



**THE EFFECTS OF TEACHER'S QUALIFICATION AND STUDENTS' INTEREST ON
THE PERFORMANCE OF STUDENTS IN SENIOR SECONDARY SCHOOL PHYSICS
(A CASE STUDY OF SELECTED SECONDARY SCHOOLS IN ODEDA LOCAL
GOVERNMENT AREA OF OGUN STATE)**

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Abstract

This study examines the impact of interest on the academic performance of students in senior secondary school physics, focusing on a case study of selected secondary schools in Odeda Local Government Area, Ogun State. To achieve the study's purpose, research questions were formulated to guide the study. A sample of one hundred (100) respondents was randomly selected from five (5) schools in Odeda Local Government Area of Ogun State for the study. The selection was made using a simple random sampling technique. A structured questionnaire was the main instrument used for data collection. The study adopted frequency count for data analysis. The findings revealed that teachers' qualifications and students' interests significantly affect students' performance in physics. Specifically, the study demonstrated that students' interest in physics predicts their performance in the subject and that this interest significantly impacts their academic outcomes. The study recommends teacher professional development, curriculum reform, student engagement strategies, assessment and feedback, resource allocation, and parental and community involvement to enhance physics education.

Keywords: Performance, Interest, Physics, Qualification, Performance

Introduction

Physics is a science subject that studies the interactions of matter, objects, and energy within a given system or environment (Kingsley & Anamezie, 2022). Physics is the most fundamental and the root of every field of science (Eryilmaz, 2016). Anyakoha (2016) defined physics as a natural science that studies matter, energy, and their interactions. Physics, as one of the core subjects offered in Nigerian schools, serves as the foundation for the nation's technological advancement and human resource development (Amasuwa, 2022). Physics knowledge has contributed significantly to the development of tools that offer tremendous benefits to humanity (Gurikar, 2019). According to Bawan et al. (2024), knowledge of physics offers learners the opportunity to think critically, reason analytically, and develop an inquisitive spirit. Kingsley and Anamezie (2022) emphasised that physics knowledge develops in students the scientific and technological knowledge, skills, and attitudes that will enable them to make decisions based on observation and experimentation. The discovery in Physics led to the development of valuable devices, such as



computers, lasers, and transistors. These devices are paramount to the development of technological science.

Looking at how crucial physics is to the technological advancement of a nation and the building of the economy, one would have expected that it would attract the attention of many students and get them to develop an interest in the subject at school, pursue it further to the tertiary level, and develop a greater willingness to work in a field that involves physics. However, the available literature paints a gloomy picture of students' interest in studying physics (Morgan & Aboagye, 2022; Kapanadze et al., 2023). Studying students' interest in a subject is essential, as it influences subject achievement and career choice (Mabee, Haruna, & Salifu, 2021; Harackiewicz & Hulleman, 2015).

Nigerian students are introduced to physics concepts through integrated science at the Basic school as part of the attempt to produce a scientifically literate citizenry (NACCA: MoE, 2019) and to lay a strong foundation for future courses, programs, and careers in physics. The integrated science curriculum for primary schools (NaCCA, 2019) includes physics-related topics such as measurement, basic electronics, electrical energy, light energy, magnetism, sources of energy, conversion and conservation of energy, heat energy, and machines. In addition, the senior high school program structure includes physics as a compulsory elective subject for students pursuing General Science, and it is also an optional elective subject for those pursuing Agricultural Science and Technical programs in most schools.

In Nigeria, there has been a recurring problem with students' poor performance in physics. Record of students' performance at the Senior School Certificate Examination (SSCE) in physics conducted by the West African Examination Council (WAEC). According to Onah and Achufusi (2022), the failure trends continued in 2015, 2017, and 2020 (47.83%, 41%, and 36%, respectively), with improved achievement in 2016, 2018, and 2019 (71%, 87%, and 80%, respectively). In general, this cannot be considered an acceptable achievement, as many have lamented that Nigerian students' performance in physics at the Senior School Certificate Examination (SSCE) has generally been poor (Adaramola & Obomanu, 2022), even though WEAC chief examiners report that this poor achievement of the students could be linked to their lack of interest in the subject. They also suggested that teachers should teach students to enhance their interest in physics, including situational and academic interests. According to Kingsley and Anamezie (2022), students' low interest in the subject was attributed to anxiety and fear, as evidenced by their poor academic performance.

The students' poor achievement in physics and, more generally, in science has been attributed to several factors. This includes poor methods of physics instruction by the teachers' insufficient number of qualified physics teachers, lack of indigenous textbooks, inadequate apparatus in the physics laboratory, poor classroom management by physics teachers, teacher's belief and attitude towards physics, physics teacher's inability to improvise, inadequate instructional materials and



aids, educational background and parental expectations on the learners and finally students' related factors or variables like students' academic anxiety, academic self-efficacy, academic locus of control, academic motivation and more (Khan et al., 2020). This study, therefore, aims to investigate the effects of interest on students' performance in senior secondary school physics.

Statement of the Problem

Despite being introduced to several physics-related topics, studies in Nigeria and globally have reported a decline in students' interest in pursuing higher degrees in physics and physics-related programmes (Morgan & Aboagye, 2022). Furthermore, many students have unfavourable perceptions about the subject. Many students perceive physics as very difficult, highly mathematical, abstract, and irrelevant (Taangahar & Okwori, 2022; Wangchuk et al., 2023). Kiruki and Orodho (2022) have also noted in a study of secondary schools that the number of students pursuing science subjects, notably physics, has decreased significantly. What then accounts for students' low interest in physics?

In addition, Nigerian students' performance in physics at the Senior High School level has been generally and consistently poor in WAEC examinations over the years (Buabeng, Ossei-Anto, & Ampiah, 2022). Data collected by Kingsley and Anamezie (2022) on the performance of SSS students in physics between 2014 and 2020 (WAEC, 2020) has shown that it was abysmally low. Additionally, the Chief Examiner's Report from WAEC on SSS physics revealed a marginal or poor performance by candidates in physics for the years under review (WAEC, 2015, 2016, 2017, 2018, 2019).

Objectives of the study

This study aims to investigate the effects of interest on students' performance in senior secondary school physics, focusing on a case study of selected secondary schools in Odeda Local Government Area, Ogun State.

Specifically, the study aims;

1. To examine the significance of teachers' qualifications to the interest of students in secondary school physics
2. To find out the extent to which student interest can predict their performance in secondary physics.
3. To examine whether students' interest affects their performance in secondary school physics.

Research Questions

To achieve the study's objective, the following research questions were formulated to guide the investigation.

1. What is the significance of teachers' qualifications to the students' interest in secondary school physics?

2. To what extent can a student's interest predict their performance in secondary physics?
3. How does students' interest affect their performance in secondary school physics?

Methodology

The methodology of this study involved a survey research design. The population consisted of senior secondary school students in Odeda Local Government Area of Ogun State. A total of 120 students were randomly selected from five secondary schools in the area, with 24 students chosen from each school using simple random sampling. The primary research instrument was a structured questionnaire divided into two sections: Section A covered demographic information, while Section B addressed the study variables. To ensure validity, the questionnaire was reviewed and approved by the research supervisor before administration. Data collection was conducted personally by the researcher, who informed the students that the questionnaire was strictly for academic purposes to encourage honest responses. The collected data were then coded and analysed using frequency distribution and mean percentages.

Results

The results are presented in the order in which the research questions were stated in Chapter One of this study.

Table 1: Descriptive analysis of the significance of teachers' qualifications to the interest of students in secondary school physics

S/N	Statement	SA	A	D	SD	(\bar{X})	Decision
1	My Physics teacher's academic qualifications make the subject more interesting to me.	48 (40.0)	44 (36.7)	18 (15.0)	10 (8.3)	3.08	Accepted
2	I enjoy Physics lessons more when my teacher has strong knowledge of the subject.	52 (43.3)	46 (38.3)	14 (11.7)	8 (6.7)	3.18	Accepted
3	The way my Physics teacher explains concepts shows that he/she is well trained.	50 (41.7)	42 (35.0)	16 (13.3)	12 (10.0)	3.08	Accepted
4	My interest in Physics increases when my teacher confidently answers questions.	46 (38.3)	48 (40.0)	14 (11.7)	12 (10.0)	3.07	Accepted
5	Teachers with professional qualifications make Physics easier to understand.	54 (45.0)	40 (33.3)	16 (13.3)	10 (8.4)	3.15	Accepted

6	I am motivated to study Physics because my teacher uses effective teaching methods.	44 (36.7)	50 (41.7)	16 (13.3)	10 (8.3)	3.07	Accepted
7	My teacher's qualifications help relate Physics to real-life situations.	42 (35.0)	48 (40.0)	18 (15.0)	12 (10.0)	3.00	Accepted
8	I participate more in Physics classes because my teacher understands the subject well.	40 (33.3)	52 (43.3)	16 (13.3)	12 (10.1)	3.00	Accepted
9	My teacher's competence encourages me to read Physics beyond the classroom.	38 (31.7)	50 (41.7)	20 (16.6)	12 (10.0)	2.95	Accepted
10	I would be more interested in Physics if all teachers were highly qualified.	56 (46.7)	38 (31.6)	16 (13.3)	10 (8.4)	3.17	Accepted
N = 120, Decision Rule = 2.50 Weighted Mean = 3.08						Agree	

The results in Table 1 show that all items recorded mean scores above the criterion mean of 2.50. This indicates that teachers' qualifications significantly influence students' interest in senior secondary school Physics in Odeda Local Government Area of Ogun State. The grand mean of 3.08 further confirms that students generally agree that well-qualified teachers enhance their interest in Physics.

Table 2: Descriptive analysis of the extent to which students' interest predicts their performance in secondary physics.

S/N	Statement	SA	A	D	SD	(\bar{X})	Decision
11	Students who are interested in Physics tend to perform better in the subject	38 (31.7%)	46 (38.3%)	29 (24.2%)	7 (5.8%)	2.96	Agree
12	Students' interest in Physics is a reliable indicator of their performance in the subject	36 (30.0%)	34 (28.3%)	41 (34.2%)	9 (7.5%)	2.80	Agree
13	Students who show a strong interest in Physics actively participate and complete assignments	41 (34.2%)	31 (25.8%)	27 (22.5%)	21 (17.5%)	2.70	Agree

14	There is a correlation between students' interest in Physics and their grades	38 (31.7%)	46 (38.3%)	29 (24.2%)	7 (5.8%)	2.96	Agree
15	Interested students seek additional Physics resources outside the classroom	46 (38.3%)	34 (28.3%)	29 (24.2%)	11 (9.2%)	2.94	Agree
16	Interest in Physics motivates students to ask questions and seek a more profound understanding	38 (31.7%)	46 (38.3%)	29 (24.2%)	7 (5.8%)	2.96	Agree
17	Lack of interest in Physics leads to difficulty in understanding concepts and poor performance	36 (30.0%)	34 (28.3%)	41 (34.2%)	9 (7.5%)	2.80	Agree
18	Student interest in Physics predicts future success in related careers	41 (34.2%)	31 (25.8%)	27 (22.5%)	21 (17.5%)	2.76	Agree
19	Interest in Physics affects students' willingness to invest extra study time	26 (21.7%)	38 (31.7%)	34 (28.3%)	22 (18.3%)	2.58	Agree
20	Students with genuine interest participate more effectively in Physics classes	38 (31.7%)	36 (30.0%)	29 (24.2%)	17 (14.1%)	2.80	Agree
N = 120, Decision Rule = 2.50 Weighted Mean = 2.80							Agree

The data in Table 2 reveal that all items recorded mean values above the criterion mean of 2.50. This indicates that students' interest in Physics significantly influences their academic performance. The weighted mean score of 2.80 further suggests that interest enhances students' participation, motivation, study habits, and achievement in Physics among senior secondary school students in Odeda Local Government Area of Ogun State.

Table 3: Descriptive analysis may indicate that students' interests affect their performance in secondary school physics

S/N	Statement	SA	A	D	SD	(\bar{X})	Decision
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21	Students' interest in Physics positively impacts their performance in the subject	48 (40.0%)	38 (31.7%)	34 (28.3%)	0 (0.0%)	3.12	Agree
22	Students who have an interest in Physics tend to perform better in examinations	38 (31.7%)	36 (30.0%)	22 (18.3%)	24 (20.0%)	2.68	Agree
23	Students' interest does not influence their performance in Physics	46 (38.3%)	34 (28.3%)	29 (24.2%)	11 (9.2%)	2.94	Agree
24	Students genuinely interested in Physics participate actively in class discussions	38 (31.7%)	46 (38.3%)	29 (24.2%)	7 (5.8%)	2.96	Agree
25	Students' interest in Physics motivates them to study and prepare for examinations	36 (30.0%)	34 (28.3%)	41 (34.2%)	9 (7.5%)	2.80	Agree
26	Students who lack interest in Physics struggle to perform well in the subject	41 (34.2%)	31 (25.8%)	27 (22.5%)	21 (17.5%)	2.76	Agree
27	Students' interest does not correlate with understanding complex Physics concepts	26 (21.7%)	38 (31.7%)	34 (28.3%)	22 (18.3%)	2.58	Agree
28	Nurturing students' interest in Physics leads to improved performance	38 (31.7%)	36 (30.0%)	29 (24.2%)	17 (14.1%)	2.80	Agree
29	Students' interest has no impact on willingness to seek additional learning resources	41 (34.2%)	43 (35.8%)	19 (15.8%)	17 (14.2%)	2.90	Agree
30	Students interested in Physics contribute	43 (35.8%)	38 (31.7%)	29 (24.2%)	10 (8.3%)	2.96	Agree



	positively to the overall academic performance						
	N = 120, Decision Rule = 2.50 Weighted Mean = 2.85						Agree

Table 3 shows that all items recorded mean values above the criterion mean of 2.50, indicating that students' interest significantly affects their performance in secondary school Physics. The weighted mean score of 2.85 suggests that interest positively influences students' motivation, participation, understanding of concepts, and examination performance among senior secondary school students in Odeda Local Government Area of Ogun State.

Discussion of findings

The findings from Table 1 revealed that teachers' qualifications significantly influence students' interest in senior secondary school Physics. All the questionnaire items recorded mean scores above the criterion mean of 2.50, indicating general agreement among the respondents that well-qualified Physics teachers enhance students' interest in the subject. This suggests that teachers with strong academic and professional qualifications are better able to present Physics concepts clearly, confidently, and engagingly, thereby stimulating students' curiosity and interest.

This finding aligns with the views of Laghari et al. (2022), who asserted that teachers' academic and professional qualifications are critical determinants of effective teaching and students' interest in learning. Similarly, Melesse et al. (2025) reported that qualified science teachers are more likely to adopt appropriate instructional strategies that make abstract scientific concepts more understandable and appealing to students. The implication is that when students perceive their teachers as knowledgeable and competent, they are more motivated to engage with the subject.

Furthermore, Choudhary et al. (2019) found that students taught by professionally trained science teachers showed higher interest and positive attitudes toward Physics than those taught by less qualified teachers. This supports the present study's findings that teachers' qualifications play a vital role in shaping students' interest in Physics within secondary schools in Odeda Local Government Area of Ogun State.

The results in Table 2 indicate that students' interest in Physics significantly influences their academic performance. All items recorded mean scores above the criterion mean of 2.50, with a weighted mean of 2.80. This indicates that students who show greater interest in Physics tend to perform better academically, participate actively in class, complete assignments, and demonstrate a deeper understanding of the subject.

This finding is consistent with Okebukola (2015), who emphasized that interest is a decisive motivational factor that drives students' engagement and achievement in science subjects. According to Aremu and Sokan (2016), students who develop an interest in a subject are more likely to invest time, effort, and attention, which, in turn, translates into improved academic performance.



In addition, Onah and Anamezie (2022) reported a significant relationship between students' interest and their academic achievement in science subjects, including Physics. They observed that a lack of interest often results in poor concentration, minimal participation, and low achievement. The present study, therefore, confirms that fostering students' interest in Physics is essential for improving their performance at the senior secondary school level.

The findings from Table 3 further reinforced the significant effect of students' interest on their performance in Physics. All the statements recorded mean values above 2.50, with a weighted mean of 2.85, indicating that respondents agreed that students' interest positively affects examination performance, class participation, study habits, and overall academic achievement.

These findings corroborate the work of Nkemdili et al. (2025), who found that students' interest significantly predicts their academic performance in science subjects. Similarly, Okafor O. S. (2020) reported that students with a high interest in Physics are more likely to seek additional learning resources, ask questions, and engage in independent study, which enhances their academic success.

The findings also support Bandura's Social Cognitive Theory, which posits that motivation and interest influence learners' behavior and academic outcomes. When students are interested in a subject, they develop positive learning behaviors that promote higher achievement. Therefore, this study's results confirm that students' interest is a critical factor in determining their performance in secondary school Physics.

Conclusion

This study examined the effect of teachers' qualifications and students' interest on the academic performance of senior secondary school students in Physics, using selected secondary schools in Odeda Local Government Area of Ogun State as a case study. The study's findings indicate that both teachers' qualifications and students' interests play important roles in determining students' performance in Physics.

The results revealed that teachers with appropriate academic and professional qualifications contribute significantly to students' interest in Physics. When Physics teachers demonstrate sound knowledge of the subject and employ effective teaching methods, students tend to show greater enthusiasm, participate more actively in class, and develop a positive attitude toward learning Physics. This increased interest creates a more supportive learning environment that encourages understanding and retention of Physics concepts.

The study also found that students' interest in Physics significantly influences their academic performance. Students who are genuinely interested in the subject are more motivated to study, complete assignments, ask questions, and seek additional learning resources. These behaviors were found to translate into better academic outcomes than those of students who show little or no interest in the subject.



Based on the overall findings, improving the quality of Physics teaching by employing well-qualified teachers and adopting teaching strategies that stimulate students' interest will enhance students' performance in Physics. Therefore, efforts to strengthen teacher quality and foster students' interest should be given priority in secondary schools to improve Physics achievement and promote better learning outcomes.

Recommendation

Based on the findings and conclusions of this study on the effect of teachers' qualifications and students' interest on the academic performance of senior secondary school students in Physics, the following recommendations are made:

1. Employment of Qualified Physics Teachers.
2. Regular Training and Professional Development.
3. Use of Student-Centred Teaching Methods.
4. Provision of Adequate Instructional Materials.
5. Encouragement of Positive Learning Attitudes.
6. Monitoring and Supervision of Physics Instruction.
7. Inclusion of Interest-Stimulating Activities.

These recommendations, if properly implemented, will improve students' interest and performance in Physics and support the overall goal of enhancing science education in secondary schools.

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