

Research Article

Participation in and implementation of continuous professional development learning into classroom practice: Challenges faced by teachers

Nicholas Mante Parry¹ and Emmanuel Opoku Kumi²

¹University of Tasmania, Australia (ORCID: [0000-0002-2004-3900](https://orcid.org/0000-0002-2004-3900))

²University of Tasmania, Australia (ORCID: [0000-0002-2184-358X](https://orcid.org/0000-0002-2184-358X))

The study aimed to investigate the factors impacting teachers' participation in Continuous Professional Development activities. Further, factors of implementation of CPD skills and knowledge post-participation in teaching practices is explored. The study collected qualitative data by interviewing 17 teachers in the Central Region of Ghana. Through thematic analysis, the study revealed that the major challenge that impacted teachers' participation in Continuous Professional Development activities was financial challenges. The study further revealed three (3) major challenges faced by teachers, particularly in rural schools, during the implementation of Continuous Professional Development learning into their classroom practices. These were identified as inadequate resources, frequent changes of educational policies, and changes in school curriculum. The findings indicated that teachers had the goodwill to participate in Continuous Professional Development activities and change their classroom practices except for these challenges. This suggests that if these challenges are resolved, teachers' Continuous Professional Development participation and implementation could be improved, potentially contributing significantly to improved students' learning outcomes.

Keywords: Challenges; Continuous professional development; Implementation; Participation; Improved students' outcomes

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1. Introduction

The role of teacher continuous professional development [CPD] in global education cannot be overemphasised. Consequently, various national governments have put in measures to ensure that teachers participate in and effectively implement CPD skills in their classrooms. This is aimed at improving teaching and learning outcomes. For instance, to guide practice, educational programs in the US, UK, and Germany mandate that instructors to engage in ongoing professional development activities that meet predefined standards (de Vries et al., 2013; Jaquith et al., 2010). In a similar vein, Australia's 'Quality Teacher Program' comprises several programs (including the Australian Professional Standard of Teachers and the Australian Government Teacher Quality Program) that set forth standards for professional development (Department of Education, Employment and Workplace Relations, 2012).

In Ghana, the Ministry of Education implemented the Pre-Tertiary Teacher Professional Development and Management [PTPDM] in 2012 aimed at raising the standard of education in Ghana. This policy was based on a set of nationally recognized standards that guided the processes of teacher certification, training, and advancement. The content of the PTPDM policy focuses on improving teaching standards and the

Address of Corresponding Author

Nicholas Mante Parry, PhD, Faculty of Education, University of Tasmania, Newnham, TAS 7248, Australia.

✉ nicholasmante.parry@utas.edu.au

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learning outcomes of students through regular In-Service Training [INSET] programmes (Ministry of Education, 2012). To ensure the achievement of INSETs objectives, teachers' career progression in Ghana is partly tied to CPD participation levels. Despite this initiative, students' learning outcomes in Ghana remains below expectations over the years (Ansong et al., 2015; Mullis et. al, 2012; Okyerefo et al., 2011). This concerning phenomenon has instigated research attempts to explore ways of raising the educational standards in the country. Among the factors reported to affects learning outcomes is low CPD participation among teachers (Abakah et al., 2022; Adu & Okeke, 2014; Wan & Lam, 2010).

Beyond CPD participation, implementation of skills and knowledge acquired from these professional development programs in teaching practices may be constrained by multiple factors in resource limited economies (Abakah et al., 2022; Adu & Okeke, 2014; Tadesse & Derza, 2020; Uğurlu & Evran Acar, 2025). So far, the specific reasons for the low CPD participation rates among teachers and the factors associated with ineffective translation of CPD skills in the classrooms in Ghana are not clearly understood. The motivation of this study is to address this knowledge gap to aid policy and practice reform and ultimately contribute to the ongoing efforts towards enhancing teaching and learning outcomes in Ghana.

Studies suggest that key barriers to teachers' CPD participation include the high cost associated with participation, work-CPD time conflicts, inadequate incentives, perceived relevance of CPD content/activities, and family responsibilities (Abakah et al. 2022; Adu & Okeke, 2014; OECD, 2019; Wan & Lam, 2010). In Hong Kong, Wan and Lam (2010) studied the barriers to CPD participation among primary school teachers and found high cost among other things, as a barrier to participating in CPD activities. This is not different from the findings of Tyagi and Misra (2021) whose study explored the challenges of CPD participation of 113 college teacher educators in India. Using a quantitative approach, their study revealed among other things the cost of CPD participation. In Africa, Adu and Okeke (2014) investigated factors affecting lecturers' participation in CPD activities in Botswana. The study revealed lecturers' inability to pay for CPD courses. In Ghana, Abakah et al. (2022) investigated barriers to teachers' CPD participation. The study revealed that although the school sponsored some part of teachers' professional development, a greater majority of teachers (59.9%) were required to finance their professional development activities.

Regarding CPD skill implementation, several international studies have explored barriers and enabling factors (Adu & Okeke, 2014; Hochberg & Desimone, 2010; Supovitz, 2001). These studies (Adu & Okeke, 2014; Nawab & Bissaker, 2021; Tyagi & Misra, 2021) have revealed how inadequate resources can be an impediment to teachers when implementing knowledge gained from CPD activities in their classrooms. For instance, Tyagi and Misra (2021) examined the problems faced by teachers when implementing CPD activities. The study revealed that teachers faced infrastructural challenges such as inadequate computer facilities, internet connectivity issues, inadequate libraries etc. In Ghana, Esther et al. (2024) explored the challenges in the implementation of the PTPDM among basic schoolteachers. Their study found among other things resource limitation especially relating to finances and infrastructure. Moreover, frequent educational policy reforms such as frequent educational curriculum change affect teachers' implementation of CPD learning (Supovitz, 2001).

Generally, the findings of most of these studies present participation and implementation challenges that teachers are faced with, mainly in different countries that are somewhat different socio-politically, culturally and geographically from Ghana (Adu & Okeke, 2014; Supovitz, 2001; Wan & Lam, 2010). Despite the importance of this issue to teaching and learning outcomes, limited research has been conducted on this topic in Ghana and the entire African continent (Abakah et al., 2022; Esther et al., 2024). Although the study of Abakah et al. (2022) and Esther et al. (2024) were conducted in Ghana, their study focussed on basic schoolteachers rather than senior high school teachers. Most of the existing studies (not limited to the two Ghanaian articles) generally focused on basic schoolteachers (Abakah et al., 2022; Esther et al., 2024; Wan & Lam, 2010) while a few of them focused on tertiary education teachers (Adu & Okeke, 2014; Tyagi & Misra, 2021). Although the results of these studies are insightful, the findings may not reflect the situation of senior high school teachers in the study region. Considering the limitations in literature, this study aimed to explore the participation and implementation challenges of senior high school teachers in the Central region of Ghana. To determine this, the following specific research questions were posed to guide the study:

RQ 1) What are the challenges to Senior High School teachers' CPD in participation in Ghana?

RQ 2) What challenges do Senior High School teachers face during the implementation of CPD learning in their classroom practice in Ghana?

2. Theoretical Perspectives

This study is premised on Desimone's (2009) framework for effective teacher CPD programs. This framework focuses on the core components of an effective CPD programme and how these components have the potential to translate into improved students' outcomes. The core components of this framework are content focus, active learning, coherence, duration, and collective participation. However, Desimone (2009) acknowledged that there are other contextual factors that can as well influence the effectiveness of the CPD process. The key to ensuring that CPD translates into improved student outcomes lies in teachers' ability to participate in and incorporate CPD learning into their classroom practice. Participation in CPD programs equips teachers with updated knowledge, practical strategies, and a deeper understanding of subject content and pedagogy, which, when effectively implemented in the classroom, directly enhances teaching quality and student engagement. Desimone (2009) highlighted specific contextual factors (i.e., curriculum, policy environment, school leadership, teacher and student characteristics) that can influence how teacher CPD translates into improved student learning. Based on the above research questions, the study focused on how the contextual factors identified by Desimone's framework influence senior high school teachers' participation in CPD activities and translation of skill acquired in their teaching pedagogy in the Central Region of Ghana.

3. Method

3.1. Research Design

A case study research design was adopted to explore the perceived barriers to CPD participation and onward implementation of CPD skills among teachers in the Central Region of Ghana. This research design was adopted because the Central Region of Ghana represents a bounded, information-rich context with unique characteristics (i.e., the presence of two major teacher-training universities and consequently higher CPD training exposure) making it an ideal setting for in-depth exploration of perceived barriers to CPD participation and implementation among teachers. Although Ghana has sixteen (16) political administrative regions, the study region was selected because it harbours two major universities (i.e., University of Cape Coast and University of Education) originally established with the main aim of training teachers and other education related human resources for the country. As a result, these universities have institutes and academic faculties actively providing CPD for teachers. Consequently, teachers in the study region were more likely to receive more CPD training programmes than teachers in other regions. The region's literacy rate is 75.2 percent with nearly 80% of the school going population currently enrolled in school (Ghana Statistical Service, 2021). Moreover, the study region has other colleges of education: Komenda College of Education, Fosu College of Education and OLA College of Education that train pre-service teachers. In-depth interviews were conducted to collect qualitative data. This gave the researchers the opportunity to access rich and in-depth information from interview participants (Eppich et al., 2019).

3.2. Participants

The study participants consisted of middle and late career teachers who consented to participate in the interviews. This group of teachers were selected as they stood the better chance to have potentially engaged more in CPD activities based on their accumulated experiences in teaching. Early career teachers were excluded because they are known to spend their early years adjusting to work-related issues such as workload challenges, finding suitable mentors as well as finding a supportive teaching environment (Schuck et al., 2018). In identifying and recruiting these groups of teachers, a letter from the University of Tasmania, introducing the researchers was sent to the headquarters of the Ghana Education Service [GES] for approval. With this approval, the researchers contacted the district education directors to introduce themselves and to gain permission to conduct the research among teachers within the various schools located in their specific districts. The district directors subsequently informed the headteachers of the various schools of an impending research project. After securing the email addresses of the teachers with the assistance of the headteachers of the various schools, an email, that explained the purpose of the study, was sent to them.

Teachers were required to demonstrate their interest to participate in the study by replying to the email indicating their willingness and availability to be interviewed. To protect voluntariness, teachers were explicitly informed that participation was entirely voluntary with no consequences for declining. They were also enjoined to contact researchers directly rather than through school leadership to express interest. To ensure confidentiality, the researchers used pseudonyms, stored data on password-protected devices accessible only to the research team, and also ensured that school leadership had no access to information

about who participated or what individuals shared in interviews. Forty-eight mid and late career teachers indicated their availability and willingness to participate in the study and were accordingly invited. However, thirty (30) of them were purposively selected to participate in the interviews due to the quest for a balanced rural-urban representation. However, only seventeen (17) of these teachers actually took part in the interviews as the researchers had reached a point of saturation. Data saturation was assessed using thematic saturation where no new themes emerged from three consecutive interviews. Saturation was reached after 17 interviews and was documented through analytical memos and team debriefing sessions. Table 1 below gives a brief description of the profile of interview participants. The Table reveals the number of participants in rural schools (n=12), participants in urban schools (n=5) as well as those who had teaching experiences in both rural and urban schools (n=8). The table also reveals that the study involved 9 mid-career teachers and 8 late career teachers.

Table 1

Profile of Interview Participants

<i>Locality and Years of Experience</i>			
<i>Rural (8-19 years)</i>	<i>Rural (20 years and above)</i>	<i>Urban (8-19 years)</i>	<i>Urban (20 years and above)</i>
Akosua	Afia	Mercy	Teemo
Caroline	Natasha	Eunice	Carol
Rosey	Rhoda		Kwesi
Alex	Boateng		
George	Roger		
Fiiifi			
Arnold			

3.3. Data Collection

Prior to the commencement of the interviews, the researchers ensured that the participants had given a verbal consent to participate in the interviews after the purpose of the study was explained to them. The interviews were digitally recorded, and each interview lasted approximately between 30-40mins. The researchers ensured that the interview participants were in a conducive environment devoid of noise and distractions. All interviews were primarily conducted in English because all the participants (teachers) were fluent in English. After the completion of each interview, the researchers played back the voice recordings to ensure that the full interview had been successfully recorded and subsequently transcribed verbatim. After transcription, the researchers subjected the document to member checking to increase the dependability of the data collected (Candela, 2019).

3.4. Data Analysis

The analysis of the transcripts employed a hybrid (deductive-inductive) thematic analysis approach following Braun and Clarke's (2019) six-phase framework. Desimone's contextual factors provided a framework for initial coding. However, the researchers remained open to emergent themes that arose inductively from the data. Consequently, the researchers familiarised themselves with the data and transcribed the voice data from all 17 interview participants. The transcript was read and re-read to ensure that every bit of data had been captured while replaying the voice data (phase one). During phase two of the process, the researchers coded and generated initial codes from the interview data based on the key contextual factors as identified by Desimone (school leadership, policy environment, curriculum). These initial codes guided the researchers throughout the theme identification processes. To facilitate the analysis and interpretation of the data, ideas were grouped and combined to form codes. The third phase of the process involved the researchers organizing the codes into themes and compiling all pertinent codes for every possible theme. During the fourth phase, the researchers analysed, categorized, and reclassified the codes with the intention of creating coherence and identifying meaningful patterns and later revisited the codes and themes to identify those that needed to be deleted due to the similarity it shares with other codes. Decisions to merge or delete codes followed systematic procedures. For instance, codes with substantial semantic similarity were merged (e.g. 'lack of time' and 'time constraints' were combined into 'time barriers'). Again, through team consensus, codes that appeared in fewer than 2 transcripts were deleted.

The researchers further outlined and subsequently identified potential themes for the purpose of presenting them within the analysis (phase five). Analytic credibility was supported through researcher triangulation with regular team meetings to resolve discrepancies, peer debriefing sessions throughout the

analysis process, detailed analytical memos in NVivo documenting coding decisions, and reflexive journaling. In the final phase (phase six), the findings of the qualitative data were produced after all these processes had been used. Pseudonyms were subsequently adopted during the presentation of the results phase to ensure participant anonymity. Table 2 shows an excerpt of the audit trail.

Table 2

Excerpts of Audit Trail

<i>Raw Data (Participant Quote)</i>	<i>Initial Code</i>	<i>Refined Code</i>	<i>Theme</i>
'...the financial requirements are manageable, especially when the CPD program is within the school locality. But if it is taking place far away from the school, the school expects us to usually transport, accommodate and feed ourselves. In that case I sometimes do not participate in those activities since it costs a lot of money.' (Arnold, Rural Participant)	Self-financing CPD Location-based cost variation Transportation costs Accommodation costs Non-participation due to cost	Financial barrier to participation Comprehensive self-funded expenses (rural) Cost-based decision making	Inadequate Funding
'Like I said, about the TLMs, the school has to make the TLMs available so that you can be able to implement learning. But here is the case when we are done with the activities, these instructional materials, are not brought. When these materials are not brought in, it negatively affects how we are going to deliver or how we are going to implement.' (Roger, Rural Participant)	TLM unavailability Post-CPD implementation gap Negative impact on delivery School provision failure	CPD-material disconnect Implementation constrained by resource absence	Inadequate Material Resources
'...we don't have computers. In this present age, at least computer... we are moving with the world. So, without computers, it's always difficult for the students to get their real-life experience. So, this has negatively impacted my teaching as a teacher.' (Alex, Rural Participant)	Absence of computers 21st-century skill gap Limited real-life learning Negative teaching impact	Complete absence of fundamental technology Contemporary pedagogy impossibility	Inadequate Technological Resources
'Teachers can no more discipline students like we used to. So, students have become so adamant with deviant behaviours in the classroom that you can't control. That is affecting us implementing these kinds of learning acquired from CPD activities into the classroom setting.' (Carol, Urban Participant)	Discipline restriction policy Student deviant behaviour Loss of classroom control Implementation impossibility	Policy-eroded classroom authority Behavioural management challenge	Educational Policies
'This school does not have enough buildings that can accommodate enough students. So, what you will realise is that a lot of students are packed into a small classroom making it impossible to even adopt effective student-centred learning approaches in teaching and learning.' (Natasha, Rural Participant)	Insufficient classroom buildings Overcrowding Student-centred pedagogy impossibility Space constraints	Inadequate physical space Modern pedagogy structural barrier	Inadequate Infrastructural Resources
'When we go for these workshops or CPD activities, we are trained based on the curriculum available. Sometimes you go and then you come back within three weeks or one month, the curriculum has been changed. It means whatever we learned is useless because it was based on the old curriculum. So, the changes that usually occur in the curriculum is a major challenge.' (Eunice, Urban Participant)	Rapid curriculum changes CPD-curriculum temporal misalignment Training obsolescence Abrupt framework shifts	Systemic instability CPD investment nullification	Changes in School Curriculum

4. Findings

This study focused on exploring the various challenges that teachers are faced with when participating and implementing learning from CPD activities into classroom practice. The study adopted the thematic research study design to address the research questions. The specific themes and code associated with their respective research questions are illustrated in Table 3.

Table 3

Themes and Associated Coding

<i>Research Questions</i>	<i>Themes</i>	<i>Subthemes</i>	<i>Coding</i>
RQ1: What are the challenges to Senior High School teachers' CPD in participation in Ghana?	Inadequate Funding		• Cost of CPD activity • Transportation costs • Feeding costs • Accommodation costs • Self-financing CPD activities • Location-based cost variations • Rural-urban cost differences
RQ2: What challenges do Senior High School teachers face during the implementation of CPD learning in their classroom practice in Ghana?	Inadequate Resources	<i>Inadequate Material Resources</i> <i>Inadequate Technological Resources</i> <i>Inadequate Infrastructural Resources</i>	• Teaching and learning materials (TLMs) • Whiteboard markers shortage • Instructional materials unavailability • Educational applications and software • Rural-urban material resource disparity • Computer unavailability • Internet connectivity issues • Lack of internet data/access • Frequent power outages • Unreliable electricity supply • Inability to use technology-dependent TLMs • Insufficient classroom buildings • Overcrowded classrooms • Lack of science laboratories • Closed or inadequate libraries • Inability to implement student-centered learning • Rural-urban infrastructure disparity • Inclusive education policy implementation • Students with special needs in regular classrooms • Free Senior High School (FSHS) policy • Double track system • Increased student enrolment numbers • Student discipline policy changes • Lack of policy support resources • Difficulty in classroom management • CPD training not aligned with policy needs • Frequent curriculum changes • Curriculum-CPD training mismatch • Acquired knowledge becomes redundant • CPD training based on outdated curriculum • Student confusion from inconsistent teaching • Difficulty implementing new curriculum focus • Political influences on curriculum reforms
	Changes in Educational Policies		
	Changes in School Curriculum		

These themes are discussed below with the help of Desimone's (2009) framework for effective teacher professional development. Particular attention is paid to the contextual factors as proposed by this framework.

4.1. Participation Challenges

Based on the primary research question that sought to explore the participation challenges of teachers in the study region, the major theme generated based on the study's findings was inadequate funding. This theme consisted of cost of the CPD activity, transportation, feeding and accommodation.

4.1.1. *Inadequate funding*

Inadequate funding was one of the key themes generated from the interviews. Most of the participants shared that they were most of the time required to pay for their own CPD activities. In expressing challenges they face relating to funding their own CPD activities, a section of the interview participants, particularly those in the rural areas, indicated that they most of the time had to bear the cost of the CPD activity, transportation, feeding as well as the accommodation. For instance, Arnold noted that:

...the financial requirements are manageable, especially when the CPD program is within the school locality. But if it is taking place far away from the school, the school expects us to usually transport, accommodate and feed ourselves. In that case I sometimes do not participate in those activities since it costs a lot of money. And you know we do not earn much as teachers (Arnold, Rural Participant).

I choose which one to attend and which ones not to. This depends on the location of where the CPD is taking place, the number of days we are going to spend there, whether the school will support or not. This helps me to have a general idea of the cost associated with the entire thing. If it is beyond what I can afford, I will not attend (Afia, Rural Participant).

However, a participant from the urban area rather focused on the cost of the CPD activity itself rather than the cost of feeding, transportation and accommodation. She indicated that:

My challenge does not have to do with transportation or feeding but rather on the cost of the CPD itself. Sometimes, they ask us to pay because so that they can cater for the resource persons they are inviting. Although I understand that, I think sometimes the amount they charge is too much (Kwesi, Urban Participant).

While self-financing CPD activities appeared as a challenge, interview participants indicated that they sometimes sacrificed to participate in such CPD activities to acquire new knowledge or update their learning.

The findings reveal that inadequate funding constitutes the primary barrier to teachers' participation in CPD activities in the Central Region of Ghana, manifesting differently across rural and urban contexts. Teachers consistently reported being required to self-finance their professional development, which created substantial financial strain given their modest salaries. Rural teachers faced compounded financial challenges, as they were expected to cover not only the cost of the CPD activity itself but also transportation, accommodation, and feeding expenses, particularly when programs were held far from their school localities. This comprehensive financial burden forced many rural teachers to make strategic, cost-based decisions about which CPD opportunities to pursue, often resulting in non-participation when costs exceeded their means. Urban teachers, by contrast, highlighted registration fees as their primary concern, suggesting relatively better access to local CPD venues that reduced ancillary expenses. Despite these significant financial constraints, teachers across both settings demonstrated a strong commitment to professional growth, with some viewing self-funded CPD as a necessary career investment and willingly making financial sacrifices to remain current in their practice. This tension between teachers' intrinsic motivation for professional development and their limited financial capacity creates a critical barrier that potentially undermines the effectiveness of Ghana's CPD policy framework, as economic factors rather than professional need or relevance become the primary determinant of participation.

4.2. Implementation Challenges

Based on the primary research question that sought to explore the implementation challenges of teachers in the study region, the findings from our data have been categorised into two major themes namely inadequate resources and changes in educational policies. The theme 'inadequate resources' focuses on inadequate material, technological and infrastructural challenges teachers face during the implementation of CPD learning in their classroom practice. On the other hand, changes in the theme 'educational policies' focuses on how the introduction of educational policies and frequent changes in school curriculum present as challenges to teachers during their attempt to implement CPD learning into their classroom practice.

4.2.1. *Inadequate material resources*

Inadequate resources were identified as one of the major themes generated from the interviews that challenged teachers during the implementation of CPD learning into classroom practice. The participants indicated how the inadequacy of these resources presented as a challenge to them in CPD learning implementation. Fiifi noted this by revealing that the school does not adequately provide them with basic teaching materials. He explained by indicating that '...sometimes there are shortages of whiteboard markers,

which we are supposed to go for it to at least write something on the board for students to see. But these are mostly not available' (Fiifi, Rural Participant). This concern was further highlighted by other participants who explained that:

Like I said, about the TLMs, the school has to make the TLMs available so that you can be able to implement learning. But here is the case when we are done with the activities, these instructional materials, are not brought. When these materials are not brought in, it negatively affects how we are going to deliver or how we are going to implement (Roger, Rural Participant)

Sometimes you prepare a lesson based on the experience you've gotten from a particular workshop. But implementing it, you might need one or two tools, because I am an ICT teacher. And then I will need some from applications and the lab at a particular point in time. But because it is not available at that point, it makes it very difficult. So those are the challenges I sometimes face (Caroline, Rural Participant).

These comments indicate that participants believed the provision of adequate material resources could potentially contribute significantly to dealing with the implementation challenges they face. They specifically referred to the schools' inability to provide them with adequate basic instructional materials as a major contributory factor to the challenges they face during the implementation of CPD learning in their various classroom settings. This was further echoed in teachers' responses after being asked about the rural-urban dynamics of material resource distribution. They identified that the inequitable distribution of resources between schools in rural and urban settings. The interview participants explained that the availability of material resources in the rural areas differed significantly as compared to the availability of material resources meant to facilitate CPD activities in the urban areas. For instance, Mercy indicated that

... the time I was at the rural area, a lot of the materials we needed, we didn't get them but when I moved to the urban area, I think it has improved (Eunice, Urban participant). Kwesi also explained that '...when I was in the rural area, I realised the instructional materials are limited. (Kwesi, Urban participant)

The findings reveal that inadequate material resources constitute a fundamental barrier preventing teachers from translating CPD knowledge into classroom practice, with this challenge manifesting most acutely in rural school settings. Teachers reported persistent shortages of basic teaching materials, ranging from simple supplies such as whiteboard markers to specialized teaching and learning materials [TLMs] essential for implementing newly acquired pedagogical approaches. This resource scarcity created a critical disconnect between teachers' CPD training and their classroom reality, as educators returned from workshops equipped with innovative instructional strategies but lacked the physical materials necessary to execute them. Subject-specific teachers, particularly those teaching ICT, faced compounded difficulties when their pedagogy required specific applications, software, or laboratory access that their schools could not provide, rendering their CPD training practically inapplicable. The findings further exposed a stark rural-urban resource disparity, with teachers who had experienced both contexts consistently reporting that rural schools faced severe material limitations while urban schools enjoyed comparatively adequate provisioning. This inequitable distribution not only disadvantages rural students but also creates a two-tiered professional development system where urban teachers can successfully implement CPD learning while their rural counterparts, despite possessing equivalent training and motivation, remain constrained by their under-resourced environments. Consequently, the absence of basic instructional materials fundamentally undermines the government's investment in teacher CPD, as knowledge acquisition fails to translate into improved teaching practice when teachers lack the essential tools to operationalize their learning.

4.2.2. *Inadequate technological resources*

Technological resources were identified as one of the major themes generated from the interviews that challenged teachers especially in the rural schools during the implementation of CPD learning into classroom practice. The participants indicated how the inadequacy of these technological resources presented as a challenge to them in CPD learning implementation. Some of them noted that:

As I said, we (sic) don't have computers. In this present age, at least computer... we are moving with the world. So, without computers, it's always difficult for the students to get their real-life experience. So, this has negatively impacted my teaching as a teacher (Alex, Rural Participant)

As an ICT teacher, I would say most of our classroom learning requires internet access which becomes challenging especially in the rural areas. But even in urban areas where there is a very strong access to internet and all that, the school is not ready to buy internet data. (Natasha, Rural Participant).

Due to frequent power outages in some parts of the country, some schools may not have access to electricity. As a result, if your teaching requires you to use TLMs that require the use of electricity, having

an engaging lesson will be very challenging for teachers especially those in the rural areas. (Boateng, Rural Participant)

The findings reveal that inadequate technological resources present a critical barrier to CPD implementation, disproportionately affecting rural schools and rendering technology-enhanced pedagogical approaches learned through professional development virtually impossible to execute. Teachers consistently reported the complete absence or severe shortage of computers, which they identified as fundamental tools for providing students with contemporary, real-world learning experiences aligned with 21st-century educational demands. Beyond hardware limitations, internet connectivity emerged as a pervasive challenge affecting even those schools with computer infrastructure, as administrators refused to purchase data subscriptions despite the centrality of internet access to modern pedagogy. Compounding these challenges, frequent and unpredictable power outages in rural areas created an unreliable electricity supply that rendered any technology-dependent teaching and learning materials unusable, forcing teachers to revert to traditional, non-technological methods regardless of their CPD training in digital pedagogy. This technological deficit proved particularly detrimental for ICT teachers, whose entire curriculum necessitates hands-on technological engagement, yet who found themselves unable to provide practical, experiential learning opportunities for their students. The cumulative effect of these technological constraints creates a fundamental misalignment between Ghana's CPD training and the stark technological poverty of many schools, particularly in rural areas, effectively nullifying teachers' capacity to implement contemporary, digitally-enhanced instructional practices and perpetuating educational inequity between rural and urban contexts.

4.2.3. Inadequate infrastructural resources

Infrastructural resources were identified as one of the major themes generated from the interviews that challenged teachers especially in the rural schools during the implementation of CPD learning into classroom practice. The participants indicated how the inadequacy of these infrastructural resources presented as a challenge to them in CPD learning implementation. Some of them noted that:

This school does not have enough buildings that can accommodate enough students. So, what you will realise is that a lot of students are packed into a small classroom making it impossible to even adopt effective student-centred learning approaches in teaching and learning. (Natasha, Rural Participant)

At the moment in our school, we teach elective science but there is no science laboratory for the students to understand what we teach them in class. Everything looks so abstract to them as they are unable to relate theory with practice. Even the school's library has been closed for over a year so you cannot even teach students how to do further studies to get a better understanding of what you teach in class. (Rosey, Rural Participant).

As expected, teachers in urban schools did not seem to have much challenge relating to infrastructure needed for the implementation of CPD learning. Carol revealed that '*...we have enough infrastructural resources here, so we do not face a lot of challenges in that regard* (Carol, Urban Participant). Teemo, a rural schoolteacher who had once taught in an urban school confirmed this by indicating that

...while we needed a bit more of the infrastructure to deal with the increasing number of students, we had enough of them to implement CPD learning. However, based on what I am experiencing here as a teacher, I can boldly say we have to struggle to implement anything. (Teemo, Rural Participant)

Generally, the findings reveal that inadequate infrastructural resources constitute a severe impediment to CPD implementation in rural schools, fundamentally constraining teachers' ability to operationalize contemporary pedagogical approaches learned through professional development. Teachers reported critical infrastructure deficits, most notably insufficient classroom buildings that resulted in severe overcrowding, which rendered impossible the implementation of student-centered learning methodologies. The absence of essential specialized facilities further compounded implementation challenges, with science teachers particularly affected by the lack of laboratories, forcing them to deliver instruction that remained entirely theoretical and abstract, thereby preventing students from engaging in the hands-on, inquiry-based experiential learning that their CPD training emphasized. The closure or absence of functional libraries eliminated critical spaces for fostering independent learning and research skills, leaving teachers unable to implement CPD strategies that depend on students accessing supplementary resources for deeper conceptual understanding. This infrastructural crisis exhibited a pronounced rural-urban divide, with urban teachers reporting adequate facilities that enabled successful CPD implementation, while rural teachers consistently described their current working environments as fundamentally incompatible with effective teaching practice. The contrast between well-resourced urban schools and infrastructure-poor rural schools

creates not only educational inequity but also professional frustration, as rural teachers possess equivalent training and pedagogical knowledge yet remain structurally prevented from delivering quality instruction, effectively rendering their CPD participation futile when the physical learning environment cannot support the implementation of acquired skills and knowledge.

4.2.4. Educational policies

Frequent introductions of new educational policies were identified as one of the major themes generated from the interviews that challenged teachers during the implementation of CPD learning into classroom practice. This theme focuses primarily on how the introduction of new educational policies and change in educational curriculum could challenge teachers' ability to implement CPD learning in the classroom. A few of the interview participants noted:

I can talk of policies such as inclusive education, where persons with various forms of disability are allowed to attend the regular school... so we go for a workshop, and a particular skill is acquired, then you come to class, then because of the inclusive policy, you have a student with special needs in your class, it becomes difficult to apply what you've learned, because when at the workshop, you didn't have that on board (Eunice, Urban Participant)

My courses are quite practical. My visually impaired student would not have the experience well enough as he might not see what is going on and then when we come to the practical aspect of things you need to see some of the things we do to know the right thing to do. Yes, he would use the other senses to know what is going on but you know we also need our sights to have things done the right way (Akosua, Rural Participant).

While a few of the interview participants discussed how the policy of inclusive education could affect the implementation of classroom practice, quite a number of them also discussed the free Senior High School (FSHS) policy and how it negatively affects the implementation of classroom practice. The free SHS is an educational policy that aims to allow as many students as possible who complete basic school education (grade 9) to enrol into secondary education. Prior to the implementation of the free SHS policy, students who enrolled in secondary education were required to pay school fees. As a result, some students could not enrol due to the financial commitments. Although this FSHS policy appears to be good, the policy implementers did not ensure that there were adequate resources (infrastructure, teachers etc) prior to the rolling out of this policy. In order to remedy the resource-based challenges, the government adopted a 'double track' system which allowed the school system to be run on a shift system. Again, as part of the policy, in order to encourage students to stay in school, teachers were prohibited from punishing students. Carol indicated that:

Teachers can no more discipline students like we used to. So, students have become so adamant with deviant behaviours in the classroom that you can't control. That is affecting us implementing these kinds of learning acquired from CPD activities into the classroom setting. (Carol, Urban Participant).

Just like Carol pointed out, other interview participants also shared their opinions on how the free SHS policy posed as a challenge to them:

Okay, you know, educational policies have a lot of impact in our teaching and learning process. So, for example, we take the free SHS as an example. When this free SHS came, it has increased the number of students in the class. So, managing the class becomes very difficult. And we can all attest to the fact that this has brought about the double track system and all that. So, this has been a challenge on us (George, Rural Participant)

The findings reveal that poorly implemented educational policies create significant barriers to CPD implementation by introducing classroom realities that CPD training fails to address and by fundamentally altering teaching conditions without providing necessary support structures. Teachers reported that the inclusive education policy mandated the integration of students with diverse special needs into regular classrooms, yet their CPD training did not equip them with specialized pedagogical approaches for differentiated instruction, leaving them unable to effectively apply newly learned strategies to heterogeneous classrooms that include visually impaired students or learners with other disabilities requiring adapted teaching methods. The FSHS policy generated even more profound implementation challenges through its cascading effects: the dramatic increase in student enrolment without corresponding expansion of infrastructure and teaching staff resulted in severe overcrowding that made classroom management extremely difficult and rendered student-centered, interactive pedagogies learned through CPD practically impossible to execute. The policy's secondary mechanism further disrupted CPD implementation by fragmenting the academic year and preventing teachers from establishing instructional

continuity or implementing long-term pedagogical strategies with complete class groups. Additionally, policy restrictions on student discipline eroded teachers' classroom authority, creating environments where student behaviour became unmanageable and where the structured, orderly classroom settings assumed by CPD training simply did not exist. Collectively, these policy-driven changes demonstrate a critical disconnect between educational reform implementation and teacher professional development, as policies fundamentally reshape classroom contexts without ensuring that CPD programs prepare teachers for these new realities or that schools receive the resources necessary to make policy-aligned teaching practices feasible, ultimately rendering teachers' professional development investments ineffective in practice.

4.2.5. *Changes in school curriculum*

The study further revealed that frequent changes in the educational curriculum usually alters teachers standardised teaching and does not encourage outstanding teaching practices. To confirm this, interview participants indicated how changes in school curriculum posed as challenges to teachers who attempt to implement CPD learning in classroom practice:

When we go for these workshops or CPD activities, we are trained based on the curriculum available. Sometimes you go and then you come back within three weeks or one month, the curriculum has been changed. It means whatever we learned is useless because it was based on the old curriculum. So, the changes that usually occur in the curriculum is a major challenge (Eunice, Urban Participant)

The CPD activities are done based on a particular curriculum, but while implementing it, a new one is introduced which becomes very difficult because the focus of that curriculum may be different from what you used during the CPD activity. Sometimes, it influences the students negatively because you may not know how to implement that same activity into the new curriculum (Roger, Rural Participant).

The findings reveal that frequent and abrupt curriculum changes constitute a critical systemic barrier that fundamentally undermines teachers' ability to implement CPD learning, effectively rendering professional development investments obsolete before they can be operationalized in classroom practice. Teachers reported experiencing curriculum revisions as quickly as three weeks to one month following their CPD training, creating a temporal misalignment where the pedagogical strategies, content knowledge, and instructional approaches they had just acquired were suddenly irrelevant to the new curricular framework they were expected to implement. This rapid curriculum turnover generated acute professional challenges, as teachers found themselves unable to apply their newly developed competencies when the revised curriculum emphasized different learning objectives, pedagogical approaches, or content priorities that were not addressed in their training. The mid-implementation timing of many curriculum changes proved particularly disruptive, forcing teachers who had already begun delivering instruction under the previous curriculum to abruptly shift their teaching approach, creating pedagogical inconsistency and student confusion as learners attempted to reconcile the disparate instructional frameworks and content emphases they encountered within a single academic term. Teachers expressed frustration that their inability to successfully integrate CPD learning into the new curriculum requirements was interpreted as implementation failure rather than recognized as a consequence of poor policy coordination between curriculum development and professional development programming. This pattern of frequent curriculum reform (often driven by political transitions and changing governmental priorities rather than educational evidence) reveals a fundamental lack of systemic coherence in Ghana's educational policy environment, where investments in teacher CPD are systematically devalued by unstable curricular frameworks that prevent teachers from developing mastery over any single pedagogical approach or content structure, ultimately compromising both teacher professional efficacy and student learning outcomes.

5. Discussion

The study explored the challenges of mid and late career senior high school teachers in the Central Region during their participation in CPD activities as well as the challenges they encounter during the implementation of CPD learning in their classroom practices. The study found inadequate funding as the only challenge teachers encountered in their participation in CPD activities. However, inadequate resources and frequent changes in educational policies were identified as constraints to teachers when implementing skills and knowledge gained from CPDs in their classroom practices.

5.1. Financial Barriers to CPD Participation

The data relating to participation challenges revealed that teachers faced a significant level of financial challenges. Specifically, the study suggests that teachers are mostly handicapped and are sometimes not able

to participate in some CPD activities when it requires a lot of money for transporting, accommodating and feeding themselves. This finding aligns with previous Ghanaian study (Abakah et al., 2022), and other international research that suggest that while there was a shared cost to financing some CPD activities, teachers bore a significant portion of the cost placing financial burdens on them (Aziz et al., 2013; Bwanga, 2020; Hobbs et al., 2021; Kanamu et al., 2017). Recent evidence from diverse educational contexts corroborates these findings, demonstrating that financial constraints represent a persistent global barrier to effective teacher professional development. In a comprehensive study examining barriers to professional development among secondary school teachers in the Philippines, a study found that financial limitations emerged as the most severe obstacle, with teachers consistently prioritizing affordability when deciding whether to participate in training programs (Guzman & Aguilar, 2025). Similarly, studies across African educational systems have documented that the cost of travel, registration fees, and material expenses significantly limit teachers' ability to engage in professional growth opportunities, particularly in rural contexts where the cost of travelling to training venues are substantial (Mitchell et al., 2024). The 2023 Global Report on Teachers, published by UNESCO and the International Task Force on Teachers for Education 2030, emphasized that the lack of adequate financing for teacher professional development remains one of the most critical challenges facing education systems worldwide, with the annual financing gap for teacher-related expenses projected at US\$120 billion by 2030 (UNESCO, 2023).

While it is true that the cost of teacher participation in CPD activities presented as a general challenge for most teachers, there are circumstances that motivate teachers to strive to finance it by themselves. For instance, in Ghana, participating in CPD events is formally recognised as a core requirement for promotions (Ministry of Education, 2012). This requirement usually presents with relatively high participation rates which are largely driven by extrinsic motivations (i.e., job security and promotions). Consequently, despite facing extreme financial hardships, teachers often strive to look for money to pay and participate in CPD activities as they consider it as a necessary investment not only to secure their jobs but also to access salary increments associated with promotions. On the contrary, most Ghanaian teachers will be less inclined to engage in CPD programs that do not readily present with tangible personal benefits although they acknowledge the potential benefits of such programs in enhancing classroom instruction. Therefore, it is safe to say that despite the inherent financial challenges teachers face in CPD participation, there is the potential that low participation in CPD activities is mostly observed in activities that are neither geared towards teachers' job security nor related to their promotions and subsequent pay rises.

This tension between financial constraints and professional development needs reflects broader systemic issues in teacher professional development globally. Research examining teacher professional development in developing countries highlights that inadequate funding, coupled with lack of policy support and limited access to continuous professional learning, fundamentally hinders the full potential of professional development in promoting educational quality (Zindi & Sibanda, 2023). The challenge is particularly acute in contexts where teachers must balance demanding workloads with the time and financial investments required for professional development, often leading to low participation rates when structural support is absent (Desimone & Garet, 2015). This suggests that addressing financial barriers to CPD participation requires not only increased funding allocations but also systemic reforms that recognize professional development as a core professional entitlement rather than an optional, self-funded activity.

5.2. Resource Inadequacy and Implementation Challenges

The unavailability or inadequacy of resources (material, technology and infrastructure) were identified as key challenges most teachers in the study region faced in their attempt to implement CPD learning into their classroom practices. While most urban schoolteachers revealed satisfaction with the provision of these resources, there was a consensus suggesting that rural schoolteachers did not have adequate relevant teaching/learning materials to facilitate the implementation of CPD learning into their classroom practice. Some rural participants explained how that inadequacy of technological resources made it difficult for them to change their classroom practices based on knowledge acquired from CPD learning. The rural-urban resource disparity documented in this study aligns with mounting international evidence demonstrating persistent geographic inequities in educational resource allocation. A comparative analysis of online teacher professional development in China and the United States revealed that rural teachers consistently reported lower participation rates, reduced access to reliable internet connectivity and technological devices, and diminished perceptions of equity compared to their urban counterparts, despite national infrastructure initiatives aimed at closing digital divides (Gu et al., 2025). Similarly, research examining educational reform implementation in Indonesia found that while urban teachers benefited from better access to materials and

development programs, rural teachers confronted acute resource shortages including insufficient teaching materials, outdated infrastructure, and limited access to digital technologies (Baharuddin, & Burhan, 2025; Santoso et al., 2016). A comprehensive study on rural education in developing countries emphasized that rural schools typically operate with minimal infrastructure, which fundamentally constrains teachers' capacity to implement contemporary pedagogical approaches regardless of their training (UNESCO, 2021).

The findings of this study corroborate the findings of other studies (Adu & Okeke, 2014; Nawab & Bissaker, 2021; Tyagi & Misra, 2021) that found that the major challenge that affects teachers' implementation of CPD learning in their classroom practice was insufficient resources. Specifically, Tyagi and Misra (2021) examined the problems teachers face when implementing CPD activities and found that teachers faced challenges such as inadequate computer facilities, internet connectivity issues, inadequate libraries etc. The finding of this study demonstrates a convergence with Esther et al. (2024) where their study found among other things that resource limitation especially relating to finances and infrastructure was a major challenge for teachers during the implementation of CPD learning into their classroom practice. Recent systematic reviews have further substantiated the critical role of adequate resources in successful CPD implementation. Studies examining digital instructional integration found that disparities in access to professional development opportunities, institutional support, and digital infrastructure fundamentally hinder effective implementation of educational innovations in classrooms (Amemasor et al., 2025; Gu et al., 2025). Research on teacher professional development in Sub-Saharan Africa revealed that provision of professional development is often inadequate or non-existent due to insufficient financing, absence of structural support systems, and lack of experienced mentors to provide ongoing support, with rural educators disproportionately affected by these deficits (Mitchell et al., 2024; Zindi & Sibanda, 2023). Moreover, studies in Tanzania and other East African contexts demonstrate that the absence of systematic CPD programs exacerbates existing urban-rural disparities, with rural educators often having little to no access to training or the resources necessary to implement acquired knowledge (Mcheka & Mislay, 2025; Mgaiwa & Milinga, 2024). The findings also partly support Desimone's (2009) framework on the role of school leadership in ensuring CPD is implemented effectively. While her framework focused specifically on school leadership, the finding of the study focused on leadership in general. However, it is important to note that while leadership at the school level may attempt to provide basic resources (i.e., whiteboard markers, visual aids etc), higher leadership is ultimately responsible for delivering most of them (i.e., computers, science laboratories etc). This hierarchical dimension of resource provision underscores the need for coordinated efforts across multiple levels of educational governance to ensure equitable resource distribution and effective CPD implementation.

5.3. Policy Environment and Implementation Barriers

Unlike the inequitable urban-rural resource distribution as discussed above, all the participants, regardless of school locality admitted that poorly implemented educational policies such as the inclusive education and free SHS policies comes as challenges to them while implementing learning. These participants revealed that workshops they attend do not cater for students with special needs even though some students have special needs. Consequently, they get to the classrooms and are technically unable to adequately apply the CPD learning to all students. This finding is consistent with previous studies which found that policy environment did affect basic schoolteachers' implementation of CPD learning in their classrooms (Ajayi et al., 2020). The findings of the study also indicated that teachers experience implementation challenges with the large numbers of students as a result of the Free SHS policy. This challenge was attributed to the overcrowded classrooms where student behaviours are challenging to manage. This finding is consistent with Supovitz (2001) when he asserts that policies that result in high enrolments must be furnished with all the necessary resources to facilitate the implementation of CPD learning. This finding further supports Desimone's (2009) framework that indicates how policy environment could potentially affect the implementation of an effective CPD program in improving students' learning outcomes.

Contemporary research on educational reform implementation has increasingly recognized the critical importance of policy coherence and alignment in supporting effective teacher professional development. A study by the Learning Policy Institute examining standards-based education reforms in the United States identified that a key barrier to successful implementation was the focus on targets and sanctions without adequate attention to educator capacity-building or alignment among necessary reform components (Kirst, 2024). The study emphasized that systemic academic reform requires alignment among standards, curriculum frameworks, instructional materials, assessments, and teacher education, coupled with robust infrastructure for delivering high-quality professional development. The absence of such alignment

represents what Pak et al. (2020) characterize as 'adaptive challenges' that require fundamental changes to organizational values and practices rather than merely technical solutions. International evidence further demonstrates that policy implementation challenges are particularly acute when reforms are introduced without adequate preparation or stakeholder consultation. Research examining educational reform in Indonesia, Cameroon, and other developing contexts reveals that centralized, top-down policy mandates that disregard local contexts and fail to provide necessary support structures frequently result in surface-level compliance rather than meaningful transformation (Graham et al., 2020; Mintrom & O'Connor, 2020; Tambo, 2003). Studies in rural China and Latin America have similarly documented how policy reforms focused on standardized testing and curriculum changes create pressure that limits teachers' autonomy and engagement, particularly when unaccompanied by equitable resource distribution or sustained professional support (OECD, 2023). These findings collectively suggest that effective policy implementation requires not only clear directives but also substantial investments in capacity-building, resource provision, and ongoing support systems that enable teachers to enact reforms as intended.

5.4. Curriculum Changes and Implementation Challenges

Frequent changes in educational curriculum were also identified as a challenge for teachers who try to implement CPD learning. The data revealed that participants attended CPD activities based on a specific curriculum but is sometimes changed rendering their acquired knowledge redundant. This finding supports Desimone's (2009) framework on the role of curriculum in the implementation of an effective CPD program that seeks to improve students' learning outcomes. This finding further builds on prior literature that suggest that frequent changes in schools' curriculum presents as a challenge that does not encourage outstanding teaching practices that will help improve student achievement (Supovitz, 2001). Even though the findings of this study did not directly reveal how changes in school curriculum affected students' learning outcomes, studies have revealed that teachers' inability to implement learning in classroom practice leads to poor students' learning outcomes. According to Supovitz (2001), professional development and student achievement are the basic principles considered in determining curriculum frameworks and materials necessary for teachers to implement teaching practices. As such, changes in standards and instructions relating to teacher content knowledge poses a challenge. This is because teachers, when knowledgeable in the content of their area of practice, can implement adequately the knowledge gained from CPD activities which potentially reflects in students' learning outcomes (Mekie & Gezahegn, 2023). However, these changes, usually stemming from new policies, disrupts the environment that impacts teachers' teaching practices.

Recent studies on curriculum reform and professional development have substantiated the critical importance of alignment and coherence in supporting effective instructional change. Research examining curriculum implementation in Ireland found that effective continued professional development during curriculum reform must provide teachers with opportunities to obtain necessary knowledge and skills aligned with new curriculum requirements, with sustained support structures rather than one-off training sessions (Broadhead, 2001; Mintrom & O'Connor, 2020). Similarly, a study on mathematics curriculum reform emphasized that when professional development activities are aligned with curriculum objectives and provide frequent opportunities to assess both teacher progress and program impact on student learning outcomes, teachers are better positioned to enact reforms successfully (Cordingley et al., 2015). Conversely, when curriculum changes occur without corresponding adjustments to professional development content, teachers experience situations where acquired professional knowledge becomes misaligned with current instructional demands, creating gaps between teachers' preparation and their practical teaching contexts (Pak et al., 2020). The challenges associated with changes in, or introduction of new educational policies could likely be more political in nature. This is because in Ghana, various governments upon their inception to political power introduce or restructure educational policies that are of interest to them either in fulfillment of their campaign promises or genuine identification of systemic gaps. Even though teachers are generally expected to be receptive to changes in school curriculum associated with the adjustments of updated knowledge, very regular reforms do not give teachers enough opportunity and dedication to focus on perfecting the content of specific curriculum.

International evidence corroborates this concern about the political dimensions of curriculum reform. Studies examining education policy trends in multiple contexts reveal that curriculum changes often reflect shifting political priorities rather than evidence-based educational needs, creating instability that undermines teachers' capacity to develop expertise and implement reforms effectively (Letschert & Kessels, 2003; Zeichner, 2014). Research from Ghana, Latin America, and other contexts demonstrates that when

curriculum reforms are driven primarily by political cycles rather than sustained commitment to educational improvement, resources become misaligned, professional development loses coherence, and teachers experience reform fatigue that diminishes engagement and effectiveness (Buabeng & Amo-Darko, 2025; OECD, 2023). Furthermore, studies emphasize that successful curriculum implementation requires not only initial professional development but ongoing, embedded support that allows teachers to iteratively refine their practice as they encounter implementation challenges (Mokhele, 2012).

5.5. Implications for Policy and Practice

The findings of this study have significant implications for educational policy and practice in Ghana and similar developing country contexts. Consequently, addressing these challenges requires comprehensive, multi-level interventions that extend beyond isolated fixes to embrace systemic reform. First, policy reforms should establish professional development as a fully-funded entitlement rather than an optional, self-funded activity, with dedicated budget allocations that cover not only program costs but also transportation, accommodation, and substitute teacher expenses that currently create prohibitive barriers for rural teachers. Further to this, addressing resource inequities requires coordinated efforts across multiple governance levels and sustained commitment to equitable resource allocation. Policy frameworks should mandate equitable distribution of educational resources across geographic contexts, with targeted investments in rural schools to compensate for historical neglect and ongoing disadvantage. This includes establishing science laboratories, providing reliable internet connectivity, ensuring adequate teaching materials, and creating infrastructural conditions that make contemporary pedagogy possible. International evidence demonstrates that without such investments, even well-designed professional development programs fail to improve practice because implementation contexts remain fundamentally unsupportive. Finally, the challenges teachers experienced with poorly implemented inclusive education and free SHS policies highlight the need of ensuring that all components of the educational system work together coherently rather than introducing reforms piecemeal without adequate preparation or support. This requires establishing long-term, evidence-based national frameworks for education that transcend political cycles, provide stability for curriculum and policy implementation, and ensure that professional development content aligns with current policy requirements and curriculum standards.

6. Conclusion

This study has shown that teachers in Ghana are faced with financial challenges when participating in professional continuous development programs. Even when teachers endure the financial burden to participate in these CPD programs, mostly to satisfy career progression requirements, they are unable to effectively translate the skills and knowledge gained in their classroom teaching practices because resources limitation. These findings presuppose that if the challenges identified in this study are resolved, there is a potential that teachers' teaching practices will be improved and subsequently potentially result in the improvement of students' learning outcomes. These findings also have the potential to make a significant impact on the fields of teacher education and ongoing professional development. Policymakers, industry participants in the education sector, as well as teachers themselves, are anticipated to benefit from the findings of this study. Relating to the inadequacy or inequitable distribution of infrastructural, material, and technological resources, the researchers recommend to the Ministry of Education to ensure that these necessary resources are adequate for all schools in the country irrespective of their locations (i.e., urban-rural dynamics). This goal of ensuring adequate resources to school across the nation can be achieved when the education sector is allocated a reasonable proportion of the national budget dedicated to the provision of these resources. The provision of these resources may possibly help CPD activities to be decentralised to enable greater participation among teachers particularly in rural schools.

7. Study Limitations

While this study provides valuable insights into the participation and implementation challenges of CPD among senior high school teachers in Ghana's Central Region, the study acknowledges a few limitations. First, the study's geographic focus on one region, while justified by the presence of major teacher training institutions, limits generalizability to other regions with different resource contexts and teacher support infrastructure. Again, the study focused exclusively on mid and late career teachers, potentially missing the unique perspectives and challenges faced by early career teachers who may experience different barriers to CPD engagement and implementation. Finally, while the study documented participation and implementation challenges, it did not directly measure the impact of these challenges on student learning

outcomes.

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Data availability: The data that support the findings of this study are available from the author upon reasonable request.

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