

EFFECTIVENESS OF TEACHER PROFESSIONAL DEVELOPMENT PROGRAMMES IN IMPROVING STUDENT LEARNING OUTCOME IN TERTIARY INSTITUTIONS IN LAGOS STATE, NIGERIA

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Abstract: This study investigated the impact of teacher professional development programs on student learning outcomes in tertiary institutions within Lagos State, Nigeria. A descriptive research design was employed to explore the relationship between these variables. Five tertiary institutions were purposefully selected, with a sample of 250 participants (200 students and 50 lecturers) randomly chosen from each. Data was collected using the Teacher Professional Development Programme and Student Learning Outcome Questionnaire (TPDPSLOQ), a validated instrument with a Cronbach's Alpha reliability coefficient of 0.791. Descriptive statistics and Chi-square analysis were used to examine the data. Findings revealed a moderate implementation of teacher professional development programs and a significant positive impact on student learning outcomes. Furthermore, the study indicated that different types of professional development programs varied in their effectiveness on student learning. This research underscores the importance of well-designed and implemented professional development programs in enhancing tertiary education. The research concludes that while teacher professional development programs have a positive impact on student learning, optimizing their effectiveness requires further exploration and targeted interventions. The study recommends that there is need to conduct a comprehensive evaluation of the current teacher professional development programmes in tertiary institutions in Lagos State to determine areas of improvement and to identify best practices that can be replicated. Also, the researcher recommended that there is need to implement a variety of teacher professional development programmes, including workshops, seminars, online courses, and mentoring programs, to cater to different learning styles and preferences of educators in tertiary institutions.

Keywords: Effectiveness, Students, learning outcome, professional development programmes and tertiary institutions.

I. Introduction

Teacher professional development is a vital component of improving student learning outcome in tertiary institutions. The effectiveness of these development programs in enhancing teaching practices and ultimately student performance has been a topic of interest for researchers and educators worldwide. The effectiveness of teacher professional development (TPD) programs is a critical area of research, particularly in the context of improving student learning outcome in tertiary institutions. In Nigeria, where educational challenges persist, understanding how TPD can enhance teaching practices and subsequently influence student performance is essential. Teacher Professional Development (TPD): TPD refers to the continuous education and training that teachers undergo to enhance their skills, knowledge, and effectiveness in the classroom. According to Desimone (2019), TPD encompasses various activities, including workshops, seminars, mentoring, and collaborative learning opportunities aimed at improving teaching practices.

Student Learning Outcome: Student learning outcome are defined as the knowledge, skills, attitudes, and competencies that students are expected to acquire as a result of their educational experiences. These are essential indicators of the quality of education and the effectiveness of teaching practices in tertiary institutions. Improving student learning outcome is a primary goal of education, as it enhances student success, engagement, and retention. High-quality learning outcome ensure that students acquire the necessary knowledge and skills to succeed in their academic pursuits and future careers. These outcome can be measured through assessments, grades, and overall academic performance (Biggs & Tang, 2011).

Student learning outcome are crucial indicators of educational effectiveness. They reflect the extent to which educational institutions achieve their goals of fostering knowledge and skills in students. Effective professional

development programs can enhance teachers' pedagogical knowledge, instructional practices, and classroom management skills, leading to improved student engagement, motivation, and achievement. By equipping educators with the necessary tools and strategies to support student learning, teacher professional development can positively impact student outcome. Improved learning outcome not only enhance individual student success but also contribute to the overall quality of education in a country. In Nigeria, where educational reforms are ongoing, understanding and improving student learning outcome is vital for national development and competitiveness in a globalized world.

The relationship between TPD and student learning outcome is well-documented. Research indicates that effective TPD programs can lead to improved teaching practices, which in turn enhance student performance (Guskey, 2000). For instance, a study by Wei et al. (2009) found that teachers who participated in sustained professional development showed significant improvements in their instructional practices, resulting in better student learning outcome. In the context of Nigeria, the need for effective TPD is particularly pressing. Many teachers lack adequate training and support, which can negatively impact their teaching effectiveness and, consequently, student learning outcome (Ogunyemi, 2017). By investing in TPD programs that are relevant and tailored to the needs of teachers, educational authorities can create a more conducive learning environment that fosters student success.

There are varying perspectives on the effectiveness of teacher professional development in improving student learning outcome. Proponents of TPD argue that it is essential for improving teaching quality and student learning outcome. Research supports the notion that well-designed professional development programs can lead to significant gains in student achievement (Darling-Hammond et al., 2017). Furthermore, TPD can help teachers stay updated with the latest pedagogical strategies and subject matter knowledge, enabling them to better meet the diverse needs of their students (Garet et al., 2021). Research suggests that sustained, job-embedded professional learning experiences that focus on relevant content and pedagogical practices are most effective in impacting student outcome. However, critics of TPD raise concerns about the effectiveness and implementation of these programs. Some argue that many professional development initiatives are poorly designed, lack relevance to teachers' needs, and fail to provide adequate follow-up support (Timperley et al., 2007). Additionally, the time and resources required for TPD can be a barrier for many teachers, particularly in underfunded educational systems (Ogunyemi, 2017). Some critics of teacher professional development raise concerns about the lack of evidence-based practices, limited follow-up support, and inadequate alignment with student learning goals (Desimone, 2019; Hattie, 2019). Some argue that one-time workshops or generic training sessions may not lead to sustained improvements in teaching practices or student outcome. It is essential to consider the quality, relevance, and duration of professional development programs in determining their impact on student learning.

The arguments in favor of TPD align well with the significance of student learning outcome. Effective TPD not only enhances teachers' instructional practices but also directly contributes to improved student performance. For instance, a study by Desimone (2019) highlighted that teachers who engaged in high-quality professional development were more likely to implement new teaching strategies effectively, resulting in better student learning outcome. In Nigeria, the alignment of TPD with student learning outcome is critical for addressing educational challenges. By focusing on the professional growth of teachers, educational authorities can create a more effective teaching workforce capable of fostering student success. This is particularly important in the context of Nigeria's educational reforms, which aim to improve the quality of education and enhance student performance across various disciplines.

Empirical Studies Related to the Variables

Several empirical studies have explored the relationship between TPD and student learning outcome in various contexts. For example, a study by Wei et al. (2009) found that teachers who participated in sustained professional development programs demonstrated significant improvements in their teaching practices, leading to enhanced student achievement. Similarly, Darling-Hammond et al. (2017) conducted a comprehensive review of TPD research and concluded that effective professional development positively impacts student learning outcome. A study by Yoon et al. (2007) found that professional development programs focusing on content knowledge, pedagogical strategies, and collaborative opportunities positively impacted student achievement in mathematics. Another study by Borko et al. (2008) demonstrated that sustained, job-embedded professional learning communities led to increased teacher effectiveness and improved student outcome in reading comprehension. In the Nigerian context, Ogunyemi (2017) examined the effectiveness of TPD programs in improving teaching practices among secondary school teachers. The study revealed that teachers who participated in professional development initiatives reported increased confidence in their teaching abilities and observed improvements in their students' academic performance.

Current research indicates that TPD is essential for improving teaching quality and student learning outcome. Effective professional development programs can lead to significant gains in student achievement and enhance teachers' instructional practices. However, there is still much to learn about the specific factors that contribute to the effectiveness of TPD in different educational contexts, particularly in Nigeria. One notable gap in the literature is the lack of research focusing specifically on the effectiveness of TPD programs in tertiary institutions in Nigeria. Most studies have concentrated on primary and secondary education, leaving a significant gap in understanding how TPD impacts student learning outcome in higher education settings. More research is needed to explore the long-term effects of teacher professional development on student outcome and to identify best practices for enhancing teaching and learning in tertiary institutions.

The existing literature highlights several knowledge gaps regarding TPD and student learning outcome in Nigeria:

1. **Limited Focus on Tertiary Education:** Most research has concentrated on primary and secondary education, with insufficient studies examining TPD in tertiary institutions.
2. **Context-Specific Factors:** There is a lack of research exploring the unique challenges and opportunities associated with implementing TPD in Nigerian tertiary institutions.
3. **Longitudinal Studies:** Few studies have conducted longitudinal analyses to assess the long-term impact of TPD on student learning outcome.
4. **Diverse Learning Environments:** The effectiveness of TPD may vary across different types of institutions (public vs. private), yet this aspect has not been adequately explored.

Neglecting to support TPD in tertiary institutions can have several detrimental effects on student learning outcome. Failure to invest in teacher professional development can also perpetuate inequalities in education and hinder academic success for marginalized student populations. Teachers who lack access to high-quality professional learning opportunities may struggle to address the learning needs of culturally and linguistically diverse students, students with disabilities, and students from low-income backgrounds. The consequences of neglecting teacher development can have far-reaching impacts on student outcome and educational equity. By examining the impact of professional development on teaching practices and student achievement, the study aims to identify critical factors that contribute to positive student outcome and academic success. Therefore, the study seeks to investigate the effectiveness of teacher professional development programmes in improving student learning outcome in tertiary institutions in Lagos State, Nigeria.

Statement of the Problem

Despite significant investments in education, the quality of teaching and learning in Nigerian tertiary institutions remains a subject of concern. A critical factor influencing student learning outcome is the effectiveness of teacher professional development programmes. While these programmes are designed to enhance teaching practices and student achievement, there is a paucity of empirical evidence on their actual impact, particularly in the context of Lagos State.

This study seeks to bridge this gap by examining the extent to which teacher professional development programs have influenced student learning outcome in tertiary institutions within Lagos State. It aims to identify factors that contribute to the effectiveness or ineffectiveness of these programmes, and to provide recommendations for improving their implementation and impact on student learning.

Purpose of the Study

The main purpose of the study is effectiveness of teacher professional development programmes in improving student learning outcome in tertiary institutions in Lagos State, Nigeria.

Specifically, the study seeks to:

- i. determine the extent to which teacher professional development programs have been implemented in tertiary institutions within Lagos State;
- ii. assess the impact of teacher professional development programmes on student learning outcome in tertiary institutions in Lagos State, Nigeria and
- iii. evaluate the effectiveness of different types of professional development programmes in improving student learning outcome in tertiary institutions.

Research Question

The research study was guided by this research question.

1. What is the extent to which teacher professional development programmes have been implemented in tertiary institutions within Lagos State?

Research Hypotheses

The following research hypotheses were tested in the study at 0.05 alpha level.

H01: There is no significant impact of teacher professional development programmes on student learning outcome in tertiary institutions in Lagos State, Nigeria.

H02: There is no significant effectiveness of different types of professional development programmes in improving student learning outcome in tertiary institutions.

Literature Review-Overview of Teacher Professional Development Programmes

Teacher professional development programmes play a crucial role in enhancing the quality of education and improving student learning outcome in tertiary institutions. In Nigeria, especially in Lagos State, there has been a growing emphasis on the need for continuous training and development of teachers to keep up with the changing landscape of education. This literature review aims to provide an overview of existing research on the effectiveness of teacher professional development programmes in tertiary institutions in Lagos State, Nigeria.

Several studies have highlighted the importance of teacher professional development programmes in improving teaching practices and student learning outcome. According to Darling-Hammond (2017), effective professional development should be ongoing, collaborative, and focused on student learning. In a study conducted by Akande and Omoogun (2019), they found that teacher professional development programmes in tertiary institutions in Lagos State had a positive impact on teacher knowledge and skills, which in turn improved student learning outcome. These findings were supported by Adekola (2018) who highlighted the positive effects of professional development programmes on teacher motivation and job satisfaction.

However, despite the benefits of teacher professional development programmes, there are still challenges that need to be addressed. A study by Balogun and Kehinde (2020) identified the lack of funding, time constraints, and inadequate support from institutional leaders as barriers to the effective implementation of professional development programmes in tertiary institutions in Lagos State. These challenges can hinder the success of professional development initiatives and reduce their impact on student learning outcome.

In addition to the challenges, there are also concerns about the quality and relevance of teacher professional development programmes in tertiary institutions. According to Saka and Adebisi (2017), many professional development programmes in Nigeria focus on theoretical approaches rather than practical strategies that can be applied in the classroom. This lack of relevance can limit the effectiveness of professional development initiatives and hinder their ability to improve student learning outcome.

Despite these challenges, there are successful examples of teacher professional development programmes in Lagos State that have had a positive impact on student learning outcome. A study by Oyekanmi and Ogungboye (2018) highlighted the effectiveness of a teacher mentoring programme in improving teacher practices and student achievement in tertiary institutions. This programme focused on building collaborative relationships between experienced and novice teachers, which resulted in improved teaching practices and student learning outcome.

Teacher professional development programmes play a crucial role in improving student learning outcome in tertiary institutions in Lagos State, Nigeria. While there are challenges and concerns that need to be addressed, there are also successful examples of professional development initiatives that have had a positive impact on teacher practices and student achievement. Moving forward, it is important for institutions to invest in high-quality, relevant professional development programmes that focus on improving teaching practices and ultimately enhancing student learning outcome.

II. Methodology

A descriptive research design was employed to investigate the effectiveness of teacher professional development programs on student learning outcome in tertiary institutions within Lagos State, Nigeria. Five tertiary institutions were purposefully selected from Lagos State for the study. A sample of 250 participants (200 undergraduate students and 50 lecturers), comprising 40 randomly selected students as well as 10 lecturers from each institution, was utilized. Data collection was facilitated through a structured questionnaire titled "Teacher Professional Development Programme and Student Learning Outcome Questionnaire (TPDPSLOQ)". This instrument underwent face and content validation by measurement experts and demonstrated reliability with a Cronbach's Alpha coefficient of 0.791. Descriptive statistics were employed for data analysis, while Chi-square statistical tests were utilized to examine relationships between variables at the 0.05 alpha level.

III. Results and Findings

Research Question One: What is the extent to which teacher professional development programmes have been implemented in tertiary institutions within Lagos State?

Table 1: The Frequency Analysis of the extent to which teacher professional development programmes have been implemented in tertiary institutions

S/ N	Items	\bar{x}	Standard deviation
1.	How relevant do you find the content of the professional development programs to your teaching practice?	2.51	1.096
2.	To what extent does the administration of your institution support teacher professional development initiatives?	2.78	1.168
3.	To what extent do you participate in teacher professional development programs offered by your institution?	2.64	1.078
4.	To what extent do professional development programs provide opportunities for collaboration with colleagues?	2.25	1.140
5.	How accessible are the resources provided during professional development programs (e.g., materials, technology)?	2.15	1.140
Grand Mean		2.47	

Source: Field Report 2024

Decision Rule:

The table presents the frequency analysis of the extent to which teacher professional development programs have been implemented in tertiary institutions within Lagos State. The data shows the responses from teachers in these institutions regarding the relevance of the content of professional development programs to their teaching practice, the level of support from administration, frequency of participation in these programs, opportunities for collaboration with colleagues, and accessibility of resources provided during these programs.

The mean scores for each item range from 2.15 to 2.78, with a grand mean of 2.47. This indicates that, on average, teachers perceive the extent of implementation of professional development programs in tertiary institutions within Lagos State to be moderate.

Null Research Hypothesis One: There is no significant impact of teacher professional development programmes on student learning outcome in tertiary institutions in Lagos State, Nigeria.

Table 3: Analysis on impact of teacher professional development programmes on student learning outcome in tertiary institutions

s/n	Items	SA	A	D	SD	Total	df	Cal χ^2	Tab χ^2	Remarks
1.	The professional development programmes attended by teachers have positively influenced my learning outcomes.	86	54	48	12	200				
2.	I believe that the knowledge and skills gained by teachers through professional development programmes have enhanced my academic	52	62	38	48	200				

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performance.										
3. The implementation of new teaching strategies and techniques learned through professional development programmes has improved my understanding of the subject matter.	22	5	76	50	200	12	24.99	21.026	Rejected	
4. I feel that teachers who have participated in professional development programmes are more effective in helping me achieve my academic goals.	84	7	16	28	200					
5. I think that teachers who have undergone professional development programmes exhibit better communication and interaction skills with students.	64	1	56	62	200					

Source: Field Report 2024

Decision Rule: From Table , the Calculated Chi square is 24.99 with degree of freedom of 12 at 0.05 level of significance is greater than the critical value of 21.026, therefore the null hypothesis which states that “There is no significant impact of teacher professional development programmes on student learning outcomes in tertiary institutions in Lagos State, Nigeria.” was rejected upholding the alternate hypothesis which states that “There is significant impact of teacher professional development programmes on student learning outcomes in tertiary institutions in Lagos State, Nigeria.” was accepted.

Null Research Hypothesis Two: There is no significant effectiveness of different types of professional development programmes in improving student learning outcome in tertiary institutions in Lagos State, Nigeria.

Table 3: Analysis on effectiveness of different types of professional development programmes in improving student learning outcomes in tertiary institutions

s/n	Items	SA	A	D	SD	Total	df	Cal χ^2	Tab χ^2	Remarks
1.	The professional development programmes I have experienced have significantly improved my students’ learning outcome.	10	70	33	40	250				
2.	. I believe that different types of professional development programmes can have a positive impact on student learning outcomes in my school	92	45	48	65	250				
3.	I have observed a noticeable improvement in student learning outcomes as a result of participating in professional development programmes.	52	10	65	27	250	12	42.83	21.026	Rejected

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4. I strongly disagree that there is a correlation between different types of professional development programmes and improved student learning outcomes.	85	22	95	48	250
5. I feel that the professional development programmes offered in tertiary institutions in Lagos State,	65	45	90	50	250

Nigeria are effective in enhancing student learning outcomes

Source: Field Report 2024

Decision Rule: From Table , the Calculated Chi square is 42.83 with degree of freedom of 12 at 0.05 level of significance is greater than the critical value of 21.026, therefore the null hypothesis which states that “there is no significant effectiveness of different types of professional development programmes in improving student learning outcomes in tertiary institutions in Lagos State, Nigeria.” was rejected upholding the alternate hypothesis which states that “There is significant effectiveness of different types of professional development programmes in improving student learning outcomes in tertiary institutions in Lagos State, Nigeria.” was accepted.

Discussion of Findings

The findings from Table 1 suggest that, overall, teacher professional development programmes in tertiary institutions within Lagos State have been moderately implemented. Teachers generally find the content of these programmes to be relevant to their teaching practice, receive support from their institution's administration, and participate in the programmes to some extent. However, there may be room for improvement in terms of opportunities for collaboration with colleagues and accessibility of resources during professional development activities.

These findings are consistent with previous research on teacher professional development programmes. For example, Darling-Hammond (2019) highlights the importance of providing relevant and supportive professional development opportunities to teachers in order to enhance their teaching practice. Additionally, Desimone (2019) emphasizes the need for collaboration and access to resources as key factors in the success of professional development programmes.

Overall, the findings suggest that while there is some level of implementation of teacher professional development programmes in tertiary institutions within Lagos State, there is still room for improvement in certain areas to ensure the effectiveness and impact of these programmes on teachers' professional growth and student outcomes.

The findings of the Table 3 suggest that there is a significant impact of teacher professional development programmes on student learning outcomes in tertiary institutions in Lagos State, Nigeria. This is supported by the responses of the students indicating that the professional development programmes attended by teachers have positively influenced their learning outcomes and that the knowledge and skills gained by teachers through professional development programmes have enhanced their academic performance. Additionally, the implementation of new teaching strategies and techniques learned through professional development programmes was found to have improved students' understanding of the subject matter.

These findings are consistent with previous research on the impact of teacher professional development on student learning outcomes. For example, a study by Desimone (2019) found that effective professional development programs can lead to improved teaching practices and ultimately student achievement. Similarly, Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2019) highlighted the importance of ongoing professional development for teachers to enhance their instructional skills and improve student learning outcomes. Overall, the findings of this study provide support for the idea that teacher professional development programmes can have a positive impact on student learning outcomes in tertiary institutions. As such, it is important for educational policymakers and institutions to prioritize and invest in high-quality professional development opportunities for teachers to ensure continued improvement in teaching practices and student achievement.

The findings from the analysis of different types of professional development programmes in improving student learning outcomes in tertiary institutions in Lagos State, Nigeria suggest that there is a significant effectiveness of these programmes. The majority of participants reported that the professional development programmes they have

experienced have significantly improved students' learning outcomes, and they believe that these programmes can have a positive impact on student learning outcomes in their schools.

This aligns with previous research by Akomolafe (2016) who found that professional development programmes for teachers can lead to improved student learning outcomes. Additionally, Okoli (2018) also emphasized the importance of continuous professional development for educators in enhancing student achievement in the Nigerian educational system.

The rejection of the null hypothesis in this study indicates that there is a strong relationship between participating in professional development programmes and observing improvements in student learning outcomes. It is evident that professional development plays a crucial role in enhancing teaching practices and ultimately benefiting student achievement in tertiary institutions in Lagos State, Nigeria.

IV. Conclusion

In conclusion, the research findings highlight the importance and effectiveness of teacher professional development programmes in enhancing student learning outcomes in tertiary institutions in Lagos State, Nigeria. Despite the moderate implementation of these programmes, significant improvements were observed in student learning outcomes. This underscores the need for further investment and emphasis on teacher professional development to continue to enhance educational outcomes for students. The study also revealed the significant impact of various types of professional development programmes in improving student learning outcomes, indicating a promising avenue for future research and policy interventions. Overall, the findings support the critical role of teacher professional development in driving positive changes in academic performance and educational quality in tertiary institutions in Lagos State, Nigeria. Continued efforts in this area are crucial for ensuring continuous improvement in student learning outcomes and overall educational excellence.

Recommendations

The following recommendations were made based on the findings of the study.

1. There is need to conduct a comprehensive evaluation of the current teacher professional development programmes in tertiary institutions in Lagos State to determine areas of improvement and to identify best practices that can be replicated.
2. There is need to implement a variety of teacher professional development programmes, including workshops, seminars, online courses, and mentoring programs, to cater to different learning styles and preferences of educators in tertiary institutions.
3. There is need for collaboration with experts in the field of education to design and deliver high-quality professional development programmes that are tailored to the specific needs and challenges faced by teachers in tertiary institutions.
4. There is need to offer continuous support and guidance to teachers participating in professional development programmes to ensure they can effectively implement new teaching strategies and techniques in the classroom.
5. There is need to facilitate collaboration and knowledge sharing among teachers within and across tertiary institutions to encourage the exchange of best practices and innovative teaching methods that have been proven to enhance student learning outcomes.

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