

**English Language and Mathematics Senior Secondary School Two Unified Examination Results as Predictors of Senior School Certificate Physics Examination in Ondo State, Nigeria**

**Phillips Akinrotimi Akinnodei, (Ph.D)**

Department of Educational Psychology and Counselling  
Adeyemi Federal University of Education, Ondo, Ondo State, Nigeria

**Abayomi Joseph Adewumi(Ph.D)**

Department of Curriculum and Instructions  
Adeyemi Federal University of Education, Ondo, Ondo State, Nigeria.

**Hope Jobi (Mrs)**

Department of Curriculum and Instructions  
Adeyemi Federal University of Education, Ondo Ondo State, Nigeria.

---

doi: <https://doi.org/10.37745/ijirm.14/vol11n216>

Published August 10,2024

---

**Citation:** Akinnodei P.A., Adewumi A.J. and Jobi H. (2024) English Language and Mathematics Senior Secondary School Two Unified Examination Results as Predictors of Senior School Certificate Physics Examination in Ondo State, Nigeria, *International Journal of Interdisciplinary Research Methods*, Vol.11, No.2, pp.1-6

---

**ABSTRACT:** *This study investigated whether the performance of students in SSCE physics could be predicted from their grades in English and Mathematics at the senior secondary school two unified examination. (SSS 2E). Two research null hypotheses were generated to guide the study. The study employed descriptive research of ex-post-facto design. Five Secondary Schools were purposively selected from Akure South Local Government Area of Ondo State, Nigeria. A total of 175 2021/2022 SSS3 Physics students that sat for English Language and Mathematics SS2 unified examination in 2020/2021 academic session were involved in the selected public secondary schools. Data collected were analysed using Pearson product moment correlation. The two null hypotheses were tested at 0.05 level of significance. Results analysis indicated that performance of students in Mathematics could be used to predict results of SSCE physics; it was however found that result in English Language alone had low predictive value for performance in physics. Based on the findings of the study, it was therefore recommended among others that credit pass in English Language should not be made mandatory for student seeking admission for science.*

**KEYWORDS:** performance, unified examination, predictive, ex-post facto, correlation

---

## INTRODUCTION

Publication of the European Centre for Research Training and Development -UK  
Examinations in Nigeria school dated back to the advent of formal education. The 1987 Education ordinance made provision for public examinations in schools. The National Policy on Education stipulated that all senior secondary schools should gear their programmes to meet the requirements of senior school certificate examinations. Examinations occupy a unique position as a measure of quality within the educational system. They are either internal or public. Internal examinations are the examinations that are set by teachers within the system like mock examinations; public examinations on the other hand, are the examinations that are conducted by recognized examining bodies. As such, the examinations such as the junior secondary school certificate examinations, senior secondary school two (SSS 2) unified examinations conducted by the state ministry of education and senior secondary school certificate examinations are regarded as external examinations. The senior secondary school two (SSS 2) unified examinations are prerequisite examinations for the Senior School Certificate Examinations.

However, despite the unique position of examination in the educational system, there have been conflicting reports on the predictive validity of senior secondary school two unified examination for students' performance in SSCE. Researchers in English Language (e.g. Adewale, 1973; Ayodele & Iwalola , 2017 and Gabriel, 2020) have shown that the performances of students in the English Language are fast deteriorating, in a corresponding manner to their level of achievement in formal education, some researchers (Asaoye, 2003, Adesoji, 1999, Salewa, 2000 & Omoniyi, 2022) have also asserted that abilities in English Language do influence knowledge of students in other subjects in curriculum.

Physical science like Physics cannot do without Mathematics. Many of the expression used in these subjects are borrowed from Mathematics. According to Ale (1981) and James (2012), a lot of evidence shows a strong association between Mathematics and development of science and technology. Adesoji (1999) is of the opinion that the bedrock of the Physical sciences such as Chemistry and Physics is Mathematics.

It could be observed from the above reports that English Language and Mathematics do influence knowledge of students in other subjects in the curriculum. The focus of this paper is to find out whether ability of students in Physics could be predicted from their knowledge of English Language and Mathematics. The WAEC version of the SSCE was used in this study. The study was designed to investigate the effectiveness of the performance of students in English Language and Mathematics senior secondary school two (SSS 2) unified examination results in predicting the performance of the same students in the senior school certificate examination (SSCE) in Physics. The study was specifically designed to determine.

- i. The relationship between students' performance in English Language SSS 2 unified examination and SSCE Physics.
- ii. The relationship between students' performance in Mathematics SSS 2 unified examination and SSCE Physics.

### **Research Hypotheses**

The following null-hypotheses were generated

**Ho1.** There is no significant relationship between students' performance in English language SSS 2 unified examination and SSCE Physics

**Ho2.** There is no significant relationship between students' performance in Mathematics SSS2 unified examination and SSCE physics.

### **METHODOLOGY**

The research design employed in the study was *expost-facto* design, as the researcher did not have direct control on the independent variables, since their manifestation had already occurred. The study population comprised of all 2021/2022 SSS3 students that sat for both English language and Mathematics SSS2 unified examination and SSCE physics in Akure South Local Government Area of Ondo State, Nigeria.

The sample for this study was 175 Physics students from public secondary schools that sat for 2020/2021 SSS2 unified examination in English Language and Mathematics and also sat for 2021/2022 SSCE Physics. Five schools were involved in the study. Five secondary schools were selected using purposive sampling technique. These schools were the top five oldest public school, with laboratory and library that have been presenting students that sat for WASSCE for over 20 years. All 2021/2022 SSS3 physics students that sat for English Language and Mathematics SSS2 unified examination in 2020/2021 academic session and also sat for 2021/2022 SSCE physics were involved in the selected five public secondary schools.

An inventory titled "students SSS2 unified examination and SSCE academic performance proforma" was used to collect relevant data for the study. The Proforma consisted of items that captured information about the students. The items included students' scores in English Language and Mathematics for 2020/2021 SSS2 unified Examinations as well as students' score in Physics in the 2021/2022 SSCE. The score for SSS2 unified examination in English Language and Mathematics as well as scores for SSCE in physics were collected in grades. The pattern of grading students in SSS2 unified examination and SSCE are such that the distinction grade is represented by B3 to A1 (65-100). The credit grade is represented by C6-C4 (50-64). The ordinary pass grade is represented by E8-D7 (40-49) and the failure grade is represented by F9 (0-39) (Fakeye, 2005) for the purpose of scoring, therefore, SSS2 unified examination and SSCE grade of (B3-A1), (C4-C6, (D7-E8) and F9 were awarded 3,2,1 and 0 respectively.

The collection of data for the study was made by the researcher who went around the selected schools to collect the final senior school certificate in physics in the 2021/2022 academic session and their SSS2 unified examination results in English Language and Mathematics. Data collected were analyzed using Pearson Product Moment Correlation analysis.

## RESULTS

**Hypothesis 1:** There is no significant relationship between students' performance in English Language SSS2 unified examination and SSCE physics. In testing this hypothesis, data on the grades obtained by students in English Language in 2020/2021 SSS2 unified examination and 2021/2022 SSCE Physics in Akure South local government area were collected from the principals of the sampled schools. The hypothesis was tested using Pearson Product Moment Correlation analysis. The findings are shown in Table

**Table 1: Performance in English Language SS2 Unified Examination and SSCE Physics**

Variable	N	Mean	SD	df	r <sub>cal</sub>	r <sub>tab</sub>
Performance in English language at SS2 unified examination	175	0.52	0.11	173	0.09	0.1946
Performance in SSCE physics	175	0.36	0.07			

In table 1, the calculated r (0.09) was less than the table value (0.1946). Hence, the null hypothesis was not rejected. This shows that there was no significant relationship between students' performance in English Language SSS 2 unified examination and SSCE Physics.

**Hypothesis 2:** There is no significant relationship between students' performance in Mathematics SS2 unified examination and SSCE Physics.

Testing this hypothesis, data on the grade obtained by students in Mathematics SS2 unified examinations for 2020/2021 session and students' performance in 2021/2022 SSCE physics in Akure south local government area were collected from the principals of the sampled schools. The hypothesis was tested using Pearson Product Moment Correlation analysis. The findings are shown in table 2.

**Table 2: Performance in Mathematics SSS2 Unified Examination and SSCE Physics**

Variable	N	Mean	SD	df	r <sub>cal</sub>	r <sub>tab</sub>
Performance in English language at SSS2 unified examination	175	0.59	0.22	173	0.58	0.1946
Performance in SSCE physics	175	0.54	0.18			

**P < 0.05**

In table 2, the calculated r (0.58) was greater than the table value (0.1964). Hence, the null hypothesis was rejected. This indicates a significant relationship between students' performance in Mathematics SS2 unified examinations and SSCE physics

## DISCUSSION

The findings of this study indicated that results of students in Mathematics could be used to predict their results in physics. Results in English language were found to be irrelevant as far as predicting students' results in Physics is concerned. It is a well-known fact that

Publication of the European Centre for Research Training and Development -UK  
Mathematics is very useful for the understanding of physical science such as physics. The findings has also challenged the undue emphasis we lay on English Language for opting for courses in area of science students to get a credit pass in English Language at the SSCE before they are admitted for science and related courses in higher institutions of learning. It should be realized that scientific facts and principle do not require the knowledge of laws governing grammar before one could understand them. Mathematics is an essential ingredient for physics.

## CONCLUSION

The findings of this study revealed no statistical significant relationship between the students' performance in English Language SSS2 unified examinations and SSCE Physics but revealed that there was significant relationship between the students' performance in Mathematics SSS2 unified examination and SSCE physics. This implies that results in English Language were found to be irrelevant as far as predicting students' results in physics is concerned while results of students in Mathematics could be used to predict their result in physics.

## Recommendations

Based on the findings, the following recommendations are hereby given

1. It should not be mandatory for science students to get a credit pass in English language at SSCE before they are admitted for science and related courses in higher institutions of learning.
2. Teachers on Mathematics should be more encouraged by the government concerning the teaching of the subject by sponsoring them for workshops and seminars.
3. Government should let the Mathematics teachers and students aware of the importance of Mathematics to science and consequently for technological development of the nation.

## References

- Adesoji, F.A (1999) Correlates of students' academic performance in Biology with those of Mathematics and English Language: Implication for counselling. *Nigeria Journal of counselling Education*, 1 (1), 74-76
- Adewale, S.T (1973) Mock examination results and students Gender as correlates of Performances in the SSCE in Mathematics. *African Journal of Educational Research* 8 (1), 101-107
- Adsaoye, A.N (2003) predictive validity of JSC Mathematics examination on the performance of students in science subjects in Oye-Ekiti. *Journal of Science*, 8(1), 96-99.
- Ale P.O (1981) Mathematics as a science subject. *Journal of Science Teachers Association of Nigeria*, 21(1), 38-42
- Ayodele, M.N and Iwalola, A.A (2017) predictive validity of JSS certificate examination in English Language Educational thought. 8(2), 30-34
- Gabriel, S.T (2020) Teacher and student variable as correlates of achievement in integrated science in Ibadan South Local Government Area of Oyo State. *Journal of Science Education* 16(2), 36-41

Publication of the European Centre for Research Training and Development -UK

James, C.A (2012) the relationship between Mathematics attitude and performance. *Journal of Basic and Applied psychology* 12 (3), 47-53

Omoniyi, M.C (2022) validity of English Language as an art subject. *Journal of Education*. 21(2), 29-34

Salewa, C.O (2000) School-based assessment score as predictor of students' final grades in English Language. *Journal of Educational Research*. 22(1), 28-35