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Proficiency in English language as a factor contributing to competency in Mathematics of primary school pupils

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Abstract

This research employed a descriptive survey method. It investigated the correlation between students' academic performance in English and Mathematics of primary school pupils. Eighty one pupils were randomly sampled from the graduating class of 2013/2014 academic session in some selected schools in Edu Local Government Area of Kwara State, Nigeria. One research hypothesis and two research questions were tested and formulated upon this study. Pro-forma was used to collect data. Pearson Product Moment Correlation Co-efficient and Descriptive Statistic were statistical tools found suitable for this study. The findings revealed proficiency in English as a contributing factor to good academic performance in Mathematics. On gender analysis, female students outclassed their males in both English and Mathematics. Recommendations were put to the fore based on the findings of this research.

1. Introduction

The role of English in the Nigeria education system could not be over-emphasized. This is because apart from being the national and official language, when the educational system in the country took off, English was, and still, the official mean of communication (Medubi 1999; Saleeman 2000). Olanipekun (2013) also affirmed that English language has afforded the country a great deal of having contact with the international world.

Adegbija (1994) submitted that English is the language of education in almost all subjects of the curriculum, except in a few cases in the teaching of indigenous language. Jegede (1990) averred that the life blood of the country's educational system is English. To him, students' ability to undertake higher education on any discipline depends on their achievement in English.

The implication from the above assertion is that good and outstanding students' performance in English can invariably results in better academic performance in other subjects. Iliyas (2004) students' lack of competence in English language will affect the whole system of education and in effect, the political and economic prospect of Nigeria.

Salman (2002) in a bit to draw attention to the essence of Mathematics in the school system earmarked that there is no way science can be discussed in isolation of

mathematics. To be good in science requires adequate grasp of definitions and technical meaning of Mathematical words, terms, and symbols. In order words, the students of science needs to understand the language of Mathematics for better understanding of the science courses and improved performance. Thus, Mathematics' language and science as a whole in this part of the world is also taught with English language and students' success in school depends upon their being proficient in the language of instruction (Wilkinson, *et al.* 2008).

Osafehinti (1990) examined the relationship between proficiency in English language skills of composition, reading comprehension, grammar and achievement in elementary Mathematics in Nigeria. Results showed that at the primary five, significant relationship was found between pupils' reading comprehension scores and Mathematics' scores. Higher and significant coefficients of correlations were found between language, comprehension, grammar, and total English and Mathematics scores at primary six.

In the same vein, Adegboye (1993), vehemently, revealed that lack of proficiency in English language is one of the factors contributing to poor performance in Mathematics. In his research, he observed that the performance of students in Mathematics examination at SSCE is poor but further stated that the performance in English is more than that of Mathematics and this he linked to poor reading ability. To him, there is need to improve the teaching of English language to improve Mathematics education.

On the basis of gender, Al-Mously, Salem, and Al-Hamdan (2013) while investigating gender-based students' academic performance among the medical students safely stated that, the female medical students in Arab significantly outscored their male counterparts in most of the Basic medical science courses and most especially in English courses. Kaur and Gill (1993) revealed that when total performance was independent of sex, the boys scored higher than girls in Punjabi, Mathematics and Science. This therefore posits that gender difference in students' academic performance cannot be ignored since sex variation is now a factor to degrees of performance in subjects.

Nevertheless, Jadie, Sonya, Laura, Natasha (2012) averred that low proficiency has been considered a barrier to learning and academic success at the post-secondary level and this is because English learners often lack the language proficiency necessary to understand the test content and academic work. And, this is the more reason why this research work has been designed to further investigate the tempo of language proficiency over students' academic performance in Mathematics.

2. Procedures

This research work employed descriptive survey method where students' scores in English language and

Mathematics of primary school pupils in Edu Local Government Area of Kwara State, Nigeria, were collected through pro-forma, during the 2013/2014 academic session. Random sampling was adopted. The sample population comprises of eighty one pupils. In English language, forty-two were females while thirty-nine were males. For Mathematics, thirty-nine females were sampled while forty-two were males.

Two major statistical tools found suitable for this research work were Pearson Product-Moment Correlation Co-efficient and Descriptive Statistic. These were used in order to find out information and to gather understanding of the present situation. The research work only focused on students' competency in English as a contributing factor to academic performance in Mathematics.

3. Research Hypothesis

H₀₁. There is no significant correlation between students' academic performance in English Language and Mathematics.

4. Research Questions

1. Is there any significant difference in the academic performance of students in English Language based on gender?
2. Is there any significant difference in the academic performance of students in Mathematics base on gender?

5. Empirical Findings

Table 1. Correlation between students' academic performance in English and Math

	English	Math
English	1	.636
N	81	81
Math	.636	1
N	81	81

Correlation is significant at the 0.05 level

Table 2. Mean scores of students in English language based on gender

Variables & Groups	Mean	Std. dev.	N
Females	67.4524	23.11710	42
Males	60.0769	23.52310	39

Table 3. Mean scores of students in Mathematics based on gender

Variables & Groups	Mean	Std. dev.	N
Females	51.3333	22.6406	39
Males	50.2632	23.4310	42

One possible inference that could be drawn from Table 1 is that, correlation coefficient is 0.636, significant at 0.05. Critical value at df = 80 was 0.185, the calculated r was greater than table r ($r_{cal} > r_{tab}$) therefore the null hypothesis for research hypothesis one is hereby rejected. The

implication is that there is strong correlation between students' academic performance in English and Mathematics. On the basis of gender, female students outperformed their male counter-parts in both English language and in Mathematics as seen in Table 2 and 3.

6. Discussion of Findings

Kalejaiye (1982) had earlier pointed out that the practice of using English language for instruction in Nigeria has implication for students' understanding of the language of word problem solving in Mathematics. This therefore posits that to solve word expression in Mathematics, the students need to master the language (English language) if they are to read, understand, and discuss Mathematics ideas.

The outcome of this research firmly agreed with the above notions since there was correlation between students' academic performance in English language and in Mathematics. This then means that good feats in English could go a long way in influencing academic performance in Mathematics. This research thus agreed with the findings of Olanipekun *et al.* (2014) where a strong correlation between General English and Students' academic performance in vocational education has also been revealed.

Thus, gender analysis of this research revealed the females to have outclassed their male counter-parts in both Mathematics and English language. Also, Karthigeyan and Nirmala (2012) in their study of academic performance of students in English language from gender lens in India made it known that the performance of the girls is higher than the boys. However, the findings of Olanipekun *et al.* (2013) contradicted this finding in English language since males outperformed their females in English.

Among several other research works that agreed with the finding of this research work on Mathematics based on gender, was the finding of Kurumah (2004) when it was indicated that females achieve better than the males in science subjects. However, Yun (2001) who also investigated gender differences in verbal (English language) and sciences (mathematical skills) among Chinese adolescents uncovered that males scored higher than the females in Mathematical skills.

Finally, Students' competency in English language has been discovered to be a contributing factor to academic Performance in Mathematics of primary school pupils and this was why Iroegbu (2006) has placed much emphasis on the passing of English language at credit or distinction level in addition to other subjects to enable any candidates gain admission into any Nigeria Higher Institution of learning. Hence, English language has now become the parameter upon which students' ability and intelligence can be judged.

7. Conclusions and Recommendation

It was concluded that language proficiency in English language was one of the contributing factor to good academic performance in Mathematics since there was a

strong correlation between students' academic performance in English language and in Mathematics of primary school pupils. On gender analysis, female students outclass their males in both English and Mathematics.

In view of the above findings therefore, the following recommendation was offered;

No single topic should be taught in English language without teaching aids. This is because teaching the subject with relevant teaching aids will enhance academic performance not only in English but in other subjects of the curriculum.

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