



Attitude of Teachers and Students Towards Teaching and Learning of Genetics in School of Basic and Remedial Studies Funtua Katsina State Nigeria

¹Abdurahaman Mahmud, ²Bashir Ahmad Muhammad, ³Hadiza Aliyu, ⁴Abdullahi Sani

^{1,3&4}Department of Biology, Federal University Of Education, Zaria, Kaduna State

²ABU/SBRS Funtua, Biology Unit

College of Education, Kangere

ABSTRACT

This study investigated the attitude of teachers and students towards the teaching and learning of Genetics in School of Basic and Remedial Studies Funtua, Katsina State Nigeria. The population of the study consisted of all the 10 Biology teachers and all the 918 biology students of the School of Basic and Remedial Studies, Funtua. The sample of the study were five biology teachers and 115 Biology Students selected through simple random sampling technique by lucky – dip method. One research question and a null hypothesis tested at 0.05 level of significance guided the study. The instrument for data collection was Genetic Attitude Teaching Scale (GATS) constructed by the researcher on five points Likert Scale which comprises of 10 items. The instrument was face and construct validated and the internal reliability coefficient was 0.76. Mean and standard deviation were used to answer the research questions using the five point scale responses while Z – test statistics was used to test the null hypothesis. Findings of the study revealed that the respondents showed positive attitude towards Genetics teaching and learning because there is no significant difference in the attitude of both the teachers and students towards the teaching and learning of Genetics. Recommendations include among others that both teachers and students should continue to show positive attitude towards the topic for proper teaching and learning of the concept.

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INTRODUCTION

Attitude is a psychological construct that determine the value of a thing, subject or person. Attitude is a complex and unique concept that is important in determining value preferences which can be positive or negative. An individual with positive attitude towards an issue or thing shows "like" of that thing while "disliked" indicates negative attitude Bashir (2026). Encarta dictionary (2004) defines attitude is an opinion or general feeling about something. Attitudes are usually learned or acquired from personal experiences and direct interactions with individuals or objects in the environment of which the environment can be schools or home which may yield some

feelings or predispositions on the subject or persons Bashir (2026).

Students learning of a subject, topic, concept or a career is proportional to attitude or liking towards the subject, topic, concept or career (Katoch 2007). Attitude influences one social thought and helps one organizing and assessing stimulus in the environment into pleasant or unpleasant results (Bashir 2026). Abiri (1966) described attitude as an acquired tendency to react either overtly or covertly in a manner which is of certain degree of favourability in relation to certain objects, concepts, topics, subjects, persons or situations in our environment. Kochi (2005) found out that teachers feelings and

Corresponding author: Abdurahaman Mahmud

abdurahamanmahmud@fuez.edu.ng

Department of Biology, Federal University Of Education, Zaria, Kaduna State.

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attitudes about science can affect their students feelings, attitudes and academic performance in any science subject. The implication is that attitude of others like friends, peer groups, teachers, parents, neighbours and mentors can influence students' feelings and attitudes towards biology or any other subject.

This research intends to investigate the attitude of teachers and students towards the teaching and learning of genetics in Ahmadu Bello University, School of Basic and Remedial Studies Funtua. Genetics is a branch of biology concerned with the study of genes, variation and heredity in organisms. (Olwi, Merdad and Ramadan 2006), White House (1973) define Genetics as the study of heredity and variation and that it is the science that is concerned with biological inheritance that causes resemblance and differences among related individuals, such resemblances and differences includes: colour, shape, intelligence, behavior, height, blood group etc. Some key components of genetics include, chromosome, cell division, DNA, RNA genome, mutation, population genetics, molecular genetics and evolution.

Olewi, Merdad and Ramadan (2006) explained that the majority of the students they studied show fairly positive attitude towards genetics, but some showed negative attitude. Oyewole (1982) found out that there was lack of interest among students towards genetics and only few teachers showed interest and seriousness in teaching genetics while others showed negative attitude. Impression has it that genetics is a difficult, complex and a mathematical area of Biology. Ugwuadu (1984), in the other hand discovered that both teachers and students showed positive attitude towards genetics teaching and learning. The main focus of this study therefore is to determine the level of attitude of teachers and students towards genetics teaching and learning in ABU/SBRS Funtua because literature revealed that there are both positive and negative attitude among teachers and students towards this very important biology concept.

Objective of the Study:

1. To investigate the attitude of teachers and students toward the teaching and learning of Genetics in School of Basic and Remedial Studies Funtua Katsina State.

Research Question:

The research question goes as thus:

1. What is the attitude mean scores difference between the attitude of Biology teachers and students towards the teaching and learning of Genetics in ABU/SBRS Funtua Katsina State.

Null hypothesis:

The following null hypothesis was formulated and tested at $P \leq 0.05$ level of significance in this study.

H₀₁: There is no significant difference in the mean attitude scores of biology teachers and students towards the teaching and learning of Genetics in ABU/SBRS Funtua Katsina State.

METHODOLOGY:

The research design adopted for this study was survey research design because a group (teachers and students) is been studied by collecting data and analyzing it from the group considered to be representative of the entire population. A survey research design employs a variety of data gathering instruments such as questionnaires, interviews, observations, tests and rating scales which are used to determine the opinion of individuals (Nwargu 2006). In this study, descriptive survey is used to collect data and describe them on the characteristic features and facts about a given population.

The area of the study is Ahmadu Bello University, School of Basic and Remedial Studies Funtua, Katsina State Nigeria. The population of the study comprised of the Ten Biology teachers and all the 918 Biology students while the sample of the study consists of five biology teachers and 115 biology students selected through simple random sampling technique by lucky – dip method. The instrument for data collection was the Genetics – Attitude – Teaching - Scale containing 20 items constructed by the researcher on five



points likert scale made up of: strongly agree (SA) 5, Agree (A) 4, Undecided (UD) 3, Disagree (D) 2, and strongly Disagree (SD) 1.

The twenty items in the instrument were responded to by the teachers and students selected for the study. The items are all on attitude towards Genetics teaching and learning. The draft GATS was subjected to face and construct validation in order to assess it in terms of clarity of expression, suitability of items and purpose of the study. Some of the items in the instrument were modified and retained while some were replaced while the majority were accepted without modification by the validators.

The reliability coefficient of the instrument GATS was determined using Cronbach alpha method which helps to determine the internal consistency reliability coefficient at 0.72. Administration of the instrument on the subjects to collect data from the field was carried out by the

researcher with the help of an assistant. Mean and standard deviation were used to answer the research question while Z-test statistics was used to test the null hypothesis. When Z-calculated is greater than the critical value on Z-table; the null hypothesis is rejected and if otherwise the null hypothesis is accepted.

RESULTS

The following result emanated from the study: The cut-off point on the five point Likert scale for decision rule is 3.50 and above and stand for agree or positive attitude for each of the ten items on GATS. Mean scores from 35 to 50 is regarded as agree or positive attitude while less than this range is disagree or negative attitude. The computed mean positive attitude scores of teachers on GATS were 36.7, that of students was 36.3

Table 1: Summary of mean scores, standard deviations and Z-value of teachers and students attitude scores towards the teaching of Genetics.

Subjects	N	Mean	SD	df	Z-crit.	Z-calc	Remarks
Teachers	10	36.7	2.8	926	1.96	0.612	Not
students	918	36.3					significant

Result in Table 1 showed that z-calculated is less than z-critical at 0.05 level of significance, df of 926 translating to the finding that the H₀ (null hypothesis) is accepted implying that there is no significant difference between the responses of the two groups on their perceived attitude towards the teaching and learning of Genetics.

Summary of Findings

The following finding result from the study:

1. There is no significant difference between the responses of teachers and students of Biology in their mean attitude scores towards the teaching and learning of Genetics in Ahmadu Bello University, School of Basic and Remedial Studies Funtua, Katsina State.

DISCUSSION OF FINDINGS:

The result of this study reveals that both biology teachers and biology students do not vary in their attitude toward the teaching and learning of Genetics in ABU/SBRS Funtua, because there is no significant difference in their mean attitude scores toward the teaching of Genetics. The two respondents have showed positive attitude towards the topic selected for the study. This finding is in agreement with the findings of Ugwuadu (1984), Obi and Ugwuadu (2007), Olwi, Madad and Ramadan (2016) that found out that there is no significant difference in the attitude mean scores of teachers and students towards Ecology and Genetics aspect of integrated science and towards Genetics concepts among college students.

However, the result of this study does not agree with the findings of Oyewole (1982) who found out that there was lack of interest among students and teachers in Genetics, that few



teachers showed seriousness in teaching Genetics while the majority of them showed negative attitude towards the teaching and learning of Genetics concepts.

CONCLUSION

In conclusion, the result of the study revealed positive attitude towards the teaching and learning Genetics by both teachers and students as shown in table one which indicated high attitude of teachers and students by their mean attitude scores showing no significant difference in the attitude of the two groups towards the teaching and learning of the biology concepts of Genetics.

RECOMMENDATIONS:

The following recommendations were made based on the findings of the study:

1. Teachers and students should be encouraged to maintain the positive attitude shown towards the teaching and learning of Genetics as found out by this study.
2. Teaching method that will encourage positive attitude towards the teaching and learning of Genetics should be employed by teachers in order to sustain the existing positive attitude towards teaching and learning Genetics.

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