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COMPARATIVE ANALYSIS OF ACHIEVEMENT SCORES IN EDUCATIONAL RESEARCH AND STATISTICS (EDU331) AMONG UNDERGRADUATE STUDENTS OF GUIDANCE AND COUNSELLING AND EDUCATIONAL FOUNDATIONS DEPARTMENTS IN NNAMDI AZIKIWE UNIVERSITY, AWKA, ANAMBRA STATE

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ABSTRACT

The study investigated comparative analysis of achievement scores in Educational Research and Statistics (EDU331) among undergraduate students of Guidance and Counselling and Educational Foundations Departments in Nnamdi Azikiwe University, Awka. Three research questions guided the study and one hypothesis formulated for the study. The hypothesis was tested at 0.05 level of significance. Ex-post facto research design was adopted for the study. The population of the study comprised 400 undergraduate students, consisting of 350 students from Department of Educational Foundations and 50 students from Department of Guidance and Counselling. The sample for the study made up of 200 students, consisting of 159 students from Educational Foundations and 41 students from Guidance and Counseling, who were obtained through simple random sampling technique. The data collected were analyzed using descriptive (mean) and inferential statistics (independent sample t-test). The findings showed that students of Educational Foundations obtained a higher mean achievement score of 49.91, while students of Guidance and Counseling obtained a mean achievement score of 46.90. However, the difference in the mean achievement scores of the two groups was not statistically significant, as the calculated t-value of 1.83 with 198 degrees of freedom was not significant at the 0.05 level (p = .069). Based on the findings, it was recommended among others that lecturers should continue to employ effective teaching strategies and provide equal academic support to students in both departments to enhance their achievement in EDU 331.

Keywords: Achievement Scores, Educational Research and Statistics.

Introduction

Education has been considered as prerequisites for development. It forms the basis for literacy, skill acquisition, technological advancement and ability to harness human and material resources towards the achievement of social goal. Education is very indispensable in any given society. It is a process by which abilities and capabilities of individuals are developed. These abilities might be physical abilities, emotional abilities, social abilities and intellectual abilities. It is the actualizing of human potential so that the individual can become something more than what he was before and be able to contribute meaningfully to societal development.

At the tertiary level, education is not only concerned with the impartation of knowledge but also with the development of analytical thinking, problem-solving skills and research competence among learners. Universities are therefore expected to produce graduates who are capable of generating knowledge or ideas, interpreting data and applying research findings to proffer solutions to human and societal problems. In achieving these objectives, Educational Research and Statistics has become unavoidable components of teacher education and allied professional programmes.

Academic achievement of students has been of great concern to stakeholders in educational system. In fact, according to Okpala (2021), academic achievement of students is the focus of attention of parents, teachers, heads of institution and society at large. This explains the persuasive sense of urgency for the students to learn all those things which they are being exposed to in school. To this end, it is a common experience that one who fails in annual examination, is supposed to be retarded academically although he can be highly advance in the development of other aspects. Academic achievement is a key indicator of students' ability to grasp and apply knowledge in their respective fields of study. It reflects the effectiveness of instructional methods, the relevance of course contents, and students' engagement with the learning process.

In higher citadel of learning, course like EDU331 (Educational Research and Statistics) remains compulsory because they develop students' analytical and research competencies, enabling them to address complex problems, make evidence-based decisions, and advance knowledge within their respective disciplines (Eick et al., 2021). However, the performance of students in EDU 331(Educational Research and Statistics) often varies across academic disciplines due to differences in curriculum designs, students' academic preparedness, and the perceived relevance of the course to their future careers.

In Nigerian Universities, students in education related disciplines are expected to be capable of conducting independent research for classroom improvement, programme evaluation and community development. In spite of the traditional role of Educational Research and Statistics across various disciplines, research indicates that students persistently struggle with the subject due to its abstract concepts and mathematical

or technical demands, often resulting in poor performances (Silva & Sarnecka, 2025).

At Nnamdi Azikiwe University, the course EDU 331(Educational Research and Statistics) is instituted as a core, compulsory 3-credit unit course offered within the Faculty of Education. The academic achievement score in EDU 331 serves as the standardized measure of quantitative and methodological competence for students in the Faculty of Education at Nnamdi Azikiwe University. Students from diverse disciplines, such as Guidance and Counseling and Educational Foundations, are required to take EDU 331 as part of their academic programs.

These two fields intersect in their focus on improving individual and societal well-being, differ significantly in their theoretical underpinnings and practical applications. Guidance and Counseling is primarily oriented toward understanding human behavior and providing support for personal, social, and academic development (Arah, 2017; Egbo, 2013). On the other hand, the Educational Foundations department emphasizes foundational theories of education, including philosophical, historical, and sociological perspectives on schooling and learning processes. These differences in focus may influence how students from the two fields approach and perform in a course like EDU 331, which emphasizes statistical analysis and research methodologies.

Statement of the Problem

Despite all efforts made by lecturers in Educational Research and Statistics, the performances of some undergraduate students in the course have not been satisfactory. Based on the observation of the researcher, students' academic records suggest that some students experience difficulty in mastering the statistical and research components of the course, which often results in low academic achievement.

Undergraduate students that are offering EDU 331 come from different academic backgrounds with varying exposure to quantitative and research-oriented experiences. The disciplines of Guidance and Counselling and Educational Foundations differ in their curricular focus and skill orientation, which may influence students' understanding and achievement in Educational Research and Statistics. However, there is little empirical evidence establishing whether these differences translate into significant variations in academic achievement scores between the two departments at Nnamdi Azikiwe University.

The absence of documented data on students' achievement in EDU 331 across departments creates a research gap. Without empirical evidence, lecturers and curriculum planners are unable to determine whether one group of students is academically disadvantaged or whether specialized instructional strategies are required for each department. This limits effective decision-making for improvement in teaching methods and student support. Hence, the need to investigate comparative analysis of achievement scores in Educational Research and Statistics (EDU331) among undergraduate students of Guidance and

Counselling and Educational Foundations Departments in Nnamdi Azikiwe University, Awka.

Two research questions with corresponding hypotheses guided the study. The following research questions guided the study.

1. What is the mean academic achievement score of Guidance and Counseling students in EDU 331?
2. What is the mean academic achievement score of Educational Foundations students in EDU 331?
3. Is there a significant difference between the mean academic achievement scores in EDU 331 of Guidance and Counseling students and Educational Foundations students?

Hypothesis

1. There is no significant difference between the mean academic achievement scores in EDU 331 of Guidance and Counseling students and Educational Foundations students.

Methodology

Ex-post facto research design was employed for the study. The target population of this study consisted 400 students, comprising 350 students from Department of Educational Foundations and 50 students from Department of Guidance and Counseling. The sample size of the study was 200 undergraduate students obtained through simple random sampling technique. student in the population an equal opportunity of being selected for the study**.** Documentary Analysis Proforma was used to obtain students' achievement scores. The descriptive statistics (mean and standard deviation) was used to answer the research questions. While inferential statistics (t-test) was used to test the null hypotheses at a 0.05 level of significance.

Decision Rule:

If the calculated t-value is greater than the critical t-value, the null hypothesis would be rejected.

Research Question One: What is the mean academic achievement score of Guidance and Counseling students in EDU 331?

Table 1: Mean Academic Achievement Scores of Guidance and Counselling students in EDU 331

Group	N	$\bar{x}$	SD
Guidance and Counseling	41	46.90	8.65

Results in Table 1 show that the 41 Guidance and Counseling students obtained a mean of 46.90 and an SD of 8.65 in EDU 331. This indicates the average level of achievement recorded by the sampled Guidance and Counseling students.

Research Question Two: What is the mean academic achievement score of Educational Foundations students in EDU 331?

Table 2: Mean Academic Achievement Scores of Educational Foundations students in EDU331

Group	N	$\bar{x}$	SD
Educational Foundations	159	49.91	9.57

Results in Table 2 show that the 159 Educational Foundations students obtained an x̄ of 49.91 and an SD of 9.57 in EDU 331. Thus, the average achievement score of the Educational Foundations group was higher than that of the Guidance and Counseling group.

Research Question Three: Is there a significant difference between the mean academic achievement scores in EDU 331 of Guidance and Counseling students and Educational Foundations students?

Table 3: Difference between the Mean Academic Achievement Scores of Guidance and Counseling and Educational Foundations students in EDU 331.

Group	N	$\bar{x}$	SD	Mean Diff	t-cal	Df
Guidance and Counseling	41	46.90	8.65	3.01	1.83	198
Educational Foundations	159	49.91	9.57			

Results in Table 3 show that an independent-samples t-test was used to compare the two group means. The result gave a calculated t-value of 1.83 at 198 degrees of freedom, with a two-tailed p-value of .069. Since the p-value is greater than the 0.05 level of significance, the difference between the two mean scores is not statistically significant. Although Educational Foundations students recorded a higher x̄ (49.91) than Guidance and Counseling students (46.90), the observed difference of 3.01 points is not large enough to be regarded as statistically significant at the 5% level.

Summary of Major Findings

1. Guidance and Counseling students (N = 41) obtained a mean EDU 331 achievement score of 46.90 with a standard deviation of 8.65.
2. Educational Foundations students (N = 159) obtained a mean EDU 331 achievement score of 49.91 with a standard deviation of 9.57.
3. Educational Foundations students had a higher observed mean by 3.01 points, but the independent-samples t-test showed that the difference was not statistically significant, t (198) = 1.83, p = 0.069.

Discussions of Findings

The findings of the study revealed that students of Guidance and Counseling obtained a mean achievement score of 46.90, with a standard deviation of 8.65 in EDU 331 as reflected in Table1. This indicates that the students demonstrated a moderate level of achievement in EDU 331. The findings of the study agree with Astin (2024), who emphasized that students' academic outcomes can be influenced by the amount of

effort and energy they devote to their academic activities. Both studies therefore recognize the importance of factors related to students' academic experiences in achievement. However, the present study differs from Astin's study because it focused specifically on the achievement scores of Guidance and Counseling students in EDU 331, while Astin (2024) examined student involvement more broadly. The variation in the students' scores may also be associated with differences in study habits, motivation, attendance and participation. Overall, the finding shows that Guidance and Counseling students achieved a considerable level of performance in EDU 331.

The findings of the study revealed that Educational Foundations students obtained a mean achievement score of 49.91, with a standard deviation of 9.57. This is owing to indices in Table2 which indicates that Educational Foundations students recorded a slightly higher mean achievement score than their counterparts in Guidance and Counseling.

The findings of the study agree with Olowolabi and Adebayo (2021), who reported differences in students' academic performance based on academic background. Both studies therefore observed variations in students' achievement. However, the present study differs from their study because the observed difference between the two programmes was not statistically significant. The result also shows that students within the same programme had different levels of achievement, as indicated by the standard deviation. This variation may be influenced by factors such as study habits, motivation, attendance and individual academic ability. Therefore, the higher mean score of Educational Foundations students does not mean that they are academically superior to Guidance and Counseling students.

The findings of the study showed that Educational Foundations students had a higher mean achievement score of 49.91 compared with 46.90 for Guidance and Counseling students, giving a mean difference of 3.01. However, the independent-samples t-test showed that the difference was not statistically significant, $t(198) = 1.83$, $p = 0.069$. This finding of the study differs from Olowolabi and Adebayo (2021), and Arah (2025) who reported differences in students' academic performance based on academic background. However, it agreed with Yusuf and Adigun (2010), who found that some school-related characteristics did not significantly influence students' academic performance. The similarity suggests that belonging to a particular educational group may not automatically result in better academic achievement. The present finding also differs from Astin (2024), whose theory emphasizes student involvement as important to learning outcomes, because the present study did not directly measure students' involvement. Therefore, programme of study alone may not determine students' achievement in EDU 331.

Conclusion

It was therefore concluded that Educational Foundations students had a higher mean achievement score (49.91) than Guidance and Counseling students (46.90). However, the difference was not statistically

significant at the 0.05 level. Therefore, the study concludes that there is no significant difference between the achievement scores of Guidance and Counseling and Educational Foundations students in EDU 331. This suggests that programme of study alone does not determine students' achievement in the course.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Students should develop effective study habits. Students in both Guidance and Counseling and Educational Foundations should devote sufficient time to studying EDU 331 and engage in regular revision.

2. Lecturers should use effective teaching methods. Lecturers handling EDU 331 should employ teaching methods that encourage students' participation, critical thinking and understanding of course content.

3. Students should participate actively in lectures. Active participation in classroom discussions, asking questions and seeking clarification can improve students' understanding of the course.

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