

Predictive Validity of the Unified Tertiary Matriculation Examination (UTME) on First-Year Undergraduate GPA

OSSAI, Peter Agbadobi Uloku, JONUSA, Amainuren Maureen
Department of Guidance and Counselling,
Delta State University, Abraka, Nigeria.

ABSTRACT

This study examined the Unified Tertiary Matriculation Examination (UTME) as a predictor of first-year undergraduate students' GPA in the Faculty of Education Delta State University, Abraka. One research question and a null hypothesis directed the study which employed an ex-post facto correlational design. Eight hundred and forty education students enrolled at the Faculty of Education in the 2019/2020 session constituted the population for the study. From this population a sample size of 271 participants was selected through simple random sampling technique of balloting. The research instrument used for data collection was the UTME improvised use of English questions for 2019. UTME scores were correlated with students' first year GPA scores. The data analyzed using the Pearson's Product Moment Correlation Co-efficient statistics showed that UTME scores poorly predicted students' first year's GPA scores. It was concluded that students' performance at the UTME did not reflect in their performances at the end of the first year. It was recommended that students at the secondary school level should be properly counselled to choose the area of study where they can excel.

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INTRODUCTION

Numerous research studies have been undertaken to explore the various factors influencing students' academic performance. These factors encompass gender, location, socio-economic status, test anxiety, language proficiency, and lack of facilities (Abdalazis, 2010; Abdullahi & Bichi, 2015; Alufohai, 2015; Nnamani & Oyibe, 2016; Ossai & Efeludu, 2023).

When these challenges persist in educational settings, it becomes challenging to gauge the true developmental progress of learners, potentially hindering their overall growth and achievement. Ossai (2020) emphasized that the holistic development of an individual is of utmost importance in the teaching-learning process.

Apart from the factors impeding academic activities, research has also investigated the extent to which performance in one stage can predict performance in another. For instance, Sulphay et al. (2018) examined the relationship between admission grades and academic achievement, while Ossai (2016) studied the correlation between students'

scores on Research Methods and Statistics and their Undergraduate Project scores, finding no significant relationship. The present study focuses on using Unified Tertiary Matriculation Examination (UTME) scores as predictors of first-year undergraduate students' GPA at Delta State University, Abraka.

Guidance and Counselling (2020) posited that Grade Point Average (GPA) provides insights into an individual's performance compared to other students, and a minimum GPA of 1.50 is usually required for students to progress from one level to another, with 5.00 being the highest attainable GPA. Before 1974, universities conducted individual admission exercises, but in 1978, the Joint Admissions and Matriculation Board (JAMB) was established to enhance standards and reduce costs (Omodara, 2010, as cited by Eze, 2014).

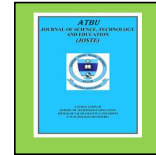
The University Matriculation Examination (now called Unified Tertiary Matriculation Examinations - UTME) is a common entrance examination conducted annually by JAMB to select qualified candidates for higher education institutions in Nigeria. It is

Corresponding author: OSSAI Peter Agbadobi Uloku

✉ faqbadobipeter@gmail.com

Department of Guidance and Counselling, Delta State University, Abraka, Delta State.

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expected that a candidate's UTME score should predict their first-year GPA as an undergraduate. This present study focuses on education students at the Faculty of Education, Delta State University, Abraka.

Previous studies have explored the relationship between students' UTME scores and their performance in higher education. For example, Ogbekor (2016) investigated the correlation between admission grades and academic performance in counselling psychology courses at Delta State University, Abraka. However, the study revealed that higher admission grades did not significantly influence students' course examination performance. Similarly, Eze (2014) found that UME scores poorly predicted students' final grades in the Faculty of Health Science and Technology at the University of Nigeria, Nsukka. Birhanu (2019) examined the influence of university entrance examination results, gender, and field of study on students' cumulative grade point average (CGPA) at Raya University, Ethiopia, and found weak relationships between these factors and semester CGPA scores.

In contrast, studies by Hassan and Al-Razgan (2016) and Sulphay et al. (2018) reported different findings. Hassan et al. studied the effect of pre-University examinations on students' GPA in the Department of Information Technology at King Saud University, Saudi Arabia, and found that high school GPA did affect college GPA. Similarly, Sulphay et al. (2018) found a significant positive relationship between standardized admission test scores and overall university GPA in a sample of 1368 undergraduate business students in a University in Saudi Arabia.

Considering the inconsistent findings on the relationship between admission grades and students' academic performance, additional studies are necessary. Therefore, the present study aims to address this research gap. The study is guided by one research question: "What is the relationship between UTME scores and first-year undergraduate students' GPA in the University?" The null hypothesis is: "There is no significant relationship between UTME scores and first-year undergraduate students' GPA in the University." This research is significant as its findings will aid University authorities in understanding the efficacy of

UTME scores in predicting undergraduate students' GPA in the University.

Purpose

The primary purpose of this study is to determine the extent of the relationship between UTME scores and first-year undergraduate GPA in Delta State University, Abraka. By understanding this relationship, university authorities can gain insights into the effectiveness of UTME scores as predictors of academic performance.

Research Question

1. What is the relationship between UTME scores and first-year undergraduate students' GPA in Delta State University, Abraka?

Hypothesis

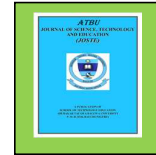
H_{01} : There is no significant relationship between UTME scores and first-year undergraduate students' GPA in Delta State University, Abraka.

METHODOLOGY

The *ex-post factor* design was adopted, using correlational approach. A sample size of 271 students was drawn from a total population of 840 students made up of eleven Departments in the Faculty of Education, Delta State University, Abraka. The participants were admitted into the faculty in the 2019/2020 session. Students' scores on use of English at the UTME were correlated with their corresponding first year GPA scores. Some experts in Delta State University, Abraka helped in establishing face and content validity of the UTME English questions. Test-retest techniques of establishing reliability was used to obtain a reliability index of 0.85 since it was not possible to secure the psychometric qualities of the instrument from JAMB authorities. The Pearson's Product Moment Correlation Co-efficient technique (r) was used to answer the research question. The same statistical tool was used to test the stated null hypothesis at .05 level of significance.

RESULT

The study did not provide for guessing as suggested by Ossai (2015). Ossai (2019) posited that multiple choice test items impact negatively on students in the area of guessing



and examination misconduct. Data collected were analyzed as follows:

Research Question: What is the relationship between unified tertiary matriculation

examination scores and first year undergraduate students' GPA in the University?

Table 1: Pearson Moment Correlation and Coefficient of Determination on Unified Tertiary Matriculation Examination scores and First Year Undergraduate Students' GPA in the University.

Variable	N	r	r ²	r ² %	Decision
UTME GPA	271	0.093	0.009	0.9	Low positive relationship

Table 1 showed the r-value of 0.093 as a low positive relationship between relationship between Unified Tertiary Matriculation Examination scores and First year Undergraduate Students' GPA in the University. The coefficient of determination was 0.009 and the amount of contribution of UTME scores to

first year undergraduate students' GPA was 0.9%.

Hypothesis: There is no significant relationship between Unified Tertiary Matriculation Examination Scores and First year Undergraduate Students' GPA in the University.

Table 2: Pearson Product Moment Correlation on Unified Tertiary Matriculation Examination Scores and First-Year Undergraduate Students' GPA in the University

Variable	N	Pearson's r	Sig.(2-tailed)
UTME GPA	271	0.093	0.125

Table 2 indicated the Pearson's r-value of 0.093 and a p-value of 0.125. Testing the null hypothesis at an alpha level of 0.05, the p-value of 0.125 was greater than the alpha level of 0.05. Thus, the null hypothesis was accepted. This implied that "there was no significant relationship between Unified Tertiary Matriculation Examination Score and First year Undergraduate Students' GPA in the University.

hypothesis strongly point to the fact that the relationship between UTME scores and undergraduate students' first year GPA is weak. One would have expected a strong correlation between the two sets of scores because it is believed that UTME scores are capable of predicting students' academic performance in institutions of higher learning.

The result from the study is in consonance with the works of Ogbebor (2016), Eze (2014) and Birhanu (2019) who reported in their separate studies that admission grades or scores did not predict students' academic performances in institutions of higher learning. However, the findings from the studies conducted by Hassan, et al. (2016) and Sulphay et al. (2018) contradict the result of the study. These scholars carried out studies that indicated that entrance examination scores positively predicted students' academic performances in institutions of higher learning.

It has to be noted, however, that the item format in examinations conducted for fresh students in Delta State University has mainly been multiple choice test items. Mathematics multiple choice test items can impact negatively on students through their dimensionality (Ossai,

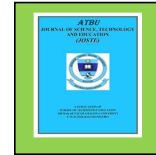
FINDINGS

The following findings emerged from the study:

- i) The relationship between UTME scores and first-year undergraduate students' GPA scores in 0.093; the co-efficient of determination is .009 which implies that the contribution of UTME scores to first-year undergraduate students' GPA is less than 1%.
- ii) There is no significant relationship between UTME scores and first-year undergraduate students' GPA.

DISCUSSION OF FINDINGS

The results shown in the answer to the research question and the test of the null



2015) and there is the possibility that distracters may be ineffective, thereby compromising the principles of test construction (Ossai, 2019). It is believed by test developers that ineffective distracters can make a test item discriminate in the opposite direction.

CONCLUSION

Based on the weak correlation found between UTME scores and first-year GPA, it can be concluded that the UTME may not effectively predict academic performance in the Faculty of Education at Delta State University, Abraka. Therefore, it is crucial for secondary school students to receive proper counseling and guidance when choosing their areas of study to improve their chances of excelling academically at the university level.

RECOMMENDATIONS

1. The university should consider supplementing UTME scores with other admission criteria to ensure a more comprehensive evaluation of students' potential and preparedness for their chosen fields of study.
2. Secondary schools should prioritize counseling services to assist students in making well-informed decisions about their academic and career paths.
3. Further research is needed to explore additional factors that could influence academic performance in the first year of undergraduate studies within the Faculty of Education at Delta State University, Abraka.

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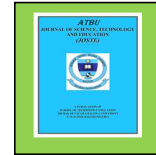
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Corresponding author: OSSAI Peter Agbadobi Uloku

✉ faqbadobipeter@gmail.com

Department of Guidance and Counselling, Delta State University, Abraka, Delta State.

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