

Strategies for Improving Students Attitude towards Integrated Science in Vandikya Local Government Area of Benue State, Nigeria

RESEARCH ARTICLE

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ABSTRACT

The study investigated the Strategies for Improving Students Attitudes towards Integrated Science in Vandikya Local Government Area of Benue State. Four research questions and one null hypothesis were formulated and tested at 0.05 level of significance. The design for the study was Questionnaire Survey Research Design. Simple random sampling was used to select 100 students for the study. Integrated Science Students Questionnaires (ISSQ) were used for data collection. Data collected were analyzed using simple percentage for research questions and chi-square for the null hypothesis. The result obtained showed that students have positive attitudes towards integrated Science, demonstration method of teaching, effective use of instructional materials and motivation from teachers enhance students attitudes towards integrated Science. Similarly, it was revealed from the findings that gender has no significant influence on the effectiveness of using strategies to improve student attitudes towards integrated science. Based on the findings, it was recommended that integrated Science teachers should make more efforts of sustaining the positive attitude that students had on integrated science and stakeholders in education should organize workshops, conferences and seminars to expose teachers on how best to use instructional materials, demonstration method at teaching, and motivation as teaching strategies.

Keywords: Strategies, Attitudes and Integrated Science

INTRODUCTION

The inclusion of integrated science into Nigeria school curriculum is to promote National development and make the country achieve its strategic program of scientific and technological literacy. It solicits the perspectives of the individual science disciplines, and integrates them during phases of the approach to solve scientific and resource management problems.

President Olunsegun Obasanjo, launched the universal Basic education (UBE) programmed and child Rights Act. Which provided the legal frame work for the implementation of the

programmed, thus, making basic education not only free, but also compulsory? The task therefore is for quality to be infused in to the implementation of the UBE programme. This also entails recognizing the impact of good teaching methods aimed at removing the basic challenge that hinder teacher's implementation of the curriculum (Segun & Olanrewaju, 2011).

The important of integrated science cannot be overemphasized. This is because the knowledge has brought further studies of science such as astronomy, biology, chemistry, geology, physics, so on, which helped in the understanding of various phenomena such as climate, soil, rainfall and like. Teaching science using the integrated approach is not an easy task. Integrated science teaching which attempts to look and study different scientific ideas as a unified whole which leads to wide knowledge of science (Obanya, 1980).

The factors identified by educators as being responsible for the students' negative attitudes to and poor academic achievement in the science subjects at secondary level of education among others include; ineffective teaching strategies employed by some teachers, poor mastery of the subject, poor students' background and negative attitudes of parents and guardians (Adejoh, Amali & Omega, 2013; Omenka, 2013).

Attitude according to Webster (2004) is the position of the body, as suggesting some thought, feeling or action or state of mind, behavior, or conduct regarding some matters as indicating opinion or purpose. By implication, attitude may be positive or negative depending on his or her judgment. Attitude can be referred to as positive or negative evaluation of people, objects, events, activities. Borich (2004) for example, defined attitude as a psychological tendency that is expressed by evaluating a particular entity with some degree of likeness of favor or disfavor. Adodo and Gbore further observed that at any level of graduation, learners will learn better in subjects or courses if they have some degree of likeness of such subject or courses. This implies that a learner who has interest in a particular subject will develop positive attitude towards it. Students' attitude can be influenced by teachers' method of teaching. In this respect, Yara (2009) argued that the learner draws from his teacher's disposition to form his own attitude, which may likely affect his learning outcomes. Obodo (2005) observes that some attitudinal function that affects students achievement in science are; adjust-function and ego defensive among others. Adjust function, Obodo says is the students' tendency to adopt negative attitude toward activities that are less difficult to them. Therefore science activities that are difficult to students means punishment, and thus they adjust negatively towards them. Ego defensive function refers to how students' attitude tends to defend self-image. This means that, if a student has negative self-image of not being able to do very difficult things and have perceived science as being a difficult subject, then, he or she will develop negative attitude to science. Moreover, the extent to which knowledge of science is imparted in the learner is largely dependent on the effective utilization of teaching methods and motivational strategies used by the teachers. It has been observed that the basic science achievement of students at the upper basic education level in Nigeria has not been encouraging (Abah, 2004). For instance, in junior secondary education, integrated science is offered as a core course and in view of the aim and objective sped out by the National Policy on Education. It is obvious that the purpose of teaching and learning integrated science subject is not achieved due to the performance of students in the subjects. Additionally, despite the importance of integrated science to individuals and society globally, students have been performing poorly in the subject in Nigeria in general and Benue state in particular (Ochu & Haruna, 2015). This poor academic achievement has been attributed to various factors including inappropriate and inadequate instructional materials, inappropriate instructional strategies used by teachers, poor teacher preparation before lesson, poor attitude and interest of students towards the subject and predominant use of such teacher centered teaching methods and traditional subject- based

methods promoted by curriculum developers, which in recent times become ineffective. It is in realization of this gap, that this research work was aimed at finding the appropriate strategies for improving students' attitudes toward integrated science in Vandeikya Local Government Area.

MATERIALS AND METHODS

The survey research design was used for the study. According to Emaikwu, (2019) survey design employs the questionnaire as principle data collection techniques or instrument. This is also a plan that tries to document and describe what exists presently. It entails gathering information from a representative sample of schools and teachers order to be able to describe the strategies for improving students' attitudes towards integrated science in Vandeikya Local Government area of Benue State.

Research Questions

The following Research Questions were formulated to guide the study:

1. What is the attitude of students towards integrated science?
2. To what extent does demonstration method of teaching influence students' attitude towards integrated science?
3. To what extent does the use of instructional materials influence students' attitude towards integrated science?
4. To what extent does motivation from teachers improve students' attitude towards integrated science?

Research Hypothesis

One null hypothesis was proposed and tested.

There is no significant influence of gender on the effectiveness of using strategies to improve students' attitude towards integrated science.

Research Sample

Simple random sampling was employed to obtain a sample of one hundred (100) students from the population of 1050 students for the study.

Instrument for Data Collection

The instrument used for data collection was Integrated Science Students Questionnaire (ISSQ). The questionnaire was designed to seek the options of integrated science students in vandeikya local government area.

Validation of the Instrument

The questionnaire items where validated by two experts in the Department of Curriculum and Teaching Department of Benue State University.

Methods of Data Analysis

The data collected through the questionnaire was analyzed using simple percentage for the research questions and the hypothesis was tested using chi-square.

RESULTS AND DISCUSSION

The results of the study were obtained from the research question answered and the hypothesis tested. They were presented in Tables 1- 5 below

Table 1: Students Responses towards Integrated Science

Test items	Statements	Agree	%	Disagree	%
1	I like integrated science as a subject	75	22.59	25	14.88
2	I am happier in integrated science class than in others	60	18.10	40	23.80
3	I find integrated science an interesting subject	69	21.78	31	
4	I feel bad when I miss integrated science lesson	73	21.98	27	16.07
5	I like my integrated science teacher	55	15.5	45	26.8
	Total responses	332	100	168	100
	Total %		66.4		33.6

Table one shows responses from items 1-5. These items are based on students' attitudes towards integrated science. The sum total of 'agreed' responses recorded 332 which represent 66.4%. Invariably, the sum total of the responses for disagreed is 168 which represent 33.6%.

From the data collected and analyzed on research question one, it shows that student have positive attitudes towards integrated science with the agreed responses having the highest percentage of 66.4% as against 33.3% of the disagreed responses.

Table 2: Analysis of Student Responses to Demonstration Method of Teaching Integrated Science.

Test items	Statement	Agree %	Disagree %	Total %
5	Our teacher uses demonstration method when teaching integrated science	59	41	100
16	I fail integrated science because of my teacher method of teaching	45	55	100
17	My teacher knows how to teach integrated science very well	70	30	100
	% grand total	58	42	100

Table 2 shows that 58% of the respondents are in agreement that their teacher uses demonstration method of teaching however 42% respondents are in disagreement of the view. From the result obtained, this indicates that integrated science teachers uses demonstration method when teaching and this could be one of the factor that stimulated students' interest towards the subject.

Table 3: Students Responses towards the use of instructional materials

Test items	Statement	Agree %	Disagree %	Total %
6	Our teacher always brings in the class instructional materials whenever he/she has lesson with us	51	49	100
15	My school has not integrated science laboratory	39	61	100
18	Integrated science students understand better when instructional materials are used during teaching than when teaching theoretically	82	18	100
Total		57.3	42.7	100

Table 3 shows that 57% of the respondents agreed that their teacher uses instructional materials in the class while 42.7% disagreed with the statement. From the table, it is found that integrated science teachers uses in instructional materials when teaching.

Table 4: analysis of students' responses to teachers' motivation

Test items	Statement	Agree %	Disagree %	Total %
7	Our teacher corrects us with encouraging comments	79	21	100
8	Our teacher buy gifts for best student	51	49	100
9	Our teacher praise us whenever will perform well	80	20	100
10	Our teacher attends to us whenever we need his attention	56	44	100
Total		66.5	33.5	100

Table 4 shows that 66.5% of the respondent agreed that integrated science teacher motivate students in the class while 33.5 % disagreed with the statement. From the result obtained, it can be deducted that teachers do motivate their students in one to another.

Hypothesis:

There is no significant influence of gender on the effectiveness of using strategies to improve students' attitude towards integrated science.

Table five: Data presentation for the hypothesis

Respondents	N	df	level of sign.	X ² calculated	X ² critical	Remark
Male	48	6	0.05	4.1607	12.59	Accepted
Female	52					

The study revealed that most students have positive attitude towards integrated science, this is indicated by 66.4% of the agreed value in Table one, their positive attitudes aroused from their factors like teacher methods of teaching, use of instructional materials during lesson, ' this they

say gives them easy retention of the acquired knowledge' motivation from teachers among other factors.

The result from the study also shows that integrated science make use of instructional materials teaching integrated science. This positive disposition by the teachers may be as a result of teachers' participation in seminars and workshops. Instructional materials as revealed by Okpeya (2008), said encourage learner participation.

The result also revealed that motivation from teachers helps to in improving students' attitude towards the learning of integrated science. This shows that's motivation can play a vital role in improving students' attitudes. Motivation therefore is a factor that influences students' attitude and as such teachers should do their best to motivate their students.

Result of the analysis of the hypothesis revealed that gender has no significant influence on the effectiveness of using strategies to improve students' attitude towards integrated science. The finding is in support of the result of Eribe (2010), who carried out a study on the interaction between strategies and gender on students achievement in ecology, his finding showed that no significant interaction exist between strategies and gender.

CONCLUSION

Based on the findings of this study, it follows that students' perception of their teacher's strategies and attitudes influence their attitudes towards integrated science. Additionally, any teacher that lacks good attitude, good personality and good quality will create negative perception of their selves in students and in turn, the students will dislike the subject. This study recommends that integrated science teachers should make more efforts to carry every student along in the class so as to develop every student attitude positively in the learning of integrated science. Also, government and stake holders should organize workshops, conferences and seminars periodically to expose teachers on the current trends in the educational sector.

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