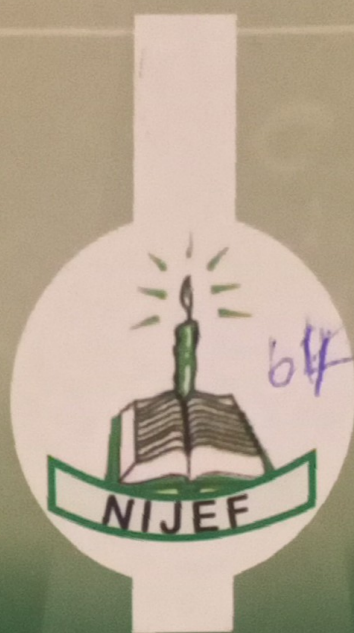




NIGERIAN JOURNAL OF EDUCATIONAL FOUNDATIONS

ISSN 1116-0381
Volume 17, No.1 March, 2018

PRIMARY SCHOOL PUPILS' ATTITUDE TOWARDS SCIENCE IN ABEOKUTA SOUTH LOCAL GOVERNMENT AREA

OLA-ALANI, E. K.

*Department of Adult and Primary Education,
Faculty of Education,
University of Ilorin, Ilorin, Nigeria*

Abstract

This investigated into Primary School Pupils' Attitude towards Science in Abeokuta South Local Government Area. Descriptive research design was adopted study. Two research questions were generated with one research hypothesis postulated. The sampled population for the study comprised twenty (20) pupils each which were random selected from 5 public primary schools in the local government area making a total of one hundred (100) pupils. The instrument used for data collection was a self-designed questionnaire. Frequency counts and percentage was used to describe demographic data of sampled respondents and also to answer the generated research questions. Also, independent t-test was used for testing the research hypothesis. Findings showed that primary school pupils have negative attitude towards Science; and that there is no significant difference in the attitude of male and female pupils towards Science in Abeokuta South Local Government Area. It was recommended that the learning environment should be designed in such a way as to allow students to attain scientific knowledge and gain more positive attitude toward science; and that parents should allow students to choose which classes they enroll in increases motivation and independence which in turn increases a student's cognitive processing and performance.

Keywords: Investigation, Attitude, Pupils, Science, Primary school

Introduction

Learning of Science in a more interactive way through the usage of communication technology has become very important and highly encouraged. Moreover, learning Science is also very beneficial as it has been linked with other subjects such as History, Geography, Mathematics, English and other languages. This will certainly help children in many ways as they get to learn many things at a time. It is therefore in the interests of society, and the responsibility of educators, to improve students' attitude towards Science, and to prepare students to live in a highly scientific and technological society. The future of our society will be determined by citizens who are able to understand and help shape the complex influences of Science and technology on our world (Ungar, 2010).

The investigation of students' attitudes towards studying science has been a substantive feature of the work of the science education research community for the past 40 years. (Osborne *et al.*, 2003). Development of positive attitudes towards science, scientists, and learning science, which has always been a constituent of science education, is increasingly a subject of concern (Trumper, 2006). According to Oludipe (2008), what has remained the main focus of great concern in the field of science education are the biases and misconceptions about women and science. Many researches had been carried out on gender issues with mixed reports in science education. Girls are being encouraged and sensitized into developing positive attitudes towards science.

Attitudes and motivation has been the subject of educational research for several decades (Palmer, 2005). Despite the rather limited amount of studies conducted into the attitudes of primary school students towards science (Murphy & Beggs, 2001), a number of patterns have nevertheless been identified. These include the significance of the teacher's role, the recognition of science as important, the perception of science class as a positive, "fun" experience (Murphy & Beggs, 2001), a distinct gender difference in students' attitudes and a general keenness about conducting experiments (Reiss, 2004).

Moreover, studies of children's level of satisfaction with their science classes found that the satisfaction children derive from science class, as well as their motivation for learning science, are influenced by the way they are taught (Brok, Fisher & Scott, 2005). Good teachers have been described as those who are fond of what they are teaching, who link topics learned in class to everyday life and who teach in an orderly way. Using diverse ways of teaching and involving pupils in active learning has also been pointed out by the children as positively influencing their attitude to science in school and in general (Osborne & Collins, 2001). Pupils with positive attitudes towards science tend to develop a more positive approach towards topics learned in school and toward science class as a whole.

The interaction of students with their teachers and with the study material involves yet another very important and widely studied feature in attitude and motivation research - self-efficacy. The belief in one's capacity to successfully perform a particular task is one of the most powerful motivational predictors of how well a person will perform at almost any endeavor. A person's self-efficacy is a strong determinant of their effort, persistence, and strategizing, as well as their learning and further performance. Studies have shown that students' self-concept of their ability in science has a continuous and crucial influence in the development of their attitude towards science classes and science in general (George, 2000). A high rate of self-efficacy towards a certain task leads to a stronger determination to persist in performance, as well as making the task seem more important and enjoyable.

Teachers' conduct can provide students with verbal and non-verbal indications about their progress, which they use to build up their self-efficacy. While this has been found to be true of high-school students, primary school pupils have been found to have a relatively high (3 of 5) and stable notion of self-efficacy in science that was *not* dependent on external variables, such as their general attitude to school or their academic achievement in other subjects (Pell & Jarvis, 2001).

According to Oludipe and Oludipe (2010), Integrated Science plays vital role in Nigerian Science Education Programme, because it prepares pupils at the Junior Secondary School level for the study of

core Science subjects at the Senior Secondary School level which in turn brings about students' interest in Science oriented courses at the tertiary institutions. Despite government's efforts to encourage Science teaching and learning among Nigerian students right from the Junior Secondary School level, the enrolment of students in core Science subjects and Science oriented courses at the Senior Secondary School level and tertiary institutions level respectively, is not encouraging. This is as a result of Junior Secondary School students' negative attitude towards integrated Science. Research reports indicate that this negative attitude was caused, majorly, by teachers' conventional (lecture) method of teaching integrated Science.

In a more recent study by Orunaboka (2011), it was pointed out that children made decisions about their future careers before going to secondary school. It was expressed in Pell and Jarvis (2001)'s study that activities like reading, writing and doing science experiments were very popular, but writing in science books or doing operations were not assimilated.

There are, however, certain variables that continuously influence the attitudes of students in all age groups, and one of these is gender. Gender issues in education, including academic preferences and motivation, have already been studied for a number of years (Jones, Howe & Rua, 2000). Though the significance of differences has been shown to increase with age, studies of primary school children revealed that distinct gender differences were already present, with boys tending to like physics and chemistry related topics, while girls gravitate toward topics related to the human body, healthy lifestyle, and communication between animals (Jones et al., 2000).

The recognition of science as important and relevant also changes between gender with age. In primary school, boys and girls alike report a high level of awareness that learning science is important and relevant to their lives, but as students grow older, this conviction decreases markedly, especially in girls. Also, it was stated that mathematical activities were seen less popular than practical science and while boy students' thoughts about the desire for going to school were static in primary school years, for girls it shows an important increase.

In the same study it was explained, while liking school in general context was stable either for girls or boys in primary school years, this rate was always higher for girls. Besides, several studies have shown that boys have better attitudes toward science than girls, and that boys are more apt to continue studying science (Craker, 2006). Therefore, this study seeks to study attitude of primary school pupils towards science in Abeokuta South Local Government Area.

Oh and Yager (2004) stated that while students' negative attitudes toward science are related to a traditional approach in science instruction, their positive feelings are associated with constructivist science classrooms. The authors also commented that if students are provided with too much scientific information, they will have a more negative attitude. Thus, the authors suggested that the learning environment should be designed in such a way as to allow students to attain scientific knowledge and gain a more positive attitude toward science. According to the enhanced cognitive engagement theory, allowing students to choose which classes they enroll in increases motivation and independence which in turn increases a student's cognitive processing and performance (Flowerday & Schraw, (2003).

However, the task of subjects is very complex with multiple considerations, most of which overlap with one another. Students are influenced by the different academic portions of the class such as the value of the content, the structure, and the workload. They also have to decide what is important to them with regards to their interests, personal academic goals, and their schedule. But students do not make these decisions alone because they do occasionally seek advice from their family, faculty, and/or friends.

Although research has indicated that students have a larger preference for the knowledge that they can receive from a class rather than the instructor, it is the instructor who has a significant impact on how useful the subject can be (Wilhelm, 2004). Also, the preference of an instructor's teaching style is very close to being as important as the quality of the value of the content (Babad & Taybe, 2003). A student's attitude about an instructor has a large impact on their attitude toward a class (Curran & Rosen, 2006). Students prefer subjects that are taught by teachers who are enthusiastic, well spoken, knowledgeable, caring,

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and helpful as opposed to instructors who are dry, inflexible, and unclear (Curran & Rosen, 2003).

These studies among others have investigated into the different aspects of attitudes towards Science. However, the researcher observes that little has been done on the attitudes of pupils towards Science and also little of these researches have been carried out in Abeokuta South Local Government Area. This constitutes the gap that study intends to fill.

Research Questions

The study was guided by the following research questions:

- What are primary school pupils' attitudes towards science in Abeokuta South Local Government Area?
- Is there any difference between the attitude of male and female pupils towards science in Abeokuta South Local Government Area?

Research Hypothesis

Research Question One: *There is no significant difference between the attitude of male and female pupils towards science on the basis of gender in Abeokuta South Local Government Area*

Methodology

The main focus of this research study was to investigate into Primary School Pupils' Attitude towards Science in Abeokuta South Local Government Area. The target population for this study comprised of all primary schools pupils in Abeokuta South Local Government Area. Simple random sampling technique was used to select hundred (100) pupils serving as the respondents from five (5) public primary schools.

Researcher designed questionnaire with reliability coefficient of 0.65 was used to elicit response from the respondents. The section A of the questionnaire was on respondents' personal details while section B elicited information on pupils' attitude towards science. Descriptive and inferential statistics were used to answer and test hypothesis respectively.

Results

Research Question One: What are primary school pupils' attitude towards Science in Abeokuta South Government Area?

In answering this research question, the responses given by the respondents were collated and analysed with percentage analysis. The output of the analysis is revealed in Table 1:

Table 1: Percentage analysis on Primary School pupils' Attitudes toward Science

Attitude	Frequency	Percent
Negative	63	63.0
Positive	37	37.0
Total	100	100.0

Table 1 reveals that 63% (63) of the respondents have negative attitude towards Science while 37% (37) of the respondents have positive attitude towards Science. This implies that majority of the respondents have negative attitude towards Science.

Hypothesis One: There is no significant difference between the attitude of male and female students towards science in Abeokuta South Local Government Area

In answering this research question, independent t-test was used to analyse the responses of the pupils to item on the questionnaire that measures the attitude of male and female pupils towards Science.

Table 2: Summary of t-test Analysis on the Attitude of Male and Female Pupils toward Science

Gender	N	Mean	SD	df	Sig	Decision
Male	64	21.3	3.37	98	0.70	Not Rejected
Female	36	21.0	3.03			

Table 2 showed that the p. value of 0.70 is greater than the significance level of 0.05. This showed a non-significant result. Hence, the null hypothesis is not rejected. This means that there is no significant difference in the attitude of male and female pupils towards Science in Abeokuta South Local Government Area.

Discussion of Findings

It was found that primary school pupils' attitudes towards science in Abeokuta South Local Government Area. This finding is in support of Faris (2008) that stated that a weak negative attitude towards learning Science was noticed among the students in Qatar, a matter that was reflected on their achievement in national tests. Oh and Yager (2004) stated that while students' negative attitudes toward science are related to a traditional approach in science instruction, their positive feelings are associated with constructivist science classrooms. The authors also commented that if students are provided with too much scientific information, they will have a more negative attitude. The study also revealed that there is no significant difference between attitude of male and female students towards science in Abeokuta South Local Government Area. According to Baram-Tsabari et al., (2008), the recognition of science as important and relevant also changes between genders with age. In primary school, boys and girls alike report a high level of awareness that learning science is important and relevant to their lives.

Conclusion

From the study, it can be concluded that primary school pupils have negative attitude toward science in Abeokuta South Local Government Area

Also, it was concluded that there is no significant difference in the attitude of male and female pupils towards science in Abeokuta South Local Government Area.

Recommendations

Base on the findings of this study, the following recommendations were made:

- The learning environment should be designed in such a way as to allow students to attain scientific knowledge and gain a more positive attitude toward science.
- Parents should allow students to choose which classes they enroll in increases motivation and independence which in turn increases a student's cognitive processing and performance

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