

Relationship Between Teacher Professional Qualification and Academic Achievement in English Language and Mathematics of Public Senior Secondary School Students in Federal Capital Territory, Abuja, Nigeria

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Abstract

This study explored the relationship between teacher professional qualification and academic achievement in English language and Mathematics of public senior secondary school students in Federal Capital Territory (FCT), Abuja, Nigeria. Five objectives, three research questions and three null hypotheses guided the study. Correlational survey research design was adopted for the study. The population comprised all teachers and students in the 88 public senior secondary schools in FCT, with a population of 4,171 teachers and 85,584 students, and a sampled size of 151 teachers and 375 students. Purposive and simple random sampling techniques were employed for the study. Two research instruments which includes Teacher Educational Qualification Questionnaire (TEQQ) for teachers, and academic record from WAEC from 2021-2024 for students were used for data collection. Data collected were analysed using standard deviation and mean score for research questions. Pearson Product Moment Correlation Coefficients (r) (PPMCC), ANOVA and independent sample t-test were used to test the hypotheses. The findings revealed among others that there is significant relationship between teacher professional qualification and academic achievement of public senior secondary school students in FCT; there is significant difference in the level of teacher professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of senior secondary school students in FCT. It was recommended among others that the FCT Secondary Education Board (SEB) should uphold teacher recruitment standard especially for core subjects such as Mathematics and English language, and institute a biennial audit of its teacher database to detect unqualified personnel.

Keywords: Teacher, Professional Qualification, Academic Achievement, English Language, Mathematics

Introduction

Education remains a major catalyst for socio-economic development, individual refinement and national growth, globally. At the core of any effective educational system are teachers, who are widely regarded as the most significant school-based factor influencing instructional quality and learning outcomes (Osei-Owusu, 2022). The effectiveness of teaching and learning process could largely be determined by teachers' competence, pedagogical skills, and, professional qualifications, which may collectively shape classroom practices and students' learning

experiences. Teacher professional qualification constitutes a critical determinant of instructional effectiveness. Onacha (2023) revealed that 60% of teachers in public schools and 67% in private schools are not qualified to teach basic science. Ali (2017) opined that teachers' qualifications are specific skills, experiences, or knowledge that make an individual suitable for teaching. It refers to the formal training and certification acquired by teachers through recognized institutions, including the Nigeria Certificate in Education (NCE), Bachelor of Education (B.Ed.), Postgraduate Diploma in Education (PGDE), Master of Education (M.Ed.), and other accredited teaching qualifications (Aina & Olanipekun, 2021). These qualifications are designed to equip teachers with essential competencies in lesson planning, instructional delivery, classroom management, and assessment practices. Which may be associated with students' academic achievement.

Academic achievement refers to the measurable learning outcomes attained by students, typically reflected in their performance in examinations and assessments. Amie-Ogan and Omunakwe (2020) opined that academic achievement or performance is the consequence of teaching and learning. Ali et al. (2020) explicated that academic performance is a measurable and observable behaviour of a student within a specific period. They added that it consists of scores obtained by a student in an assessment such as class exercise, class test, mid-semester, mock examination, and end of semester examination. In Nigeria, concerns over students' academic achievement in senior secondary schools have persisted despite several educational reforms such as the Universal Basic Education (UBE) programme (2015), the implementation of the 9-3-4 system of education, curriculum reviews by the Nigerian Educational Research and Development Council, and teacher professionalization by the Teachers Registration Council of Nigeria. However, academic achievement of senior secondary school students in Nigeria and the FCT continue to generate concern. Evidence from external examination reveal persistent unstable trend of students' performance, particularly in the West African Examination Council (WAEC). For instance, statistics by WAEC from 2021-2025 showed that in 2021, 81.7% of students who sat for WAEC obtained credits in at least five subjects including English Language and Mathematics, but declined to 76.36% in 2022, slightly improved to 79.81% in 2023, dropped again to approximately 72.12% in 2024 and by 2025, it dropped drastically to approximately 38.32% (West African Examination Council WAEC, 2023 & Vanguard, 2025). These statistics suggest that although some marginal improvements have been recorded over the years, a significant proportion of senior secondary school students in Nigeria still perform below expected standards in the external examination.

The unstable trend of students' academic performance continues to raise concerns among educators, policymakers, and stakeholders about the effectiveness of educational reforms and the quality of teaching and learning among senior secondary school students. Especially in external examinations such as the West African Senior School Certificate. In the Federal Capital Territory (FCT), Abuja, the situation reflects a complex mix of educational realities. Senior secondary schools comprise both public and private institutions with varying standards in teacher recruitment, qualification, and professional development. Adu and Olaniyi (2018) indicated that teachers with higher educational qualifications, particularly those with postgraduate degrees, had a significantly positive impact on students' academic achievement. Dare (2021) showed a strong positive relationship between teachers' qualifications and student performance, with particularly marked effects in subjects such as English and Mathematics. Yara (2024) emphasized that teachers with good qualifications and communication skills, as well as effective use of teaching aids, positively influence instructional effectiveness. Other studies have consistently underscored a strong link between teacher professional qualification and academic achievement of students. For instance, Abe (2020) highlighted that teacher qualification significantly influences students' academic

performance in secondary schools, while Adeyemi (2021) reported a positive relationship between teacher professional qualification and students' achievement. Similarly, Kini and Podolsky (2019) identified teacher education and experience as strong predictors of students' academic success. Ajayi (2017) revealed that teachers with a Certificate (Nigeria Certificate in Education (NCE)) and a Bachelor of Science in Education (B.Sc.Ed.) differ significantly in the course of instruction from teachers with a Bachelor of Science in Education (B.Sc.) and a Master's Degree in Science Education (M.Sc.Ed). Similarly, Tugume et al. (2024) assert that formal professional training enhances individuals' competence and productivity, while in the educational context, it strengthens teachers' ability to facilitate meaningful learning. From the perspective of pedagogical content knowledge, effective teaching requires not only subject mastery but also the ability to transform content into forms that are accessible to learners (Shulman, 2021). Teachers with strong professional backgrounds are therefore better positioned to simplify complex concepts, utilize relevant instructional materials, and adapt teaching strategies to meet the diverse needs of learners (Aina & Olanipekun, 2021). professionally qualified teachers contribute significantly to creating supportive and engaging learning environments. They are more effective in motivating students, managing classroom interactions, and fostering active participation, all of which are essential for improved learning outcomes (Darling-Hammond, 2023). As noted by Olaifa et al. (2025), continuous professional development further enhances teachers' instructional effectiveness, thereby leading to improved student performance. Given this relationship between teacher professional qualification and academic achievement as highlighted, attention has increasingly shifted to how gender could moderate as an indicator of educational effectiveness.

The relationship between teacher professional qualification and students' academic achievement may not operate uniformly across all categories of students. One important variable that may influence this relationship is gender. Gender differences in academic achievement have attracted considerable scholarly attention, particularly at the senior secondary school level where students begin to develop stronger academic identities and career interests. Existing studies present mixed findings regarding the academic performance of male and female students. Some researchers report that female students tend to perform better in language-related subjects such as English Language, while male students often demonstrate stronger performance in science-oriented subjects such as Mathematics and Physics (Hyde, 2024). Other studies, however, maintain that these differences are not biologically determined but are largely influenced by socio-cultural factors such as parental expectations, gender stereotypes, peer influence, teacher attitudes, and classroom interactions (Eccles & Wigfield, 2020). Furthermore, classroom practices and teacher characteristics have been found to either reduce or reinforce gender disparities in academic achievement. Professionally qualified teachers are generally better equipped to apply gender-sensitive instructional strategies, encourage equal classroom participation, and create inclusive learning environments that support both male and female students. In contrast, less qualified teachers may unknowingly reinforce gender biases through differential treatment, uneven participation opportunities, or stereotypical expectations. Thus, gender may interact with teacher professional qualification in shaping students' academic achievement outcomes UNESCO, 2019). Despite the extensive body of literature emphasizing the importance of teacher professional qualification, many existing studies have concentrated on broad teacher-related variables such as teacher effectiveness, teaching experience, school facilities, and instructional practices. Comparatively few studies have specifically examined the relationship between teacher professional qualification and academic achievement of senior secondary school students in English language and Mathematics in Federal Capital Territory, Abuja. Furthermore, limited

empirical attention has been given to the possible role of gender in the relationship between teacher professional qualification and students' academic achievement. This gap in the literature creates the need for a context-specific investigation into the relationship between teacher professional qualification and academic achievement of senior secondary school students in Federal Capital Territory (FCT), Abuja. While also examining whether gender difference exist in students' academic achievement based on teacher professional qualification.

Statement of The Problem

Teacher professional qualification is a key factor in determining the quality of instructional delivery and, by extension, student's academic success. UNESCO emphasizes that well-trained and professionally qualified teachers are essential for improving learning outcomes and ensuring quality education (UNESCO, 2024). Professionally qualified teachers are equipped with formal training, subject knowledge, and pedagogical skills that enable them to plan lessons effectively, use appropriate teaching strategies, assess students accurately, and manage the classroom efficiently. These competencies help create a supportive learning environment where students can better understand concepts, stay engaged, and perform well academically.

In the Federal Capital Territory (FCT), the importance of teacher professional qualification becomes even more evident due to the diversity of schools and teaching standards. While the researchers' observation indicates that some schools maintain high standards by employing well trained, highly qualified and certified teachers with relevant qualifications such as Nigeria Certificate in Education (NCE), Post Graduate Diploma in Education (PGDE), B.Ed., B.A.Ed., B.Sc.Ed, M.Ed, M.A.Ed., M.Sc.Ed. Others face challenges such as teacher shortages and limited resources, leading to the employment of less qualified or teachers with lower educational qualification (Senior secondary school certificate (SSCE), B.A., B.Sc., B.Eng, M. A, M.Sc, M.Eng) in senior secondary schools in FCT bearing in mind NCE being the minimum prerequisite qualification for teaching in Nigeria. This variation may contribute to differences in the quality of instruction students receive across schools. Recent statistics of standardized external examination such as the West African Examinations Council (WAEC) indicates that although there have been periods of improvement, overall performance in Nigeria has remained unstable. For instance, the percentage of candidates obtaining five credits including English and Mathematics in WASSCE increased to about 81.7% in 2021 but declined to 76.36% in 2022, slightly improved to 79.81% in 2023, and dropped again to approximately 72.12% in 2024, and by 2025, it dropped drastically to approximately 38.32% (West African Examinations Council WAEC, 2023 & Vanguard, 2025). This trend is equally synonymous with the FCT especially in English language and Mathematics which are core subjects in senior secondary schools. In English language for instance, available data show a 91.56% increase in 2021, with a decline to 85.73% in 2022, and a drastic drop to 49.02% in 2023, improved to 70.2% in 2024. In Mathematics, data reveal 86.55% in 2021, 60.14% in 2022, 82.84% in 2023, 87.57% in 2024. In 2025, data for FCT seems to be somehow sketchy. However, the combined performance of students in English language and Mathematics may be close to or a little bit above the national statistics of 38.32%. These fluctuations suggest underlying systemic issues affecting student's academic achievement. Although most existing studies have focused on teacher competence, teaching experience, school facilities, or students' study habits, with limited attention given to the specific impact of teacher professional qualification on students' academic achievement within the FCT, Abuja. Furthermore, it remains unclear whether teacher professional qualification could be associated with students' academic achievement. And also, if such differences vary across gender. The absence of sufficient empirical evidence on these issues

especially as it may vary across gender within the FCT creates a gap in knowledge that requires investigation. It is against this background that this study seeks to examine the relationship between teacher professional qualification and academic achievement in English language and Mathematics of senior secondary school students in Federal Capital Territory (FCT), Abuja, with a view to providing empirical evidence that may guide educational policy, teacher recruitment practices, and professional development programmes aimed at improving students' academic outcomes.

Objectives

The study sought to:

1. determine the status of teachers' professional qualification in public senior secondary schools in FCT, Abuja;
2. assess the academic achievement in English Language and Mathematics of public senior secondary school students in FCT, Abuja;
3. examine the relationship between teacher professional qualification and academic achievement of public senior secondary school students in FCT, Abuja.
4. ascertain the difference in teacher level of professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of public senior secondary school students in FCT, Abuja;
5. determine the gender difference in the academic achievement of students based on teacher professional qualification in public senior secondary schools in FCT, Abuja.

Research Questions

The study was guided by the following research questions.

- (i) What is the status of teachers' professional qualification in public senior secondary schools in the Federal Capital Territory (FCT), Abuja?
- (ii) What is the academic achievement in English Language and Mathematics of public senior secondary school students in FCT, Abuja?

Hypothesis

The following null hypotheses were hypothesized and tested at 0.05 level of significance.

H₀₁: There is no significant relationship between teacher professional qualification and academic achievement of public senior secondary school students in FCT, Abuja.

H₀₂: There is no significant difference in the level of teacher professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of public senior secondary school students in FCT, Abuja.

H₀₃: There is no gender difference in the academic achievement of students based on teacher professional qualification in public senior secondary schools in FCT, Abuja.

Methodology

Research Design

The research design employed for this study was a correlational survey research design. According to Barkha et al. (2022), correlational survey research design is a study design for examining the relationships between or among two or more variables in a single group, which can occur at several levels. This design is appropriate in uncovering associations between two distinct groups of variables, or differences among groups of continuous variables without any sort of manipulation. Gidado et al. (2026) asserted that correlational research design is very appropriate in providing

insights on how the independent and dependent variables are correlated without any manipulation. This method was adopted because it is suitable for the study in that, the study is based on determining the relationship between teacher professional qualification and academic achievement of senior secondary school students in FCT. And also, the difference in students' achievement in English language and Mathematics based on teacher professional qualifications.

Population of the Study

The population of this study comprised of all teachers and students of public senior secondary schools in the Federal Capital Territory (FCT). According to available data obtained from the FCT education board, the total number of teachers and students in the 88 public senior secondary schools in the FCT is 4,171 for teachers and 85,584 for students. *Source: (FCT Secondary Education Board Schools Population, 2022/2023).*

Sample Size and Sampling Procedure

The sample size for this study is 151 teachers and 375 students in the selected public senior secondary schools in FCT. This was determined using Glenn (2012) who specified 10% - 20% as appropriate sample size for any given population, and Krejcie and Morgan (1970) table (see Appendix IV). For teachers, 20% was employed based on (Glenn, 2012). While for students, Krejcie and Morgan (1970) table for determining sample size for specific population was used. A multi stage sampling procedure was employed for the study. At the first stage, twelve (12) public senior secondary schools were purposively selected from the eighty-eight (88) in the study area. This was aimed at ensuring equal representation of all educational zones and the six area councils in the FCT. At the second stage, simple random sampling technique was employed to determine the sample size of teachers and students from the twelve (12) selected public senior secondary schools using a proportionate procedure. See table 1 and 2 below.

Table 1: Sample Size of selected public senior secondary schools and teachers in FCT

S/No.	Name of Secondary School	Population of Teachers	Sample size (%20)
1.	Government Day Secondary School Abaji	20	4
2.	Government Secondary School Yaba	24	5
3.	Government Secondary School Garki	71	14
4.	Government Secondary School Apo	74	15
5.	Government Secondary School Bwari	94	19
6.	Government Secondary School Kubwa	121	24
7.	Government Secondary School Gwagwalada	95	19
8.	Government Secondary School Zuba	91	18
9.	Government Secondary School Kuje	102	20
10.	Government Secondary School Kiyi	25	5
11.	Government Secondary School Yangoji	19	4
12.	Government Secondary School Bako	21	4
Total =		757	151

Source: (FCT Secondary Education Board, 2022/2023)).

As shown in Table 1, the sampled Size of selected public senior secondary schools and teachers in FCT was presented. The sampled size of 151 respondents which represents twenty percent (20%) drawn from the total population of 757 teachers was done according to Glenn (2012) who affirmed that, twenty percent of a total population could be selected as the sample size of a study.

Table 2: Sample Size of selected public senior secondary schools and students in FCT using proportionate procedure

S/No.	Name of Secondary School	Population of Students	Sample size
1.	Government Day Secondary School Abaji	560	11
2.	Government Secondary School Yaba	590	11
3.	Government Secondary School Garki	1673	32
4.	Government Secondary School Apo	141 2	27
5.	Government Secondary School Bwari	2410	46
6.	Government Secondary School Kubwa	2758	53
7.	Government Secondary School Gwagwalada	3550	68
8.	Government Secondary School Zuba	1421	27
9.	Government Secondary School Kuje	3275	63
10.	Government Secondary School Kiyi	598	11
11.	Government Secondary School Yangoji	642	12
12.	Government Secondary School Bako	730	14
Total =		19,619	375

Source: (FCT Secondary Education Board, 2022/2023)

As shown in Table 2, the sampled Size of selected public senior secondary schools and students in FCT was presented. The sampled size of 375 respondents which was drawn from the total population of 19,619 students according to Krejcie and Morgan (1970) table for determining sample size for specific population.

3.5 Instrumentation

Two research instruments were utilised for data collection for teachers and students. For teachers, a researcher structured questionnaire titled Teacher Educational Qualification Questionnaire (TEQQ). The questionnaire was used to find out the educational qualification of teachers in the FCT. The questionnaire was made up of two sections; section (A) consisted of personal information of the respondents such as teacher professional qualification and gender, section (B) comprised 10 items with statements on educational qualification of teachers in FCT. The questionnaire was structured based on the four-point modified Likert's type scale where the respondents indicated their opinion on the statements as appealed to them, for example Key: SA - Strongly Agree; A - Agree; D - Disagree; SD - Strongly Disagree. For students, the instrument used for data collection was academic record from the West African Examination Council (WAEC) from 2021-2024. This was employed to ascertain students' academic achievement.

3.6 Validity and Reliability of the Instrument

In order to ensure the validity of the instrument, the Teacher Educational Qualification Questionnaire (TEQQ) was given to two experts in test, measurement and evaluation to ascertain for face, content and construct validity. The experts also examine the instrument to ensure the items relates to the purpose of the study and research questions. The comments and suggestions made were incorporated in the final copy of the questionnaire before it was approved and produced for data collection. To determine the reliability of the instrument, the questionnaire was pilot tested by the researcher using teachers and in Government Day Secondary school Gwagwalada who were not part of the main study, but within the study area. Twenty (20) copies of the questionnaire were distributed to the teachers. The trail testing was aimed at establishing if the items in the questionnaire were relevant for the study. Data collected were subjected to Cronbach Alpha statistic in order to determine the internal consistency of the items in the questionnaire. A reliability coefficients (r) index of .72 was obtained. The rationale for the use of Cronbach Alpha is on the basis that items were not dichotomously shared right or wrong, rather were placed on a four-point modified Likert scale.

3.7 Data Collection Procedure

The researcher presented a written introductory letter to the management of the various secondary schools where the research was conducted to facilitate ease of data collection from the respondents (teachers). The researcher also employed the services of three trained research assistants to help in the distribution of questionnaires in three different secondary schools, while the researcher personally distributed in the remaining three schools. The researcher and research assistants guided the respondents where their necessary assistance was needed.

After two weeks of distribution of the questionnaires, the researcher went back to the various schools and collected the completed copies from the research assistants and respondents. All the responses collated by the researcher were tabulated ready for statistical analysis.

3.8 Method of Data Analysis

The data obtained through the use of questionnaire was subjected to statistical analysis in tabular form using appropriate statistical tools. Simple percentages, frequency count and mean score were used for demographic data and the research questions. The research questions were graded on a score of 2.50. signifying that any item with a mean score of 2.50 and above was considered “Agree” while those that scored below was considered “Disagree”. The hypotheses were tested using Pearson Product Moment Correlation Coefficients (r) (PPMCC) to test hypothesis one, ANOVA analytical tool for hypothesis two, and independent sample t-test for hypothesis three. PPMCC is considered appropriate in establishing the relationship between two independent groups of variables. ANOVA is suitable in determining the differences in the means of more than two groups of variables. While t-test is considered suitable because it allows for the determination of the difference between the means of two groups of variables

Results

Research Question One: What is the status of teachers’ professional qualification in senior secondary schools in Federal Capital Territory (FCT), Abuja?

Table 3: Status of Teachers Professional Qualification in Senior Secondary Schools in Federal Capital Territory (FCT), Abuja
N = 151

S/No.	Statement	Mean	Std Dev.	Decision
1.	I am professionally qualified and trained to teach English language or Mathematics	2.64	.523	Agree
2.	Many teachers in my school are not qualified to teach English language or Mathematics	2.84	.496	Agree
3.	Teacher professional qualification enhances proper lesson planning and content delivery	3.24	.466	Agree
4.	My educational qualification enhances my efficiency to teach English or Mathematics which improves academic achievement of students in these subjects	2.36	.572	Disagree
5.	With my higher educational qualification, students perform well in English or Mathematics	2.22	.567	Disagree
6.	Teachers with B.A.Ed. and B.Sc. Ed. teach English and Mathematics better than those with NCE	3.43	.439	Agree
7.	Teachers with M.A.Ed. and M.Sc. Ed. teach English and Mathematics better than those with B.A. Ed. and B.Sc. Ed.	2.87	.479	Agree
8.	Teachers with PGDE teach English or Mathematics better than those with NCE	2.59	.533	Agree
9.	Teachers with B.A.Ed. and B.Sc. Ed. teach English and Mathematics better than those with B.A. and B.Sc. in English language and Mathematics respectively	2.44	.514	Disagree
10.	Teachers with professional qualification use more student-centered methods than those without professional qualification	3.39	.417	Agree
Sectional Mean		2.80		Agreed

As shown in Table 3, the status of teachers' professional qualification in senior secondary schools in Federal Capital Territory (FCT), Abuja was presented. The Table shows a sectional mean of 2.80, indicating that over average of the respondents except for items 4, 5 and 9 which disagreed, all other responses were agreed on the statements of status of teachers' professional qualification in public senior secondary schools in Federal Capital Territory (FCT), Abuja. This is in agreement with the decision rule that any value within 2.50 and above be adjudged as agree and below be considered as disagree.

Research Question Two: What is the academic achievement in English Language and Mathematics of public senior secondary school students in FCT, Abuja?

Table 4: Academic Achievement in English Language and Mathematics of Public Senior Secondary School Students in FCT, Abuja
N = 375

Subjects	Minimum	Maximum	Mean
Mathematics	24.00	84.00	54.00
English Language	23.00	82.16	52.58
Academic Achievement	23.05	85.08	53.29

As shown in Table 4, the academic achievement in English Language and Mathematics of public senior secondary school students in FCT, Abuja was presented. The Table shows that the minimum score in mathematics is 24.00, while the maximum score is 84.00 with the mean score of 54.00, The Table further shows a minimum score in English Language of 23.00, while the maximum is 82.16 with an average score of 52.58. The Table also shows an overall academic achievement minimum score of 23.05, with a maximum of 82.50, with an overall mean score of 53.29. This implies that, the academic achievement in English Language and Mathematics of public senior secondary school students in FCT, Abuja was slightly above average.

Hypotheses

The null hypotheses were tested using Independent Samples t-test, Pearson Product Moment Correlation Co-efficient (r) (PPMCC) and Multiple Regression. All the hypotheses were tested at 0.05 level of significance.

H₀₁: There is no significant relationship between teacher professional qualification and academic achievement of public senior secondary school students in FCT, Abuja.

Table 5: PPMC Correlation Test between teacher professional qualification and academic achievement of senior secondary school students in FCT, Abuja.

Variables	N	$\bar{X}$	SD	r-cal	p-value	Decision
Teacher Professional Qualification and Academic Achievement	375	3.16	.68	.114*	.004	Significant

Correlation is significant at 0.05 level (2-tailed) PPMC

As shown in Table 5, a PPMC correlation test between teacher professional qualification and academic achievement of public senior secondary school students in FCT, Abuja was presented. The Table indicated a positive value of 'r' which points to direction of relationship between professional qualification and academic achievement. Showing that increase in one variable corresponds to increase in the other. The significant value of .004 which is less than 0.05 level of significance indicates a significant relationship between teacher professional qualification and academic achievement of public senior secondary school students in FCT. The null hypothesis was therefore rejected.

H₀₂: There is no significant difference in the level of teacher professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of public senior secondary school students in FCT, Abuja.

Table 6: One-way ANOVA analysis of the Difference in the Level of Teacher Professional Qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on Academic Achievement of Senior Secondary school students in FCT, Abuja

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	29.648	4	33.648	34.639	.003
Within Groups	366.528	370	.991		
Total	396.176	374			

As shown in Table 6, a one-way ANOVA analysis of the difference in the level of teacher professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of senior secondary school students in FCT, Abuja was presented. The Table indicates treatment between groups with a sum of square of 29.648 while error within groups indicates a sum of square of 366.176. The Table further revealed a mean square for treatment between groups of 33.648 with mean square for error within groups of .601. The Table also reveals a probability value (p-value) of .004 which is less than the critical value of 0.05 at the alpha level. This implies that there is significant difference in the level of teacher professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of senior secondary school students in FCT. Therefore, the hypothesized null hypothesis was rejected.

H₀₃: There is no gender difference in the academic achievement of students based on teacher professional qualification in public senior secondary schools in FCT, Abuja.

Table 7: Independent Sample t-test on Gender Difference in the Academic Achievement of Students Based on Teacher Professional Qualification in Senior Secondary Schools in FCT, Abuja

Variables	N	X	SD	Df	t-value	Sig.(P)	Decision
Male	183	2.63	0.35	373	6.842	.003	Rejected
Female	192	2.68	0.36				

***=significant at 0.05 level (p<0.05)**

As shown in Table 7, an independent sample t-test on gender difference in the academic achievement of students based on teacher professional qualification in public senior secondary schools in FCT, Abuja was presented. A significant value of .003 (less than the 0.05 level of significance) was recorded. This shows that there was a significant difference. The null hypothesis was therefore rejected. This implies that there is significant gender difference in the academic achievement of students based on teacher professional qualification in public senior secondary schools in FCT, Abuja.

Discussion

The study found that, most teachers in public senior secondary schools in Federal Capital Territory (FCT), Abuja are professional qualified. This is in accordance with Helen et al. (2025) who highlighted that the difference in the percentage of qualified biology teachers between public and private secondary schools is statistically significant, favoring public senior secondary schools. They also posited that public senior secondary schools are generally subject to stricter state and

federal regulations regarding teacher qualifications and training. Similarly, Ichazu and Omorogie (2020) opined that 169 teachers represented by 49% had OND/NCE; 105 teachers representing 30% had HND/ B.Sc./ B.Sc.Ed qualification while 75 teachers representing 21% had M.Sc/M.Ed. They concluded that the majority of the respondent teachers has the minimum qualification required. On the contrary, Onacha (2023) revealed that 60% of teachers in public schools and 67% in private schools are not qualified to teach basic science. The study also revealed that, the academic achievement in English Language and Mathematics of public senior secondary school students in FCT, Abuja was slightly above average. This is consistent with Gidado and Diffang (2024) who revealed that the overall academic achievement of students in the FCT was somewhat slightly above average. Similarly, Mohammed et al. (2024) highlighted that the mean academic performance scores of senior secondary school students were average including English and Mathematics. However, Gidado et al. (2023) discovered that the academic achievement of students is below average with mean score of 45.76%. The study equally showed that, there is significant relationship between teacher professional qualification and academic achievement of public senior secondary school students in FCT. This is supported by Adu and Olaniyi (2018) who indicated that teachers with higher educational qualifications, particularly those with postgraduate degrees, had a significantly positive impact on students' academic achievement. Dare (2021) showed a strong positive relationship between teachers' qualifications and student performance, with particularly marked effects in subjects such as English and Mathematics. Okunade (2022) revealed that teachers with advanced degrees, particularly those with Master's and Doctoral qualifications, significantly contributed to higher student achievement. Similarly, Yusuf and Dada (2016) emphasized that students taught by teachers with professional teaching qualification in Education such as B.Ed, M.Ed, M.AEd, M.Sc Ed Ph.D in Education performed better than those taught by non-professional teachers without teaching qualification. Also, Yara (2024) emphasized that teachers with good qualifications and communication skills, as well as effective use of teaching aids, positively influence instructional effectiveness. In a contrary view, Musau and Abere (2015) found no significant relationship in the performance of students taught by professionally qualified teachers. The study further revealed that, there is significant difference in the level of teacher professional qualification (NCE, PGDE, B.Ed, M.Ed & PhD) on academic achievement of senior secondary school students in FCT. This is in conformity with Ajayi (2017) who revealed that teachers with a Certificate (Nigeria Certificate in Education (NCE)) and a Bachelor of Science in Education (B.Sc.Ed.) differ significantly in the course of instruction from teachers with a Bachelor of Science in Education (B.Sc.) and a Master's Degree in Science Education (M.Sc.Ed). Okunade (2022) also conform that teachers with advanced degrees, particularly those with Master's and Doctoral qualifications, significantly contributed to higher student achievement. Similarly, Yara (2024) concluded that teachers with good qualifications and communication skills, as well as effective use of teaching aids, positively influence instructional effectiveness. The study also showed a significant gender difference in the academic achievement of students based on teacher professional qualification in public senior secondary schools in FCT, Abuja. This is in agreement with Hyde (2024) who conform that female students tend to perform better in language-related subjects such as English Language, while male students often demonstrate stronger performance in science-oriented subjects such as Mathematics and Physics. Eccles and Wigfield (2020) maintained that these differences are not biologically determined but are largely influenced by socio-cultural factors such as parental expectations, gender stereotypes, peer influence, teacher attitudes, and classroom interactions. Gender may interact with teacher professional qualification in shaping students' academic achievement outcomes (UNESCO, 2019).

Recommendations

Based on the findings of this study, the following recommendations were.

1. The FCT Secondary Education Board (SEB) should uphold teacher recruitment standard especially for core subjects, especially Mathematics and English language, and institute a biennial audit of its teacher database to detect unqualified personnel.
2. Senior secondary school administrators in FCT should ensure that teachers with higher educational qualifications (M.A. Ed & M.Sc. Ed) are strategically positioned to teach English language and Mathematics to students with consistent low academic performance.
3. The FCT Secondary Education Board (SEB) should, where applicable, prioritize candidates with TRCN certification and subject-area specialization for employment.
4. The FCT Secondary Education Board (SEB) should enforce minimum qualification standard; all teaching personnel in senior secondary schools in FCT should possess a minimum of PGDE, B.Ed., B.A. Ed or B.Sc. Ed based on their requisite area of specializations.
5. The FCT Secondary Education Board (SEB) should, where applicable, prioritize candidates with TRCN certification and subject-area specialization for employment of both male and female teachers with special consideration given to male teachers.

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