be of benefits to students, teacher, parents, and future researchers. The outcome of the study will assist students to know the importance of Basic Science subject thereby helping them to develop a positive attitude that will boost their interest towards Basic Science. The results will also provide information that would help Basic Science teachers to understand students' variables such as attitude, interest and towards the learning of Basic Science in order to use knowledge of these variables to improve academic performance of students in Basic Science. It will also be of benefits to parents

Delimitation of the Study

The study was conceptually delimited to students' attitude and interest and geographically delimited to all public secondary schools in Ekiti State.

Methodology

The study adopted descriptive survey and expo-facto research. The targeted population for the study consisted of all the 16,256 Junior Secondary Schools (JSS) three students in all the 209 public secondary schools across the 16 Local Government Areas of Ekiti State as at the time of the study (Ministry of Education, Science and Technology, Ekiti State, 2023). The sample for the study consisted of 240 JSS 3 students selected from the three Senatorial Districts of Ekiti State using multistage sampling procedure. Stage one involved the use of simple random sampling techniques to select 2 from the 3 senatorial districts in Ekiti state. Stage two involved the use

of random sampling technique to select two local government areas from each of the Senatorial Districts selected. The third stage involved the use of purposive sampling technique to select two secondary schools from each of the local government areas selected putting into consideration schools that were mixed school and schools with teacher who were University graduates of Integrated Science. The fourth stage involved of an intact class of an arm in each of the school selected.

Two instruments titled; "Students' Variables Questionnaire (SVQ)" and 'inventory on Junior Secondary School Certificate Examination (IJSSCE)' were used for collection of data for the study. The SVQ comprised two sections, A and B. Section A sought for information on the bio-data of the respondents such as name of school, class and gender while section B contained 5 items on students' interest and attitude as the influence of academic performance in Basic Science of Secondary School. The items in this section of the questionnaire were based on a 4-point Likert type scale ranging from Strongly Agree to Strongly Disagree and rated as: Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1. The IJSSCE was used to request for students' score in Basic Science during the year 2021 to 2023 Junior Secondary School Certificate Examination.

The face and content validity of the instrument (SVQ) were ensured. The instrument was given to experts in Tests and Measurement and Science Education. They ensured the instrument contained the appropriate items that actually elicited the intending responses on the targeted students' variables in Basic Science. The reliability of SVQ was determined through test re-test method. The instruments was administered on 20 JSS 3 students of Basic Science outside the sampled Local government area. The same instrument was re-administered within an interval of two weeks to the same set of students. The two scores were then correlated and analyzed using Pearson's Product Moment Correlation statistic which yielded a reliability coefficient of 0.89 at 0.05 level of significant. These value was high enough to adjudge the instrument as being reliable.

During the administration of the instrument, the researchers discussed the importance and the focus of the study with the Integrated Science teachers as the research assistants in each of the schools selected. The research assistants helped in the administration and collection of the instrument. The JSSCE was used to collect students' results in Basic Science for the Ekiti State Ministry of Education. The data collected were analyzed using descriptive and inferential statistics. Descriptive statistics such as frequency and percentage were used to answer the research question while the hypotheses were tested using inferential statistics of Pearson's Product Moment Correlation at 0.05 level of significance.

Results

Descriptive Analysis

Question 1: What is the level of secondary school students' academic performance in Basic Science in Ekiti State?

In analyzing the question, JSSCE results of secondary schools in Ekiti State as

obtained from the Ekiti State Ministry of Education were used. Percentile distribution formula was used using low, moderate and high. Respondents who scored 33.3 % (26.64) of the total scores on students' variables in secondary schools and below were categories into 'low' level of students' variables and those who scored 66.6% (53.28) of total score and above were categorized into 'high' level while scores between the low and high students' variables were categorized into 'moderate' level.

Table 2: Level of secondary school students' academic performance in Basic Science in Ekiti State

Students' academic performance	N	%
Distinction	51	21.4
Credit	133	55.5
Pass	41	17.1
Fail	15	6.1
Total	240	100.0

Table 2 shows that, out of 240 students; 51 representing 21.4% obtained Distinction, 133 (55.5%) representing the majority had Credit, 1 (17.1%) had pass while 15 (6.1%) failed the subject. Therefore, the level of secondary school students' academic performance in Basic Science in Ekiti State is moderate.

Testing of Hypotheses.

Ho_1: There4 is no significant relationship between students' attitude and academic performance in Basic Science.

In order to test the hypothesis, scores relating to students' attitude were computed using items 1–5 in Section B of "Students' Variables Questionnaire (SVQ)" while academic performance in Basic Science were obtained from the record of school-based examination. These sets of scores were subsequently subjected to statistical analysis involving Pearson's Product Moment Correlation at 0.05 level of significance. The result is shown in Table 3.

Table 3: Correlation of students' attitude and academic performance in Basic Science in Ekiti State

Variable	N	Mean	SD	r	P
Students' attitude	240	16.70	2.79	0.437*	0.000
Academic performance	240	57.44	21.61		

*$p < 0.05$

Table 3 shows that the computed r-value (0.437) is significant at $p < 0.05$ level of significance. The null hypothesis is rejected. This implies that there is a significant relationship between students' attitude and academic performance in Basic Science in Ekiti State. The correlation between students' attitude and academic performance in Basic Science in Ekiti State is statistically significant in a positive direction.

Ho_2: There is no significant relationship between students' interest and academic performance in Basic Science.

In order to test the hypothesis, scores relating to students' interest were computed using items 6-10 in Section B of "Students' Variables Questionnaire (SVQ)" while academic performance in Basic Science were obtained from the record of school-based examination. These sets of scores were subsequently

subjected to statistical analysis involving Pearson's Product Moment Correlation at 0.05 level of significance. The result is shown in Table 4.

Table 4: Correlation of students' interest and academic performance in Basic Science in Ekiti State

Variable	N	Mean	SD	r	P
Students' interest	240	14.73	2.75	0.561*	0.000
Academic performance	240	57.44	21.61		

*p < 0.05.

Discussion

The study showed that the level of secondary school students' academic performance in Basic Science in Ekiti State was moderate. This implies that the students are doing well in Basic Science, hence the academic performance of the student is good. When teaching and learning activities in the schools are going on well, good academic performance of the students will be guaranteed.

The study showed that there was a significant relationship between students' interest and academic performance in Basic Science. It implies that the students' interest influences academic performance in Basic Science. When feeling of wanting to know or learn about Basic Science increases, studying processes, quality and quantity of learning outcomes is enhanced. The finding is consistent with the submission of Jari, Reijo, Kalle, Veijo & Anna,(2012) that unsatisfactory results of students in most certificate awarding examination bodies such as students tend to study science subjects better and decide to choose science as a course in Senior Secondary School when they are interested in science & Also, the finding supports the research work of Adodo and Oyeniyi (2013) that attributed unsatisfactory results of students in most certificate awarding examination bodies such as WAEC, NECO, and NABTEB to student's attitude to learning science, students' interest towards learning science. However, the finding negates the study of Lavin (2005) which found a reciprocal relationship between interest and learning achievements. Nevertheless, when students are interested in a subject, they are bond to perform better.

The study also revealed that there was a significant relationship between students' attitude and academic performance in Basic Science. This by implication means that students' attitude is given a needful attention. The finding is in agreement with the views of Festus and Ekpete (2012) that students' positive attitudes to science correlate highly with their science achievement. Also, the outcome of the research carried out by Adedayo (2015) reported that the attitude of students contributes immensely to their academic progress. Awang *et al.*, (2013) found that there is statistical significant relationship between students' attitudes towards their learning and academic performance. What can be responsible for this finding may be the fact that the management of secondary school has realized that students' positive

perception of Basic Science will trigger their performance in the subject

Conclusion

Based on the findings of this research, it was concluded that secondary school students' academic performance in Basic Science is moderate. It can be concluded also that students' variables such as attitude and interest were important factors that influenced academic performance in Basic Science.

Recommendations

The following recommendations were made based on the findings of this study.

1. Students are encouraged to develop positive attitude and have interest in the study of Basic Science.
2. Teachers of Basic Science should build and maintain positive attitude in students through the use of effective instructional strategies, teachers' classroom management and teachers' mastery of subject area for positive perception of the subject to enhance academic performance
3. Public enlightenment programme should be designed and organized by school counsellor in collaboration with the Ministry of Education to sensitize the public on the influencing consequences of attitude and interest on students' academic performance Basic Science.
4. Basic Science teachers and parents should adopt appropriate motivational strategies such as reinforcement and parental involvement in their wards' academic activities for better academic performance.

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