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Editorial Comment

Lagos Education Review (LER) no doubt has been widely accepted over the years by leading education practitioners and professionals as an indispensable source of well-researched and authoritative articles in the field of education, nationally and internationally. Inspite of the numerous challenges encountered during the production of this edition, the editorial team has remained undaunted and committed towards its production.

This edition, Vol. 13, No 1 of January 2013, comprises well–articulated articles in different areas of education. The articles submitted, assessed and published had gone through the sharp and rigorous eyes and pencils of our body of reviewers and consulting editors. Let me use this opportunity to thank our numerous reviewers and consulting editors for painstakingly going through all the articles submitted in order to ensure a high quality of the finished production. We will still continue to count on your support.

We sincerely acknowledge and appreciate the contributions of learned scholars, whose articles appeared in this edition. We welcome constructive criticisms that could assist to improve subsequent editions.

Thank you all and God bless.

Prof. (Mrs) Mopelola Omoegun
Editor-in-chief.

CONTENTS

Contributory Influence of Pre Admission Qualifications and Demographic Factors of Federal Colleges Of Agriculture Students on their Attitude towards Mathematics Courses

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Abstract
Over the years, many researchers have sought to find out the factors that affect students' attitude towards mathematics. To some students, mathematics is a difficult subject which ought not to be made compulsory. Despite the importance of mathematics in the colleges of agriculture, the attitude of the students to mathematics has not changed significantly. The observed attitude is likely explainable by the students' demographic factors and their pre admission qualification. This study, therefore, investigated students' demographic factors (i.e sex of the student, age of the students, father's highest qualification, mother's highest qualification, father's occupation, mother's occupation) and pre admission qualification (senior secondary certificate examination grades and unified tertiary matriculation examination score) as predictors of their attitude towards mathematics. This study is a survey type that adopted correlational approach. Four hundred and four (404) students of the colleges that sat for 2010 UTME and were admitted into Federal College of Forestry Ibadan and Federal College of Animal Health and Production Technology Ibadan were used for this study. Data was collected using Score Sheets for UTME SSCE scores, and Attitude Towards Mathematics Questionnaire (Cronbach Alpha Reliability Coefficient = 0.87). The data collected was analysed using multiple regression. The result showed that the students' demographic factors and the pre admission qualification jointly accounted for 5.5% of attitude towards mathematics. The findings of this study also revealed that among all the independent variables, only UTME scores (β = .170; t = 3.401; p<0.05) and students age(β = -.169; t = -3.462; p < 0.05) were significant factors that influenced attitude towards mathematics. Based on the finding, institutions should insist on students having the required minimum UTME scores because it will help them in admitting students who will have positive attitude towards their courses.

Keywords: Contributory Influence, Pre Admission Qualifications, Demographic Factors and Attitude towards Mathematics Courses.

Introduction

Mathematics is an important discipline which no nation, whether developed or developing can overlook. Mathematics is widely accepted to have originated from the practical problem of counting and recording numbers, such as the quest by ancient farmers to count their harvest and herd, to measure land and to device a calendar that indicates the proper time to plant crops. (Burton 2003 as cited by Ugbechie et al. 2009). Mathematics has been employed in all aspects of engineering, industrial works, agriculture, communication, transportation, space travels and indeed in practically every aspect of modern living.

Hence proficiency in mathematics is of fundamental importance to the study of subjects like physics and chemistry not only at the advanced stages but also in the understanding of the elementary principles of science subjects which are major courses offered in colleges of Agriculture. Many of the expressions used in science subjects are borrowed from Mathematics. Tella (2007) also stated that. Mathematics is needed in nearly every field of education, science based courses, social science and even arts.

In realization of the importance of Mathematics, the national policy on education emphasized the teaching of mathematics at all levels of education. Furthermore, a credit pass in Mathematics is a pre- requisite for the study of most courses in Nigerian tertiary institutions (Joint Admission and Matriculation Board. 2010). Mathematics forms the major and core subject that a student has to offer and pass to gain admission to any tertiary institution. Almost all the institutions of higher learning have one or two Mathematics courses that the entire students offer as general study so as to equip them in their various disciplines. At the Federal College of Forestry and Federal College of Animal Health and Production Technology, mathematics is a compulsory course for all students irrespective of their departments. Hence. mathematics which is a compulsory course for the students of Federal Colleges of Agriculture should be taken seriously. Inspite of the recognition given to mathematics in the study of courses in the colleges, students still show negative attitude towards the subject thereby leading to poor performance in the courses. The understanding of many scientific concepts poses problems to many of the students who are admitted into Federal College of Forestry and Federal College of Animal Health and Production. Majority of the students dislike Mathematics because many of them are not aware of the importance of Mathematics in their chosen field.

Kerlinger (2000) in his definition of attitude stated that attitude is an organized predisposition to think. feel, perceive and behave towards a referent or cognitive object. Attitude can simply be explained as the predisposition or tendency to react specifically towards an object, situation or value. usually accompanied by feelings and emotions.. Hassan (2002) stated that students who hold positive attitude toward mathematics tend to express a favorable perception towards the importance of mathematics. Accordingly. such students are likely to work diligently with the task in which they are genuinely interested. Hence. a student who has keen interest in mathematics is likely to be committed to learning the subject. Some people believe that mathematics is a difficult subject and it is for the few talented ones.Attitude plays an important role in students learning of mathematics. This is supported by (Schereiber 2000, Ma and Kishor 1997) who stated that those who have positive attitude towards mathematics have better performance in the subject. This means that students' attitude towards the subject can be related to educational achievement in ways that engender higher or lower performance.

Over the years, the investigation of the factors that affect students' attitude towards mathematics has attracted the interest of many researchers. Teachers factor is reported as one of the factors that affect attitude towards mathematics (Bolaji 2005, Chesebro, 2000, Anderson 2005). Hannula (2002) also reported that assessment and parent attitude and belief affect students' attitude to mathematics. Tesser (1993) traced attitude formation to hereditary variables. It is important to investigate as many factors as possible which can significantly affect students' attitudes towards mathematics, since there is evidence that there is a relationship between students' attitude towards mathematics and their performance in mathematics. The Senior Secondary School Examination conducted by West African Examination Council (WAEC) and National Examination Council (NECO) are purposely for certification. Therefore, students' grades in each of the five core subjects should naturally indicate the quality of SSCE result obtained. With the introduction of Unified Tertiary Matriculation Examination (UTME) as a basis for

selection, in addition to the required "O" level results, it is now compulsory that, all candidates (includi those who have successfully completed National Board for Technical Education Examination a accredited Pre - National Diploma), must sit for UTME and obtain the JAMB requirement cut-off poin before they can be admitted into the colleges. Following the current introduction of UTME in addition SSCE as basic requirement for gaining admission into the colleges, one wonders if that is the solution f selecting quality candidates who will show positive attitude towards mathematics which will in turn lea to higher level of students achievement in the colleges. Therefore this study sought to find out th contributing effect of students demographic factors(i.e. sex of the student, age of the students, father highest qualification, mother's highest qualification, father's occupation, mother's occupation) and p admission qualification (SSCE grades and UTME scores) on students attitude towards mathematics.

Statement of the Problem

Quite a number of courses offered at Federal College of Forestry and Federal college of Animal Heal and Production Technology require mathematics competence. However, students of the colleges a required to take mathematics seriously. Despite the importance of mathematics in the career of students these colleges, the students' attitude towards mathematics still remains a thing of concern. Furthermor insufficient studies on the student-based influencing factors to students' attitude towards mathematics a still observed. Hence, Investigation of this nature is therefore needed to determine the extent to whic demographic factors and pre admission qualification can be included in explaining variation in student attitude towards mathematics.

Research Questions

1. How do demographic factors (Student's age, Gender, Mother's qualification, Father's highe qualification, Mother's occupation, Father's occupation) and pre-admission qualifications (SSC grades and UTME scores) when taking together contribute to students' attitude towar mathematics?
2. What is the degree of contribution of each factor to attitude towards mathematics?

Methodology

This study is a survey type that used correlational approach. No variable was either manipulated controlled. The target population for this study consists of year one National Diploma (ND1) students Federal College of Forestry Ibadan and Federal College of Animal Health and Production Technolog Ibadan, who gained admission into the colleges through UTME conducted in 2010. Census Approach (a members in the population) was used to select subjects for the study. All ND1 students in the two colleg were four hundred and four 404 in number and they constituted the sample.

The instrument used for this study is the questionnaire on students' attitude towards mathematics. Th questionnaire consist of two sections: Section A seeks personal information from the correspondents; th is the demographic information which includes age, sex, father's qualification, mother's qualificatio father's occupation and mother's occupation. Section B contained thirty (30) items on students' attitud The likert 4 point scale namely Strongly Agree-SA (1), Agree- A (2), Disagree-D (3), Strongly Disagre SD (4) was adopted. All the negatively worded items on the scale were reversed before computi attitude scores for all the students. Cronbach Alpha method was used to establish the reliability coefficie which gave 0.87. Record Sheets were equally used to obtain students' SSCE grades and UTME scores.

The questionnaire was administered with the assistance of lecturers in the two schools used for the stud The students' academic records at O'Level and performance in UTME were obtained from the school

The grades in WAEC and NECO were converted to composite scores. The composite SSCE score as used in this study is the sum of the grade points in the five relevant subjects (Mathematics, English, Physics, Chemistry and Agricultural Science/Biology) to the student's course of study. The points are as follows: A1 = 8points; B2 = 7points; B3 = 6points; C4 = 5points; C5 = 4points; C6 = 3points; D7 = 2points; and E8 = 1point. Data was analyzed using multiple regression.

Results

Research Question One

How do demographic factors (Student's age, Gender, Mother's qualification, Father's highest qualification, Mother's occupation, Father's occupation) and pre-admission qualifications (SSCE grades and UTME scores) when taking together contribute to students' attitude towards mathematics?

Table 1: Regression summary on demographic factors, pre-admission qualification and students' attitude towards mathematics

Model	Sum of Square	DF	Mean Square	F	Sig	Remark
Regression	3585.120	7	448.140	3.883	.000	Sig
Residue	44892.941	389	115.406			
Total	48478.060	397				

$R = .272$

$R^2 = .074$

Adjusted $R^2 = .055$

Table 1shows that the correlation (R) between the independent variables (Student's age, Gender, Mother's qualification, Father's highest qualification, Mother's occupation, Father's occupation, SSCE grades and UTME scores) and student attitude towards Mathematics courses was .272. Estimated adjusted R square was .055. This implies that Independent variables when taking together accounted for 5.5percent of the students' attitude towards mathematics courses. This implies that 94.5% of the variations cannot be accounted for using these variables. This means that there are other variables that are also responsible for students' attitude towards mathematics in federal colleges of Agriculture. Further verification using Regression ANOVA reveals that $F_{(7,389)} = 3.88$; $p<0.05$. This implies that significant relationship exist between independent variables and students' attitude towards mathematics courses.

Research Question Two

What is the degree of contribution of each variable to attitude towards mathematics?

table 2: Coefficients indicating the relative contribution of predictors to attitude

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	75.614	7.858		9.622	.0
	age	-4.645	1.342	-.169	-3.462	.0
	sex	.139	.376	.018	.370	.7
	father's highest educational qualification	-.205	.473	-.026	-.434	.6
	mother's highest educational qualification	-.419	.481	-.053	-.871	.3
	father's occupation	-.851	.708	-.061	-1.203	.2
	mother's occupation	-1.185	.688	-.089	-1.723	.0
	SSCE SCORES	-.029	.160	-.009	-.182	.8
	UTME SCORES	.113	.033	.170	3.401	.0

a. Dependent variable: attatitude to mathematics

Table 2 shows that, out of the eight variables considered, only two variables (students' age and UTM scores) contributed significantly to students' attitude towards mathematics at .05 significant level However, the regression equation that can be used for predicting purpose is

$Y = -4.645x_1 + .139x_2 + -.205x_3 + -.419x_4 + -.851x_5 + -1.185x_6 + -029x_7 + .113x_8$. Where Y = attitud towards mathematics, x_1 = students' age x_1 = students sex, x_3= father's highest qualification, x_4= mother' qualification, x_5= father's occupation x_6= mother's occupation, x_7SSCE grades, x_8= UTME scores.

Discussions

The findings revealed that students' age and Unified Tertiary Matriculation Examination (UTME) scor predicted students' attitude towards mathematics significantly. It could be that, their past experience ha influence on their current attitude to mathematics. Gibbons, Kimmel and O'shea (1997) had howeve reported that students' attitudes about the value of learning science may be considered as both an inpu and outcome variable because their attitudes towards the subject can be related to educationa achievement in ways that reinforce higher performance. Gibbons *et al* (1997) further explained tha students who do well in a subject generally have more positive attitude towards that subject. The resul also corroborates the finding of Schreiber (2000) who stated that students who performed better on mathematics test tends to have a positive attitude towards mathematics. This is because having negativ feeling towards the subject due to the poor performance in the subject previously, may result to havin negative attitude towards that same subject. However, higher scores obtained by the students in publi examination like UTME precipitates high confidence in the students' capabilities built from pas performance which invariably creates a positive attitude towards learning in general.

he result also revealed that students' age significantly predicted attitude towards mathematics. This ould be as a result of the fact that the older students in the colleges have other thing they occupy iemselves with and might not have time for courses like mathematics which requires continuous ractice. This result contradicts the study of Woodrow (1991) in a comparison of four computer attitude cale where he reported that age was not a significant contributor towards the computer attitudes of tudents.

Conclusion

he result from the analysis showed that students' UTME scores and their age could predict their attitude owards mathematics. However students SSCE grades could not predict their attitude towards iathematics.

ecommendation

ased on the findings of this study, it is recommended that Institutions should insist on students having xpected minimum UTME scores since those with higher UTME scores showed positive attitude towards iathematics. In addition, every institution should carry out effective counseling and screening exercises efore admitting students to appreciate the importance of mathematics in their chosen field of study. This ill in turn go a long way in creating positive attitude towards mathematics and by implication facilitate reater performance in courses they offer in the school.

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