INFLUENCE OF STUDENTS' ATTITUDE TOWARDS MATHEMATICS IN ONDO STATE SECONDARY SCHOOLS

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Abstract

The purpose of this study was to examine the relationship between students' attitude and their performance in Mathematics Ability test. The difference between the performance of students in rural and urban areas was also investigated. The study adopted the descriptive research of the survey type. A total of 751 Senior Secondary School Two (SSII) students constituted the population of the study, which was drawn from 12 schools using multi-stage sampling technique. Simple random sampling technique was used to select Ondo State out of 36 states in Nigeria. The Local Government Areas were selected from each of the three Senatorial Districts of Ondo State. The selection of schools was made up of four schools .Two rural and Two urban schools were selected from three Local Government Areas of each of the Senatorial District, i.e one rural and one urban school in each of the chosen Local Government Area for selection of students used for the study This gave a total of 12sample schools from each Senatorial District.. Two research instruments tagged '' Students' Attitude Questionnaire'' (SAQ) which was self-designed and'' Mathematics Ability Test'' (MAT) were adopted and used for the study. To ensure validity of the instruments, face and content validity were used, Also, a test-retest method of reliability was used to ensure reliability of the instrument involving frequency counts, percentages, mean, t-test, and pearson product moment correlation. The data collected were analysed using both descriptive and inferential statistics. From the result, it was revealed that there was significant relationship between students' attitude towards Mathematics Ability Test and students academics performance. The result showed that there was a significant difference in the performance of students from rural and urban areas in Mathematics Ability Test which was in favour of students from urban areas. From the result, it was revealed that students' attitude towards Mathematics was significant factor in academic performance of Secondary School Students. The study recommended that students in the rural areas should put more effort on their performance in Mathematics in order to meet up with the students in urban areas.

Keywords*:* Achievement test, attitude, performance, social-economic, students.

Introduction

Mathematics is one of the key subjects both in primary and secondary school levels of education in Nigeria. Mathematics involves finding solution to problems. The fact remain that, nearly everybody in the society must have relatively good knowledge of Mathematics which dictates the level of accuracy of a decision before the solution is sought. Despite the significance and influence, it is a subject that most feared by some students at every level of education.

The negative attitude of some students in the class towards Mathematics is not encouraging. Eshun, (2000) defines attitudes as a mental and neutral state of readiness organized through experiences exerting a directive or dynamic influence upon the individuals' response to all objects and situations with which it is related.

It can be inferred from the above definitions that attitudes are learnt from diverse situations. For instance, one can internalise the attitudes of those among whom he lives and from other public sources and institutions such as the mass media and education. Eshun (2000) explains attitude toward mathematics as an inclination to an aspect of mathematics that an individual acquires through his/her beliefs and experiences but which could be changed.

Attitudes matter most towards students' academics as it determines students' performance. Adesoji (2000) and Alausa (2000) opined that the more the positive attitude, the more the students perform in any subject. The subject must be embraced by restructuring the negative attitude, lack of steadiness and mode of thinking that the subject is too difficult which lead to handling of the subject with levity hand by some students. It is the concern of this study to investigate the influence of students' attitude towards Mathematics in Secondary Schools.

Motivation has been found to affect attitude by causing students to have more positive attitude and confidence in themselves (Ellis, 2010). Two null hypotheses were generated and tested at 0.05 level of significance.

1. There is no significant difference in attitude of students from rural and urban areas towards mathematics ability test.
2. There is no significant difference between students' performance In the rural and urban areas on mathematics ability test.

Research Methodology

The study adopted the descriptive research of the survey type. The population of the study consisted of 14,400 Senior Secondary School Two (SSII) students from the 306 public secondary schools in Ondo- State as at the time of this study, the source is Ondo State Ministry of Education. A total of 751Senior Secondary School Two (SSSII) students were selected from the population made up of twelve schools in the three senatorial district of Ondo State. Two instruments were used to carried out the study. Students' Attitude Questionnaire (SAQ) was self-developed which elicited information on students' attitude and socio-demographic information while Mathematics ability Test (MAT) was adopted from West African Examination Council past Mathematics questions .The Mathematics test (MAT) consisted of 50 objective questions which was administered on students to determine students' performance. The questionnaire (SAQ) was in two parts. Section A consisted of the students' class, sex, and school location, while the second part elicited information on students' attitude towards mathematics ability test .It consisted of 30 items on students' study skills, socio-economic status, classroom environment and attitude of students towards mathematics. The 30 items were modified Likert type scale involving a four alternative response format of Strongly Agree (SA), Agree (A), Disagree(D) and Strongly Disagree (SD).The scoring was 4,3,2, and 1 for positive negative statements and reverse for the negative statements. The hypotheses were tested using both descriptive and inferential statistics involving

frequency counts, percentages, mean, t-test and Pearson Product Moment Correlation. All the postulated hypotheses were tested at 0.05 level of significance.

Results and Discussion.

Hypothesis 1: There is no significant difference in the attitude of students from rural and urban students towards mathematics achievement test.

In testing the hypothesis, mean scores of rural and urban students on attitudes towards Mathematics were computed and subjected to t-test statistical analysis at 0.05 level. The result is presented in Table 1

Table 1: t-test analysis of attitude of students from rural and urban areas in Mathematics Ability Test .

Group	N	Mean	SD	df	t-cal	t-table
Rural	378	77.70	7.79			
Urban	373	80.21	11.47	749	3.517*	1.960

*P<0.05 (Significant Result)

Table 1 showed the t-calculated to be 3.517> table value of 1.960.The null hypothesis was therefore rejected, Hence, there was a significant difference in the attitude of students from rural and urban towards Mathematics Ability Test. This implied that there was significant difference in the attitude of students from rural and urban areas towards Mathematics Ability Test. It then showed that students in the urban areas performed better than students in the rural areas.

Hypothesis 2: There is no significant difference between the performance of students from rural and urban areas in Mathematics Ability Test.

The mean scores of students on Mathematics Test were computed and compared for statistical significance based on school location (Rural and Urban) using t-test at 0.05 level. The result was presented in Table 2.

Table 2: t-test of students' performance from rural and urban areas on Mathematics Achievement Test.

Group	N	Mean	SD	Df	t_{cal}	t_{table}
Rural	378	20.86	11.49			
Urban	373	23.31	12.417	749	2.811	1.960

*P<0.05 (Significant Result)

Table 2 showed the t_{cal} (2.811) was greater than t_{table} (1.960) at 0.05 level of significance. The null hypothesis was rejected. This implied that there was a significant difference between the performance of students in rural and urban areas in Mathematics Ability Test.

Discussion

The result of the study revealed that there was significant difference in the attitude of rural and urban students towards

Mathematics. It was found that students from urban schools had more positive attitude towards Mathematics Ability Test than their rural counterparts.

The study revealed that there was significant difference in the attitude of students from rural and urban areas towards Mathematics Ability Test. Students' unfavourable disposition towards Mathematics may affect their willingness to learn the subject. The findings agreed with submission of Hannula Maijala and Pehkononen (2004) that attitudinal variables influence students' performance and participation in Mathematics. They stressed that learning of Mathematics is influenced by the student's mathematical-related beliefs, especially self-confidence. Also, the finding agrees with Ellis (2010) who found that attitude had effect on students' achievement.

The finding revealed that there was significant difference between the performance of students in rural and urban areas in Mathematics. This indicated that students from urban schools had higher achievement mean score in Mathematics Ability Test than their rural counterparts. Findings of the study showed that the urban students performed more than the students in the rural areas in Mathematics. The finding corroborates the submission of Sarah (2005) that location of schools, teachers' attitude and beliefs, teaching load, lesson planning and class size had direct influence on the performance of students in Mathematics.

Conclusion and Recommendations

The study concluded that students' attitude towards Mathematics was a important factor in academic performance of Secondary School students in Mathematics. The findings of the study showed that students' in urban areas exhibited more favourable attitude towards Mathematics than their rural counterparts .Therefore, there is need to ensure that competent and qualified Mathematics teachers are posted to both rural and urban school so as to bridge the gap.

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Based on findings of this study, the following recommendations were made(i)The Students should be encouraged to develop positive attitude towards Mathematics right from the tender age. (ii) Students in the rural areas should strive hard so as to improve on Mathematics and to meet up with the students in the urban areas.

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