



Exploring Teachers' Challenges in Engaging with Online Communities for Continuing Professional Development

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ABSTRACT

Purpose - This study aimed to explore the challenges teachers experience when engaging in online communities for CPD, with particular focus on how these challenges influence teacher identity and voice.

Methodology - A qualitative research approach, grounded in a constructivist paradigm, was adopted. Data were collected from 100 teachers through an open-ended questionnaire, followed by semi-structured interviews with 20 purposively selected participants. The data were analyzed using thematic analysis.

Findings - The findings revealed six key challenges: internet connectivity, information overload and misinformation, inadequate digital skills, time constraints, contextual disconnect, inadequate diversity, and lack of leadership support. These findings demonstrate that while online CPD offers opportunities for collaboration and professional growth, structural, technological, and institutional barriers limit active participation, knowledge construction, and identity development.

Contribution - This study contributes to the understanding of online CPD by critically highlighting how structural, technological, and institutional barriers shape teachers' engagement, identity, and voice in digital professional learning spaces. It extends the Communities of Practice framework by demonstrating that participation in online environments is contextually constrained and uneven, rather than inherently inclusive. Furthermore, the study provides practical and policy-relevant insights for designing more equitable, context-responsive, and supportive online CPD systems.

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INTRODUCTION

Continuous Professional Development (CPD) remains a cornerstone of teacher growth, particularly in a rapidly evolving educational landscape characterized by technological advancement, curriculum reforms, and increasing learner diversity. Historically, CPD has been delivered through formal, top-down approaches such as workshops and training sessions, often designed without meaningful teacher input (Asmare, 2025; Lafferty et al., 2024). However, such approaches have been criticized for their limited impact on classroom practice and teacher learning (Donath et al., 2025; Ventista & Brown, 2023). The emergence of digital technologies has transformed the landscape of professional learning by enabling teachers to engage in online communities of practice. These platforms, such as WhatsApp groups, Twitter EduChats, and online forums, provide spaces for collaboration, knowledge sharing, and reflective practice beyond institutional constraints. Grounded in Wenger's (1998) Communities of Practice theory and Priestley et al.'s (2015) notion of teacher agency, these online environments facilitate situated learning, where teachers co-construct knowledge through participation and interaction (Solórzano-García, 2025).

Online professional communities offer opportunities for teachers to develop and negotiate their professional identities. Teacher identity is dynamic and continuously shaped by personal, contextual, and professional experiences (Mabila & Msana, 2023; Shin & Alpern, 2024). Participation in these communities enables teachers to articulate their voices, share lived classroom experiences, and engage in collaborative meaning-making processes. This aligns with the view that teacher agency is central to professional development, enabling educators to shape their learning trajectories and challenge restrictive institutional practices actively (Kusters et al., 2026; Mohammad Nezhad & Stolz, 2025). Despite these benefits, engagement in online CPD spaces is not without challenges. Issues such as uneven participation, lack of structure, and varying levels of digital competence may affect the extent to which teachers benefit from these platforms. These complexities necessitate a deeper exploration of how teachers experience and navigate online professional communities in relation to their identity and voice.

While online professional communities have been widely recognized as valuable spaces for teacher learning, there remains a limited understanding of the challenges teachers encounter when engaging with these platforms for identity development and voice expression. Existing CPD models continue to be dominated by top-down, prescriptive approaches that often fail to reflect teachers' lived realities and contextual needs (Dyosini, 2024; Hoskin, 2025). Although online communities offer more flexible and teacher-driven alternatives, participation is not always equitable or meaningful. Teachers may experience barriers such as peripheral participation, lack of confidence, information overload, and impostor syndrome, which can hinder their ability to actively contribute to and benefit from these spaces. Furthermore, the informal and unstructured nature of these platforms may create ambiguity regarding the quality and applicability of shared knowledge. Consequently, there is a need to critically examine the extent to which online professional communities genuinely support teachers in reclaiming their professional identities and amplifying their voices, particularly within the broader context of CPD.

Although there is a growing body of literature on teacher professional development and online communities, much of the existing research focuses on the benefits and effectiveness of these platforms in enhancing pedagogical practices and collaboration (Gu et al., 2025; Segev et al., 2025; van der Westhuizen & Hannaway, 2024). However, there is limited empirical evidence on how teachers experience and negotiate barriers that influence their identity construction, agency, and voice within online professional communities. Specifically, previous studies have paid insufficient attention to how structural barriers (such as poor internet connectivity, limited digital competence, and time constraints), institutional factors (including leadership support and policy recognition), and socio-cultural dynamics (such as contextual relevance, inclusion, participation inequalities, and diversity of perspectives) collectively shape teachers' engagement in informal online CPD environments. Furthermore, existing research has largely examined participation levels and professional learning outcomes, rather than the processes through which these challenges influence teachers'

sense of professional identity, confidence to contribute, and ability to exercise agency within digital communities of practice. There is also limited research integrating the Communities of Practice and Teacher Agency frameworks to explain how these interacting factors simultaneously enable and constrain meaningful participation and professional growth, particularly within resource-constrained contexts in the Global South. This creates a gap in understanding how these platforms function as both enabling and limiting spaces for professional growth.

This study is motivated by the need to foreground teachers' lived experiences and perspectives in the discourse on professional development. By exploring the challenges teachers encounter in online professional communities, the study seeks to move beyond celebratory narratives of digital CPD and provide a more critical and balanced understanding of these spaces. Understanding these challenges is essential for several reasons. Firstly, it contributes to the design of more inclusive and responsive CPD models that center teacher voice and agency. Secondly, it provides insights into how online platforms can be structured or facilitated to maximize meaningful engagement and minimize barriers to participation. Thirdly, it responds to calls for more contextually relevant and practice-oriented professional development approaches that align with teachers' everyday realities. Furthermore, in contexts characterized by limited resources and access to formal CPD opportunities, such as many schools in the Global South, online communities represent a critical avenue for professional learning. Investigating the challenges within these spaces is therefore crucial for ensuring their effectiveness and sustainability.

Against this backdrop, this study aims to explore the challenges teachers experience in engaging with online professional communities for continuous professional development, with particular focus on how these challenges influence the development of teacher identity and the expression of teacher voice.

METHODOLOGY

Research Design

This study is grounded in a constructivist research paradigm, which assumes that knowledge is socially constructed through individuals' interactions, experiences, and interpretations of their realities (Pervin & Mokhtar, 2022). The constructivist stance is appropriate for this research, as it seeks to understand how teachers make meaning of their engagement in online professional communities and how these experiences shape their professional identities and voices. Within this paradigm, reality is viewed as multiple and subjective, thereby allowing the researcher to capture diverse teachers' perspectives on CPD practices in online spaces.

The study adopts a qualitative research approach to enable an in-depth exploration of teachers' lived experiences, perceptions, and challenges in engaging with online communities for CPD (Tenny et al., 2022). A qualitative approach is particularly well-suited to examining complex social phenomena such as identity formation, agency, and voice, which quantitative measures cannot adequately capture. By focusing on participants' narratives and subjective meanings, the study provides rich, contextualized insights into how teachers navigate online professional spaces. A generic qualitative research design was employed to allow flexibility in exploring teachers' experiences without being confined to the strict boundaries of specific qualitative traditions such as phenomenology or grounded theory (Oranga & Matere, 2023). This design enabled the researcher to focus on understanding participants' perspectives on the challenges of engaging in online communities while drawing on relevant theoretical frameworks such as Communities of Practice and Teacher Agency. The design is appropriate for studies that seek to describe and interpret participants' experiences in a naturalistic context, particularly in educational research where multiple realities and meanings are constructed.

Participant

The population for this study comprised members of the Ubuntu Education Hub, an online professional learning community that hosts over 20,000 teachers from diverse geographical and professional backgrounds.

This platform represents a vibrant community of practice where educators engage in knowledge sharing, collaboration, and professional dialogue across borders. The diversity within the population provided a rich context for exploring varied experiences of online CPD engagement, reflecting different teaching levels, subject specializations, and socio-cultural contexts. Purposive sampling was employed to select participants who could provide rich and relevant insights into the research problem. From the broader online community, 100 participants responded to the open-ended questionnaire. Following the survey, 20 teachers who indicated their interest in participating in a follow-up phase and expressed willingness to engage further were selected for online interviews. The selection criteria included active participation in online discussions, prior engagement in CPD activities within the platform, and the ability to critically reflect on their experiences of professional identity development and teacher voice. This approach ensured that participants had sufficient exposure to online communities to articulate the challenges they encountered meaningfully. Such a sampling strategy aligns with qualitative research principles that prioritize depth and richness of data over breadth (Ahmed et al., 2025).

Data Collection

Data were collected through an open-ended questionnaire and one-on-one online semi-structured interviews, which provided participants with the flexibility to articulate their experiences while enabling the researcher to probe for deeper insights. The open-ended questionnaire was administered to members of an online teacher community, allowing for the collection of diverse perspectives on teachers' engagement with online CPD. The use of online semi-structured interviews was particularly appropriate given the digital nature of the community under investigation, as it facilitated participation from teachers across different geographical contexts. These interviews focused on eliciting teachers' perceptions of online CPD, their experiences of professional identity development, and the challenges they encounter when engaging with online platforms. This approach enabled the generation of rich, nuanced, and contextually grounded data, capturing the complexity of teachers' lived experiences within online professional communities.

Data Analysis

The data were analyzed using thematic analysis following Braun and Clarke's six-phase approach, which involves familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. This method was chosen for its flexibility and suitability in identifying patterns of meaning across qualitative data. Thematic analysis enabled the researcher to systematically examine teachers' narratives and identify key themes related to challenges in online CPD engagement, identity construction, and voice development. The approach is consistent with constructivist qualitative research, as it allows themes to emerge inductively from participants' experiences while being informed by existing theoretical frameworks (Braun & Clarke, 2006).

Limitation of the Study

Despite its contributions, the study has several limitations. Firstly, the use of purposive sampling and a relatively small sample size of twenty participants limits the generalisability of the findings. Secondly, the study focuses on a single online community, which may not fully represent the diversity of experiences across different platforms. Thirdly, reliance on self-reported data through interviews may introduce bias, as participants may provide socially desirable responses or may not fully recall their experiences. Additionally, the unstructured and informal nature of online communities means that participants' levels of engagement vary, which may influence the depth of insights obtained. Nonetheless, these limitations are mitigated by the study's emphasis on depth and contextual understanding, which are central to qualitative inquiry.

FINDINGS

The analysis further revealed six key themes: internet connectivity, information overload and misinformation, inadequate digital skills, time constraints in balancing work responsibilities and professional learning, contextual disconnect and inadequate diversity, and lack of leadership support.

Internet Connectivity

A prominent challenge identified by participants relates to unreliable internet connectivity and limited digital access, which significantly constrain meaningful engagement in online communities for CPD. Participants highlighted issues such as unstable network coverage, high data costs, and infrastructural disparities between urban and remote areas. These barriers not only disrupt participation but also limit sustained interaction, collaboration, and access to shared professional resources. Participant 9 explained that inconsistent connectivity affects active involvement in online engagements:

"One of the main challenges I face when using online communities for CPD is inconsistent internet connectivity, which disrupts live sessions, delays downloads of materials, and affects my ability to participate fully in discussions."

Similarly, Participant 13 emphasized the geographical dimension of the challenge, particularly in under-resourced or remote areas:

"Access issues in remote areas significantly limit participation, as network coverage is weak and sometimes completely unavailable, making it difficult to join webinars or engage in online forums consistently."

Participant 52 extended this concern by linking connectivity challenges to the affordability and suitability of platforms:

"Some of the challenges I face include limited internet access, high data costs, and difficulty finding an online community that aligns with my professional needs. Even when communities are available, data expenses make sustained participation difficult."

Echoing these concerns, Participant 94 stressed the centrality of stable internet access for effective CPD engagement:

"The greatest challenge is the availability of stable internet connectivity, as unreliable connections interrupt learning sessions and reduce opportunities for real-time collaboration with colleagues."

Information Overload and Misinformation

Participants identified information overload and misinformation as significant challenges when engaging in online communities for CPD. While online platforms provide access to diverse resources and professional dialogue, educators indicated that the volume and quality of information can sometimes undermine meaningful engagement and informed professional learning. Participant 9 highlighted the overwhelming volume of content shared on online platforms, which limits deep engagement and critical reflection. The participant explained that the constant stream of posts, links, and notifications can become cognitively exhausting:

"An additional challenge is information overload, which makes it difficult to engage deeply with all the shared content. There is so much being posted daily that I often skim through discussions instead of reflecting meaningfully on them."

Similarly, Participant 27 emphasized the difficulty of identifying relevant, contextually appropriate resources amid excessive content. The participant pointed out that the abundance of threads and materials often leads to confusion rather than clarity:

"Information overload is a real concern. Some platforms have too many threads or resources, making it hard to identify what is most relevant or practical for my teaching context. I sometimes spend more time searching than actually learning."

In addition to volume-related challenges, concerns were raised about the credibility and professionalism of shared information. Participant 39 expressed apprehension regarding the lack of effective moderation on some platforms, which may allow inaccurate or misleading content to circulate unchecked:

"Some platforms lack proper moderation, which can lead to the spread of misinformation or even unprofessional behavior. Without verification, it is difficult to know which advice is credible."

Participant 44 reinforced this concern by noting that not all shared contributions are accurate or relevant to the discussion focus:

"There are times when participants share incorrect information or content that does not apply to the discussion at hand. This can mislead others, especially when the information is presented confidently but without evidence."

Inadequate Digital Skills

One of the challenges highlighted by participants was the lack of adequate digital skills among educators when engaging with online communities for CPD. Participants indicated that limited technological competence restricts meaningful participation, access to resources, and overall professional growth within digital platforms. Participant 13 highlighted that insufficient technological proficiency prevents some educators from fully benefiting from online CPD opportunities. The participant explained that limited digital knowledge directly affects access to relevant materials and engagement with online communities:

"Some teachers have limited skills in the use of technology, which hinders their ability to access online resources and fully participate in professional development platforms."

Similarly, Participant 76 emphasized personal difficulties in navigating online platforms, noting that a lack of confidence and technical know-how sometimes results in missed learning opportunities. The participant acknowledged the need for further training to engage with digital tools effectively:

"There are times when I fail to access information because I do not know how to go about it. I need to learn how to navigate certain platforms properly and how to use particular digital tools to participate effectively."

Participant 28 further explained that limited digital competence creates anxiety when engaging in online professional communities. The participant expressed concern about making mistakes when using unfamiliar platforms:

"I sometimes feel anxious when I have to participate in online discussions because I am not confident in using the platform. I worry that I might press the wrong button or upload documents incorrectly."

In addition, Participant 41 noted that inadequate training in digital technologies limits the ability to engage meaningfully in CPD activities. The participant indicated that while online communities are beneficial, a lack of foundational digital skills limits active contribution:

"Online platforms are useful for professional development, but without proper training in digital tools, it becomes difficult to contribute, download materials, or even engage in virtual workshops effectively."

Time Constraints

Participants emphasized the difficulty of balancing professional responsibilities with engagement in online communities for CPD. They indicated that heavy workloads, administrative duties, and personal responsibilities limit their ability to participate consistently and meaningfully in online platforms. Participant 27 emphasized the pressure of multiple professional obligations, explaining that the demands of teaching and school-related duties restrict their engagement in online CPD activities:

"Limited time and competing responsibilities make it difficult to participate consistently. Balancing classroom teaching, lesson planning, marking, meetings, and other school duties often leaves very little time to follow up on online discussions or contribute meaningfully."

Similarly, Participant 52 highlighted the challenge of managing professional commitments alongside online learning expectations. The participant suggested that although online communities are flexible, time management remains a significant barrier:

"Managing time between work responsibilities and participating in online professional learning activities can be difficult. After a full day of teaching and administrative tasks, it becomes challenging to log in, read posts carefully, and actively engage in discussions."

In addition to these concerns, some participants noted that family responsibilities further compound time pressures. Participant 77 reflected:

"Even though online platforms are accessible at any time, finding uninterrupted time to engage meaningfully is a challenge, especially when balancing school demands and family commitments."

Contextual Disconnect and Inadequate Diversity

A recurring concern among participants was the misalignment between online CPD content and educators' local, cultural, and curricular realities. Several educators expressed frustration that shared practices often lacked contextual relevance, limiting their practical application in their specific school environments. Participant 39 highlighted the disconnect between shared resources and her professional setting, stating that

"Shared practices sometimes do not align with my curriculum, cultural context, or the specific learning needs of my learners, which makes it difficult to implement what is discussed."

Similarly, Participant 76 emphasized the absence of localized examples, noting that,

"Online platforms rarely provide adequate local context examples, so much of the advice feels imported and not easily adaptable to our realities."

Other participants pointed to issues of dominance and limited diversity within online discussions. Participant 52 observed that,

"Discussions are sometimes inactive or dominated by educators from different contexts, which makes it hard to relate and meaningfully contribute".

This sentiment was echoed by Participant 99, who remarked that,

"The same individuals consistently engage and contribute, which limits the diversity of perspectives and prevents realistically varied views from emerging."

Participant 21 similarly noted that,

"A small group of active members tends to participate openly, while many others remain silent, reducing the richness of collaborative exchange."

In addition, Participant 31 raised concerns about repetitive facilitation, explaining that,

"The same speakers are often invited to address different topics, and this lack of diversity in voices can become demotivating over time."

Expanding on the relational dimension of this theme, Participant 88 reflected on the emotional and human aspects of online CPD spaces. She explained that:

"While online communities have enriched my professional development, they often feel transactional, focused on content delivery rather than authentic dialogue. In spaces dominated by generic presentations with little cultural nuance, it is easy to feel unseen. Without shared vulnerability, story exchange, or co-creation, the experience can become isolating rather than empowering."

Lack of Leadership Support

Another significant challenge identified by participants was the lack of leadership support when engaging in online communities for CPD. Participants indicated that some school leaders perceive online professional engagement as a threat rather than as an opportunity for institutional growth. Others highlighted the absence of encouragement, recognition, and structural support needed to translate online learning into meaningful classroom practice. Participant 55 described how school leadership misunderstood the purpose of online professional communities. Instead of recognizing online engagement as a means of enhancing teaching

practice and promoting the school's profile, it was perceived as a threat to traditional schooling structures. This negative perception created tension and ultimately influenced the participant's decision to resign:

"The main challenge I faced was that most school owners did not accept that online communities are meant to enhance teaching and professional growth, not to undermine traditional schooling. In my last school, my online engagement was viewed as a threat to the school's reputation. Instead of seeing it as a way to bring innovative ideas and visibility to the school, my principal believed I was trying to outshine the institution. This lack of trust and support created a hostile environment, which eventually led me to resign."

Similarly, Participant 99 highlighted the institutional barriers encountered when attempting to implement ideas gained from online communities. The participant emphasized that without leadership endorsement, translating online learning into classroom practice becomes extremely difficult:

"A major challenge is the lack of support from school management. Even when we gain valuable strategies and resources from online communities, we struggle to implement them because leadership does not prioritize or support these initiatives. Without institutional backing, many good ideas remain unused."

Participant 34 focused on the absence of encouragement and recognition from leadership, which diminished motivation to participate in online CPD platforms actively:

"There is little encouragement from the school leadership to participate in online professional communities. When we spend time engaging online after school hours, it is not acknowledged as professional development. It feels as though our efforts are invisible and undervalued."

Participant 71 pointed to the lack of structural and policy support within the school, noting that online CPD is often not formally recognized:

"Our school does not have policies that recognize online professional development. If you attend a physical workshop, it is acknowledged, but online learning is often dismissed as informal and not credible. This discourages teachers from fully engaging in these platforms."

In addition, Participant 18 highlighted how leadership resistance to change limited innovation and collaboration:

"Some school leaders are resistant to new ideas shared through online communities. When we propose strategies learned online, they are quickly rejected because they are seen as 'foreign' or not aligned with the school's traditional way of doing things. This makes it difficult to innovate."

DISCUSSION

Participants' responses show that internet connectivity is a significant structural constraint shaping teachers' participation in online communities for CPD. The data indicate that unstable network coverage, high data costs, and uneven infrastructural provision collectively limit educators' ability to engage consistently and meaningfully in online professional spaces. These findings suggest that access to digital infrastructure is not merely a technical issue but a foundational condition that determines the extent to which teachers can benefit from online CPD. In contexts where connectivity is unreliable or unaffordable, participation becomes fragmented, thereby weakening opportunities for sustained engagement, knowledge exchange, and professional growth. From a communities of practice perspective, effective learning depends on regular interaction, shared practice, and mutual engagement within a community (Starkov & Zamir, 2024). The connectivity challenges identified in the data disrupt these core processes by limiting teachers' ability to move from peripheral to full participation. When educators are unable to attend synchronous sessions, access shared resources, or contribute to discussions consistently, their participation remains constrained and episodic. This hinders the development of a shared repertoire of practices and undermines the collaborative meaning-making central to Communities of Practice. Thus, poor internet connectivity not only restricts access but also compromises the quality and depth of professional learning.

The findings align with existing literature that highlights the persistent digital divide in many developing contexts, particularly in Sub-Saharan Africa. Studies have shown that inadequate infrastructure and high data

costs remain major barriers to the effective use of digital platforms for professional development (Motadi, 2026; Murillo-Jiménez et al., 2025). In the South African context, research indicates that disparities between urban and rural areas persist, resulting in unequal access to online learning opportunities, with educators in remote locations experiencing greater exclusion (Gunter, 2025; Mwansa et al., 2025). The current data confirm these patterns, demonstrating that geographical location significantly influences teachers' ability to participate in online communities, thereby reinforcing existing inequalities in professional development access. Furthermore, the issue of affordability extends the discussion beyond infrastructure to socio-economic constraints. High data costs limit sustained engagement, even when connectivity is technically available. This finding supports recent studies that argue that the cost of internet access remains a critical barrier to digital inclusion and ongoing participation in online learning environments (Mhlongo et al., 2023; Motadi, 2026). Within a Communities of Practice framework, such financial constraints inhibit continuous participation, which is essential for identity formation and professional learning. Teachers who cannot afford regular access are likely to disengage or participate intermittently, reducing their opportunities to contribute to and benefit from collective knowledge-building processes.

The data extend previous research by highlighting how connectivity challenges also affect the alignment between teachers' professional needs and the availability of online communities. Limited access not only restricts participation but also narrows the range of platforms educators can explore, thereby constraining their ability to find communities that are contextually relevant and professionally meaningful. This suggests that connectivity issues have both direct and indirect effects on CPD engagement, influencing not only participation levels but also the quality and relevance of learning experiences. In interpreting these findings, it becomes evident that internet connectivity functions as both an enabler and a barrier within online communities of practice. Where connectivity is stable and affordable, teachers are more likely to engage actively, collaborate effectively, and develop professionally. Conversely, where connectivity is limited, participation is disrupted, leading to reduced interaction, weakened collaboration, and diminished professional learning outcomes. This indicates the need for systemic interventions that address infrastructural and economic barriers to ensure equitable access to online CPD. Without such interventions, the potential of online communities to support teacher development and identity formation will remain unevenly realized.

Participants' opinions indicate that while online communities offer expansive opportunities for teacher learning, the proliferation of content and the circulation of unverified information present notable constraints to meaningful engagement. Participants' experiences of information overload suggest that the sheer volume of posts, resources, and interactions within online CPD spaces can impede deep learning and critical reflection. This aligns with existing scholarship, which argues that excessive digital information can overwhelm users' cognitive capacity, resulting in superficial engagement rather than sustained knowledge construction (Balaskas et al., 2025; Musa & Bakkara, 2023). From a Communities of Practice perspective, such conditions may disrupt legitimate participation, as members struggle to move beyond peripheral engagement towards more meaningful contributions due to fragmented attention and cognitive fatigue. The data further reveal that the abundance of resources does not necessarily translate into effective professional learning, as educators reported difficulty in identifying contextually relevant and practically applicable content. This challenge reflects broader concerns in the literature regarding the curation and filtering of knowledge within digital learning environments (Mhlongo et al., 2023). In online communities, where participation is open and contributions are diverse, the absence of structured guidance can lead to what has been described as "noisy" learning spaces, where the value of information is diluted (Darveau et al., 2026). Interpreting these findings through the Communities of Practice framework, the lack of clear pathways for navigating shared resources may hinder the negotiation of meaning, a central process through which members construct shared understanding and professional knowledge.

In addition to volume issues, participants raised concerns about misinformation and the credibility of shared content. The absence of effective moderation mechanisms was perceived to allow inaccurate or misleading information to circulate, thereby undermining trust within the community. This finding

corroborates recent studies highlighting the risks associated with unregulated online professional spaces, where the rapid dissemination of information may outpace verification processes (Dierickx et al., 2026; Nguyen et al., 2025). Through a Communities of Practice lens, trust and mutual accountability are essential to sustaining a productive learning community; therefore, the presence of misinformation can weaken the community's social fabric and compromise collective learning. Moreover, the tendency for confidently presented but unsubstantiated contributions to influence others suggests that authority within online spaces is often constructed through visibility and assertiveness rather than expertise. This extends previous research by illustrating how epistemic authority in online CPD contexts may be contested and unevenly distributed (Sultana, 2022). The interpretation of these findings points to a critical tension. While online communities democratise access to professional knowledge, they simultaneously require educators to exercise heightened critical literacy to evaluate the credibility and relevance of shared information. The data confirm that information overload and misinformation are significant barriers to effective participation in online CPD communities. They also extend existing literature by highlighting how these challenges specifically affect teachers' ability to engage meaningfully, construct knowledge, and develop professionally within digitally mediated communities of practice. Addressing these issues requires not only improved platform design and moderation but also the development of teachers' digital and critical evaluation skills to navigate complex online learning environments.

Participants argued that inadequate digital skills remain a significant barrier to educators' effective participation in online communities for CPD. Participants' accounts suggest that limited technological competence constrains access to learning resources, reduces confidence in navigating digital platforms, and ultimately restricts meaningful engagement. This aligns with recent studies, which show that digital competence is a prerequisite for successful participation in online professional learning environments, particularly in contexts where educators are expected to independently navigate platforms and tools (Gui et al., 2026; Nyathi & Joseph, 2024). The data therefore confirm that, despite the growing availability of online CPD opportunities, disparities in digital skills continue to shape uneven participation and learning outcomes. From a Communities of Practice perspective, inadequate digital skills can be interpreted as a barrier to full participation within online communities. Communities of practice emphasize learning as a process of social participation, in which individuals move from peripheral to more central forms of engagement through interaction and shared practice. However, when educators lack the necessary digital competencies, they remain at the periphery of these communities, unable to fully engage in collaborative dialogue or knowledge exchange. The participants' experiences of limited access, reduced contribution, and uncertainty in navigating platforms suggest a disruption in this trajectory of participation, thereby constraining identity development and professional learning. This finding extends the existing literature by highlighting that in digital contexts, technological proficiency is not merely a technical skill but a critical enabler of legitimate participation in professional communities (Rahmawati et al., 2025).

Furthermore, the data reveal that inadequate digital skills are closely linked to diminished self-efficacy and increased anxiety when engaging in online CPD. Participants' expressions of uncertainty and fear of making mistakes reflect a lack of confidence that inhibits active participation. This resonates with research indicating that teachers' digital self-efficacy significantly influences their willingness to engage in online learning communities and adopt digital tools for professional development (Amemasor et al., 2025; Gui et al., 2026). The findings therefore support the argument that digital competence encompasses both technical skills and affective dimensions, such as confidence and motivation, which are essential for sustained engagement in online environments. In addition, the findings highlight the role of insufficient training in exacerbating digital skill gaps. Participants' calls for structured support and training suggest that access to online CPD alone is insufficient without targeted capacity-building initiatives. This corroborates studies that argue that professional development programs must integrate digital skills training to enable educators to participate effectively in online learning spaces (Amemasor et al., 2025; Shi et al., 2025). However, the present study extends this perspective by demonstrating that inadequate training not only limits technical engagement but

also restricts opportunities for collaborative knowledge construction and professional identity formation within online communities. The data suggest that inadequate digital skills function as both a practical and structural constraint on educators' participation in online CPD. From an interpretive standpoint, this challenge reflects broader issues of digital inequality and highlights the need for more inclusive and supportive professional learning environments. Addressing this gap is essential to ensure that online communities of practice fulfill their potential as spaces for meaningful engagement, knowledge sharing, and the reconstruction of teacher identity.

The data indicate that while online platforms are designed to offer flexibility, this affordance does not automatically translate into meaningful participation. Instead, educators' professional workloads, comprising teaching, lesson preparation, assessment, and administrative duties, compete directly with the time required for active engagement in online learning spaces. This suggests that access to online CPD alone is insufficient; what matters is the availability of protected and cognitively available time for meaningful participation. This finding aligns with existing literature, which consistently identifies workload intensification as a key inhibitor of teachers' engagement in professional learning. Recent studies indicate that teachers often experience CPD as an "additional demand" rather than an integrated component of their professional practice, particularly in digitally mediated environments (Butaitė, 2026; Furnes et al., 2025). Similarly, Communities of Practice emphasizes that participation is central to learning; however, such participation requires time for interaction, reflection, and contribution. In this study, limited time constraints teachers' ability to move from peripheral participation (e.g., passive reading) to more active and meaningful engagement, thereby weakening the potential of online communities to function as fully realized communities of practice.

Furthermore, the data extend prior research by highlighting that flexibility in online CPD can paradoxically mask deeper temporal inequalities. While asynchronous platforms theoretically allow teachers to engage at their convenience, in practice, professional and personal obligations, particularly after-hours responsibilities, reduce the likelihood of sustained cognitive engagement. This resonates with findings from Liu et al. (2025), who argue that time scarcity often leads to "surface-level participation" in online professional networks, thereby limiting opportunities for deep learning and identity development. From a sociocultural perspective, reduced interaction also diminishes opportunities for dialogue and collaborative meaning-making, which are essential for professional growth. The data also reveal the intersection between professional and personal time demands, particularly the influence of family responsibilities on teachers' capacity to engage in CPD. This supports broader scholarship suggesting that teachers' professional learning is embedded within complex socio-contextual realities, where competing roles shape access to learning opportunities (Amemasor et al., 2025; Mohammad Nezhad & Stolz, 2025). Within the Communities of Practice framework, such constraints can inhibit the development of a shared repertoire and mutual engagement, ultimately limiting the depth of knowledge exchange and identity formation within the community.

In interpreting these findings, it becomes evident that time constraints do not merely limit participation quantitatively but qualitatively shape the nature of engagement. Teachers may prioritize immediate instructional responsibilities over long-term professional learning, leading to fragmented or inconsistent engagement with online communities. This has implications for the sustainability of online CPD initiatives, as meaningful professional learning requires ongoing interaction, reflection, and contribution. Therefore, the challenge of time should be understood not only as an individual issue of time management but as a systemic constraint embedded within the organization of teachers' work. The findings demonstrate that while online communities hold significant potential for professional learning, their effectiveness is contingent upon teachers' capacity to allocate time for active participation. Without institutional support, such as workload adjustments or dedicated CPD time, the transformative potential of online communities as spaces for collaborative learning and professional identity development remains constrained.

The data reveal that contextual disconnect and inadequate diversity significantly constrain the effectiveness of online CPD, particularly in relation to teachers' ability to engage, apply knowledge, and construct professional identity meaningfully. Participants' accounts suggest that while online communities

provide access to a wide range of resources, these resources are often insufficiently grounded in local curricular demands, socio-cultural realities, and learner diversity. This misalignment limits the transferability of knowledge and reduces the perceived relevance of CPD engagements. Existing literature similarly highlights that professional learning is most impactful when it is contextually situated and responsive to teachers' lived experiences (Dyosini, 2024). The present findings therefore confirm that generic, decontextualized CPD content may undermine meaningful professional growth, particularly in diverse and under-resourced educational settings. From a communities of practice perspective, this challenge reflects a disruption in the process of negotiation of meaning, where shared practices fail to resonate with participants' specific contexts (Wenger, 1998). Within effective communities of practice, learning is co-constructed through mutual engagement and the sharing of contextually relevant experiences. However, the data indicate that online CPD spaces often privilege dominant or globalized narratives of teaching, potentially marginalizing context-specific knowledge. This finding extends previous studies that caution against the uncritical transfer of "best practices" across diverse educational contexts without adaptation (Asogwa, 2024; Mamba & Beharry-Ramraj, 2026). In this regard, the lack of contextual sensitivity not only constrains learning but also limits teachers' ability to integrate new knowledge into their professional identities.

The issue of inadequate diversity and participation imbalance further compounds this challenge. The dominance of a small group of contributors and the limited engagement of others suggest a hierarchical participation structure within online communities. This undermines the communities of practice principle of legitimate peripheral participation, in which all members should have opportunities to gradually move from passive observation to active contribution (Orsmond et al., 2022). Instead, the findings indicate that participation remains uneven, with certain voices shaping the discourse while others remain marginalized. This aligns with research showing that online professional learning environments can reproduce inequalities in participation due to factors such as confidence, digital literacy, and perceived relevance (Amemasor et al., 2025; Xabadiya et al., 2025). The lack of diverse perspectives limits the richness of collaborative learning and reduces opportunities for critical dialogue. Diversity in professional communities is essential for fostering innovation, reflexivity, and inclusive knowledge construction (Abdelhay, 2024). The current findings, therefore, extend existing literature by highlighting how limited diversity not only affects knowledge exchange but also contributes to disengagement and reduced motivation among participants.

Furthermore, the data point to a transactional nature of online CPD interactions, in which content delivery is prioritized over relational and dialogic engagement. This reflects a shift away from the core principles of communities of practice, which emphasize trust, shared identity, and sustained interaction. When online spaces lack opportunities for authentic dialogue, storytelling, and co-construction of knowledge, they may fail to support deeper professional learning and identity development. This observation corroborates studies that argue that meaningful professional learning requires emotionally supportive and collaborative environments, rather than one-directional knowledge transmission (Brennan & Gorman, 2023; Dyosini, 2024). In interpreting these findings, it becomes evident that contextual disconnect and inadequate diversity do not merely represent logistical challenges but have deeper implications for teacher agency and identity formation. When teachers are unable to see their contexts, experiences, and voices reflected in professional learning spaces, they may experience marginalization and diminished professional affirmation. From a communities of practice lens, this weakens the sense of belonging and shared enterprise that is essential for identity construction within a community. Consequently, instead of empowering teachers to reclaim their voices, such environments may inadvertently silence or exclude them. The findings confirm, extend, and, in some respects, challenge existing literature by demonstrating that while online CPD communities hold significant potential for collaborative learning, their effectiveness is contingent on contextual relevance, inclusive participation, and authentic engagement. Addressing these challenges requires a deliberate effort to design online CPD spaces that are culturally responsive, participatory, and reflective of diverse teaching realities.

Participants' accounts show that a lack of leadership support constitutes a significant barrier to teachers' meaningful engagement in online communities for CPD. Participants' accounts suggest that leadership

attitudes, institutional cultures, and policy gaps collectively shape the extent to which online professional learning is legitimized and enacted in schools. From a Communities of Practice perspective, school leaders play a critical role in enabling or constraining participation in professional communities. When leadership fails to recognize or value online engagement, teachers are effectively positioned at the margins of the community, limiting opportunities for full participation, knowledge sharing, and identity development. The perception of online professional engagement as a threat reflects a deeper issue of control and mistrust within school leadership structures. This finding aligns with studies indicating that hierarchical leadership cultures often resist distributed forms of professional learning, particularly those facilitated through digital platforms (Nadeem, 2024; Okunlola & Naicker, 2025). However, the present data extend this scholarship by demonstrating that such resistance not only limits participation but may also lead to teacher attrition, as educators disengage from environments that do not support their professional growth. This suggests that leadership perceptions are not merely contextual barriers but have tangible implications for teacher retention and well-being.

Furthermore, the absence of leadership endorsement undermines the translation of online learning into classroom practice. Consistent with existing literature, institutional support has been identified as a key factor in determining whether professional development leads to pedagogical change (Dyosini, 2024; Seno & Paglinawan, 2024). The current findings confirm that without leadership backing, the potential of online CPD remains largely unrealized, as teachers lack the authority, resources, and collaborative space needed to implement new ideas. Interpreted through a Communities of Practice lens, this reflects a disconnect between individual learning and collective practice, where knowledge acquired in online spaces is not integrated into the school's shared repertoire. In addition, the lack of recognition and encouragement from school leaders contributes to diminished teacher motivation and engagement. Research has shown that professional recognition is a significant driver of teacher participation in CPD, particularly in informal and self-directed contexts (Asmare, 2025; Dyosini, 2024). The findings corroborate this, indicating that when online engagement is rendered invisible or undervalued, teachers are less likely to sustain active participation. This extends previous studies by highlighting how the invisibility of online CPD within formal school structures can weaken teachers' sense of professional agency and voice.

The absence of formal policies recognizing online CPD further exacerbates this challenge. Existing literature emphasizes the importance of policy frameworks in legitimizing diverse forms of professional learning, including digital and informal modes (Amemasor et al., 2025). The findings confirm that where such policies are lacking, online CPD is often perceived as less credible, reinforcing traditional notions of professional development. From a theoretical standpoint, this limits the institutionalization of communities of practice, as participation in online spaces is not formally recognized as contributing to the school's collective professional knowledge. Lastly, leadership resistance to change constrains innovation and collaborative learning. This finding is consistent with research indicating that conservative organizational cultures can hinder the adoption of new pedagogical practices (Fockler, 2025; Omodan et al., 2025). However, the data also suggest that such resistance disrupts the dynamic process of identity formation, as teachers are discouraged from experimenting with new roles and practices acquired through online communities. In this sense, the lack of leadership support not only restricts professional learning but also impedes the reconstruction of teacher identity, which is central to CPD's purpose. The findings demonstrate that leadership support is pivotal in bridging the gap between online professional learning and school-based practice. The absence of such support constrains participation, limits knowledge integration, and undermines teachers' professional identities. This highlights the need for school leaders to reconceptualize online communities not as external threats but as valuable extensions of the school's professional learning ecosystem.

Contribution of the Study

This study makes a critical contribution to the discourse on online CPD by foregrounding the complex interplay between affordances and constraints in digitally mediated professional learning environments. By

synthesizing themes related to connectivity challenges, information overload, inadequate digital skills, time constraints, contextual disconnect, and lack of leadership support, the study demonstrates that teachers' engagement in online CPD is shaped not only by opportunities for learning but also by structural, contextual, and institutional limitations. This dual perspective provides a more holistic understanding of online CPD as both an enabling and constraining space for teacher voice, identity, and professional growth. Across the themes, a key synthesis reveals that access, participation, and recognition are interdependent conditions for meaningful professional learning. For instance, connectivity and digital skills directly influence participation, while time constraints and leadership support determine the sustainability and translation of learning into practice. Similarly, contextual disconnect intersects with information overload, as teachers struggle not only with the quantity of information but also with its relevance. These intersections highlight that challenges in online CPD are not isolated but mutually reinforcing, often compounding barriers to engagement and identity formation.

From a theoretical perspective, the findings extend and critically interrogate the communities of practice framework. While communities of practice emphasize participation, shared practice, and identity development, this study reveals that such participation is structurally mediated and unevenly distributed in online environments. The findings challenge the implicit assumption that access to a community guarantees meaningful participation. Instead, they demonstrate that digital infrastructure, socio-economic conditions, institutional support, and contextual relevance are foundational to enabling legitimate participation. Thus, the study proposes a reconceptualization of communities of practice as "contextually bounded and structurally contingent digital communities", where both enabling and constraining conditions shape participation.

The findings suggest that existing conceptualizations of professional learning frameworks require significant modification to account for the realities of diverse and resource-constrained contexts. Traditional models of CPD often assume equitable access, technological competence, and institutional support, assumptions that are not reflected in the lived experiences of participants. The prominence of issues such as the digital divide, affordability, and leadership resistance indicates the need for a more critical, context-sensitive, and equity-oriented theoretical framework that integrates material, relational, and systemic dimensions of professional learning. The study also reveals important tensions across themes. For example, while online CPD promotes flexibility, time constraints limit meaningful engagement, resulting in superficial participation. Similarly, while digital platforms democratise access to knowledge, information overload and misinformation undermine knowledge quality and trust. Furthermore, although online communities are intended to be inclusive, contextual disconnect and dominance of certain voices may marginalize others, thereby reproducing inequalities within supposedly open spaces. These tensions show that online CPD is a negotiated and contested space, rather than a uniformly empowering one.

In terms of implications, the study contributes to theory by advancing a more critical understanding of participation in digital communities of practice, highlighting the role of structural inequalities in shaping professional learning. For policy, it underscores the urgent need for investment in digital infrastructure, affordable connectivity, and formal recognition of online CPD, particularly in under-resourced contexts. For practice, the findings emphasize the importance of capacity building in digital skills, effective moderation of online platforms, contextualization of content, and supportive school leadership to enhance engagement and impact. Additionally, the study contributes by foregrounding the role of power, voice, and inclusion in online professional learning spaces. It demonstrates that without intentional design and support, online CPD may inadvertently silence or exclude certain teachers, particularly those in marginalized contexts. By centering teachers' lived experiences, the study advances a more humanizing and socially just perspective on professional development, where issues of access, equity, and recognition are integral to understanding teacher learning. The study extends existing scholarship by illustrating that the transformative potential of online CPD is contingent upon addressing systemic barriers. It positions online professional communities not merely as technological innovations but as socially embedded, context-dependent, and power-laden spaces

that require deliberate design and support to truly enable teacher voice, identity development, and professional growth.

Based on the findings of the study, the following recommendations are proposed to enhance the effectiveness, inclusivity, and sustainability of online CPD communities:

Strengthening Digital Infrastructure and Access

National and provincial Departments of Education, in collaboration with telecommunications providers and private-sector partners, should prioritize expanding reliable, affordable internet connectivity for educators, particularly in rural and under-resourced areas. This can be implemented through subsidized data packages for teachers, zero-rated access to approved CPD platforms, and investment in school-based digital infrastructure such as Wi-Fi hubs and community access points. Additionally, public-private partnerships can be leveraged to provide low-cost devices to educators. The significance of this recommendation lies in its ability to address the structural inequalities that limit participation in online CPD. Without equitable access, teachers remain excluded from meaningful engagement, thereby perpetuating disparities in professional development and ultimately affecting the quality of teaching and learning.

Providing Structured Digital Skills Training for Teachers

Teacher training institutions, school districts, and education departments should design and implement continuous digital skills development programs that are practical, contextually relevant, and scaffolded according to teachers' varying levels of competence. These programs should include hands-on workshops, peer mentoring, and ongoing technical support, focusing not only on basic digital literacy but also on navigating online CPD platforms, engaging in virtual communities, and critically evaluating online content. Schools can further support this by establishing digital champions or mentors who provide on-site assistance. Implementing this recommendation is significant because digital competence is foundational to meaningful participation in online CPD. Enhancing teachers' confidence and capability will enable them to move from peripheral to active participation, thereby strengthening professional learning, collaboration, and identity development.

Designing Contextually Responsive and Inclusive CPD Platforms

CPD designers, educational organizations, and platform developers should ensure that online professional learning environments are contextually grounded, culturally responsive, and inclusive of diverse teacher experiences. This can be achieved by incorporating locally relevant case studies, encouraging teacher-generated content, and facilitating discussions that reflect varied educational contexts, particularly from the Global South. Additionally, platforms should actively promote diverse participation by rotating facilitators, amplifying marginalized voices, and creating structured opportunities for all participants to contribute. The significance of this recommendation lies in enhancing the relevance and applicability of CPD content. When teachers see their realities reflected in professional learning spaces, they are more likely to engage meaningfully, apply new knowledge, and develop a stronger sense of professional identity and belonging.

Enhancing Content Curation and Platform Moderation

Platform administrators, CPD facilitators, and professional learning coordinators should implement robust content curation and moderation strategies to ensure the quality, credibility, and relevance of shared information. This can include appointing trained moderators, developing clear participation guidelines, and using algorithmic or human-led systems to organize content into thematic areas or learning pathways. Facilitators should also guide discussions, highlight evidence-based practices, and encourage critical engagement with shared resources. The importance of this recommendation lies in mitigating the negative effects of information overload and misinformation. By creating structured and trustworthy learning environments, teachers can engage more deeply, reflect critically, and construct meaningful professional knowledge rather than becoming overwhelmed or misled.

Promoting Institutional and Leadership Support for Online CPD

School leaders, governing bodies, and education policymakers should actively recognize and integrate online CPD into formal professional development frameworks. This can be achieved by allocating dedicated time in teachers' schedules for online engagement, recognizing participation in appraisal and promotion systems, and creating school-based structures to share and implement knowledge gained from online communities. Leadership training programs should also be designed to sensitize school leaders to the value of online CPD and equip them with strategies to support teacher learning in digital environments. The significance of this recommendation lies in bridging the gap between individual learning and institutional practice. When leadership actively supports online CPD, it legitimizes teachers' efforts, enhances motivation, and facilitates the translation of new knowledge into classroom practice, thereby improving overall educational outcomes.

CONCLUSION

This study explored teachers' challenges in engaging with online communities for CPD, with particular emphasis on how these challenges shape teacher voice, identity, and participation. The findings demonstrate that although online CPD offers considerable potential for collaborative learning, professional growth, and identity development, its effectiveness is influenced by a complex interaction of structural, technological, institutional, and contextual factors. Challenges relating to limited internet connectivity, inadequate digital skills, time constraints, information overload, contextual disconnect, and insufficient leadership support illustrate that access to online platforms alone does not guarantee meaningful participation or professional learning. Rather, these barriers are embedded within broader systemic inequalities that shape teachers' opportunities to engage, contribute, and benefit from online professional communities. Despite these constraints, the findings also reveal teachers' resilience and agency in seeking alternative opportunities for professional learning through digital platforms, highlighting the untapped potential of online CPD to strengthen teacher voice, foster collaboration, and support professional identity when enabling conditions are established. From a theoretical perspective, the study extends the Communities of Practice framework by demonstrating that issues of access, power, recognition, and contextual relevance mediate participation in digital professional learning environments. The study, therefore, argues that meaningful online CPD requires more than technological availability; it demands deliberate investment in digital infrastructure, capacity building, contextually responsive platform design, effective leadership support, and institutional recognition of online professional learning. Consequently, policymakers, school leaders, CPD designers, and other educational stakeholders should work collaboratively to create inclusive, supportive, and sustainable professional learning ecosystems that empower teachers to participate actively, contribute confidently, and translate online learning into improved classroom practice. Thus, the study concludes that the transformative potential of online CPD can only be fully realized when systemic barriers are addressed, and teachers are recognized as active partners in shaping equitable and contextually relevant professional learning environments.

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