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Correlational Study of Students' Achievement in Educational Research Methodology and Performance in Project Work in F.C.E Okene, Kogi State

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Abstract

Undergraduates are taught research in education as a course to sensitize the students with the research methods in education. The knowledge obtained is expected to be applied in the undergraduate students' project report. Thus, this study examined the correlation between the students' project work scores and their achievement scores in educational research methods and statistics. The study adopted correlational design. The population for the study comprised all the students from 2008 to 2019 academic session of Federal College of Education, Okene, Kogi State of Nigeria, affiliates of University of Ibadan, Oyo State of Nigeria. Purposively, 560 students from the Guidance and Counselling department were selected for the research, and the data used in the study came from their test results. The research instrument consists of the secondary source of the scores in educational research methodology and scores in the students' project work. The reliability of the instrument was established using Kuder-Richardson and the index was 0.74. Data collected were analyzed with SPSS using Pearson Moment Correlation analysis and Simple regression analysis. The results indicated low positive (0.167) and direct interaction between the independent and dependent variables; and that students' achievement in educational research methodology contributed significantly (2.6%) to the students' performance in project work. Recommendations were also highlighted.

Keywords: Academic achievement, project work, educational research

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Introduction

Education should aim to develop not only intellectual knowledge and practical abilities but also positive attitudes. If an educational program does not nurture the right values, attitudes, and motivation toward work, life, and community, its value becomes significantly diminished. Okekeokosisi and Okigbo (2019) opined that teaching of appropriate value, attitude and interest should form part of every well-organized educational programme. This can be effectively enhanced through studies conducted in the educational field.

Educational research systematically examines education and learning processes, focusing on human characteristics, interactions, organizations, and institutions that affect educational outcomes. The aim of this research is to understand and explain how learning takes place across a person's lifespan and how both formal and informal educational settings shape different learning experiences. Additionally, educational research employs a variety of rigorous methods suited to the issues being investigated and promotes the creation of new tools and techniques (Anaekwe, 2016). Brantley-Dias and Ertmer, (2013) sees that educational research is a systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena. Bustamante et al. (2017) described educational research as a series of systematic procedures or activities aimed at testing and acquiring knowledge, data, or information related to teaching, learning, and the factors influencing these processes. Essentially, it involves a structured effort to identify and analyze key issues within educational contexts. This can take place within or outside the school setting or it may occur at various levels of education, such as early childhood, primary, secondary or tertiary levels. Learners should note that, implicit in this definition, is that scientific approaches are used in educational research to determine how to improve teaching and learning, which situations allow knowledge to be tested and validated, and when these processes should take place. Nworgu (2015) added that educational research and statistics is an organized approach that applies the scientific method to solve issues in education. Such problems follow a set of sequential steps like; recognizing and describing the problem, reviewing the literature, developing research questions and hypotheses, designing a study to collect the necessary data, gathering relevant

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information to address the research questions, testing the hypotheses, Analyzing the gathered information to answer the research questions, test the hypotheses, and draw the necessary conclusions based on the results of the analysis. This is regarded as a research project work at undergraduate level.

A project work is a compilation of research that proves that the learner/researcher is knowledgeable about the information learnt throughout the graduate program. It is a written argument prepared and submitted in proper format after completion. According to Branden (2017), a project work is a document that presents the researcher's investigation and findings and is submitted to support a candidate for a professional certification or academic degree. Darling-Hammond, et al., (2020) supported the assertion by adding that project work is a critical study and scholarly investigation that involves what the researcher believes in and what researcher intends to prove. The originality of the research work is needed from the researcher and its in-depth knowledge. The originality could emerge through upholding the attributes of a good project work as stipulated by Anaekwe (2016). The attributes are as follows:

- It should be debatable, putting out a point of contention that anyone may legitimately disagree with. A compelling project or thesis is thought-provoking; it takes a position and supports the argument you will make.
- It addresses a topic that might be sufficiently discussed in the project's format.
- It is targeted and precise. A compelling thesis establishes a point without going into "everything about." Consider "American jazz in the 1930s" and your argument about it in place of music.
- It unequivocally states your own evidence-based judgement. Be adaptable, please. You might come to a conclusion you didn't anticipate based on the evidence. You can modify your thesis at any time!
- It gives the reader a road map to help them navigate your content.
- It foresees and disputes the rebuttals.
- Vague words like "it seems" are avoided.
- The first person is avoided. (“I believe," "In my opinion”)
- It ought to pass the Who cares or so what? test (Would your best friend say "but everyone knows that" in response to your question about why he should care?) Saying,

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for example, that "people should avoid driving under the influence of alcohol," would probably not cause any resistance, as outlined by Anaekwe, (2016).

With the noted qualities of a good project work, it entails that the importance of the project work in the educational training and experience of the undergraduate cannot be underestimated. Lecturers/ teachers see the project work as a cumulative effort, representative of the entirety of the educational experience. The standard of project work is measured on several different criteria including format, consistency, language development, source quality and overall presentation. For decades, undergraduate students have been challenged by the researching formatting requirements of project works. These students have sought the help of inaccessible lecturers, busy librarians and unskilled research assistants, with varied successes. Understanding formatting, producing quality work, and gathering and condensing important research papers to bolster the hypothesis stated in the student's introduction are the most challenging aspects of writing a project, dissertation, or thesis as opined by Albion, et al., (2015).

Accordingly, research is an essential course for undergraduate programs and is added to teacher education programs to acquaint teacher candidates with the process of doing educational research. The course is expected to cover the fundamental concept of educational research, and the essential steps involved in carrying it out. These steps include problem identification, reviewing relevant literature, designing research projects, data collection, data analysis, interpreting results, writing research proposals and project reports, and utilizing computers as a tool in the research process. The students' performance in this course is measured by teacher made achievement test in the form of objectives or essays. In addition, the students are assessed using the continuous assessment approach which is a form of students' formative test and carries 30% of the total mark of the achievement test whilst the remaining summative test, usually in the form of semester examination carries the remaining 70%. It should be noted that the means of assessing the students is performance oriented.

Performance tasks measure a student's ability to integrate knowledge and skills across multiple standards. Performance tasks are used to more accurately assess talents that are not

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well represented by pre-selected or pre-constructed response formats, such as deep comprehension, research skills, and complex analytical thinking. Performance assessments, also known as alternative or authentic assessments, require students to finish a job instead of selecting an answer from a predefined list of possibilities. The students must have passed through the supervision of one or two lecturers before he/she faces the constituted panel for defense and sometimes validation of the project work. The panel's score carries 60% while the lecturer rates the students on the remaining 40%. It should be noted that the performance of student in defense could be attributed to a host of factors like the student's expertise in research work, type of supervisor, effectiveness in communication, interpersonal relationship and the research ambience of the panelists (Bustamante, et al., 2017).

However, in educational institution, success is measured by academic achievement, or how well a student meets standards set out by local government and institution itself (Albion, et. al., 2015). They further pointed that at the state level; students are evaluated by their performance on standardized tests geared towards specific ages and based on a set of achievements students in each age group are expected to meet. According to Branden (2017), academic achievement, also known as (academic) performance, is the result of education and the degree to which a student, instructor, or institution has met their learning objectives. Additionally, Okekeokosisi and Okigbo (2019) emphasized that the most significant predictor of academic success in schools is the teacher. Sophie et al. (2011) emphasized that differences in personality and intelligence are associated with variations in academic performance. Students who exhibit higher mental abilities, as indicated by IQ tests (indicating quick learning), and those with a greater degree of conscientiousness (associated with effort and motivation to succeed) are more likely to perform well academically.

Statement of the problem

It is impossible to overstate the vital roles that educators play in educational institutions, especially those in higher education. According to Okigbo and Okekeokosisi (2013), Darling-Hammond et al. (2020), Onwunyili and Ifenyinwa (2020), Onwunyili and Onwunyili (2019), and others, research is a catalyst for innovation in education, supporting the enhancement of learning,

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fostering student engagement, and providing educators with valuable insights. It has also been observed that undergraduate students perform very well in the research project work but score poorly in the theory which is educational research as argued by (Ossai, 2016).

However, existing literature indicates that undergraduate students tend to perform exceptionally well on research projects but exhibit lower performance on educational research theory tests (Osuya & Okochi, 2014; Ossai, 2016). This pattern has also been noted within the undergraduate program of the Federal College of Education, Okene. In this context, research methodology is offered as a course during the first semester of the 200 level and the second semester of the 300 level within the Department of Guidance and Counseling. Observations suggest that students' average scores in research methodology are generally lower compared to their performance in project work.

The primary objective of incorporating research projects (project work) as a course within teacher education programs is to equip students with the skills to apply research methods and data processing knowledge in practical educational contexts. Consequently, this study seeks to examine the relationship between students' performance in educational research methodology and their outcomes in project work. This prompts the question: What is the relationship between students' achievement scores in educational research methodology and their project work scores at the Federal College of Education, Okene, Kogi State, Nigeria?

The study was guided by the following specific research questions:

1. What is the relationship between students' achievement scores in educational research methodology and their performance scores in project work?
2. To what extent do students' achievement scores in educational research methodology contribute to their performance scores in project work?

Method

This study utilized a non-experimental, correlational research design to investigate the relationship between students' achievement in educational research methodology and their performance in project work. The research was conducted at the Federal College of Education,

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Okene, Kogi State, Nigeria, an affiliate of the University of Ibadan. The study population included all graduates from the Federal College of Education, Okene, who completed their studies between the 2008 and 2019 academic sessions. A purposive sampling method was employed to select 560 students from the Department of Guidance and Counseling. The selection criteria were based on the availability of academic records that included scores from educational research methodology and project work. Secondary data were collected from official records containing students' scores in both educational research methodology and project work, covering the specified period. The validity and reliability of these data were confirmed, as they had been moderated, approved, and signed by authorized personnel from the department and college. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS), employing Pearson Correlation analysis to answer the research questions and examine the relationship between the variables.

Result

Research question 1: What is the relationship between students' achievement scores in educational research methodology and performance scores in project work?

Table 1: Correlation of students' achievement scores in educational research methodology and performance score in project work

		Performance score in project work
Achievement scores in educational Research and Statistics	Pearson Correlation	.167**
	Sig. (2-tailed)	.000
	N	560

The two variables were lowly correlated, $r_{(560)}=0.167$, $p<0.05$. The table further shows positive and direct significant relationship between the students' score in research methodology and statistics in education and their scores in project work.

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Research question 2: What is the relative contribution of students' achievement score in educational research methodology to their performance score in project work?

Table 2: Summary of Simple regression Analysis for students' achievement score in educational research methodology to their performance scores in project work (N=560)

Variable	SE B	B
(constant)	0.894	
Achievement score	0.015**	0.167
R^2	0.027	
R^2 Adjusted	0.026	
F	42.806**	

*p< .05.**p<.01.

Achievement scores in educational research significantly predicted score in project work, R^2=0.027, R^2 Adjusted= 0.026, B=0.167, $F_{(1,559)}$=42.802, p<0.05. The result shows that the scores in educational research methodology accounted for 2.6% variation in performance of project work.

Discussions

This study explored the relationship between students' academic performance in Educational Research Methodology and their outcomes in Project Work. The findings revealed a low positive and direct correlation between students' scores in educational research methodology and their performance in project work. This weak relationship can be attributed to the observation that students generally performed poorly in educational research methodology courses while achieving better results in their project work. One possible explanation for this disparity is that students may have received more comprehensive guidance during their project work, making it easier for them to excel during project defense, where they typically encounter fewer challenging questions. Consequently, students who scored below 40 marks in educational research methodology might still perform relatively well in project work, indicating that achievement scores in

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the methodology course do not reliably predict project performance.

Furthermore, students are assessed differently in each context: project work evaluations are based on performance, while educational research methodology assessments are primarily achievement-based.

The study also demonstrated that students' performance in educational research methodology had a statistically significant contribution to their project work outcomes. This may be because students acquire some foundational research skills through their coursework, which can be applied during project writing. However, the level of knowledge gained from the methodology course appears to be insufficient, highlighting the need for more effective instructional strategies and support. This observation is consistent with the findings of Osuya and Okochi (2014), who attributed challenges in undergraduate project writing to inadequate student preparation, limited access to resources, and a lack of qualified instructors to teach research-related courses.

These findings highlight the need to strengthen training programs for teachers, guidance counselors, and education students in the area of research methodology. Improving teacher training would not only support better project outcomes but also equip future educators with the skills to integrate research practices into their professional environments, whether in primary, secondary, or tertiary educational settings. Consequently, counselors would be better positioned to guide students in making informed career choices and becoming responsible members of society.

Conclusion

In summary, the study concluded that there is a weak yet positive and direct correlation between students' performance in educational research methodology and their project work outcomes at the Federal College of Education, Okene, Kogi State, Nigeria. Additionally, it was found that students' achievement in educational research methodology has a meaningful yet limited impact on their project work performance. Improving instructional practices and providing better research training can potentially enhance students' overall performance in both coursework and project writing.

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References:

1. Albion, P. R., Tondeur, J., Forkosh-Baruch, A., & Peeraer, J. (2015). Teachers' professional development for ICT integration: Towards a reciprocal relationship between research and practice. *Education and Information Technologies*, *20*(4), 655–673. https://doi.org/10.1007/s10639-015-9401-9
2. Anaekwe, M. C. (2016). Introducing educational research and statistics. In M. C. Anaekwe (Ed.), *Basic research methods and statistics in education and social science*, *4*(1) (pp. 26–32).
3. Branden, N. (2017). Academic self-concept and self-efficacy: How different are they? *Educational Psychology Review*, *15*(1), 1–40.
4. Brantley-Dias, L., & Ertmer, P. A. (2013). Goldilocks and TPACK. *Journal of Research on Technology in Education*, *46*(2), 103–128. https://doi.org/10.1080/15391523.2013.10782615
5. Bustamante, A. S., White, L. J., & Greenfield, D. B. (2017). Approaches to learning and school readiness in Head Start: Applications to preschool science. *Learning and Individual Differences*, *56*(C), 112–118. https://doi.org/10.1016/j.lindif.2016.10.012
6. Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, *24*(2), 97–140. https://doi.org/10.1080/10888691.2018.1537791
7. Nworgu, B. G. (2015). *Educational research: Basic issues and methodology* (3rd ed.). University Trust Publishers.
8. Okekeokosisi, J. O. C., & Okigbo, E. C. (2019). Gender effect of activity-based instructional strategy on secondary school students' achievement in computer studies in Anambra State, Nigeria. *Southeast Journal of Research and Sustainable Development*, *2*(2), 61–82.
9. Okigbo, E. C., & Okekeokosisi, J. O. C. (2013). Effectiveness of constructivist instructional model in enhancing secondary school students' achievement in computer science. *International Journal of Educational and Social*

@2025 International Council for Education Research and Training
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Policy and Practice Analysis (IJESPPA), *3*(1), 1–9.

10. Onwunyili, F. C., & Ifenyinwa, O. (2020). Self-regulatory strategies and extrinsic motivation as predictors of effective learning of statistics among undergraduate students. *Social Sciences and Education Research Review*, *7*(2), 107–125.
11. Chauhan, N., & Kumar, M. (2024). Unleashing the Potential of Artificial Intelligence (AI) Tools in Phytogeographical studies. *Shodh Sari-An International Multidisciplinary Journal*, *03*(04), 47–66. https://doi.org/10.59231/sari7746
12.
13. Onwunyili, F. C., & Onwunyili, M. C. (2019). Assessment of classroom teachers' feedback in formative tests. *Southeast Journal of Research and Sustainable Development*, *2*(1), 166–181.
14. Ossai, P. A. U. (2016). Relationship between students' scores on research methods and statistics, and undergraduate project scores. *Journal of Education and Practice*, *7*(8), 77–78.
15. Osuya, E. C., & Okochi, F. E. (2014). Problems and prospects of undergraduate students' research in educational administration for national development. *Research in Education*, *20*(1), 43–53.
16. von Stumm, S., Hell, B., & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspectives on Psychological Science*, *6*(6), 574–588. https://doi.org/10.1177/1745691611421204

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