



# Attitude of Secondary School Students Towards the Study of Science in Rivers State

Dr. Otakpo Chile<sup>1</sup>; Dr. (Mrs.) Patricia Agbor<sup>2</sup> & John-Nelson Ihuoma<sup>3</sup>

<sup>1</sup>Faculty of Education  
Rivers State University, Port Harcourt, Nigeria  
[angelchile300@gmail.com](mailto:angelchile300@gmail.com); 07067884802

<sup>2</sup>[patricia.gbor68@gmail.com](mailto:patricia.gbor68@gmail.com); 08033697766

<sup>3</sup>[ihuomanelsonjohn@gmail.com](mailto:ihuomanelsonjohn@gmail.com)

## ABSTRACT

The purpose of this study was to determine the attitude of Secondary School Students towards the study of science in Secondary Schools in Rivers State. The design of the study was descriptive survey. The population for the study comprised all the students in the two hundred and forty five Secondary Schools in the State. The sample of this study consisted of 1,200 students in the Rivers State Public Secondary Schools. These students were drawn through stratified random sampling techniques. Two research questions and two hypotheses were formulated to direct the conduct of the study. The findings indicated that students show positive attitude towards learning science irrespective of the threatening nature. The result shows that gender has no much influence on the attitude of students towards learning science. The implications revealed that both male and female have positive attitude towards learning science. It also revealed that learning from rural and urban schools showed positive attitude towards learning science and the recommendations is that Government teachers should be encouraged to attend conferences, seminars and workshops to improve their competences in the use of instructional materials available to them. They should use methods such as experimentation and observation to ensure active participation of students. Bursary and scholarship should be given to students pursuing science courses in tertiary institutions especially the female as a way of encouraging them in the science discipline area.

**Keywords:** Attitude, Students, Study of Science.

## INTRODUCTION

In Nigeria today many people have expressed their concern at one time or the other about the attitude of Secondary School students towards learning science. For some, classroom is a place where certain attitudes are displayed, while for others classroom indicates a place of total or partial withdrawal.

Booth (2015) asserts that schools and classroom are unnatural places in which to keep young people because they are confined there and it is not surprising that on such occasion, they act negatively. The purpose of introducing science and technology education in Nigeria is to produce the pool of skilled manpower needed to grow economically.

Bright (2015) clearly spelt out this as not only increase the rate of economic growth by an appropriate investment in human capital, but also to replace costly experience manpower by skilled indigenous personnel.

Oke (2016) asserts that school should be a place where proper orientation toward dignity for labour and productivity should be inculcated. Student attitude towards learning science in schools nowadays, it is

believed that most of the children in Secondary School nowadays are afraid of studying science in the schools based on these reasons:-

Lack of interest in Mathematics

Lack of interest in calculations and drawings

Lack of interest in map reading and contour which leads to study of geography

However, all hope is not lost as proper guidance and counselling can affect the desired change for a better tomorrow. According to Osuagwu (2017) asserts that science permeates our lives and informs our actions. Physics, for example, teaches us how glasses can aid one's vision and how heat is treated by various household materials (plates and utensils).

Chemistry discusses the principles of matter, like atoms, molecule and compounds. These atoms, molecules and compounds make up the water we drink, the food we eat, the air we breathe, the medicines we take when we are ill. Some we cannot possibly live without, biology, the study of life, teaches us why we are the way we are, why we need what we need to survive, how all living things are categorized and where we all come from. These countless questions and answers are all related to science. Attitude, associated with science appear to be affecting, students participation in science as a subject.

Sosanya (2016), stated that nine and thirteen year old student in twenty countries, says that positive attitudes towards learning science is based on science competent teachers and students positive responds towards it. Evans (2019) stated that teachers need to present science in a way it will be motivating, challenging and rewarding to students. Montgomery (2018) asserts that classroom context is essentially a socially context in which the teacher takes on the various roles of leader, guide, supporter and peers. In this regard, teachers' ability to apply his skills in person perception accurately becomes very essential. This is because each learner/students, enters a learning activity with established preconception experiences which provide some predefined meanings and values even for wholly new experiences.

The educator must be prepared to accept and acknowledge each students personal system as viable for that individual and as a valued and unique resources which affects further learning.

Carey (2018) opined that to help students learn science, the effort should now start with what the student knows rather what they do not know because they come to science education with prior belief, knowledge and concepts. Sabin (2015), A general guide on behavior, added that attitudes of students towards learning differ in accordance with age and context. They have acquired knowledge as they were taught of the new facts, and they followed successfully irrespective of their old theories, regardless of the evidence than the older adolescent, Marshal (2014). The social environment that is present in condition of poverty affects the development of the students by limiting the ways they learn to live in a social group. Opportunities for intellectual development, such as the development of cognitive skill and thinking patterns, are the result of social interaction. Students' conditions are unable to develop mutually satisfying social relationships.

Environment can be a hindrance to students, learning of any subject especially science. In view of this, environment and the needs of young adolescent do not fit, they produce increasingly negative self evaluations and attitudes towards schools. For example when parents and teachers become more impersonal at a time when students are seeking more independence from their parents and need more support from other adults.

### **Statement of the Problem**

Observation has shown that many students shy from science and technological subjects because of the vigorous nature of the practical aspects of science subjects and the way they are being taught. In a world filled with the products of science inquiry, scientific literacy has become a necessity. Everyone needs to use scientific information to make choices that arise everyday. More and more Jobs demand advanced skills, requiring people to learn, reasons, think creatively, make decisions and solve problems. An understanding of science and the process of science contributes an essential way to these skills.

Consequently, we depend largely on petroleum products, most of the discipline in higher institutions like Engineering, Biochemistry, Medicine just to mention but a few depend mostly in science discipline. There is a desire for economic development; many earth ways scientists devote their work to find more

effective ways to discover natural resources. There is also desire to control our environment; much science is done to understand how the toxins and wastes of our society pass through our water, soil and air.

In regard to all these, one would want to know that attitude of students toward learning science and other factors that influence the attitude of secondary school students towards the study of science.

### **Purpose of the Study**

The study set out to achieve the following objectives:

1. To identify the attitude of secondary school students toward learning science.
2. To determine the attitude of students in rural and urban areas towards learning science.

### **Research Questions**

The following research questions were answered in this study:

1. To what extent does gender influence the attitude of students towards learning science in secondary school?
2. To what extent do rural and urban schools influence the attitude of students towards learning science in secondary school?

### **Research Hypotheses**

The following null hypotheses were raised and tested at 0.05 alpha level.

1. The gender of the students does not significantly influence their attitude towards learning science.
2. The rural and urban schools do not significantly influence their attitude towards learning science.

The Implication of the study:

1. Male and female students have positive attitude towards learning science
2. That learning from rural and urban schools showed positive attitude towards learning science.

## **METHODOLOGY**

From a population of 1,200 students in secondary schools in Rivers State. From 245 State Secondary Schools in Rivers State, 40 Secondary Schools were drawn using simple random, sampling techniques. Then using a purposive sampling technique, 1,200 students were drawn from the 40 schools. The instruments for data collection were Attitudes of Learning Science Questionnaire (ATLSQ). They are cognitive assessment questionnaire designed to measure the attitude of secondary school students towards the study of science. The (ATLSQ) contained low sections A and B. Section A elicited personal information on the respondents' gender, Income of parents and parental level of education, while section B contained 25 items which focus on attitude of students towards learning science. The validities of the instrument were established with the assistance of two experts from the Department of Measurement and evaluation. The suggestions made by these experts were incorporated and integrated into final versions of the instrument. The reliabilities of the instrument were determined through test and retest method.

A sample of 40 students was involved in this preliminary study. The reliability coefficients of attitude of students towards learning science Questionnaire sub-sections were 0.73. The data obtained from the instruments were subjected to Pearson ® analysis.

## **RESULTS**

The result shows that students have positive attitude towards learning science.

### **Research Question 1**

*To what extent do rural and urban schools influence the attitude of students towards learning science in secondary school?*

#### **Hypothesis 1**

The gender of the students does not significantly influence their attitude towards learning science.

To answer this research question and test its corresponding null hypothesis, mean and standard deviation were employed. The results obtained are shown in table 1 below.

**Table 1: Mean and Standard Deviation of Student's Attitude toward Learning Science**

S/N	Items	$\bar{X}$	SD	Remarks
1.	I enjoy learning science	4.39	0.87	Accepted
2.	I learn science without being forced.	4.22	0.91	Accepted
3.	Learning science is necessary for all and sundry.	3.62	1.15	Accepted
4.	Learning science is a lot fun.	3.65	1.15	Accepted
5.	Much of what is learnt in science is useful in everyday life.	4.36	0.84	Accepted
6.	A little learning of science may be dangerous.	3.50	1.15	Accepted
	Total	23.74	6.03	Accepted
	<b>Grand Meant Total</b>	<b>3.95</b>	<b>1.05</b>	

Table 1 revealed that students had grand mean total ( $\bar{X}$ ) of 4.09 (SD = 0.96). The highest mean score was 4.39 (SD = 0.87) in item No.1, while the lowest mean score was 3.36 (SD = 0.84) in item No.5. This indicated that students have positive attitude towards learning. Hence all the item were accepted because their mean were respectively greater.

**Table 2: Mean and Standard Deviation of Student's Attitude Toward Learning Science**

S/N	Items	Males		Female		Remarks
		$\bar{X}$	Sd	$\bar{X}$	Sd	
1.	I enjoy learning science	4.39	0.88	4.40	0.87	Accepted
2.	I lean science without being forced	4.17	0.92	4.27	0.91	Accepted
3.	Learning science is a lot of fun.	4.39	0.88	3.62	1.12	Accepted
4.	Learning science is necessary for all and sundry.	4.17	0.92	3.67	1.15	Accepted
5.	Much of what is learnt in science is useful in everyday life.	5.61	1.10	4.34	0.84	Accepted
6.	It is important to learn science in order to get a good job.	3.64	1.115	3.95	1.05	Accepted
	Total	24.37	5.815	24.25	5.93	Accepted
	<b>Grand Meant Total</b>	<b>4.61</b>	<b>0.96</b>	<b>4.41</b>	<b>0.98</b>	

Table 2 revealed that males had grand mean total ( $\bar{X}$ ) of 4.081 (SD = 0.96) while the females had grand mean total ( $\bar{X}$ ) of 4.041 (SD = 0.98). The items were accepted because their means were respectively grater. The highest mean score for the male was 4.61 (DS= 0.96) while the highest mean score for the females was 4.41 (SD = 0.98).

**Hypotheses**

The gender of the students does not significantly influence their attitude towards learning science.

In order to analyze and test this hypotheses t-test statistical analysis was used.

**t-test Analysis of the Influence of Gender on the Attitude of Students Learning Science**

Variable	N	$\bar{X}$	Sd	t-cal.	d.f	t-crit.	Alpha level
Male	600	100	6,000				
Female	600	100	600	0,10	1198	1.960	0.05

The result of the t-test analysis as presented shows that the t-calculated value is 0.10, while critical t-value is 1.96 at alpha of level 0.05.

Therefore, the gender of the students does not significantly influence their attitude towards leaving science. And as such the hypothesis is accepted.

### **DISCUSSION OF FINDINGS**

The result of the study shows that students have positive attitude towards learning science. The result of the study shows that gender has no much influence on the attitude of students towards learning science.

### **CONCLUSION**

All the students showed positive attitude towards learning science irrespective of their gender and parents socio-economic status. No significant difference in attitude of learning science was found between male and female students.

### **RECOMMENDATIONS**

From the research findings, students have positive attitudes towards learning science. In this regard, the following recommendations are made for effective teaching and learning of science in our schools.

- The federal government should create an educational and social environment in which girls and boys are treated equally and encourage to achieve their full potentials. Also they should create a space where educational resources promote non-stereotyped images of boys and girls.
- Government should try to ensure that available trained teachers are evenly distributed to all schools in each Local Government Area (LGA) and use financial attraction to keep these teachers in rural schools etc.
- Teachers should be encouraged to attend conferences, seminars and workshops to improve their competences in the use of instructional materials available to them. They should use methods, such as experimentation and observation to ensure active participation of students and lasting memory of what is taught.

### **REFERENCES**

- Booth, V. (2015). *Special Biographies*, Mitto Keynes Open University Press.
- Bright A, C. (2015). Attitudinal effects of more exposure. *Journal of Personality and Society Psychology Monograph supplement*, (2, Part 2), 1-27.
- Carey, D. S. (2018). Science Education as Conceptual Change. *Journal of Applied Development Psychology*, 8, 109-121.
- Evans, S. (2019). *Attitude and Interest in Education*, London: Routledge and Key Paul Ltd.
- Marshal, D. O. (2014). *Study Techniques and Examination Secrets*, Calabars: Trinity Press.
- Montgomery, S. (2018). *Theory and Attitude*, Mitto Keynes, Open University Press.
- Okey, T. (2016). *Study Techniques and Examination Secrets*, Calabars: Trinity Press.
- Osuagwu, U. (2017). *Age and Gender Differences* London: Scatland and Keyan Paul Ltd.
- Sabin, W. A. (2015). *Science and Life Education*. Enugu: Science Circle Publications.
- Sonsanya, G. A. (2016). *Personality and attitude*, Mitto Keynes, Open University Press.