

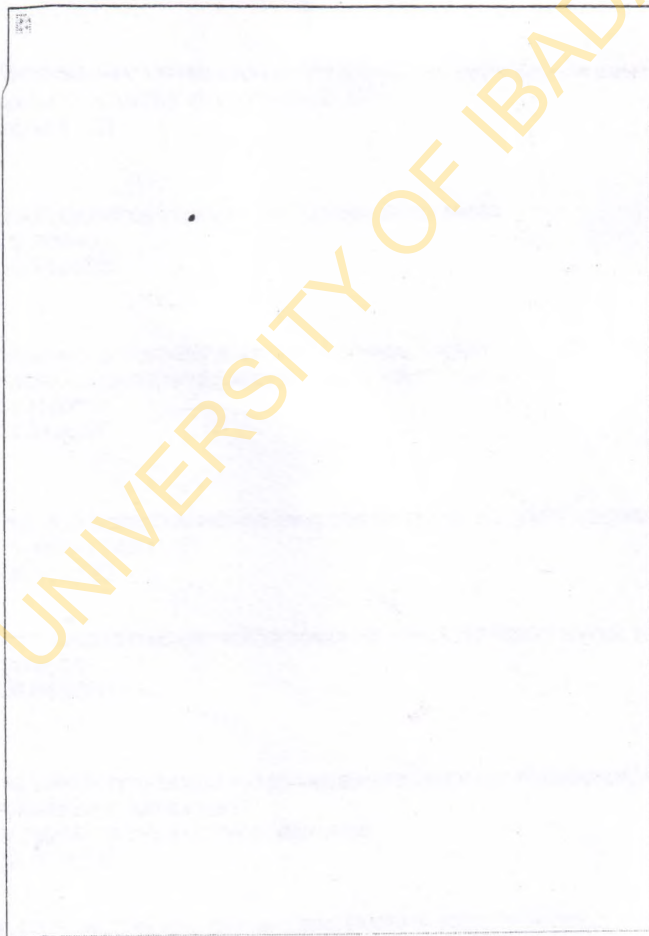


# EUROPEAN JOURNAL OF EDUCATIONAL STUDIES

A PEER REVIEWED ONLINE JOURNAL

[Latest Issue](#) [Previous Issues](#) [Aims and Scope](#) [Editorial Board](#) [Instructions for Authors](#) [Online Submission](#) [Contact](#)  
[Indexs](#)

European Journal of Educational Studies is a journal published online three times (February, June, and October) a year by OZELA (Ozel Akademi). Articles related to all branches of education, meta-analytical studies, theoretical models, prepositions, factual presentations, discussions, empirical researches etc. are published in the journal. The main object of the journal is to become a forum for the educators to share their opinions. In this way, it is aimed to contribute to the literature of international educational sciences. The responsibility of the statements or opinions expressed in the articles is upon their authors. Quotation is allowed in condition that the Journal is indicated and acknowledged as the source. Copyright of all the articles published herein reserved by OZELA.



[Download Current Issue](#)  
[Volume 3 Issue 2 \(June 2011\)](#)

[Download Articles](#)



# EUROPEAN JOURNAL OF EDUCATIONAL STUDIES

A PEER REVIEWED ONLINE JOURNAL

[Latest Issue](#) [Previous Issues](#) [Aims and Scope](#) [Editorial Board](#) [Instructions for Authors](#) [Online Submission](#) [Contact](#)  
[Indexs](#)

European Journal of Educational Studies is a journal published online three times (February, June, and October) a year by OZELA (Ozel Akademi). Articles related to all branches of education, meta-analytical studies, theoretical models, prepositions, factual presentations, discussions, empirical researches etc. are published in the journal. The main object of the journal is to become a forum for the educators to share their opinions. In this way, it is aimed to contribute to the literature of international educational sciences. The responsibility of the statements or opinions expressed in the articles is upon their authors. Quotation is allowed in condition that the Journal is indicated and acknowledged as the source. Copyright of all the articles published herein reserved by OZELA.



[Download Current Issue](#)  
[Volume 3 Issue 2 \(June 2011\)](#)

[Download Articles](#)

Volume 3 Issue 2 (June 2011)

UNDERSTANDING HOW SCHOOLS WORK. THE USE OF COMPARISON IN EVALUATING THE EFFECTIVENESS OF EDUCATION  
SYSTEMS

FEDERICA CORNALI

[Full Text in PDF](#)

HUMAN RESOURCE SPECIFICATIONS IN SELECTED FITNESS CENTRES IN EDO AND DELTA STATES OF NIGERIA  
SOLOMON OGBOUMA and ELIAS O. AGWUBIKE

[\[Full Text in PDF\]](#)

**MOTIVATION AND GENDER AS DETERMINANTS OF ACHIEVEMENT IN SENIOR SECONDARY SCHOOL ECONOMICS**

ADAMS O. U. ONUKA and ESTHER O. DUROWOJU

[\[Full Text in PDF\]](#)

**PEER CORRECTION AMONG IRANIAN ENGLISH LANGUAGE LEARNERS**

REZA PISHGHADAM and PARIANOROUZ KERMANSHAHI

[\[Full Text in PDF\]](#)

**KNOWLEDGE OF ENGLISH LANGUAGE AS A PREDICTOR OF STUDENTS' COGNITIVE ACHIEVEMENT IN SENIOR SECONDARY SCHOOL MATHEMATICS**

BENSON A. ADEGOKE, B.A. and FELIX O. IBODE

[\[Full Text in PDF\]](#)



**CONTENT ASSESSMENT OF PROGRAMMES IN FITNESS CENTRES IN THE NIGER DELTA REGION OF NIGERIA: IMPLICATIONS FOR SPORT DEVELOPMENT DRIVE IN NIGERIA**

SAMUEL OVENSERI AIBUEKU and SOLOMON OGBOUMA

[\[Full Text in PDF\]](#)

**PARENTAL INVOLVEMENT AND GRADE FOUR STUDENTS' ARABIC READING ACHIEVEMENT**

SADIQ MIDRAJ and JESSICA MIDRAJ

[\[Full Text in PDF\]](#)

**ASSESSING HANDICAPPED ADOLESCENTS CARE-GIVERS' KNOWLEDGE ON REPRODUCTIVE HEALTH**

IGBUDU, Ujir; OKORO, F.I. and PEREMENE, E.B.

[\[Full Text in PDF\]](#)

**HIGHER EDUCATION IN NIGERIA AND THE CHALLENGES AHEAD**

P. O. IDOGHO

[\[Full Text in PDF\]](#)

**THE IMPACT OF TEACHERS' IN-DEPTH PEDAGOGICAL MATHEMATICAL CONTENT KNOWLEDGE ON ACADEMIC PERFORMANCE : AS PERCEIVED BY BOTSWANA JUNIOR SECONDARY SCHOOL PUPILS.**

O.O ADELOYIN

[\[Full Text in PDF\]](#)

**EFFECTS OF DISCUSSION METHOD ON SECONDARY SCHOOL STUDENTS' ACHIEVEMENT AND RETENTION IN SOCIAL STUDIES**

B.O. ABDU-RAHEEM

[\[Full Text in PDF\]](#)

**SOCIAL STUDIES TEACHERS' PERCEPTION OF THE JUNIOR SECONDARY SCHOOL SOCIAL STUDIES CURRICULUM IN EDO STATE**

OKOBIA E.O

[\[Full Text in PDF\]](#)

**THE UNIVERSITY OF ZAMBIA PRE-SERVICE TEACHER EDUCATION PROGRAMME: IS IT RESPONSIVE TO SCHOOLS AND COMMUNITIES' ASPIRATIONS?**

GIFT MASATI and PETER CHOMBA MANCHISHI

[\[Full Text in PDF\]](#)

**PERCEPTION OF FACTORS THAT INFLUENCE STUDENTS' VOCATIONAL CHOICE OF SECRETARIAL STUDIES IN TERTIARY INSTITUTIONS IN EDO STATE OF NIGERIA.**

VICTOR I. IGBINEDION

[\[Full Text in PDF\]](#)

**ANALYSIS OF GENDER ENROLMENT PATTERN INTO SECRETARIAL STUDIES PROGRAMMES IN TERTIARY INSTITUTIONS IN EDO STATE OF NIGERIA**

VICTOR I. IGBINEDION

[\[Full Text in PDF\]](#)

**THE RELATIONSHIP BETWEEN SECONDARY SCHOOL STUDENTS' DYSFUNCTIONAL ATTITUDES AND THEIR HUMAN VALUES**

BÜLENT ÜGLİNİAÇ, ERDAL HAMARTA, RUHI YÜĞÜT, MÜNEVVER YILDIZ, İSHAK BÜYÜKYILDIRIM

[\[Full Text in PDF\]](#)

**REFLECTIONS ON POLITICS AND POLICIES OF EDUCATION FOR VISION 20:2020**

JESSICA EZEKIEL-HART

[\[Full Text in PDF\]](#)

**ONE AND A HALF CENTURIES OF THE ASPIRATION TOWARDS, AND THE DEVELOPMENT OF, PRIVATE UNIVERSITIES IN NIGERIA, 1868 – 2010: A HISTORICAL ACCOUNT**

NDUKA OKAFOR

[\[Full Text in PDF\]](#)

**MANAGING STUDENTS' MENTORING SERVICES IN NIGERIAN UNIVERSITIES**

CHIKA JOSEPHINE IFEDILI and NKECHI MARCHIE

[\[Full Text in PDF\]](#)

**A STUDY ON THE MAPS SKILLS OF PRIMARY SCHOOL**

**STUDENTS: A CASE OF 7TH AND 8TH GRADES**

YUSUF KILINÇ

[\[Full Text in PDF\]](#)

**METACOGNITIVE AWARENESS OF READING STRATEGIES OF TURKISH LEARNERS WHO LEARN ENGLISH AS A FOREIGN LANGUAGE**

TURAN TEMUR AND OZGE BAHAR

[\[Full Text in PDF\]](#)

UNIVERSITY OF IBADAN LIBRARY

## KNOWLEDGE OF ENGLISH LANGUAGE AS A PREDICTOR OF STUDENTS' COGNITIVE ACHIEVEMENT IN SENIOR SECONDARY SCHOOL MATHEMATICS

Benson A. Adegoke, B.A. and Felix O. Ibode

Institute of Education, University of Ibadan, Ibadan.

E-mail address for correspondence: [doctoradegoke@yahoo.com](mailto:doctoradegoke@yahoo.com)

---

**Abstract :** *In this paper, the authors, using ex-post-facto procedure, attempted to show the effect of knowledge of English language on students' cognitive achievement in senior secondary school mathematics. In all 504 SS II students, comprising 252 males and 252 females were sampled, using cluster sampling technique. Using simple regression analysis, the findings showed that knowledge of English language appears to be a predictor of students cognitive achievement in mathematics even irrespective of gender. The implications of the study as well as suggestions for improving the teaching and learning of mathematics at the senior secondary school level were highlighted.*

**Keywords:** *Knowledge, English Language, Students' Cognitive Achievement, School Mathematics, Ibadan, Nigeria.*

---

### INTRODUCTION

Learner's proficiency in English Language is speculated to affect his or her performance in other school subjects like Mathematics. And undoubtedly, language is the major vehicle of transmitting ideas from one person to another. Accordingly, Obemeata (1973), Akinwumiju and Fabunmi (2001), pointed out that unless a student acquires sufficient ability in the second language (that is English Language in Anglophone countries such as Nigeria ) such a student is likely to be retarded in reasoning as well as in attainment tested in English Language. Ayodele and Itsuokor (1988) also asserted that low proficiency in, and inability to think, read and write rapidly in English Language could contribute to learners' poor performance in school subjects such as mathematics, economics, government, physics and chemistry among others. It is possible that if either the teacher or the learner or both have problem with language competency, there may be communication breakdown which could adversely affect learners' cognitive achievement.

The importance of Mathematics cannot be overemphasized. It is fundamental to the understanding of the sciences, complexities of modern technology and in fact several scientific developments useful to mankind have their roots in it (Adegoke, 2003). The aim of making mathematics compulsory in the secondary school is not necessarily to make all students become mathematicians but at least to make the students appreciate the extent to which mathematics is fundamental to everyday life activities. According to Frempong & Ayia (2005), the reason why Mathematics is fundamental is that it seems to apply to every day life activities of human beings such as commerce, aviation, medicine and communication among others. Since Mathematics is a key factor in the world of science; and since science and technology is the bedrock of development, then more attention need to be paid to factors hampering students' achievement in this subject. Several studies have made attempts to unveil the possible factors militating against students' performance in mathematics, yet poor performance in the subject appears to defy various solutions offered by studies on motivation, reasoning ability, problem-solving skills and instructional strategy (see Udousoro, 1992; Akinsola, 1994; Fischer, 1995; Wilkings & Ma 2002; Frempong & Ayia 2005). It therefore becomes imperative to continue to find out how best to improve the teaching of the subject. This study sought to investigate the predictive validity of knowledge of English Language in students' cognitive achievement in Secondary School mathematics.

Specifically, the study provided answers to the question: Is there any significant effect of knowledge of English language on students' cognitive achievement in Senior Secondary School Mathematics?

The result of the study is expected to guide instructional experts in the teaching of English Language and Mathematics. Furthermore, since mathematics is the bedrock of scientific and technological development, all hands must be on deck towards finding a solution to the problem of students' poor performance in this subject.

More importantly, this study has a strong basis for further study in the area of predictive validity of knowledge of English Language and its effect on mathematics.

## METHODOLOGY

### Sample

The sample was made up of 504 senior secondary school students (285 males and 219 females; mean age=16.4 years). They were selected from six randomly selected senior secondary schools in Ibadan Educational Zone 1, Oyo State, Nigeria. In each sampled school intact classes were used, thus the sample resulted from cluster sampling technique.

### Instruments

Two research instruments were used for the study.

#### 1. Mathematics Achievement Test (MAT)

This is a 4-option multiple choice test of 50 items. The test items were picked from the past question papers of West African Examination council (WAEC) between 1999-2004. Test items

cover topics that have already been covered by the participating schools. This was assured by going through the scheme of work on SSII mathematics of the participating schools. The reliability co-efficient of 0.61 was obtained, using KR 20 formula. The average difficulty and discriminating indices of the items were 0.53 and 0.58 respectively. MAT was scored dichotomously and the maximum score obtainable was 50

## 2 English Language Achievement Test (ELAT)

This is a 4-option multiple choice test of 50 items. The test items were drawn from past question papers of West African Examination Council (WAEC) between 1999-2004. The reliability coefficient of 0.81 was obtained, using KR20 formula. The average difficult and discriminating indices of the items were 0.51 and 0.56 respectively. ELAT was scored dichotomously and the maximum score obtainable was 50.

### Procedure

The instruments were administered directly to the students by the investigators and the class teachers of each of the participating schools. Administration of the tests on the students lasted about 60minutes in each class .

### Statistical analysis

The data were subjected to descriptive statistics (mean and standard deviation).See table 1 for the results of descriptive statistics. Then a simple regression analysis was carried out using SPSS. (See the results in tables 2 and 3)

## RESULTS

Table 1 shows the result of .the descriptive statistics.

Table 1: Descriptive statistics

	N	Mean	St. Deviation
Mathematics Achievement Test	504	25.71	4.15
English language Achievement Test		25.46	4.53

Tables 2 show the results of the simple regression analysis

Table 2: Anova

Model	Sum of square	df	Mean square	F	Sig.
Regression	6721.423	1	6721.423	459.49	0.000
Residual	7340.144	502	14.628		
Total	1401.567	501			

Multiple R<sup>2</sup> (adjusted) = 0.476  
 Multiple R<sup>2</sup> = 0.478  
 Multiple R = 0.691

From Table 2, it can be inferred that there is a positive and direct relationship between knowledge of English Language and students' cognitive achievement in Mathematics. Regression results indicates that the model significantly predict students cognitive achievement in mathematics,  $R^2 = 0.478$ ,  $R^2 \text{ adj.} = 0.476$ ,  $F(1,503) = ,457.834$   $p < 0.001$ . This model accounts for 47.8 % of variance in students cognitive achievement in mathematics.

Table 3: Regression coefficient

Model	Unstandardised Coefficient		Standardized coefficients		Sig.
	B	Std. Error	Beta	t	
Constant	18.068	2.310		8.099	0.000
Eng. Score	0.655	0.043	0.691	15.130	0.000

A summary of regression co efficient is presented in Table3 and it indicates that students' cognitive achievement in English Language is a good predictor of students performance in mathematics.

## DISCUSSION AND CONCLUSION

It could be inferred from the results of this study that students' ability in English Language is an essential ingredients to improved performance in Mathematics. This findings is in agreement with that of earlier studies which reported that students whose first language is not English language ,or is a non standard English dialect may have difficulty understanding learning materials that are presented in English language( e.g Ayodele & Itsuokor,1988 Rumberger,1995; Akinwumiju & Fabunmi,2001 ).

From the results of this study one can then concludes that if a student is adequate in English language (reads with understanding) then it is highly probable that he or she will perform well in Mathematics. It then behooves on instructional experts to fashion out the modus operandi that will ensure that Mathematics students are well grinded in the comprehension of English Language. In



Rumberger, R. W( 1995) Dropping out of middle school: A multi level analysis of students and schools. American Educational Research Journal, 32 (3) 583.

Wilkins, K {2002} Predicting students' growth in mathematics content knowledge. The Journal of Educational Research ,95,288-298.

UNIVERSITY OF IBADAN LIBRARY

other words, since English Language ability has shown been to be a factor in students performance in Mathematics, adequate steps need to be taken by teachers and educational authorities to ensure that students are properly drilled and equipped in English Language as they study Mathematics. If this is done, the end result is likely to be improved students' performance in mathematics.

## REFERENCES

- Adegoke A.B. (2003): Teacher influence as a determinant of dependent-prone students' learning outcomes in Senior Secondary School geometry in Ibadan South East, Nigeria. An unpublished PhD thesis University of Ibadan, Ibadan.
- Akinsola, M.K. (1994): Cooperative effects of mastery learning and enhanced mastery strategy of students' achievement and self concept in Mathematics. An unpublished PhD Thesis, University of Ibadan, Ibadan.
- Akinwunmiju, J.A. & Fabunmi, M. (2001): The four common places in Mathematics education: A Case study of some secondary schools in Oyo State, Nigeria. In Topical Issues in Education (eds. Awosika, Y. Babalola, J.F., Fabunmi, M. Osiki, J.O., Emunema, B.O.) papers in honour of Professor C.O. Udoh. pp. 291-303.
- Ayodele, S.O. & Itsuokor, D.E. (1988): Effect of Language on the performance of Nigerian subjects from different socio-economic background in intelligence tests. Journal of the curriculum organization of Nigeria VI (i) pp. 89-97.
- Fischer, J.F.B {1995} Cognition in pure and applied mathematics ; A study in of the relationship between success in A basic college mathematics course and computational versus logical reasoning ability. Dissertation Abstract International 56 [109] P.3786-A
- Frempong, G & Ayia, J.K. (2005) Equity and quality Mathematics within schools. Findings from TIMES data for Ghana. Paper presented at 31<sup>st</sup> Annual conference of International Association for Education Assessment.
- Obemeata, J.O. (1973) Some problems of intelligence testing in Nigeria. An unpublished M.A. dissertation, University of London, London.
- Udousoro, U.J { 1992} The relative effects of computer and text assisted programmed instruction on students' learning outcomes in mathematics. An Unpublished PhD thesis University of Ubadan.