



## **Challenges to Participation in Professional Development Workshops: A Case of Intermediate Phase Mathematics Teachers in the Chris Hani District, South Africa**

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### **Abstract**

This study examines the factors that limit intermediate-phase mathematics teachers' participation in professional development (PD) workshops within the Chris Hani East Education District, South Africa. Despite the recognized importance of PD for enhancing teaching practices and learner outcomes, participation remains low, particularly in under-resourced areas. Guided by the Theory of Planned Behaviour, the study employed a qualitative case study design, collected data through semi-structured interviews, observation, and document analysis. Findings reveal that combination barriers hinder teacher participation, including time constraints, limited institutional support, inadequate resources, and personal challenges such as financial strain and workload. In addition, concerns about the relevance and quality of PD workshops negatively influence teachers' motivation to attend. These obstacles restrict professional growth and undermine efforts to improve mathematics instruction. The study recommends targeted interventions, such as flexible scheduling, improved resource allocation, stronger leadership support, and more relevant, needs-based PD content. Addressing these issues is essential to enhancing teacher engagement in PD and improving mathematics education in the district.

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## Introduction

In-service professional development equips teachers with the skills and knowledge necessary to enhance teaching effectiveness and learner outcomes (Nkundahakura et al., 2023). In the context of South Africa, primary mathematics education continues to face significant challenges, particularly in developing learners' foundational numeracy skills and conceptual understanding, which are essential for future academic and professional success (Mukuka & Alex, 2024). As a result, professional development (PD) workshops are frequently organised to strengthen teachers' pedagogical competencies, update content knowledge, and introduce innovative teaching strategies (Hendriks & Crnywagen, 2024).

Globally, professional development workshops are recognised as essential for enhancing teacher competence and improving classroom practice. However, several challenges continue to hinder teachers' participation in PD programmes. Time constraints remain a major barrier, as teachers often struggle to balance classroom responsibilities with professional learning opportunities (Darling-Hammond, Hylar, & Gardner, 2017). In both developed and developing countries, insufficient institutional support, including the lack of substitute teachers, further limits teachers' ability to attend workshops (Kirsten et al., 2023). Additionally, cultural and contextual mismatches in PD content often reduce the relevance and applicability of training programmes. For example, Zhang et al. (2022) found that many Asian teachers perceive PD programmes as poorly aligned with local curricula, while Yuksel (2021) reported that language barriers and unsuitable methodologies discourage teacher participation in Latin America.

Within the African context, barriers to teacher participation in PD workshops are strongly influenced by systemic, economic, and contextual factors (Baranidharan & Chandrakala, 2022). Limited funding within education systems restricts the availability and accessibility of quality PD opportunities (Mitchell, 2024). In countries such as South Africa and Kenya, teachers are often expected to meet their travel, accommodation, and learning materials costs, which discourages participation. Furthermore, heavy workloads, high teacher-to-learner ratios, and the absence of substitute teachers in under-resourced schools make it difficult for teachers to attend workshops without disrupting classroom instruction (Darling-Hammond et al., 2017; Moses, 2024).

South Africa reflects many of these regional and global trends regarding participation in professional development activities. Kgobe (2021) identifies time constraints as a major challenge, as teachers often face excessive administrative duties, large class sizes, and multi-grade teaching responsibilities, especially in under-resourced schools. Financial limitations also significantly affect participation, particularly for teachers in rural areas who must travel long distances to training centres and often lack adequate transportation infrastructure (Brauder & Dwarika, 2020). In addition, technological challenges continue to hinder participation in online PD opportunities, as many rural and township schools have limited access to reliable internet connectivity and digital devices (Mthanti, 2023). These challenges highlight the need for inclusive, accessible, and contextually relevant professional development programmes that accommodate teachers' professional and personal realities.

Despite the recognised importance of professional development, many in-service primary mathematics teachers in South Africa, particularly within the Chris Hani East Education District, continue to face challenges that prevent them from attending or

fully participating in PD workshops. Factors such as geographical isolation, financial constraints, transportation difficulties, inadequate learning resources, heavy teaching workloads, and family responsibilities create significant barriers to participation (Suliman et al., 2020). Consequently, the participation of intermediate-phase mathematics teachers in PD initiatives within the district remains inconsistent and limited, raising concerns about the effectiveness of these programmes in improving teaching quality and learner performance (Van Der Westhuizen & Hannaway, 2024). This raises concern, given the generally weak matric mathematics performance in the district, which ranged between 37% and 65% over the period 2021 to 2025 (Eastern Cape Department of Education, 2025). Given the critical role of mathematics education in shaping learners' academic achievement and future opportunities, it is important to investigate the contextual challenges affecting teachers' participation in professional development activities within the Chris Hani East Education District. Understanding these barriers is essential for developing strategies that enhance teacher participation, improve professional learning opportunities, and ultimately strengthen mathematics education in South Africa. Therefore, this study aimed to investigate the logistical, personal, and institutional factors that hinder primary mathematics teachers from participating in professional development workshops within the Chris Hani East Education District.

### **Literature Review and Theoretical Framework**

Professional development (PD) workshops are designed to improve teachers' content knowledge, instructional techniques, and overall teaching effectiveness. However, studies indicate that several barriers prevent teachers, particularly those in rural and under-resourced areas, from fully engaging in professional development opportunities (Kraft et al., 2020). The barriers affecting intermediate-phase mathematics teachers' participation in PD workshops are multifaceted and include logistical, institutional, personal, socioeconomic, and pedagogical dimensions. Understanding these barriers is essential for designing effective professional development interventions that can enhance teaching practices and learner outcomes.

This study was underpinned by the "Theory of Planned Behaviour (TPB)" developed by Icek Ajzen (1991). The theory provides a useful framework for understanding teachers' participation in professional development workshops by explaining how attitudes, social expectations, and perceived control influence human behaviour. According to the TPB, behaviour is shaped by three major components: attitude toward behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). These components provide the lens through which the challenges affecting teachers' participation in PD workshops can be examined. The integration of the literature review and theoretical framework enabled the study to examine both the personal and structural factors that may hinder teachers' professional growth.

#### **Logistical Challenges and Perceived Behavioural Control:**

Logistical challenges, including geographic isolation, transportation difficulties, and scheduling conflicts, are frequently cited as major barriers to professional development participation, especially in rural contexts (Cadero-Smith, 2020). Yadata et al. (2024) and Kgobe (2021) note that teachers in remote areas often travel long distances to attend workshops held in urban centres, making participation costly and time-consuming. In South Africa, these challenges are worsened by poor infrastructure

and limited public transportation systems. Matiba (2024) further explains that workshop schedules often conflict with teachers' professional responsibilities, making attendance difficult. Similarly, Komba and Mwakabenga (2019) identify poor coordination of workshop schedules as a challenge that limits equal access to professional development opportunities.

These logistical barriers align closely with the TPB component of perceived behavioural control, which refers to individuals' perceptions of their ability to perform a particular behaviour (Armitage & Conner, 2010). Teachers who perceive transportation, time, and scheduling difficulties as beyond their control are less likely to participate in PD workshops. Blignaut et al. (2021) argue that persistent logistical challenges create frustration and discourage teachers from viewing professional development as realistic or accessible. Consequently, teachers may lose motivation to pursue professional growth opportunities, limiting their exposure to innovative teaching methods and resources that could improve educational quality.

### **Institutional and Structural Challenges, Subjective Norms, and Perceived Behavioural Control**

Institutional challenges such as insufficient funding, limited management support, and shortages of substitute teachers also significantly affect teachers' participation in professional development activities (Gonfa et al., 2024). Mutonga (2020) explains that schools in economically disadvantaged communities often prioritise immediate operational needs over staff development because of limited financial resources. In South African rural districts, school management frequently provides inadequate support for professional development initiatives (Kgobe, 2021). Tualaulelei and Halse (2024) further indicate that the shortage of substitute teachers in rural schools forces teachers to choose between classroom responsibilities and attending workshops.

These institutional barriers can be understood through the TPB concepts of subjective norms and perceived behavioural control. Subjective norms refer to the social pressures individuals experience regarding whether to perform a behaviour (Ajzen, 1991). When school leaders, colleagues, or education authorities fail to encourage or prioritise professional development, teachers may feel little social motivation to participate. La Barera and Ajzen (2020) note that weak institutional expectations and limited encouragement can negatively influence participation in professional development programmes.

At the same time, inadequate institutional support also reduces teachers' perceived behavioural control, as teachers may feel they lack the necessary support systems to attend workshops successfully. Gifford et al. (2021) state that insufficient institutional support discourages teachers from participating in PD programmes, thereby reducing the overall impact of professional learning initiatives on educational quality. To improve participation, Nyirahabimana and Magagula (2024) recommend that schools provide flexible learning opportunities and prioritise investment in staff development.

### **Personal and Socioeconomic Challenges and Attitude Towards Behaviour:**

Personal and socioeconomic factors further influence teachers' ability and willingness to participate in professional development workshops. Bantwini (2018) identifies financial constraints as a major barrier, as many teachers cannot afford travel and accommodation expenses associated with attending workshops. In South Africa,

teachers in rural and low-income communities often experience greater financial challenges than their counterparts in urban areas (Mukuka & Alex, 2024). These financial burdens may discourage teachers from participating in professional development when the perceived costs outweigh the expected benefits.

Mbatha et al. (2024) further note that family responsibilities and childcare obligations often limit teachers' availability for professional development activities. This challenge is particularly significant for female teachers, who frequently balance professional duties with household responsibilities. Moses (2024) adds that limited opportunities for career advancement may reduce teachers' motivation to invest time and effort in professional development activities, especially when faced with logistical and financial constraints.

These challenges relate strongly to the TPB component of attitude toward behaviour, which refers to an individual's positive or negative evaluation of a behaviour (Ajzen, 1991). Teachers' attitudes toward professional development are influenced by their beliefs about the value and benefits of attending workshops. When teachers perceive professional development as costly, stressful, or offering limited personal and professional rewards, they are more likely to develop negative attitudes toward participation. Such attitudes can significantly reduce their willingness to engage in professional development programmes.

Therefore, the TPB provide a valuable framework for understanding how attitudes, social expectations, and perceived behavioural control can influence participation of intermediate-phase mathematics teachers in professional development workshops within the Chris Hani East Education District. By exploring contextual barriers, the study sought to generate insights that could contribute to the development of more equitable, accessible, and effective professional development initiatives geared to improve mathematics education outcomes.

### **Research Methodology**

The study utilised a qualitative research approach to explore the contextual challenges that hinder intermediate-phase mathematics teachers in the Chris Hani East Education District from participating in professional development (PD) workshops. The qualitative research approach was suitable for the study as it allowed for an in-depth understanding of the teachers' lived experiences, attitudes, and perceptions (Creswell, 2018) related to professional development activities, which enabled the capturing of adequate qualitative data. This approach was valuable in eliciting socio-cultural, personal, and structural insights into the barriers to teachers' engagement with professional development programmes. A case study design was employed to gain thorough insight into the unique challenges within the specific context of the Chris Hani East Education District. Case studies are particularly effective for examining complex issues within real-life contexts (Yin, 2016). This design enabled the researcher to explore barriers to participation in professional development in depth while considering the district's unique geographic, socio-economic, and institutional context. The Chris Hani East Education District comprises a combination of urban, peri-urban, and rural communities, with many schools situated in geographically dispersed areas that face challenges related to infrastructure, accessibility, and resource availability. Socio-economically, the district serves communities with varying levels of poverty and

unemployment, factors that may influence educational outcomes and teachers' access to professional development opportunities. Institutionally, the district comprises schools with differing capacities and support systems, making it a valuable setting for investigating educational practices and teacher participation in professional development initiatives.

The purposive sampling technique was employed to select six schools from 387 primary schools in the Chris Hani East Education District for this study. The selection of six schools was informed by the need to obtain rich, detailed data from information-rich cases and diverse school contexts and characteristics relevant to the research objectives. Limiting the sample to six schools enabled effective management of interviews, observations, document analysis, and data processing, thereby enhancing the quality and credibility of the findings. Again, purposive sampling was used to identify one intermediate-phase mathematics teacher from each school, which generated a total of six participants. The sample comprised teachers who had attended professional development workshops but continued to experience challenges that hindered their participation. This ensured that the study engaged relevant participants and captured a range of perspectives within the district. To maintain confidentiality, the schools were labelled with the letters A, B, C, D, E, and F. Similarly, pseudonyms were assigned to the participants, with each teacher referred to as A1, B1, C1, D1, E1, and F1, corresponding to schools A to F.

Semi-structured interviews were conducted with the selected teachers to elicit their experiences, perceptions, and specific barriers to participation in professional development. This method enabled the gathering of open-ended responses from teachers who shared personal insights and elaborated on issues about the investigated topic. Additionally, relevant documents, such as workshop attendance records and government policy documents on teacher development, were reviewed. This analysis provided contextual data on professional development programmes, district policies, and attendance patterns. The study employed Thematic Data Analysis (TDA) to examine challenges to participation in professional development workshops among intermediate-phase mathematics teachers in the Chris Hani East Education District. TDA was chosen for its suitability in identifying, organising, and interpreting patterns in qualitative data, which allowed the analysis of explicit and implicit meanings. Ethical guidelines were strictly observed. That is, participants were informed about the purpose of the study and their rights, after which they provided informed consent voluntarily. Permissions were obtained from the education district office and individual schools before data collection. In addition, the elicited data was securely stored.

### **Findings and Discussion**

This section presents findings from intermediate phase mathematics teachers in the Chris Hani East Education District, identifying barriers to participation in professional development workshops. Data from interviews and document evaluation were analysed using Thematic Data Analysis, with key themes aligned to the study's objective. Findings are presented thematically, supported by direct quotes for credibility, and discussed in line with existing literature and the study's theoretical framework. Analysis of workshop attendance registers revealed generally low to moderately satisfactory levels of participation in professional development workshops among

intermediate-phase mathematics teachers in the district. Attendance figures ranged from 42 to 194 teachers per workshop, against an expected participation of 387 teachers from primary schools across the district. This is problematic for a district where many schools underperform in mathematics, highlighting the need to empower mathematics teachers, particularly at the primary school level. The main themes for the presentation and discussion of the findings include logistic challenges, institutional and structural challenges, and personal and socioeconomic challenges to participating in PD workshops.

### **Logistical Challenges**

Logistical challenges, including limited transportation and scheduling conflicts, are frequently cited as significant barriers to participation in PD, particularly in rural areas (Nkambule & Mukeredzi, 2017). Participants from the selected six schools were asked to comment on the logistical factors hindering intermediate-phase mathematics teachers from attending professional development workshops. Teachers D1 and E1 stated the scheduling problem that “workshops are conducted during tuition time, and some teachers are not prepared to sacrifice their teaching time to attend in-service training workshops”. Teachers A1 and F1 were not happy about the inadequate coordination of the workshops. Teacher F1 said that “sometimes teachers miss the opportunity of attending because they receive training notifications late from the school principals”. Furthermore, Teacher B1 pointed out time constraints and workload pressures as key barriers inhibiting some teachers from attending in-service training sessions. He said that: “I teach mathematics and life skills in three grades and I have school administrative duties. Thus, I am forced to miss some in-service training sessions due to workload pressure”.

The findings from Chris Hani East Education District on the logistic factors inhibiting intermediate-phase mathematics teachers from attending in-service professional development workshops reinforce the recent findings in the literature. The workshop scheduling challenge reported by Teachers D1 and E1 affirms Matiba's (2023) findings on the same issue. Matiba notes that most professional development workshops are conducted parallel to classroom sessions, depriving the affected teachers of the opportunity to attend.

Furthermore, the inadequate coordination of the professional development workshops reported by Teachers A1 and F1 also tallies with the findings of Komba and Mwakabenga (2019), who point out that insufficient coordination of teacher professional development programmes in Tanzania has rendered them ineffective, dividing teachers in the country into two groups. One group comprises teachers who benefit from professional development programmes, and the other group that has not accessed professional development activities. In addition, time constraints and workload pressure challenges reported by Teacher B1 are not unique to Chris Hani East Education District but align with the work of Yadata et al. (2024), who identify time constraints and teaching workload pressures as key barriers restricting teachers' participation in professional development activities.

### **Institutional and Structural Challenges**

Institutional factors, such as limited support from school management and the lack of substitute teachers, are critical in determining teachers' ability to participate in

professional development (Gonfa et al. 2024). The participants were asked to comment on institutional and structural challenges inhibiting participation in intermediate-phase mathematics teachers' professional development workshops. Teacher D1 highlighted the issue of the limited support he got from school management for engaging in in-service training sessions. He indicated that "no funding was made available by the school management for teachers' transportation and catering costs. This discouraged some teachers from attending off-site PD sessions". Teacher B1 complained about the heavy school workload, saying, "Teachers at her school have heavy teaching and extramural responsibilities; consequently, in-service training sessions are often perceived as an additional burden rather than a valuable professional learning opportunity." Teacher F1 pointed out that "the school management does not provide substitute teachers to teach the classes for teachers attending professional development workshops. Thus, some teachers may avoid attending professional development workshops if they feel that doing so delays syllabus coverage." In addition, Teacher A1 complained, saying that "sometimes the content presented in the professional development workshops is irrelevant and does not meet the teaching needs of some teachers, which discourages some from attending".

The findings from Chris Hani East Education District about the institutional and structural challenges hindering intermediate-phase mathematics teachers from attending in-service professional development workshops affirm the recent findings in the literature. For instance, the lack of school management support for teachers attending professional development sessions, in terms of funding transportation and catering costs, is also noted in Mutonga's (2020) work, where he points out that schools in economically disadvantaged areas have limited funds and struggle to cater for teachers' professional development needs. This status quo negatively affects the professional development of the teaching staff and students' academic performance.

The challenges presented by Teachers B1 and F1 about the heavy school workloads and the lack of substitute teachers support the findings of Tualaulelei and Halse (2024), who noted that heavy workload and the shortage of substitute teachers in rural schools mean that teachers who wish to attend workshops may find it problematic to cater for their classes. Teachers are trapped in a situation where they must choose between professional development and attending to their classroom obligations. Tualaulelei and Halse blame this dilemma on the inadequate support by school management for teacher professional development, which reduces teachers' participation and negatively affects the standard of education.

Moreover, the irrelevant content in certain professional development workshops, as pointed out by Teacher A1, aligns with Matiba's (2023) observation that the materials provided in some sessions often fail to address teachers' practical needs. He attributed the problem to the lack of prior needs assessments by the organisers of professional development workshops. This anomaly lowers the standards of the organised workshops and discourages teachers from participating in professional development activities.

### **Personal and Socioeconomic Challenges**

Personal and socioeconomic challenges also influence teachers' ability to engage in professional development. These constraints include personal and

professional needs, job security, motivation, physical and mental health, social status, social responsibilities, and financial well-being (Carroll 2024, Schwartz 2019). Teachers were asked to comment on the personal and socioeconomic barriers hindering intermediate-phase mathematics teachers from engaging in professional development activities. Teachers A1, B1, and D1 pointed out that “sometimes we have trouble balancing school responsibilities with personal life and view professional development workshops as an additional burden, leading to reluctance to attend”. Teacher D1 indicated that “I am a single parent with young children and struggle to find friends or relatives to look after my children while attending multi-day in-service training workshops”. Furthermore, Teacher F1 reported the issue of poor health (physical or mental) as a significant challenge hindering some teachers from attending in-service teacher development workshops. Teachers C1 and E1 complained about the long distances they travel to the in-service training workshop venues, high travel costs, and the lack of funds to cover such transportation costs, as key factors reducing teachers’ participation in off-site professional development workshops.

The findings from Chris Hani East Education District on personal and socioeconomic challenges hindering intermediate-phase mathematics teachers from attending in-service professional development workshops are consistent with the recent findings in the literature. The difficulty of balancing school responsibilities with personal life, mentioned by Teachers A1, B1, and D1 as a major challenge, leading to their reluctance to participate in professional development programmes, aligns with Carroll (2024), who points out that the teachers’ school responsibilities, family and children obligations limit their availability for PD sessions. The teachers’ health challenges reported by Teacher F1 as a barrier hindering teachers’ participation in in-service professional development are consistent with the findings of Schwartz et al. (2019), who noted the negative impact teachers’ illness, burnout, and depression had on their participation in professional development sessions. The challenge of long distances and high transportation costs to off-site professional development venues reported by Teachers C1 and E1 supports the findings of Zhang et al. (2024), who emphasise that teachers in rural areas are faced with geographic isolation challenges that hinder their access to effective professional development sessions, often organised in urban centres.

The findings of this study reveal that logistical, institutional, and personal challenges significantly influence teachers’ ability to participate in professional development programmes, consistent with the Theory of Planned Behaviour (TPB). These challenges directly affect teachers’ perceived behavioural control by creating obstacles that hinder their participation (La Barera & Ajzen, 2020). Logistical issues such as scheduling conflicts and inadequate coordination, combined with institutional barriers like limited support from school management and personal challenges, including balancing family responsibilities and health issues, undermine teachers’ confidence and ability to attend professional development workshops. Additionally, these barriers negatively shape teachers’ attitudes and subjective norms regarding professional development (Ajzen, 1991). To promote positive behavioural intentions and participation, it is essential to address these challenges by creating supportive systems and accessible opportunities for professional development.

### **Conclusion and Recommendations**

The findings of this study provide comprehensive answers to the research objective: To explore the contextual logistical, personal, and institutional factors that inhibited the participation of intermediate-phase mathematics teachers in professional development workshops in the Chris Hani East Education District. The study identified key challenges under three main categories: logistical barriers, such as conflicting schedules, long travel distances, and transportation issues; institutional and structural barriers, including heavy workloads, lack of substitute teachers, and insufficient financial support; and personal and socio-economic challenges, such as family responsibilities, health issues, and monetary constraints. These barriers significantly restrict teachers' participation in professional development activities.

The findings align with the Theory of Planned Behaviour (TPB), which supported the study. Logistical, institutional, and personal barriers directly impact teachers' perceived behavioural control by limiting their ability to attend professional development workshops. Moreover, these challenges shape negative attitudes toward participation and weaken the subjective norms that encourage engagement in professional development activities. Consequently, these barriers hinder teachers' intentions to participate and affect their motivation and professional growth, with downside implications for student outcomes.

Addressing these barriers is crucial for ensuring equitable access to professional development opportunities, improving teaching effectiveness, and ultimately improving the quality of mathematics education in the district and in the country in general. To address logistical challenges, it is recommended that professional development workshops be scheduled during school holidays, weekends, or after-school hours to prevent conflicts with teaching responsibilities. Online professional development workshops should also be considered to eradicate travel and scheduling barriers. The educational authorities should explore strategies for funding transportation and accommodation costs for teachers from remote areas. This could be through providing travel stipends or forming group transportation to reduce the financial and logistical burdens of attending in-service workshops.

Schools should consider employing substitute teachers to cover classes when teachers attend professional development activities. Additionally, schools could increase financial support for teachers attending off-site workshops, guaranteeing that teachers are not financially burdened by their participation. Professional development activities should be designed to align with the needs of teachers, particularly in subjects such as mathematics. Workshops should target alleviating teachers' pedagogical challenges, and programmes should be regularly reviewed to ensure they remain relevant. Finally, schools and educational authorities should acknowledge the personal and socio-economic barriers experienced by teachers, particularly those with family or health responsibilities. Providing more flexible and supportive environments, such as childcare support and mental health activities, could help teachers balance their personal and professional responsibilities.

Through the implementation of these recommendations, schools and education authorities can reduce the challenges associated with participation in professional development workshops, thereby creating a more inclusive, accessible, and effective professional development environment for all teachers.

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