Attitudes of Students towards the Study of Physics in College of Education Ikere Ekiti, Ekiti State, Nigeria

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Abstract

Due to the poor performance of many students in Physics for the past four years, a research was made so as to know the causes of this failure and their attitude towards the course. The study also sought to determine the factors influencing students learning outcome in Physics together with the reasons why they chose to study the course. The results of the research questions were expressed in percentages and it shows that majority of the 100 students of which the research questions were based on did not understand the basic concept of the course.

Keywords: Physics, Performance, Lecturer, Attitude, Students.

Introduction

A review of the literature reveals that many science educators have recognized that students view about science course is different from scientific ones. Craker (2006) suggested that prior knowledge has a great effect on students' knowledge of scientific concepts. Festingel's cognitive theory states that individuals seek some degree of consonance between their feeling (attitudes) and action. George (2000) agreed with the assertion that attitude is comprised of two component parts which are affective in dealing with mental process. The kind of attitude builds up by students influence their learning abilities in a particular subject.

Bajah (1998) explained that the position and negative attitudes of students themselves have been suggested as a contributory factor to misconceptions. George (2000) further explained that inadequacies of furniture fitting and equipment in the classrooms and laboratories where teaching and learning of science subjects took place might contribute to misconceptions and alternative conceptions. Physics is considered as the most problematic area within the realm of science, and it traditionally attracts fewer students than chemistry and biology. (Rivard and Straw, 2000). Physics is perceived as a difficult course for student from secondary school to university and also for adults in graduate education. It is well known that both high school and college students find physics difficult.

The measurement of student's attitudes towards physics should take into account their attitude towards learning environment (Crawley and Black, 1992). Research has made us known that the attitude towards science change with exposure to science, but the direction of change may be related to the quality of that exposure, the learning environment and teaching method. (Craker, 2006). If students have negative attitudes towards science, they also do not like physics courses and physics teachers. Based on this premise, numerous studies have been conducted to determine the factors that affect the students' attitudes in science. From these studies, some basic factors can be listed, including : teaching –learning approaches, the type of science courses taken, methods of studying, intelligence, gender, motivation, science teachers and their attitudes, students attitudes to science courses, self adequacy, cognitive style of students, career interest, socio economic levels, influence of parents, and so on. (Dieck, 1997; Halladyna and Shanghnessy, 1982; Mattern and Schau, 2002; Normah and Salleh, 2006; Rivard and Straw, 2000).

Purpose of the Study

The purpose of the study is: to investigate the attitudes of students towards physics in College of Education, Ikere – Ekiti, to examine the causes of their poor performance in physics courses and the effect of lecturer – students' interpersonal relationship towards physics courses.

Research Questions

This study addressed the following questions:

- What are the attitudes of students generally towards physics?
- Does lecturer – student interrelationship have effect on students learning outcome in physics?
- Do students perform better in other subjects combined with physics than physics?

Study Design –Sample and Sampling Technique

The study is a descriptive study of survey type. The sample for this study comprises of 100 physics student of school of science in College of Education, Ikere- Ekiti. The students comprise of 70 females and 30 males. This design method was adopted because of the purpose of describing and analyzing the existing condition of attitude of students towards physics.

Method

The attitude measuring scale was twenty items with four likes – type option. A four point scale used was ranged from SD=strongly disagree, D=disagree, SA-strongly agree and A=agree. The total score for each attitude category indicates level of favourably attitude in that category. The research questionnaires were based on two different facts which are students' attitude to learning of physics and lecturer – students' interrelationship towards learning of physics.

Research Question 1

Do students attitude generally affect their performance towards physics? The answer to the research question 1 is illustrated in percentage in Table 1 while Figure 2 shows the illustration in chart form.

Table 1: Students altitude towards learning of physics

S/N	ITEMS	S.D	%	D	%	S.A	%	A	%
1	I find physics as a simple course.	50	50	10	10	5	5	35	35
2	I only hate the calculation aspect of physics.	30	30	10	10	20	20	40	40
3	I feel bore when physics lecture is going on.	60	60	20	20	3	3	17	17
4	I usually get scared when physics lecture is going on.	30	30	40	40	15	15	15	15
5	I hate my physics lecturer's attitude.	40	40	50	50	6	6	4	4
6	Physics class is a fun.	20	20	20	20	40	40	20	20
7	I understand other subject combination than physics	15	15	25	25	30	30	30	30
8	I have better understanding of practical physics	5	5	10	10	40	40	45	45
9	I don't see physics relevance to everyday life and society	10	10	25	25	15	15	50	50
10	We have enough physics educator	40	40	45	45	10	10	5	5

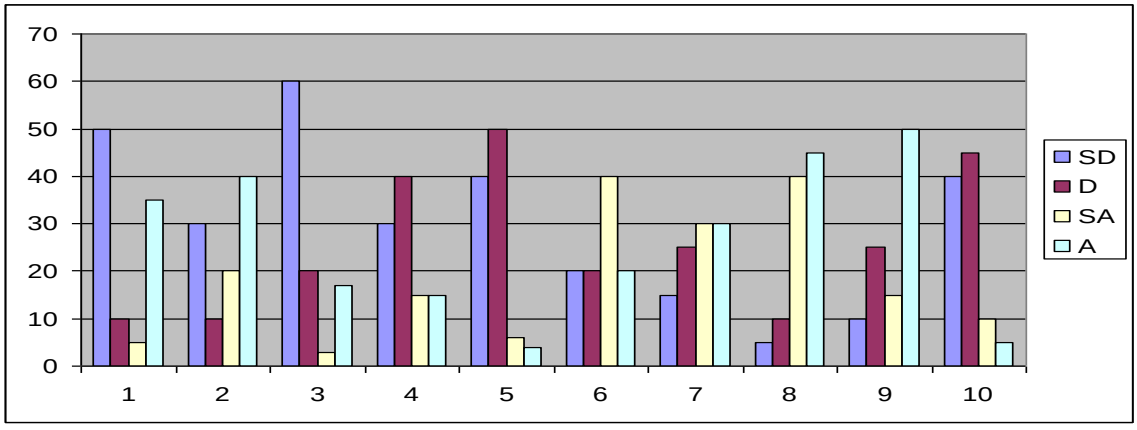

Fig. 1: Histogram illustrating students' altitude towards learning of physics.

Research Question 2

Does the lecturer - student interrelationship have effect on students' performance? The answer to the research question 2 is illustrated in percentage in Table 2 while Figure 2 shows the illustration in chart form.

Table 2: Lecturers' attitudes and students learning outcomes.

S/N	ITEMS	S.D	%	D	%	S.A	%	A	%
1	My physics lecturers lack innovation, encouragement and resourcefulness	30	30	40	40	3	3	27	27
2	I entertain fear when my physics lecturers entered class	5	5	80	80	5	5	10	10
3	My lecturers always come to class regularly	2	2	3	3	50	50	45	45
4	Our lecturers give us extra time for the homework that we cannot complete on time	25	25	35	35	10	10	30	30
5	Students break some rules in the lecturers class	60	60	30	30	2	2	8	8
6	It is difficult to ask our lecturers questions based on the topics taught	20	20	70	70	2	2	8	8
7	The lecturers keep changing their decisions	40	40	55	55	1	1	4	4
8	Physics questions are too difficult to answer	10	10	10	10	30	30	50	50
9	Lecturers in other science department are better than the one in physics department	60	60	38	38	1	1	1	1
10	Our lecturers use interactive method when teaching in the class	5	5	3	3	30	30	62	62

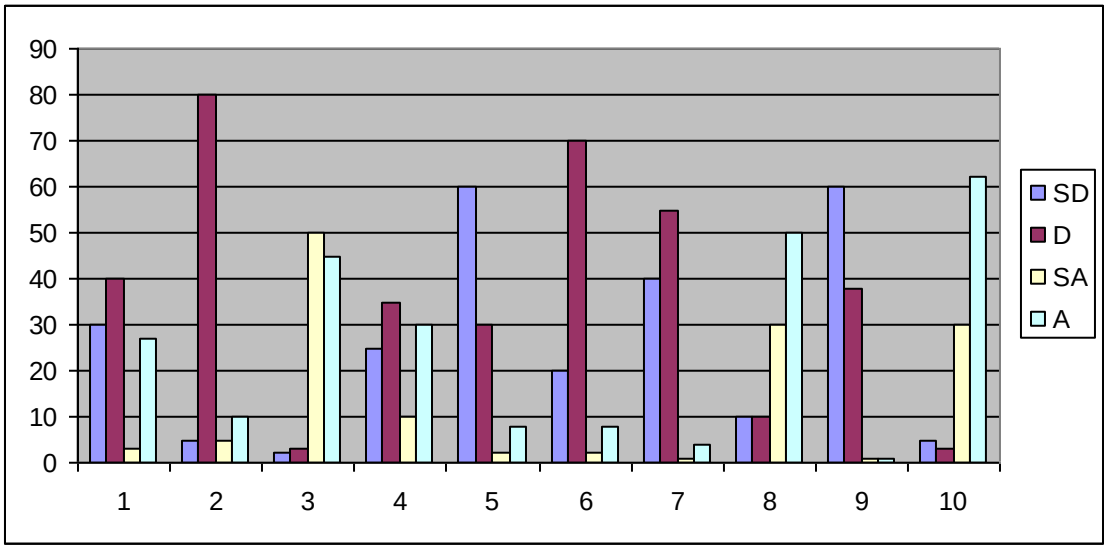

Fig. 2: Histogram illustrating lecturers' attitudes and students learning outcomes.

Discussion of the Result

Table 1 revealed the fact that physics class is always an interacting class though difficult to understand especially when dealing with the theoretical part most especially the calculation.

However, it was revealed from the table that 30% of the students entertain fear while physics lecture is going on and 85% attested to the fact that Physics, though being a difficult course, is still being enjoyed by students during the practical session. The most pathetic side of it is that 65% of the students don't see the relevance of physics to everyday life and society while only 35% of the students could realize the fact. Also, there is need for more educators in the department because 85% of the respondents confirmed that while only 15% of them did not see any need for that.

From table 2, it was revealed that 70% of the respondents disagree with fact that their physics lecturers lack innovation, encouragement and resourcefulness while 30% of the respondents agreed.

Also 85% confirmed the fact that they don't entertain fears when their lecturers entered the class while 15% prove otherwise. Moreover, 5% of the respondents disagree with the regularity of the lecturers in the class while 95% agree with the fact. It was observed that the lecturers don't give room for extra time to complete the assignment given to students. Also, the level of the discipline was very high with the fact that 90% of the respondents disagree with breaking of rules in the class while 10% agree to it.

However, 10% of the students find it difficult to ask questions from their lecturers while 90% prove that wrong and this shows that the lecturers are friendly despite the fact that their questions are too difficult to solve. It can also be deduced from the table that the lecturers always maintain whatever they say and students are always free to ask and answer questions in the class; this fact shows that physics lecturers are friendly.

Conclusion

From the findings of this study, it was established that students have high favourable attitudes towards physics oriented career courses. However, the poor performance of students in physics was due to lack of information, lack of self-confidence, inability to solve physics questions correctly using the appropriate formula and not been able to see the relevance of physics to the society. Consequently, the good ones among the students show that they have interest in physics lecture and thereby developing positive attitude toward solving physics problems.

Recommendations

It has been discovered that there are some reasons or factors behind the negative attitudes of students toward physics. It therefore becomes necessary that a positive step should be taken towards modifying the factors in other to ensure and maintain positive attitude and boost students' interest for physics.

Firstly, prospective studies should be conducted based on a much wider sample and within the context to provide better understanding of this course. Also, the lecturers and students have to adjust to new roles which may lead to changes of classroom processes which in turn affect the nature of the relationship between the lecturer- student interpersonal relationship and students attitudes

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