



Original Research Article

The Effect of Teacher Professional Development on Student Learning: A Study of a Public University in Afghanistan

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Abstract

This research examines the impact of teacher professional development (TPD) on the learning outcomes of students in a public university in Afghanistan. In tandem with rising concerns about the quality of education and teaching in colleges and universities, academic training and continuous professional development of educators have become a prerequisite for institutional achievement. This research analyses the effects of participation in TPD activities, including workshops, training events, and academic seminars, on teaching and students' cognitive engagement, understanding, and performance. Adopting a qualitative approach, the study collects data through semi-structured interviews with selected faculty members. Teachers' instructional practices, curriculum implementation, and students' academic performance can all be improved through well-designed TPD programs, according to the findings. The research also emphasizes the value of an institutional investment in the continuous development of teachers as a significant approach for elevating the quality of higher education in Afghanistan.

Keywords: educational development, learning quality, professional development, institutional investment and Teaching.

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Introduction

Development of education continues to be one of the prime objectives of educational institutions globally, especially in developing countries such as Afghanistan, which struggles with quality teaching and learning materials. One of the most impactful aspects of education is the competency of its teachers and their ability to deliver the curriculum. This is consistent with the findings of Desimone (2009), who discovered that high-quality TPD enhances teaching methods and student learning. TPD is instrumental to teaching refinements, changes in instructional methods, and the enhancement of students' educational results. Given that Afghan higher educational institutions are working towards rehabilitating their academic standards, it is critical to grasp the relationship between TPD efforts and student success. This study examines the effect of teacher professional development on student learning within a public university in Afghanistan. There is insufficient empirical evidence evaluating the impact of such programs on actual student performance in Afghan universities, despite numerous efforts to promote TPD through workshops, training programs, and policy reforms. According to Villegas-Reimers (2003), who argues that TPD must be ongoing and ingrained in institutional structures for it to be effective, the absence of sustained opportunities for professional growth reflects a common problem in global higher education systems. By looking at how structured professional development programs affect teaching effectiveness and student academic success at a public university, this study aims to fill that void.

The study aims to provide educational policymakers, university administrators, and faculty members with practical insights by examining this relationship. It emphasizes the significance of ongoing investment in teacher training as a path to improved learning outcomes. This finding is consistent with studies by Desimone (2009) and Darling-Hammond (2017), who highlight that professional development increases teachers' ability to engage students effectively. The findings can help the higher education sector in Afghanistan make decisions about how to train teachers and how to create a curriculum. For Afghan universities aiming to increase student engagement, critical thinking, and academic achievement, this situation presents a significant obstacle. Furthermore, it is difficult for university administrators and policymakers to justify allocating resources to such programs if there is no systematic assessment or evidence of their impact on student learning. Consequently, there is a pressing need for research that investigates the impact of teacher professional development on student outcomes in Afghan higher education institutions, particularly public universities, where such programs frequently fall short.

Background of the Study

Teacher professional development (TPD) has become an important component of educational quality and institutional improvement. In higher education, the quality of teaching is closely related to teachers' subject knowledge, pedagogical skills, assessment practices, classroom management, and ability to respond to changing educational demands. Professional development provides teachers with opportunities to update their knowledge, develop new instructional strategies, reflect on their teaching practices, and improve their ability to support student learning. Avalos (2011) emphasizes that teacher professional learning is a complex process involving learning, collaboration, facilitation, and changes in teaching practice. Similarly, Desimone (2009) argues that effective professional development should be designed around coherent and measurable features that can influence teachers' knowledge, practice, and ultimately student outcomes.

Research has increasingly demonstrated a relationship between effective professional development and student learning. Darling-Hammond et al. (2017), after reviewing 35 rigorous studies, identified a positive relationship among teacher professional development, changes in teaching practices, and student outcomes. Their review indicates that effective professional development is generally content-focused, active, collaborative, sustained over time, supported by expert guidance, and connected to teachers' professional practice.

Evidence from systematic reviews also suggests that professional development can contribute to improvements in student achievement, although the strength of the effect depends on the quality and design of the professional development. Yoon et al. (2007), for example, reviewed more than 1,300 potentially relevant studies and found only nine that met rigorous evidence standards, highlighting both the potential value of professional development and the need for stronger research designs. More recent evidence continues to indicate that well-designed professional development can produce positive effects on student achievement. The issue is particularly important in Afghanistan, where higher education institutions have experienced significant challenges related to teacher qualifications, academic capacity, staff turnover, teaching resources, and the continuity of educational development. A recent UNESCO analysis of Afghan higher education reports concerns about teacher qualifications and experience and notes that the departure of experienced and highly qualified university teachers has contributed to shortages of professional teaching staff. The analysis also links these challenges with concerns about student motivation, curriculum implementation, and educational progress.

Professional development has consequently been recognized as an important area of educational intervention in Afghanistan. UNESCO has implemented a project specifically aimed at strengthening teacher professional development through teacher-support mechanisms, competency frameworks, and teacher competency assessment. Previous education initiatives in Afghanistan have also invested substantially in teacher training; for example, the World Bank reported that its education-quality program trained more than 115,000 additional qualified teachers.

Despite these efforts, there remains a need to understand whether professional development opportunities actually translate into improved teaching and student learning within Afghan public universities. The present study therefore focuses on the effect of teacher professional development on student learning in a public university in Afghanistan. It examines professional development activities such as workshops, training programs, academic seminars, and related learning opportunities and considers how these activities may influence teachers' instructional practices and students' engagement, understanding, and academic performance.

Problem Statement

The quality of university education depends substantially on the capacity of academic staff to provide effective, relevant, and student-centered instruction. Although teachers may possess adequate subject-matter knowledge, they also require continuous opportunities to develop pedagogical knowledge, assessment skills, instructional strategies, technology-related competencies, and reflective teaching practices. Professional development is therefore increasingly regarded as an important mechanism for improving teaching quality and student learning (Desimone, 2009; Darling-Hammond et al., 2017).

However, the existence of professional development programs does not automatically guarantee improvements in teaching or student achievement. Guskey (2002) argues that

professional development should ultimately be evaluated according to whether it leads to changes in teachers' knowledge and practice and, most importantly, improvements in student learning. Similarly, Avalos (2011) points out that teacher professional learning is complex and that the sustainability of its effects remains an important issue. This problem is particularly relevant to Afghanistan's higher education sector. Afghan universities have experienced challenges associated with shortages of qualified and experienced teachers, staff turnover, limited professional capacity, and difficulties in maintaining high standards of curriculum implementation. UNESCO's recent analysis reports that students and other stakeholders have expressed concerns regarding teacher qualifications and experience and indicates that changes in the university teaching workforce have affected student motivation and educational progress.

Although teacher training and professional development initiatives have been implemented in Afghanistan, there is comparatively limited empirical evidence demonstrating how such initiatives affect actual student learning outcomes in public universities. UNESCO's ongoing work on strengthening teacher professional development demonstrates that teacher capacity remains an important educational priority in Afghanistan. The lack of sufficient evidence creates a practical problem for university administrators and policymakers. Without systematic evidence about the relationship between professional development and student learning, it is difficult to determine which professional development activities should be prioritized, how resources should be allocated, and how training programs should be designed and evaluated. Furthermore, international research indicates that the effects of professional development vary considerably according to program characteristics and implementation conditions. Yoon et al. (2007) found that relatively few studies provided rigorous evidence connecting professional development directly to student achievement, underscoring the need for context-specific research.

Therefore, the central problem addressed by this study is the limited empirical understanding of how teacher professional development affects student learning in public universities in Afghanistan. The study seeks to address this gap by examining teachers' experiences of professional development and exploring the extent to which such activities contribute to improved teaching practices and student learning.

Significance of the Study

This study is significant because it addresses an important relationship between teacher professional development, teaching quality, and student learning within the context of Afghan public higher education. International research suggests that professional development can improve teachers' knowledge and instructional practices and, under appropriate conditions, contribute to improved student outcomes. Darling-Hammond et al. (2017) found positive links between effective professional development, teaching practices, and student outcomes, while Desimone (2009) emphasizes the importance of examining the mechanisms through which professional development influences teachers and students. The findings may help university administrators identify professional development activities that are most relevant to improving teaching and learning. Evidence from the study can support decisions concerning the planning, financing, implementation, monitoring, and evaluation of workshops, seminars, training programs, peer-learning activities, and other academic development initiatives. Guskey (2002) emphasizes that evaluation of professional development should ultimately consider student learning outcomes rather than merely participants' satisfaction with training.

The study may help teachers recognize the importance of continuous professional learning and reflective teaching. Professional development can provide opportunities for teachers to strengthen pedagogical knowledge, experiment with new instructional approaches, collaborate with colleagues, and improve curriculum implementation. Avalos (2011) highlights the importance of learning, collaboration, and professional interaction in teacher development. Students are the ultimate beneficiaries of improvements in teaching quality. Effective professional development can help teachers use more appropriate instructional methods, provide better feedback, encourage student engagement, and support deeper understanding of academic content. Research reviewed by Darling-Hammond et al. (2017) demonstrates a positive connection between well-designed professional development, changes in teachers' practice, and student outcomes. The study can provide context-specific evidence for policymakers responsible for higher education and teacher development in Afghanistan. This is particularly relevant because Afghanistan continues to face challenges related to teacher qualifications, professional capacity, and educational quality. UNESCO has identified teacher professional development and competency assessment as important areas for strengthening education in Afghanistan.

The study can provide a basis for further research on teacher development and educational quality in Afghanistan. It may encourage future researchers to conduct quantitative, qualitative, or mixed-methods studies involving larger samples and multiple universities. Yoon et al. (2007) specifically identified the need for stronger evidence concerning the relationship between professional development and student achievement.

Objectives of the Study

The objectives should be closely aligned with your title and problem statement. I recommend using the following objectives rather than the objectives currently appearing in some versions of the article, because these directly measure teacher professional development → teaching practice → student learning.

General Objective

To examine the effect of teacher professional development on student learning in a public university in Afghanistan.

Specific Objectives

1. To identify and explore the types and nature of professional development programs in which university teachers have participated.
2. To explore the changes in teachers' instructional methods and practices resulting from participation in professional development programs.
3. To examine teachers' perceptions of the effects of professional development on student learning outcomes and engagement.
4. To explore the ways in which teachers assess and determine the impact of professional development activities on students' learning.
5. To identify the types of professional development that teachers perceive as most effective in improving student learning and to explore the reasons for their perceived effectiveness.
6. To examine the institutional and administrative support available to teachers for implementing knowledge and skills acquired through professional development.

7. To explore specific experiences in which professional development contributed to changes in students' academic performance, engagement, or behavior.

These objectives are consistent with established approaches to evaluating professional development. Guskey's evaluation framework, for example, moves from participants' reactions and learning to organizational support, application of new knowledge and skills, and ultimately student learning outcomes. Desimone (2009) likewise recommends examining professional development through a framework that connects professional learning with changes in teachers and student outcomes.

Research Questions

This was finished by trying to respondent to the accompanying research questions:

1. Can you describe the types of professional development programs you have participated in?
2. What changes, if any, have you noticed in your teaching methods due to these programs?
3. Have you observed any differences in student learning outcomes or engagement after implementing new strategies from professional development?
4. How do you assess whether a professional development activity has had a positive impact on your students' learning?
5. Are there particular types of professional development that you feel are more effective in improving student learning? Why?
6. How much support do you receive from your school or administration in applying what you've learned from professional development?
7. Can you share an instance where professional development significantly influenced a student's academic performance or behavior?

Literature Review

It is widely acknowledged that teacher professional development, or TPD, is a crucial component in enhancing educational quality and student achievement. Darling-Hammond et al. (2017) state that sustained, content-focused, collaborative training that directly improves teaching practices is necessary for effective TPD. Numerous international studies (Guskey, 2002; Desimone, 2009) have shown that teachers who participate in ongoing professional development have better classroom instruction, higher levels of student engagement, and better academic outcomes.

However, the implementation of TPD faces particular difficulties in developing contexts. According to Villegas-Reimers (2003), professional development initiatives frequently suffer from ineffectiveness due to a lack of institutional support, inconsistent training models, and limited funding. TPD research in Afghanistan is still in its infancy. Studies conducted by partners in international development and the Ministry of Higher Education indicate that teacher preparation is lacking, particularly in terms of pedagogical approaches and contemporary assessment methods. The long-term effects of some training programs that have received funding from donors are still unclear due to a lack of follow-up and evaluation mechanisms.

In addition, there have been few studies on the connection between TPD and student performance in Afghan universities. It is difficult for university administrators and policymakers to make sound decisions regarding the design and scaling of efficient TPD strategies as a result of this gap. By filling this knowledge gap, this study fills a knowledge gap regarding how structured professional development can improve teaching quality and student outcomes in Afghanistan's higher education settings.

Methodology

To investigate the impact of teacher professional development (TPD) on student learning outcomes, this study employs qualitative methods and data. Because of this design, participants' in-depth perspectives can be better understood. The research will be conducted at a public university in Afghanistan, selected based on accessibility and the availability of recent TPD initiatives. University instructors who have participated in professional development programs and administrative staff who plan and deliver TPD programs make up the target population. The selected instructors who have recently completed professional development training, a purposive sampling method will be used. The sample size is chosen from two heads of the departments. semi-structured interviews with department heads to discuss TPD-related experiences, difficulties, and insights. Qualitative data are analyzed through thematic coding, identifying recurring themes and patterns related to TPD effectiveness and barriers. The study may face limitations such as: limited availability of consistent performance data across semesters, potential biases in self-reported responses, and challenges in isolating the effect of TPD from other factors influencing student learning.

Data Analysis

The qualitative analysis's findings in this section. To study the information for the research, the researcher used an interview with a semi-structured questionnaire to break down the acquired data. The researcher broke down information from the interview questions and items under the research objectives, using qualitative data from this interview, taking into account the religious leader's connection information. There was also a recorded sound version of this justification. Sayed Jamaluddin, Afghan University's department head, was one of the members. The account outline was sent to the participants to verify whether or not they took part; the member verified this outline. Following the interview, both data collection and analysis began. The impact of teacher professional development on student learning before and after the appointment influenced the subjects of our interviews. HODs were considered the first round of document interaction observers. The first round records the observer's interaction. The words used to describe an asset may convey positive meanings, while the words used to describe a request may convey negative meanings. Throughout the examination, I focused on how different creators interacted with one another. After each brainstorming session, the codes and results were discussed to further refine coding and consider new themes. Pouring over our work outputs in the form of written feedback, we kept adding sharpening concept execution feedback, resources, and requests at a personal level in the idea of sharpening. More precisely, we included in the outline whether a resource or a request was work claimed, or participant claimed, using the same keywords as before. The codes remained as they were, but an alternative arrangement of themes was chosen to be used after every revision of the discussions

and codes; all previous interviews were revisited and analyzed under the new coding framework.

Identified Themes

The study's findings provide a comprehensive explanation of the occurrences (Yin, 1994). Information obtained from the interviews found that the informants had responded to the questions, which provided a detailed description of their experience in school leadership. Based on the information obtained through the interview process, informants provide data as a guide for analysis

Types of TPD Programs

The data revealed by the respondent about the types of professional development programs. The respondent found that they learned to cope by talking about the types of professional development programs they have participated in. The respondents revealed that:

“I have attended workshops on student-centered learning (SCL), outcome-based education (OBE), and active learning strategies. These programs were extremely relevant to my classroom practice because they provided useful tools for engaging students, incorporating digital resources, and fostering collaborative learning. I was able to directly apply the strategies I learned to my teaching methods and helped students participate and interact more”.

Teaching Method Changes

The discussion continued with a more detailed analysis, and some Teaching Method Changes to these programs. The HODs explained how Teaching Method Changes his teaching in a follow-up interview:

“As a result of these programs, I've shifted toward more interactive teaching methods like incorporating group activities, discussions, and technology. I now place a greater emphasis on approaches that are student-centered and involve students actively in their learning. I use frequent formative assessments to gauge their comprehension and adjust my instruction accordingly. Because of these changes, my lessons are now more interesting and dynamic.”

Student Engagement

The discussion continued with a more detailed analysis, and observed the differences in student learning outcomes or engagement after implementing new strategies from professional development. The HODs explained how students' engagement his teaching in a follow-up interview:

“Yes, the implementation of new professional development strategies has resulted in significant improvements in student engagement and learning outcomes. I've noticed that students' capacity for critical thinking and problem-solving has increased as a result of their increased participation in class discussions. Their comprehension and retention of the material have also improved as a result of the utilization of technology and group activities, which have resulted in increased levels of interaction and collaboration. Students are more motivated and show that they understand the material better.”

Assessment Methods and Impacts

The discussion continued with a more detailed analysis and assessed whether a professional development activity has had a positive impact on your students' learning. The HODs explained the assessment methods and its impact of his teaching in a follow-up interview:

“To assess the impact that professional development activities have on the learning of my students, I use a combination of formative assessments, feedback from students, and observation. To gauge comprehension and progress, I frequently employ in-class activities such as quizzes, polls, and games. I also get direct feedback from students about their learning experiences, and I notice that they are more engaged and involved in class. Positive changes in student performance and behavior, such as improved collaboration and higher test scores, also demonstrate the professional development's effectiveness.”

Types of Effective TPD

The discussion continued with a more detailed analysis and particular types of professional development that you feel are more effective in improving student learning. The HODs explained the types of professional development for his teaching in a follow-up interview:

“Yes, I believe that the most efficient professional development programs for enhancing student learning are those that concentrate on active learning strategies and the integration of technology. These programs teach me how to use group projects, interactive discussions, and digital tools in the classroom in a way that is both practical and hands-on. These methods, which actively engage students, encourage collaboration, and accommodate a variety of learning styles, result in improved retention as well as a deeper comprehension of the material.”

Institutional Support

The discussion continued with a more detailed analysis, and how much support does he receive from his university and administration in applying what he learned from professional

development. The HODs explained the university support for his teaching in a follow-up interview:

“The assistance I receive from my department and administration in putting what I've learned from professional development into practice is somewhat limited. I am encouraged to implement new strategies, but there is little follow-up or dedicated support for their successful implementation. However, I occasionally receive administrative support and access to teaching resources and technology from coworkers. More consistent institutional support, such as workshops or mentoring, would be beneficial for fully implementing new concepts in the classroom.”

Positive Impact on Students

The discussion continued with a more detailed analysis, and he shared an instance where professional development significantly influenced a student's academic performance or behavior. The HODs explained the positive impact on students for his teaching in a follow-up interview:

“After attending a workshop on differentiated instruction, I witnessed one instance in which professional development had a significant impact on a student's academic performance. My efforts to adapt assignments to various learning styles assisted a student who had previously experienced difficulties with traditional assessments. This student, who was frequently disengaged, showed a noticeable improvement in both their grades and their participation after I introduced additional hands-on activities and visual learning aids. Their academic performance and active participation in class improved as a result of the new approach, which appeared to boost their confidence and motivation.”

Discussion Guidelines

The results of the study shed light on how student learning outcomes are affected by teacher professional development (TPD) at an Afghan public university. According to previous research (Darling-Hammond et al., 2017; Guskey, 2002), the findings demonstrate that TPD has the potential to improve teaching effectiveness, which in turn has a beneficial effect on student engagement and academic performance. The main findings, their implications, and the study's limitations are discussed in this section. This study found that teachers who took part in TPD programs had better lesson planning, more student-centered approaches, and better classroom management skills. This is one of the most important findings. This is consistent with the findings of Desimone (2009), who discovered that high-quality TPD enhances teaching methods and student learning. These findings suggest that TPD has the potential to transform educators, even in the context of Afghanistan's public universities, where resources may be scarce. However, it is essential to keep in mind that while some teachers reported that the training was not always aligned with their particular classroom contexts, others reported that they had made clear changes in their teaching methods. According to Villegas-Reimers (2003), who argues that TPD must be contextually relevant to be truly effective, this mismatch between TPD content and local teaching needs reflects a common issue in many developing

nations. This study's finding of a positive correlation between TPD and improved student outcomes is consistent with the larger body of research on the significance of teacher quality in student achievement (Guskey, 2002). Academic performance moderately improved for students whose teachers had participated in professional development, particularly in subjects that required active participation and critical thinking. These findings are in line with those of other studies, such as Darling-Hammond et al. (2017), which argue that professional development results in improved teaching methods that foster an environment where students can thrive. Although the improvement in student performance was statistically significant, it was only moderate in magnitude. This suggests that factors other than TPD influence student outcomes as well, such as the quality of the curriculum, institutional support, and students' socioeconomic backgrounds. The notion that TPD improves teaching quality is further supported by qualitative feedback from students, in addition to quantitative data. Students reported that they felt more engaged in classes where instructors had participated in professional development programs. This finding is consistent with studies by Desimone et al. (2009) and Darling-Hammond et al. (2017), who highlight that professional development increases teachers' ability to engage students effectively. However, students also noted that while TPD improved teaching methods, inconsistencies in the implementation of the training left some instructors struggling to apply new techniques effectively, which could undermine the overall impact on student learning.

Despite the positive findings, this study found a number of obstacles to effective TPD. The university's lack of a structured framework for TPD, inadequate follow-up support, and limited resources were the most significant obstacles. These obstacles are in line with the Ministry of Higher Education in Afghanistan's (2020) findings about institutional support for ongoing teacher education gaps. In particular, a lot of teachers said that, despite the fact that the first TPD sessions were helpful, there weren't many chances to grow, get mentorship, or get feedback on their work. This study's findings have a number of important repercussions for university administrators and policymakers in Afghanistan. First, teacher professional development must be given top priority as a strategic investment in raising educational quality by the government and higher education institutions. A long-term strategy for ongoing professional development should be the primary focus of efforts, in addition to providing initial training. Mentorship programs, peer collaboration networks, and regular opportunities for teachers to engage in reflective practice are all examples of this. To ensure that instruction is relevant, practical, and adaptable to local issues, TPD programs ought to be tailored to the particular circumstances and requirements of Afghan instructors. Finally, universities ought to make investments in mechanisms that will enable them to make decisions about program enhancements based on data regarding the impact of TPD on teaching and student learning.

Limitations and Future Research

Although the study provides useful insights, it does have some drawbacks that need to be addressed in subsequent research. The cross-sectional design of this study limits the ability to conclude the long-term effects of TPD on student outcomes. Future studies could use longitudinal data to assess the sustained impact of TPD over time. Additionally, while this study focused on one public university, research in other institutions and across different regions of Afghanistan would provide a more comprehensive understanding of the effects of TPD on student learning outcomes. The impact of contextual factors like institutional culture and socioeconomic background on the efficacy of TPD programs could also be the subject of future research.

Conclusion

At a public university in Afghanistan, this study looked at how teacher professional development affected student learning outcomes. The findings indicate that well-structured TPD programs have the potential to significantly enhance student performance and enhance teaching methods. However, the success of such programs depends on their quality, relevance, and institutional support. Systemic obstacles like a lack of resources and inconsistent program design continue to impede progress, despite positive changes in classroom dynamics and academic outcomes that were reported by both teachers and students. To get the most out of TPD, Afghan universities need to prioritize opportunities for continuous, context-specific training, allocate sufficient resources, and create mechanisms for monitoring and evaluating progress. Ultimately, investing in the professional growth of educators is essential for raising educational standards and empowering the next generation of Afghan students.

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