

SCALING UP TEACHER CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD) USING OPEN AND DISTANCE LEARNING (ODL): A CASE STUDY OF FIVE SELECTED SCHOOLS IN MAUN, BOTSWANA

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1. Abstract

This paper investigates the potential for scaling teacher Continuous Professional Development (CPD) using Open and Distance Learning (ODL) modules aimed at enhancing digital literacy in Botswana. As technology becomes increasingly integrated into education, there is a growing need to ensure that teachers remain current, effective, and relevant. Traditional CPD models often face limitations in accessibility, scalability, and flexibility. This study explores how ODL can bridge these gaps, especially for teachers in remote regions, by providing high-quality, accessible professional development resources. Using a mixed-methods approach, the study captures teacher perceptions and experiences with digital platforms and ODL in Maun, a district selected for its strategic relevance and recent partnerships supporting national CPD initiatives supported by the Commonwealth of Learning (COL).

Key Terms: Open and Distance Learning (ODL), Open Educational Resources (OER), Continuous Professional Development (CPD), Commonwealth of Learning (COL), Diploma in Primary Education (DPE), Botswana Teaching Professionals Council (BOTPECO)

2. Introduction

Continuous Professional Development (CPD) is vital for maintaining and enhancing the quality of teaching in an ever-evolving educational landscape. In Botswana, like many other countries, the traditional face-to-face CPD models often face logistical challenges such as travel costs, time constraints, and uneven resource distribution, particularly for teachers in rural or remote areas. The advent of Open and Distance Learning (ODL) and the integration of digital technologies present new opportunities to overcome these challenges.

In meeting the evolving educational requirements teachers must up skill to remain relevant to the requirements of modern teaching and learning. Quality education is not going into the classroom by students to learn nor mere access to schooling. UNICEF (2000) defines quality education as education that involves learners, content, processes, and context, highlighting the multifaceted nature of educational quality. In both developing and developed countries quality education remains the interest of governments in meeting the United Nations, Sustainable Development Goal 4 that aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."

The pursuit of quality education in learning necessitates the implementation of continuous professional development (CPD) of teachers. In regions like Maun, which are distant, spacious, isolated and with no or less Universities, Open and Distance Learning (ODL) provides an opportunity to promote and facilitate CPD. This study investigates the effectiveness of scaling CPD through ODL by examining five selected schools in Maun (Maitlamo JSS, Tsodilo JSS, Tshwaragano JSS, Maun Senior Secondary & Disaneng primary school). The study results can also be transferrable to other areas in Botswana and generalised given that the areas have the same natural capita/ environments.

2.1 Background and Rationale

Botswana's dedication and commitment to quality education and upholding enhanced educational standards and competences has led to the implementation of various teacher development programs offered through various approaches, but gaps remain in professional development for teachers. CPD is crucial for enabling teachers to keep pace with curriculum reforms, pedagogical innovations, and technological integration in teaching. The government of Botswana introduced the Diploma in Primary Education (DPE) in 1999 which was offered by distance learning. The program aimed to upgrade primary school teachers' qualifications to meet evolving curriculum demands. The program (DPE) was primarily offered through distance education, utilizing printed materials to accommodate teachers across Botswana with an enrolment of approximately 1,200 in its first two cohorts. By 2003, 1,009 participants reached the final year and sat for examinations, while 191 withdrew. Seven years post-launch, no graduates had emerged, raising concerns about its effectiveness. The program encountered

implementation challenges that later impacted its success. Adapting multiple strategies to enhance professional development of teachers is necessary. This paper investigates the effectiveness of ODL/OER in scaling CPD for teachers. The introduction of digital literacy is appealing to drive ODL, and such could enhance the effectiveness of CPD for teachers in Botswana and more specially those in rural areas. In Maun teachers were trained on the use of ODL, and open educational resources, and guided to enrol for courses on OER repositories. This initiative significantly contributed to helping teachers attain CPD at their own time and pace hence develop professionally. The Commonwealth of Learning (COL), Botswana Open University (BOU), and Botswana Teaching Professionals Council (BOTPECO) have collaborated to develop a national framework supporting CPD through ODL. A landmark workshop held in Maun signalled the beginning of a nationwide shift toward digitally supported teacher development. Teachers attended the 3-day national ODL workshop on the development of national framework for teacher training through ODL, a suite of digital literacy training modules based on COL Commons (<https://colcommons.org/>), making the location a strategic site for this study.

2.2 Statement of the Problem

A significant number of teachers lack familiarity with Open and Distance Learning (ODL) and Open Educational Resources (OER). The limited understanding of ODL reduces the chance of teachers to continue professionally developing. This gap in knowledge impacts on the teacher's ability to effectively use and integrate modern educational tools and inclusive teaching practices into their classrooms. The lack of use of ODL modules and methodologies results into ineffective teaching methods, inadequate teacher practicing skills, reduced content when teaching, hinders effective teacher professional growth, delays teacher progression and development.

Lack of understanding of ODL and OER in Maun schools and elsewhere in Botswana alters the capacity of teachers to promote quality education and enhance students learning. There is also evidence made through observation during workshops indicating that limited awareness on ODL is also associated with the struggling identified amongst teachers to adopt to technology, innovative teaching strategies, assessment techniques that cater for inclusivity and diversity in learning. During the COL onboarding workshops, teachers were resistant to accept invitations for a workshop that indicated the use of laptops. This was a sign of fear of use of laptops due to lack of understanding of technology. There is a need for teachers to enrol for courses on Open Educational Resources to equip them with skills and knowledge of using digital platforms and embrace technology. An understanding of ODL if well managed could promote inclusive education, improve learning outcomes and academic performance in Maun's schools. This study addressed these gaps by investigating the potential of scaling CPD through ODL in Maun's schools and the Botswana Education Context.

2.3 Objectives of the Study

- Assess the current state of CPD among teachers in Maun schools.
- Evaluate the effectiveness of ODL programs in enhancing teachers' professional skills.
- Identify challenges and opportunities in implementing ODL-based CPD initiatives.
- Propose strategies to optimize the integration of ODL in CPD programs in schools.

2.4 Significance of the study

The study is significant because of the following.

- It has the potential to contribute to the growing body of knowledge on the effectiveness of ODL.
- Promotes CPD as a tool to enhancing teacher quality and professional development.
- Demonstrates how digital literacy and technology in education can be effectively utilized to scale CPD-ODL based initiatives.
- It demonstrates a flexible professional development opportunity for teachers.

2.5 Scope/delimitation of the study

This study is delimited to the exploration of Continuous Professional Development (CPD) for teachers through Open and Distance Learning (ODL) in public primary and secondary schools in Maun, Botswana. The research specifically focuses on how ODL can be leveraged to enhance digital literacy among teachers, thereby improving access to and engagement in CPD initiatives. The study does not include private schools or other regions outside Maun. Furthermore, the research is limited to data collected from February to April 2025. The scope is confined to teachers' awareness, attitudes, and experiences with ODL platforms. The study also does not extend to curriculum developers or educational policymakers, focusing solely on teacher participants and their engagement with digital tools in professional learning. In future the study will be extended to other regions.

3.0 Literature Review

3.1 Introduction

Open and Distance Learning (ODL) has emerged as a transformative approach to enhancing Continuous Professional Development (CPD) for teachers, particularly in regions with limited access to traditional training resources. ODL offers flexibility, accessibility, and the potential to reach educators in remote areas, making it an invaluable tool for professional growth. In Botswana, the integration of ODL into CPD initiatives presents an opportunity to address existing challenges and improve the quality of education. This literature review explores the intersection of ODL and CPD, examining successful practices, challenges, and the applicability of scaling CPD through ODL in Maun, Botswana.

3.2 The Role of ODL in Continuous Professional Development and Education

ODL is characterized by its flexibility in terms of time and location, allowing learners to engage in educational activities remotely. Keegan (1996) defines ODL as an educational system that provides learners with the opportunity to study remotely, often utilizing digital platforms, correspondence, and other non-traditional means of communication. This model is particularly beneficial for teachers in remote areas who may face challenges accessing conventional CPD opportunities (Peters, 2004). Institutions like the University of Botswana (UB) and Botswana Open University (BOU) have embraced ODL to cater to the needs of adult learners, including teachers (Mokibelo, 2014). However, challenges such as low graduation rates have been noted, highlighting the need for effective management and support systems to enhance the success of ODL programmes.

Simpson (2002) emphasizes that ODL offers an effective alternative to traditional CPD methods by providing teachers with opportunities to engage in learning experiences tailored to their specific professional needs. Online forums, webinars, and video-based tutorials can facilitate interaction among teachers, enabling collaboration and sharing of experiences despite geographical distances (Hodgson, 2009).

3.3 Understanding the Concept of Teacher CPD

Continuous Professional Development (CPD) is an ongoing process through which teachers engage in learning activities to enhance their knowledge, skills, and competencies (Avalos, 2011; Bolam, 2005; Darling-Hammond, 2000). In Botswana, the absence of a structured national framework for CPD has led to challenges in monitoring and managing teacher training programs. Many teachers participate in "self-sponsored" training that may not align with the needs of the education sector, underscoring the importance of organized and planned CPD initiatives (Bolam et al., 2005). Effective CPD should be characterized by collaboration, active learning, digitalization, and alignment with school needs and teachers' professional goals. Implementing a system that provides ongoing professional development to teachers through ODL can address these needs, fostering a culture of continuous improvement in teaching practices.

3.4 Regional Perspectives on CPD

Research from other African countries demonstrates the potential of ODL in scaling CPD for teachers. In South Africa, the Department of Basic Education has developed an online teacher development platform offering courses on various pedagogical topics (Taylor, 2010). Similarly, Kenya's Teachers Service Commission has utilized mobile learning platforms to reach teachers in rural areas, providing access to CPD resources and training (Mwai, 2013).

These case studies highlight the feasibility and impact of ODL in improving teacher quality and professional development in sub-Saharan Africa. The use of ODL extends CPD access to teachers in rural and underserved regions, ensuring that educators are not left behind in professional development efforts. By leveraging online and mobile platforms, countries can support teachers' professional growth, even in remote areas.

3.5 Continuous Professional Development in Botswana Schools

Despite the recognition of CPD's importance, many schools in Botswana face challenges related to poor teaching methods and assessment techniques, contributing to unsatisfactory performance. Traditional CPD methods, such as face-to-face workshops, encounter obstacles like time constraints, lack of resources, and geographical barriers (Molefe, 2012). Scaling CPD programs through ODL presents an innovative solution to these challenges, offering flexibility and accessibility to teachers across the country.

The Ministry of Education and Skills Development (MESD) in Botswana acknowledges the need for a CPD framework to improve the quality of education. However, a gap exists between the recognition of CPD's importance and the actual participation of teachers in CPD programs, with barriers such as financial constraints, institutional limitations, and logistical challenges hindering engagement (Loth & Sika, 2014).

3.6 CPD in Primary Schools: Botswana Context

A study by Shumba & Shumba (2016) found that while many primary school teachers in Botswana participate in CPD activities, the participation rate remains relatively low. Only 47% of teachers reported regularly attending CPD programs, while 53% indicated they never engage in CPD activities. Teachers participate in CPD to improve teaching effectiveness, stay updated with teaching methodologies, and meet career advancement requirements.

Barriers to CPD participation include time constraints due to heavy teaching loads, financial limitations, and lack of support from school leadership in facilitating time for professional development (Loth & Sika, 2014). Additionally, concerns about the relevance of CPD programs, particularly in rural or disadvantaged areas, have been noted.

3.7 CPD in Junior Secondary Schools

Junior secondary school teachers in Botswana specialize in specific subjects, making CPD critical for enhancing subject knowledge and teaching strategies. A study by Mothusi and Kolos (2017) found that 55% of junior secondary school teachers reported engaging in CPD activities, with participation rates higher than those of primary school teachers. Subject-specific workshops and seminars provided by the Ministry of Education and Skills Development (MESD) contribute to this increased participation.

Despite higher participation rates, challenges persist, including limited availability of CPD programs tailored to the specific needs of junior secondary school teachers, logistical issues such as lack of funding, and insufficient time for attending workshops. A lack of motivation to participate in CPD programs has also been identified, with some teachers perceiving the programmes irrelevant and out fashioned to their needs and wants. CPD must be directly linked to teachers' classroom practices to motivate them to participate (De Vries et al, 2017).

4.0 Methodology

4.1 Research Design

A mixed-methods approach was adopted to gather both quantitative and qualitative data, allowing for a comprehensive understanding of teacher experiences and perceptions. The mixed methods approach is appropriate for this study because it integrates both quantitative (numerical) and qualitative (textual or thematic)

techniques within a single study. Its key feature is integration, and the degree to which it allows the collection of both types of data and permits combining them in analysis, inference, or reporting to achieve broader and deeper insights (Johnson, Onwuegbuzie, & Turner; 2007).

4.2 Sample and Setting

The selection of the sample involved a two-stage sampling procedure: purposive sampling followed by simple random sampling. Each school that attended a workshop on the development of a national teacher professional development framework in January in Maun was selected purposively. Purposive sampling (also known as judgmental sampling) is a non-probability sampling technique where participants are selected based on specific characteristics or qualities that align with the objectives of the research (Palinkas et al., 2015). In this case, the selected teachers had unique insights into the professional development framework being, making them the most relevant participants for the research.

From the pool of purposively selected teachers, a simple random sample of teachers was drawn. The final sample size of 50 teachers was therefore selected from a larger pool of teachers who met the criteria of having attended the workshop. This combination of purposive and random sampling techniques was effective in ensuring both relevance and fairness in the participant selection process.

The study targeted 50 teachers, distributed as follows:

- 10 from a senior secondary school,
- 30 from junior secondary schools,
- 10 from primary schools.

The selection of teachers was informed by its active involvement in the national ODL initiative. The schools with the highest number of teachers who registered in the COL Commons repository, enrolled for a course and produced a certificate of completion were considered.

4.3 Data Collection

Open and closed-ended questionnaires were designed and administered to the selected participants. Some primary data was also collected during the national ODL workshop in Maun.

4.4 Data Analysis

Data was analysed using the Statistical Package for Social Sciences (SPSS) and Microsoft Excel. Descriptive and inferential statistics were used to interpret quantitative data, while qualitative responses were analysed thematically.

4.5 Ethical Considerations

The selection process was carried out ethically, ensuring that all participating schools and individuals have voluntarily agreed to participate in the study. Prior to data collection, the researcher obtained informed consent from school administrators, teachers, and any other involved stakeholders. The confidentiality and anonymity of participants was maintained, and participants had the right to withdraw from the study at any time without consequences.

5.0 RESULTS/FINDINGS

Respondents indicated 37% of the participants had used WhatsApp for teaching or learning purposes before. Data also revealed that 30% of the participants had never participated in any online learning before. Teachers have knowledge of online learning even though they do not utilize ODL. Most of the teachers (92%) indicated that ODL platforms are effective for teacher training and professional development.

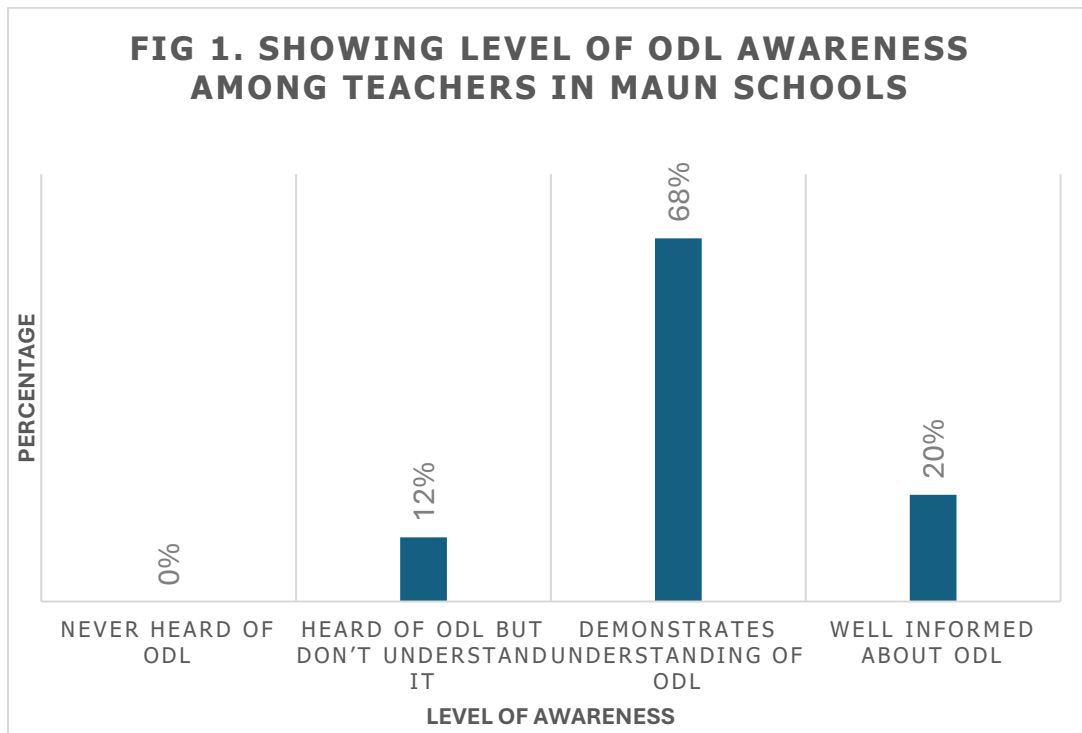


Figure 1 above shows that most (68%) of the teachers had some level of understanding about ODL.



Figure 2 above shows 92% of teachers either agree or strongly agree that ODL platforms are effective for teacher training and professional development.

The respondents indicated that ODL is very effective for teacher professional development. According to Mishra and Koehler (2006), ODL allows for "just-in-time" learning, enabling teachers to access relevant training materials at their own pace and convenience, thereby supporting lifelong learning. Moreover, ODL reduces logistical constraints and training costs, making it a cost-effective solution for reaching educators in remote or underserved areas (UNESCO, 2015). Studies have also shown that when ODL is well-structured and interactive, it enhances teachers' content knowledge, pedagogical skills, and digital literacy, all of which contribute to improved learner outcomes (Perraton, 2010). As such, integrating ODL into national teacher development strategies can lead to more inclusive and sustainable professional growth systems.

6.0 Discussion

6.1 Reasons for Participation and Non-Participation in CPD

The findings of this study reveal a complex set of motivations and barriers that influence teachers' engagement with Continuous Professional Development (CPD) activities, particularly those offered through Open and Distance Learning (ODL) modalities.

Teachers in Maun indicated a strong motivation to participate in CPD to enhance their professional knowledge and classroom practices. A study by Mothusi and Kolos (2017) also found that teachers recognized CPD to remain up to date with evolving teaching methodologies, curriculum updates, and technological advancements. Quantitative results from this study indicate that 30% of teachers engage in online CPD for career progression, 20% for professional growth, and 10% out of personal interest.

Career advancement emerged as a significant motivator, particularly among both primary and secondary school teachers. Respondents expressed a belief that engaging in more CPD courses could expedite their eligibility for promotions and associated salary increments. This finding aligns with Shumba and Shumba (2016), who similarly observed that teachers frequently perceive CPD as a pathway to career enhancement and financial gain. In addition, some teachers cited the evolving nature of 21st-century learners as a motivator, with the desire to keep pace with their students' learning styles and digital skills.

Despite these positive inclinations, several critical barriers hinder teacher participation in ODL-based CPD. Notably, 80% of primary school teachers at Disaneng Primary School cited heavy teaching loads as a deterrent. The requirement for primary teachers to cover multiple subjects intensifies their workload, limiting the time available for further study. This echoes earlier research by Loth and Sika (2014), which identified time constraints due to teaching responsibilities as a primary obstacle to CPD participation. Primary school teachers often face exceptionally high workloads, as they are typically responsible for teaching all core subjects to the same group of learners throughout the day. This multi-subject responsibility demands extensive lesson preparation, classroom management, and assessment across diverse content areas, leaving little time for additional professional development activities. teacher engagement, especially when the content fails to address immediate classroom challenges.

A further impediment reported by respondents was the lack of institutional and administrative support. Teachers highlighted challenges in obtaining study leave or permission to attend CPD sessions, particularly during exam periods. This concern was supported by Shumba and Shumba (2016), who noted systemic reluctance among education managers to facilitate or approve study-related permissions for teachers. Without explicit support from leadership and educational institutions, CPD through ODL risks being perceived as an added burden rather than a developmental opportunity.

6.2 Challenges in Scaling CPD through ODL in Maun Schools

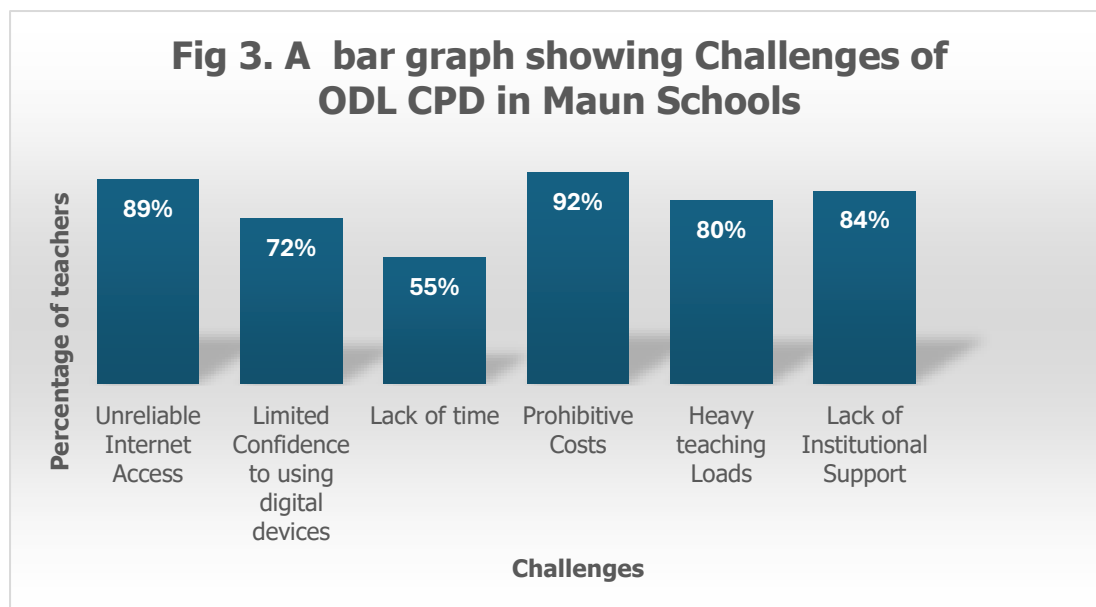
Although ODL offers the promise of accessible and scalable professional development, implementation in Maun schools reveals significant logistical and infrastructural challenges.

The digital divide remains a major barrier. A substantial 89% of teachers in Maun reported unreliable internet access. Among them, 40% depend on internet cafes, 50% rely on poorly connected school networks, and only 20% have home internet routers. The issue of connectivity reflects broader concerns about Botswana's technological infrastructure and its readiness to support widespread digital learning. Davis and Rakes (2003) describe this digital divide as unequal access not only to technology but also to digital literacy, a gap that continues to disadvantage educators in rural and peri-urban settings.

Even in Maun, which is considered an urban area, infrastructure limitations affect the implementation of government-led initiatives such as the SmartBots project. Challenges such as vandalism, insufficient technical support, and low signal strength hinder the reliability of online platforms for CPD. These findings are supported by Mokibelo (2014), who highlighted persistent infrastructural barriers in Botswana's educational technology landscape.

Beyond connectivity issues, digital literacy emerged as a crucial challenge. Only 10% of respondents indicated that they possess the necessary digital skills to effectively participate in ODL-based CPD. This is consistent with observations from the "Beyond Numbers" workshop conducted in Maun and Kang, where poor attendance was noted in sessions requiring laptop usage. Many teachers (72%) demonstrated limited confidence in using digital devices or navigating online learning environments. As Tait (2003) argues, successful participation in ODL requires not only access but also a solid foundation in digital pedagogy and online collaboration.

The self-directed nature of ODL was also identified as a challenge. Teachers often lack the time, motivation, or familiarity with self-paced learning, particularly when professional development is not integrated into the school's official schedule. Bolam et al. (2005) emphasizes that without structured support, self-directed CPD can fail to meet its potential, especially for educators who thrive in guided, interactive settings. The bar graph (Figure 3) shows the Challenges of ODL based CPD initiatives.



Scaling teacher Continuous Professional Development (CPD) through Open and Distance Learning (ODL) presents numerous challenges that hinder its effectiveness and accessibility. The study results indicate that teachers in Maun experience unreliable internet access, affecting 89% of participants. This significantly limits consistent engagement with online resources. Ninety two percent (92%) face prohibitive costs associated with accessing and maintaining digital learning tools. Costs also include fees for registration and paying tuition fees. A lack of institutional support (84%) further exacerbates these issues, as educators often do not receive the necessary guidance and support to succeed in ODL. Many teachers (80%) also struggle with heavy teaching loads, and (55%) cite a lack of time as a major barrier to professional development. Another challenge identified from the study results is limited confidence in using digital devices (72%) and insufficient digital literacy skills (66%)

needed to navigate online learning platforms effectively. The results can guide the development of the national teacher training framework on where to start and what to include in the framework. From this study teachers lack digital literacy. Together, these factors highlight the critical need for targeted interventions to make ODL-based CPD more inclusive and sustainable.

6.3 Best Practices for Successful CPD ODL Implementation

Based on the findings, the following best practices are recommended to enhance the effectiveness and accessibility of ODL-based CPD initiatives:

- **Improve Digital Infrastructure:** The government should prioritize investment in ICT infrastructure, including reliable internet access and affordable digital devices. Schools should be equipped with consistent connectivity to support teacher engagement in CPD.
- **Enhance Digital Pedagogical Skills:** CPD programs must integrate training in digital literacy and pedagogical tools. BOTEPCO and related institutions should target primary school teachers who currently show lower levels of digital proficiency.
- **Leverage Online Communities:** Teachers should be encouraged and supported to participate in platforms such as the Commonwealth of Learning (COL) repositories. These spaces foster collaboration, peer learning, and mentorship (Wenger, 1998).
- **Institutional Support:** School leaders and educational administrators must provide explicit support for teachers participating in CPD. This includes allocating time within work schedules and offering incentives for course completion.

The integration of digital literacy into CPD programs can help teachers to gain critical 21st-century skills, enhance teaching quality and learner engagement and foster a culture of collaborative and lifelong learning among educators. ODL offers a flexible, scalable, and cost-effective approach to professional development. Teachers in remote areas, who are often marginalized by traditional CPD methods, can now access high-quality training regardless of location. Teachers had a positive reception of ODL and digital modules. Teachers also expressed enthusiasm for the flexibility and relevance of the training materials. However, issues such as internet connectivity and access to digital devices were noted as barriers.

7. Conclusion and Recommendations

Recommendations

To enhance the uptake and impact of CPD through ODL, the following strategic actions are recommended:

- **Conduct Regular Needs Assessments:** Tailor CPD content to meet the evolving professional needs of teachers across school levels and regions.
- **Diversify CPD Delivery Modes:** Offer a blend of in-person workshops, online modules, and peer learning communities to accommodate diverse learning preferences.
- **Create a Supportive Environment:** Institutionalize CPD by integrating it into school culture and performance review systems. Encourage administrative flexibility to accommodate study schedules.
- **Implement Monitoring and Evaluation:** Track participation, engagement, and outcomes of CPD initiatives. Use feedback to improve program design and relevance.
- **Development of a Teacher Education and Continuous Professional Development (TECPD) policy framework**

Conclusion

The absence of a properly structured, continuous professional development (CPD) policy framework in Botswana significantly undermines the growth and effectiveness of the teaching profession. The Botswana Teaching Professionals Council (BOTEPCO), mandated to promote continuing education and professional development, must accelerate the establishment of formalized Teacher Professional Standards and Competences, which are central to guiding CPD planning and evaluation. A robust policy framework would ensure CPD activities are

collaborative, reflective, ongoing, and closely linked to classroom realities. This framework would promote coherent standards and ethical practice, empower teachers as reflective professionals, and align CPD with Vision 2036's aim to build a globally competitive, knowledge-based workforce. Establishing such a policy is not only strategic but foundational, for without it, CPD remains fragmented and superficial; with it, CPD can become transformative, sustainable, and deeply impactful on both teaching quality and learner outcomes.

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