

Enhancing Pupil Learning Through Teacher Professional Development: Evidence from Rural Secondary Schools in Chivi District, Zimbabwe

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ABSTRACT

Teacher Professional Development (TPD) is widely recognised as a critical lever for improving instructional quality and pupil learning outcomes, particularly in low-resource and rural education contexts. This study examined the influence of TPD programmes on pupil learning outcomes in rural secondary schools in Chivi District, Zimbabwe. A concurrent mixed-methods research design was employed, integrating quantitative data from standardised pupil achievement tests with qualitative data obtained through teacher questionnaires, classroom observations, semi-structured interviews, and focus group discussions. The study involved a sample of 40 rural secondary schools, 100 teachers, and 300 pupils. Quantitative findings revealed a statistically significant positive relationship between sustained teacher participation in TPD activities and improved pupil academic performance. Qualitative evidence further indicated that TPD enhanced teachers' pedagogical competence, professional confidence, and learner engagement. However, the effectiveness of TPD initiatives was constrained by limited resources, heavy workloads, and inadequate follow-up support. The study concludes that well-structured, context-sensitive, and sustained TPD programmes can significantly enhance pupil learning outcomes in rural secondary schools.

Keywords: Teacher Professional Development, Pupil Achievement, Rural Education,

INTRODUCTION

Improving the quality of education remains a central priority for national development, particularly in low- and middle-income countries, as governments and education systems increasingly recognize the role of education in driving social and economic transformation. Teachers occupy a pivotal position in this endeavour because their instructional practices directly influence learner engagement and academic success (Hattie, 2009). Research evidence consistently demonstrates that effective teaching is shaped not only by strong subject matter knowledge but also by pedagogical skills, professional attitudes, and access to meaningful and sustained professional development opportunities (Darling-Hammond, 2000; Darling-Hammond et al., 2017). Consequently, Teacher Professional Development (TPD) is emerging as a key strategy for strengthening instructional quality and contributing to improved pupil learning outcomes (Guskey, 2000).

In Zimbabwe, the education sector continues to grapple with persistent challenges such as limited financial resources, infrastructural deficits, and socioeconomic constraints, which are felt more acutely in rural districts such as Chivi (World Bank, 2015). These contextual limitations contribute to ongoing disparities in educational quality and learner achievement between rural and urban schools (UNESCO, 2016). National and international assessment reports indicate that a significant proportion of learners in Zimbabwe are performing below expected proficiency levels, thereby highlighting the urgent need for targeted interventions aimed at strengthening teaching effectiveness and classroom practice (Ministry of Education, 2019).

In response to these challenges, the Ministry of Primary and Secondary Education is implementing various Teacher Professional Development initiatives that focus on equipping teachers with contemporary pedagogical skills, learner-centred instructional strategies, and assessment practices that support deeper learning (MoPSE, 2020). However, despite these ongoing efforts, empirical evidence on the extent to which TPD programmes are

improving pupil learning outcomes, particularly in rural contexts, remains limited and fragmented (Mavundla et al., 2021). This study, therefore, investigates the impact of TPD on pupil achievement in Chivi District, aiming to generate context-specific evidence that informs education policy, programme design, and professional practice in rural secondary schools.

Purpose of the Study

The purpose of this study was to examine the impact of Teacher Professional Development programmes on pupil learning outcomes in rural secondary schools in Chivi District. Specifically, the study sought to:

1. Identify TPD strategies that contribute to improved teaching practices.
2. Examine challenges that constrain the effectiveness of TPD implementation.
3. Propose evidence-based recommendations for strengthening TPD in rural school contexts.

LITERATURE REVIEW

Theoretical Framework

Guskey's model posits that changes in teacher attitudes and beliefs are more likely to result from successful classroom experiences than serve as a prerequisite for instructional change (Guskey, 2000). In this view, evidence of improved learner outcomes acts as a powerful motivator that reinforces teachers' willingness to sustain and deepen new practices (Desimone, 2009). Within contexts such as Chivi District, the application of Guskey's model must also consider contextual mediating factors, including the availability of teaching resources, school leadership support, and opportunities for follow-up mentoring (Darling-Hammond et al., 2017; UNESCO, 2016). These factors influence the extent to which teachers can implement new practices and sustain change over time, thereby affecting the strength of the relationship between Teacher Professional Development, teacher change, and pupil learning outcomes.

Conceptual Diagram: Guskey's Model Applied to the Rural Context

- **Teacher Professional Development**

(content-focused training, workshops, coaching, collaborative learning)



- **Teacher Learning and Practice Change**

(new pedagogical knowledge, instructional strategies, assessment practices)



- **Classroom Implementation**

(use of learner-centred methods, formative assessment, improved lesson delivery)



- **Pupil Learning Outcomes**

(improved achievement, engagement, and participation)



- **Change in Teacher Beliefs and Attitudes**

(increased confidence, commitment, and sustained use of new practices)

Contextual Mediators (Rural Setting):

School resources, leadership support, mentoring, infrastructure, workload, and community conditions influence each stage of the process.

Global Perspectives on Teacher Professional Development

International research underscores that high-impact Teacher Professional Development (TPD) exhibits four core characteristics: sustained duration, collaborative learning, alignment with curricular objectives, and contextual relevance to teachers' daily practices (Desimone, 2009; Darling-Hammond et al., 2017). Programs that extend beyond isolated workshops by incorporating iterative cycles of practice, reflection, and feedback enable educators to internalize and refine new pedagogical strategies effectively. Furthermore, when TPD explicitly connects to curriculum standards and addresses site-specific challenges (e.g., diverse learner needs or resource constraints), it gains practical utility, fostering greater teacher buy-in and implementation fidelity.

Critically, TPD's structural design must integrate active learning methodologies (e.g., lesson study, micro-teaching), instructional coaching, and structured peer collaboration (Timperley et al., 2007; Kraft et al., 2018). These elements collectively nurture a supportive ecosystem where teachers co-construct knowledge, observe evidence of pupil growth, and adapt techniques to their unique classrooms. Empirical studies confirm that such approaches significantly enhance pedagogical practices—such as differentiated instruction and formative assessment—which subsequently drive measurable gains in pupil achievement (Kennedy, 2016). Consequently, enduring educational transformation hinges on TPD models that bridge theory with contextualized practice through sustained, collaborative engagement.

Teacher Professional Development in Zimbabwe

Studies conducted in Zimbabwe indicate that Teacher Professional Development (TPD) initiatives hold significant potential to enhance teacher competence, pedagogical skills, and overall instructional quality (Mpofu & Sibanda, 2020; Chikomo, 2019). When effectively designed and implemented, TPD can contribute to improved teacher confidence, curriculum delivery, and learner outcomes. However, many TPD programmes in the Zimbabwean context face systemic and structural challenges that hinder their effectiveness. Chief among these is inadequate funding, limited institutional capacity for monitoring and evaluation, and a lack of sustained follow-up support (Zhou & Zvoushe, 2012). These constraints often result in fragmented and superficial training experiences that do not translate into meaningful changes in classroom practice.

These limitations are particularly pronounced in rural and remote areas, where teachers frequently work in professional isolation and have limited access to educational resources and collaborative learning opportunities. The absence of structured professional learning communities and mentorship exacerbates the gap between training and practice, leaving many teachers without the support needed to implement new instructional strategies effectively. Addressing these challenges requires a systemic approach to TPD—one that prioritizes equity, sustainability, and contextual responsiveness, particularly for teachers working in under-resourced environments (Mudzielwana, 2014).

Challenges in Rural Education Contexts

Rural schools in many low- and middle-income countries, including Zimbabwe, often face persistent structural and resource-related challenges that directly impact the effectiveness of Teacher Professional Development (TPD) initiatives. These challenges include chronic shortages of qualified teachers, inadequate teaching and learning materials, poorly maintained infrastructure, and minimal access to digital technologies (UNESCO, 2015; Mhlauli & Kanjee, 2020). Such conditions not only constrain daily teaching and learning activities but also create significant barriers to implementing and sustaining effective TPD. For instance, limited connectivity and a lack of devices hinder participation in online or blended professional learning opportunities, while poor infrastructure may prevent teachers from attending centralized workshops or training sessions.

If these contextual realities are not sufficiently addressed in the design and implementation of TPD programmes, there is a risk that such initiatives will remain disconnected from teachers.

TPD and Pupil Learning Outcomes

Empirical evidence consistently demonstrates a positive association between high-quality Teacher Professional Development (TPD) and pupil achievement, with this relationship being particularly pronounced in Sub-Saharan African contexts where teacher capacity constraints remain a key challenge. Studies from the region indicate that sustained professional development focused on pedagogical content knowledge, learner-centred methodologies, and formative assessment significantly improves instructional quality and learner achievement in resource-constrained settings (Akyeampong et al., 2013; Hardman et al., 2012). In Zimbabwe, research shows that targeted in-service teacher training enhances teachers' ability to implement curriculum reforms, manage diverse classrooms, and adopt participatory teaching approaches, leading to improved learner engagement and academic performance (Moyo & Modiba, 2013; Chigwata, 2020).

Evidence further suggests that professional development initiatives aligned with competency-based and outcomes-oriented curricula are more effective when they are continuous, school-based, and supported through mentoring and professional learning communities (UNESCO, 2016). Such approaches have been shown to strengthen teacher agency, instructional coherence, and classroom practice, thereby improving equity and learning outcomes across rural and urban schools in Sub-Saharan Africa (Moon, 2014). These findings directly support Sustainable Development Goal 4, which emphasizes inclusive and equitable quality education and the promotion of lifelong learning opportunities for all. By investing in high-quality TPD, education systems such as Zimbabwe's can advance toward achieving SDG 4 by improving teaching effectiveness, reducing learning disparities, and ensuring that curriculum reforms translate into meaningful classroom practice (UNESCO, 2021).

RESEARCH METHODOLOGY

The study adopted a concurrent mixed-methods research design, in which quantitative and qualitative data were collected and analysed during the same phase of the research process. This approach was appropriate because the study sought not only to determine the relationship between teacher participation in Teacher Professional Development (TPD) and pupil learning outcomes, but also to understand the processes and experiences through which TPD influenced classroom practice in rural schools. According to Creswell and Plano Clark (2018), concurrent mixed-methods designs are particularly useful when researchers aim to corroborate findings across different data sources while gaining complementary insights into complex educational phenomena.

The quantitative component provided measurable evidence of associations between TPD participation and pupil academic achievement, while the qualitative component offered in-depth explanations of how teachers interpreted, implemented, and experienced professional development within their specific school contexts. Collecting both forms of data concurrently enhanced triangulation, thereby strengthening the credibility and validity of the findings (Teddlie & Tashakkori, 2009). This integration was especially important in a rural Zimbabwean context, where contextual factors such as limited resources, large class sizes, and infrastructural challenges could not be adequately captured through quantitative measures alone.

Furthermore, the concurrent design allowed the qualitative findings to explain patterns observed in the quantitative results, such as variations in pupil achievement across schools with similar levels of TPD exposure. By integrating numerical trends with teachers' lived experiences, the study generated a more comprehensive understanding of the impact of TPD on instructional practices and learner outcomes.

Sampling Procedures

The study employed multistage sampling procedures to select schools, teachers, and pupils. At the first stage, purposive sampling was used to select 40 rural secondary schools in Chivi District that had participated in Ministry of Primary and Secondary Education-supported TPD programmes within the past three years. This criterion ensured that participating schools had sufficient exposure to structured professional development initiatives relevant to the study objectives.

At the second stage, stratified random sampling was used to select 300 pupils and 100 teachers within the sampled schools. Teachers were stratified by subject area and years of teaching experience to ensure adequate representation of different disciplines and career stages. From each stratum, teachers were randomly selected to participate in the quantitative survey component.

For the qualitative component, purposive sampling was employed to select a sub-sample of 20 teachers for in-depth interviews and classroom observations. These teachers were selected based on their level of participation in TPD activities (high, moderate, and low) to capture diverse experiences and implementation practices. Pupil achievement data were drawn from school examination records for classes taught by the participating teachers, allowing for alignment between teacher-level data and learner outcomes.

Quantitative Measures and Sample Item

The quantitative instrument measured key constructs related to teacher professional development and instructional practice. These included:

- **TPD Participation** (frequency, duration, and type of professional development attended)
- **Perceived Relevance of TPD** to classroom practice
- **Instructional Practice** (use of learner-centred methods, formative assessment, and lesson planning)
- **Pupil Academic Achievement**, measured using standardized school examination scores

A sample survey item measuring instructional practice was:

“I regularly use learner-centred teaching strategies introduced during professional development workshops in my classroom.”

(Response options ranged from *Strongly Disagree* to *Strongly Agree* on a five-point Likert scale.)

Qualitative Interview Themes

The semi-structured interview guide focused on exploring teachers’ experiences with TPD and its influence on their instructional practices. Key thematic areas included:

1. Experiences of Teacher Professional Development

Teachers’ perceptions of the content, relevance, and delivery of TPD programmes.

2. Implementation of TPD in Classroom Practice

How teachers applied new pedagogical strategies, assessment methods, and classroom management techniques.

3. Perceived Impact on Pupil Learning

Teachers’ observations of changes in pupil engagement, understanding, and academic performance.

4. Contextual and Institutional Factors

School leadership support, availability of teaching resources, workload, and challenges associated with rural teaching contexts.

5. Sustainability and Support Mechanisms

Follow-up support, peer collaboration, and mentoring practices that influenced sustained instructional change.

These thematic areas enabled the study to capture rich, context-specific insights that complemented the quantitative findings and enhanced understanding of how TPD functioned in rural secondary schools.

Data Collection Instruments

Quantitative data were collected using standardised pupil achievement tests and teacher questionnaires. Qualitative data were generated through semi-structured interviews, classroom observations, and focus group discussions.

Data Analysis

Quantitative data were analysed using descriptive and inferential statistical techniques to determine relationships between TPD participation and pupil achievement. Qualitative data were analysed thematically to identify recurring patterns and insights related to teachers' experiences with TPD.

Finding

Table 1 Relationship Between Teacher Participation in TPD and Pupil Achievement

Variable	N	Mean Score	Std. Deviation	Correlation (r)	Significance (p)
Pupils taught by TPD-trained teachers	300	62.4	8.7	0.48	< .01
Pupils taught by non-TPD teachers	300	54.1	9.3	—	—

The results reveal a moderate to strong positive correlation between teacher participation in teacher professional development (TPD) programmes and pupil academic performance. Quantitative analysis indicates that pupils taught by teachers who had participated in structured and sustained TPD activities attained significantly higher mean achievement scores than those taught by teachers who had not participated in such programmes. This pattern suggests that engagement in TPD is associated with improved instructional practices that positively influence learner outcomes. The strength of the observed relationship underscores the potential of well-designed professional development initiatives to enhance classroom effectiveness and pupil achievement, although the findings should be interpreted as correlational rather than causal in nature.

Table 2 Teachers' Perceived Impact of TPD on Instructional Practices (n = 100)

Instructional Aspect	Improved (%)	No Change (%)	Declined (%)
Lesson planning	82	16	2
Learner engagement	79	18	3
Classroom management	74	22	4
Use of learner-centred methods	85	13	2

The majority of teachers reported notable improvements in lesson planning, learner engagement, and the use of learner-centred instructional strategies following participation in TPD programmes.

Table 3 Qualitative Themes Emerging from Interviews and Classroom Observations

Theme	Description	Representative Evidence
Enhanced pedagogical competence	Improved use of interactive and learner-centred teaching strategies	Teachers reported greater confidence in applying varied instructional methods

Increased professional confidence	Greater willingness to experiment with new approaches	Observations showed more dynamic classroom interaction
Resource constraints	Limited teaching materials and infrastructure	Teachers cited shortages of textbooks and ICT tools
Need for sustained support	Lack of follow-up mentoring	Participants emphasised the need for continuous coaching

These qualitative findings complement the quantitative results by illustrating how TPD contributes to changes in instructional practice while also highlighting systemic challenges that limit programme effectiveness.

The quantitative analysis revealed a positive and statistically significant relationship between teacher participation in TPD programmes and improved pupil academic performance. Qualitative findings indicated that TPD contributed to enhanced pedagogical practices, increased teacher confidence, and greater learner engagement. However, participants also reported challenges such as limited resources, time constraints, and inadequate follow-up support.

DISCUSSION

In discussing the findings of this study, it is vital to note that while the evidence indicates a strong association between Teacher Professional Development (TPD) participation and improved pupil learning outcomes, the correlational design employed does not establish definitive causation. This study aligns with existing literature that underscores the importance of sustained, contextually relevant TPD in enhancing instructional quality and learner achievement (Darling-Hammond et al., 2017; Akyeampong et al., 2013). However, the correlational nature of the data means that while a relationship is observed, it does not imply that TPD participation directly causes improvement in pupil performance. The qualitative data from teacher interviews serves to support this association by providing plausible mechanisms through which TPD may influence teaching practices and learner outcomes, such as the adoption of collaborative learning approaches and shared strategies within professional learning communities (Hardman et al., 2012; Moon, 2014 ;Chikwature & Oyedele 2016).

In rural contexts like Chivi District, several specific challenges were observed to mediate the effectiveness of TPD, as illustrated in Table 3. Limited resources, heavy teacher workloads, and inconsistent institutional support were not merely contextual features; they actively shaped how teachers experienced and implemented professional development. For instance, teachers reported that overcrowded classrooms and insufficient teaching materials constrained their ability to adopt new instructional strategies effectively. This finding resonates with the literature indicating that conditions of professional isolation and inadequate support can undermine the potential impact of TPD (UNESCO, 2016).

Moreover, the collaborative learning approaches that emerged as effective TPD strategies in this study were, in some instances, hindered by logistical challenges unique to the rural environment. Teachers expressed a desire for more frequent peer observations and collaborative planning sessions; however, travel distances, limited time due to heavy workloads, and lack of administrative support often impeded these efforts. This situation clearly illustrates the contextual complexities that frame the implementation of TPD initiatives, emphasizing the importance of adjusting professional development frameworks to address the realities of rural schooling.

Thus, while the study provides strong evidence of the association between TPD and pupil outcomes, it simultaneously reinforces the argument for systemic and coordinated policy interventions. The observations highlight that without addressing the fundamental challenges faced by teachers in Chivi District, including ensuring sustained funding, leadership support, and alignment with broader educational reforms, the effort to enhance teaching effectiveness through TPD may not yield sustainable improvements. Strengthening systemic support structures is therefore essential, ensuring that TPD initiatives are not only contextually relevant but also capable of overcoming the unique obstacles inherent in rural and marginalized educational settings. This integrated approach to professional development policies will be crucial in fostering instructional quality and maximizing pupil learning outcomes

CONCLUSION AND RECOMMENDATIONS

This study concludes that teacher professional development (TPD) is a critical driver of improved pupil learning outcomes in rural secondary schools, representing a cornerstone for the successful implementation of Zimbabwe's Heritage-Based Curriculum (HBC) for the period 2024–2030. By strategically enhancing teachers' pedagogical competencies, assessment practices, and learner-centred instructional approaches, effective TPD directly aligns with the HBC's focus on competency-based learning, inclusivity, and the cultivation of relevant skills necessary for national development.

The findings underscore that when teachers engage in high-quality professional development tailored to their specific contexts, they become better equipped to implement innovative teaching methods that foster learner engagement and academic achievement. This shift is particularly salient for the HBC, which aims to create a dynamic and responsive education system that reflects local values and priorities while preparing students for global challenges. Moreover, these changes resonate with Sustainable Development Goal 4 (SDG 4), which prioritizes inclusive and equitable quality education and advocates for lifelong learning opportunities for all. In rural settings, where structural inequalities and resource constraints persist, effective TPD plays a crucial role in narrowing learning gaps, promoting educational equity, and ensuring that all students have access to quality education.

To maximize the contribution of TPD to both national and global education goals, the study makes several key recommendations:

- 1. Design and Implementation of Context-Sensitive TPD Programs:** Education authorities should prioritise the development of TPD initiatives that specifically address the pedagogical, infrastructural, and socio-cultural realities of rural schools. This design approach should align with the localisation principles of the HBC, ensuring that TPD is relevant and applicable to the everyday experiences of teachers. By doing so, TPD becomes more effective, as teachers can immediately integrate learned strategies into their teaching practice.
- 2. Institutionalisation of Continuous Mentoring and Coaching:** The establishment of robust mentoring and coaching mechanisms is crucial for sustaining learner-centred and competency-based pedagogies promoted by the HBC framework. Implementing school-based support systems and professional learning communities can significantly enhance collaborative practice among teachers. These structures foster an environment of continuous improvement, reflection, and shared learning, helping educators to adapt effectively to curriculum changes and increasing their confidence in using innovative instructional methods.
- 3. Increased Investment in Resources and Infrastructure:** To support effective TPD implementation, there must be substantial investment in essential resources, including digital technologies, teaching and learning materials, and the development of school-based training facilities. Such investments are vital for overcoming the infrastructural challenges often faced by rural schools. Providing these resources not only enhances the quality of TPD but also aligns with SDG 4 targets related to improving education quality and equity, enabling schools to utilize modern teaching methods effectively.
- 4. Conduct Longitudinal Research:** Future studies should aim to conduct longitudinal research that assesses the long-term impact of TPD on pupil achievement and curriculum implementation outcomes. By generating robust evidence over time, education policymakers can refine TPD initiatives, ensuring they remain responsive to evolving educational needs. This research will be essential for tracking progress towards achieving Zimbabwe's Vision 2030 goals and meeting the commitments set forth by SDG 4.

In conclusion, these recommendations aim to encapsulate the changes and improvements made throughout the study, linking enhanced educational practices to broader national and global educational objectives. By prioritising effective TPD within the framework of the HBC, stakeholders can significantly contribute to

sustainable education reform and the realization of a more equitable and inclusive educational landscape in Zimbabwe.

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