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Social Media Versus Learning Management Systems in Open Distance e-Learning: Platform Preferences Among Rural Pre-Service Teachers

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Abstract

This study examined rural pre-service teachers' preferences for online learning platforms, Telegram, WhatsApp, and Moodle discussion forums in the Open Distance e-Learning environment. This group of students experiences digital illiteracy, limited access to assistive technologies, and network challenges, which may prevent them from optimally utilising formal learning platforms such as Moodle. They can, however, use Telegram and WhatsApp, as they regularly engage informally on these platforms. Against this backdrop, this study explored rural pre-service teachers' experiences with Moodle and these social media platforms in an Open-Distance e-Learning space. This study employed a descriptive, qualitative case study with semi-structured interviews, guided by Siemens's Connectivism theory. Fifteen student teachers from the College of Education in an ODeL institution were purposively sampled to provide in-depth insights into their lived experiences of platform use. The findings revealed that, although each platform served a unique instructional function, their perceived professionalism, safety, and interactivity differed substantially. Social media platforms such as Telegram and WhatsApp were lauded for their immediacy, accessibility, and low bandwidth usage, chiefly among rural pre-service teachers from economically disadvantaged communities. However, participants perceived these platforms as unprofessional, disruptive, and unsafe. Conversely, Moodle's discussion forum was viewed as a credible, structured space that fostered academic discipline through the presence and guidance of lecturers. These contrasting perceptions highlight tensions between accessibility and academic regulation within ODeL environments. Although prior studies support incorporating social media platforms into LMSs, this research extends this discourse by emphasising the need to balance accessibility, interaction, and academic integrity within resource-constrained contexts. The study concludes that social media platforms and discussion forums can complement each other in ODeL, encouraging student interaction and inclusion, while discussion forums ensure educational rigour, safety, and institutional integrity.

Keywords: rural pre-service teachers; Moodle; ODeL; Telegram; WhatsApp

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1. Introduction

Research consistently indicates that students frequently migrate from formal Learning Management Systems (LMSs) to social networking sites (SNSs) such as Facebook for communication and collaborative learning (Vázquez-Cano & Díez-Arcón, 2021). While LMS platforms remain central to online education delivery, they are often perceived as rigid and

lacking the social presence required to support meaningful peer interaction, prompting students to prefer SNSs for engagement and informal learning (Vázquez-Cano & Díez-Arcón, 2021). This migration raises important pedagogical and equity questions concerning the alignment between institutional digital infrastructures and students' engagement habits.

In response to this challenge, several studies have explored the integration of social media functionalities into LMS environments. Notably, Ebner et al. (2016) developed a Social Media Format (SMF) plugin for Moodle that incorporated real-time updates, comment threads, and notification systems similar to those found on popular social media platforms. The integration resulted in increased student motivation, enhanced engagement, and improved awareness of peer activity, highlighting the pedagogical value of socially oriented LMS design.

The importance of social interaction in online learning is further supported by studies employing social network analysis (SNA) in blended learning contexts. Findings reveal that students who actively engage with peers in online discussion forums tend to achieve higher academic performance, suggesting that socially interactive LMS environments can enhance both learning outcomes and data-driven student support mechanisms (Yang et al., 2017). These findings align with connectivist perspectives, which accentuate learning as a socially mediated and networked process.

Despite these advancements, concerns persist regarding the usability and effectiveness of LMS platforms within Open Distance e-Learning (ODeL) contexts. Previous studies have noted that LMS interfaces are often not sufficiently user-friendly, limiting their optimal use for teaching and learning (Andrews & Tynan, 2012). In an era characterised by widespread social media use, students increasingly expect LMS platforms to mirror the functionality, accessibility, and interactivity of social networking applications (Lehong et al., 2019). Lehong et al. (2019) further argues that LMS platforms remain underutilised and that their integration with social media tools could significantly enhance the quality of ODeL provision. However, limited research has examined how these dynamics unfold specifically among rural pre-service teachers in resource-constrained ODeL settings.

Among these tools, Telegram has gained attention as a cost-effective and flexible platform capable of supporting file sharing, group discussions, and the dissemination of educational content. Studies identify Telegram as particularly suitable for ODeL contexts due to its affordability, low data consumption, and interactive features (Alqudah & Al-Smadi, 2022). Similar recommendations regarding the pedagogical potential of social media tools in distance education have been advanced by Sevnarayan (2023) and other scholars. However, questions remain regarding the implications of such platforms for academic regulation, professionalism, and institutional integrity.

Within the institution under study, ongoing disruptions associated with the Fourth Industrial Revolution (4IR) and the COVID-19 pandemic prompted a strategic review of its digital learning infrastructure. The previous LMS was found to be constrained by capacity, performance, and reliability limitations, as well as an inability to support advanced interactivity and innovative assessment practices. Consequently, the institution transitioned to Moodle (Modular Object-Oriented Dynamic Learning Environment), a globally established LMS launched in 2002, to better support teaching and learning in ODeL contexts (University of South Africa, 2022). This shift provides a critical context for examining how students navigate between formal institutional platforms and familiar social media environments. While these studies provide valuable insights, they are largely situated in well-resourced contexts, with limited attention to rural ODeL contexts in the Global South.

Against this background, the present study sought to explore rural pre-service teachers' online learning preferences and experiences, specifically comparing Moodle discussion forums with the social networking platform Telegram and the widely used messaging application WhatsApp. Rural pre-service teacher education remains critical to developing a competent teaching workforce capable of advancing national education goals (DHET, 2014). However, technological advancement in higher education must not further marginalise historically under-resourced and rural student populations (Ngubane, 2020). Understanding how rural pre-service teachers experience and navigate both formal and informal online learning platforms is therefore essential for promoting inclusive, equitable, and effective ODeL practices.

Grounded in Siemens's Connectivism, which conceptualises learning as the formation and navigation of networks, this study examines how rural pre-service teachers construct, perceive, and prioritise digital learning spaces in ODeL. This study, thus, tackles the following research question: Which online learning platform—WhatsApp, Telegram, or Moodle discussion forums—is preferred by rural pre-service teachers in an ODeL environment, and how do they justify these preferences? This research question is aligned with a qualitative case study design, as it seeks to explore in-depth experiences and perceptions rather than test hypotheses or establish causal relationships.

2. Literature Review: Rural Pre-Service Teachers in an ODeL Environment

Rapid technological advancements have accelerated the adoption of diverse pedagogical strategies and online learning tools within Open Distance e-Learning (ODeL) environments. This shift has intensified scholarly debate regarding the effectiveness of formal Learning Management Systems (LMSs), such as Moodle, in comparison with social media and messaging platforms, including Telegram, WeChat, and WhatsApp, as tools for teaching and learning in ODeL contexts (Bond et al., 2021). Central to this debate is the tension between institutional control and student-centred digital habits. This tension reflects a broader pedagogical shift in ODeL environments, where institutional platforms prioritise standardisation, monitoring, and assessment, while students increasingly gravitate towards informal, socially embedded digital spaces that support immediacy, collaboration, and peer-driven learning (Ssekiziyivu et al., 2023).While these developments present opportunities for innovation, scholars caution that technological progress must not exacerbate existing inequalities or further marginalise vulnerable student populations (Ngubane, 2020). Digital inequality is a prevalent challenge in ODeL environments, specifically in the Global South. van de Werfhorst et al. (2022) posit that inequalities in access to technological tools, connectivity, and digital literacy greatly shape students' ability to engage meaningfully with Learning Management Systems and other online platforms. Likewise, Helsper (2021) argues that digital inclusion must not only be considered in terms of access, but must also take into account skills, usage, and outcomes. These dimensions are specifically relevant for rural pre-service teachers, whose engagement with online learning platforms is often mediated by structural restrictions.

This concern is particularly salient for rural pre-service teachers, who often reside in contexts characterised by limited communication infrastructure, restricted access to digital devices, and high data costs (Zwane & Mudau, 2024). Within the context of South Africa, these structural limitations are made worse by the 'digital triage' rural students must perform (Czerniewicz et al., 2020). Unlike urban students with stable internet connectivity (fiber/5G connection), rural pre-service teachers usually suffer from 'data-poverty' and the unstable nature of energy infrastructure, such as load-shedding, which makes high-bandwidth LMS platforms inaccessible during peak study hours (Ngubane, 2020).

Therefore, the preference for social media is not just a user-experience choice but a well-considered coping mechanism (Mpungose, 2020). Platforms like Telegram and WhatsApp use asynchronous, low-bandwidth protocols that allow messages to 'trickle through' even on 2G or unstable 3G networks, guaranteeing that learning remains continuous when the formal LMS times out due to internet connectivity issues (Mpungose, 2020; UNESCO, 2023). These structural restrictions shape not only access to digital platforms but also patterns of participation and engagement. Given the central role of pre-service teachers in shaping the future of national education systems, ensuring equitable access to effective and inclusive ODeL platforms is critical (UNESCO, 2023). Consequently, understanding how rural pre-service teachers experience and navigate both formal and informal online learning platforms is essential for advancing inclusive teacher education within digitally unequal contexts. From a theoretical perspective, these dynamics can be perceived through Connectivism, which states that learning occurs through networks of information, technologies, and social connections (Siemens, 2005). In ODeL contexts, knowledge is propagated across digital platforms, and students must navigate, sift, and connect information from numerous sources. For rural pre-service teachers, this process is shaped not only by cognitive engagement but also by access to digital technologies, connectivity, and peer networks. Therefore, both Learning Management Systems and social media platforms serve as nodes within broader learning networks, allowing students to build knowledge together in spite of their spatiality and structural limitations (Greenhow et al. (2022). However, these nodes are not equally accessible or functional for all students, especially in rural environments, where structural inequalities shape how and why certain platforms are preferred over others (Czerniewicz et al., 2020). In spite of these perceptions, much of the existing literature is located in urban or well-resourced institutional environments, with limited focus on rural students who negotiate unique structural and digital inequalities. Thus, the transferability of these findings to rural ODeL contexts remains vague.

2.1. Learning Management Systems and Early Online Platforms

Early ODeL research strongly emphasised the role of LMSs as formal, structured environments that support knowledge construction, learner engagement, and academic communication. Studies examining interaction dynamics in Massive Open Online Courses (MOOCs) and online discussion forums demonstrate that sustained engagement is more likely to occur in structured LMS environments than in loosely organised social media spaces (Gašević et al., 2023; Rasheed et al., 2020). Additionally, Avci and Ergün (2022) established a positive relationship between increased participation in LMS-based discussions and improved academic performance, highlighting the pedagogical value of controlled peer interaction and critical reflection.

Comparative studies have reinforced these findings. Z. Sun et al. (2018), using social network analysis at a Chinese university, compared Moodle discussion forums with the social media platform WeChat. Their findings revealed that WeChat supported rapid and frequent interaction, reflected in higher network density values, whereas Moodle facilitated more focused, instructionally driven engagement. While students preferred WeChat for communication and social bonding, Moodle was perceived as more suitable for academically rigorous discussions. The study concluded that although social media platforms enhance immediacy and social presence, their academic effectiveness depends on deliberate pedagogical structuring. These findings suggest that structured LMS environments may better support sustained cognitive engagement, even when students express preference for more socially dynamic platforms. However, such inferences usually emerge from well-resourced environments and may overlook the practical limitations students from rural communities where there are scarce resources encounter, where access challenges

may restrict meaningful engagement with LMS platforms (Selwyn, 2020). Additionally, the findings align with broader research indicating that LMS platforms are effective in the facilitation of structured learning pathways, assessment integration, and lecturer-led engagement (Al-Fraihat et al., 2020; Turnbull et al., 2021). However, critiques of LMS environments highlight restricted flexibility and reduced student autonomy when compared to other online learning platforms (Mpungose, 2021; Almahasees et al., 2021).

2.2. Social Media and Messaging Platforms in Tertiary Education

The widespread adoption of instant messaging platforms has prompted educators to explore their pedagogical potential within formal learning contexts. Mpungose (2020), in a South African university context, investigated the use of Moodle and WhatsApp among first-year Physical Sciences students—a pattern that remains evident in more recent studies of digital learning ecologies in higher education (Mpungose, 2020). The study found that while students were highly familiar with WhatsApp and regularly used it informally, its educational value depended on intentional curriculum integration. Moodle, in contrast, supported immersive learning through structured and moderated activities. Mpungose (2020) proposed the Non-formal, Formal, Informal (NFI) e-learning model, which conceptualises learning as occurring across interconnected digital spaces that require careful pedagogical alignment. This model highlights the need to comprehend how an assortment of digital environments interacts rather than operate in seclusion. Additionally, the move toward social media represents a shift toward 'pedagogical flexibility' (Greenhow et al., 2022). Although the LMS fulfils the institutional need for archiving and auditing, social media fulfils the student's need for 'just-in-time' learning (Perez et al., 2023). For rural pre-service teachers, who are usually isolated from university campus support structures, the instantaneity of messaging platforms bridges the 'transactional distance' inherent in ODeL (Moore, 1993). Thus, the implication is that social media platforms act as an 'affective bridge,' bringing about the social presence and instantaneous feedback loops that are usually diluted in the more structured, asynchronous architecture of formal Learning Management Systems (Sobaih et al., 2020).

Similarly, Dahdal (2020), in a study conducted in the United Arab Emirates, found that WhatsApp enhanced participation and collaboration when embedded into course activities such as pre-lecture discussions and post-lecture reflections. However, unregulated use often resulted in superficial interactions. Extending this argument, Sobaih et al. (2020) contend that while social media platforms enhance accessibility and communication, their educational value is contingent upon instructional guidance and active instructor presence. Combined, these studies indicate that pedagogical structure—rather than platform type alone—determines the depth and quality of learning engagement. Nonetheless, in under-resourced environments, platform choice is usually propelled by less by pedagogical design and more by accessibility, affordability, and familiarity, making social media platforms pragmatically dominant despite their perceived academic constraints (Tadesse & Muluye, 2020). Recent studies foreground that social media platforms facilitate informal learning, peer support, and continuous communication that transcend formal instructional time (Greenhow et al., 2022). In developing country contexts, these platforms are often preferred due to their lower data consumption and widespread accessibility (Tadesse & Muluye, 2020). Conversely, challenges remain regarding distraction, lack of academic structure, and in upholding academic integrity (Lancaster & Cotarlan, 2021).

2.3. Telegram as an Online Learning Platform

More recently, Telegram has emerged as a prominent educational tool due to its intuitive interface, adaptability, and support for both synchronous and asynchronous learn-

ing (Sevnarayan, 2023). Pereira Varela (2019) conducted a longitudinal study examining students' experiences with Moodle and Telegram over three academic years. Although students consistently preferred Telegram for its immediacy and ease of use, Moodle-based discussions demonstrated greater depth, academic focus, and cognitive engagement. This aligns with current research suggesting that informal messaging platforms increase participation and responsiveness, whereas LMS environments better support structured dialogue and higher-order cognitive engagement (Avci & Ergün, 2022).

Subsequent comparative studies corroborate these findings. Estrada-Molina et al. (2022) reported that Telegram enhanced motivation, enjoyment, and immediacy, while Moodle fostered critical thinking and epistemic engagement. The asynchronous nature of Moodle discussion forums enabled students to reflect on content and provide considered feedback, thereby supporting deeper learning. Similarly, Imamyartha et al. (2023), in a mixed-method study within a Content and Language Integrated Learning (CLIL) context, found that while both platforms supported collaborative knowledge construction, Moodle facilitated sustained academic engagement and complex language use, whereas Telegram promoted spontaneity, social presence, and peer bonding. From a connectivist perspective, Telegram can be considered as a flexible learning node that enables real-time interaction, resource sharing, and network expansion among students. Its features enable students to partake in distributed knowledge systems, where learning is not limited to institutional platforms but happens across interconnected digital platforms (Amin & Sundari, 2020). For rural pre-service teachers, this flexibility aligns with adaptive learning practices, enabling the students to engage with content and peers in spite of spatial and technological constraints (Ngubane, 2020). These patterns constantly mirror a trade-off between immediacy and depth across digital platforms.

Beyond comparative analyses, several studies have examined Telegram's specific educational affordances. Research by Sari and Wahyudin (2021) highlights Telegram's capacity to support personalised and interactive learning through multimedia sharing, bots, and quizzes. Amin and Sundari (2020) further note that Telegram facilitates communities of practice that encourage peer-to-peer learning and knowledge sharing. Shadiev and Yang (2020) emphasise its suitability for microlearning, while Mansor and Rahim (2020) underscore its low data consumption, making it particularly accessible for students from marginalised and resource-constrained contexts—a critical consideration in developing countries such as South Africa. In spite of these affordances, limited empirical work has investigated how rural pre-service teachers interpret Telegram's role relative to LMS platforms approved by the institutions in the ODeL contexts (Czerniewicz et al., 2020). This foregrounds a critical need for studies that highlight student voice and lived experience in contexts where there are scarce resources.

2.4. Digital Agency and the "Shadow Learning" Landscape

An increasing area of ODeL literature focuses on 'shadow learning'—the self-organised, student-led digital spaces that exist outside the formal institutional structures (Asino et al., 2021). For rural pre-service teachers, these platforms embody a form of digital agency, where students avoid the structured hierarchies of the LMS to establish student-to-student support networks on platforms like Telegram and WhatsApp. This trend aligns with the 'Community of Inquiry' framework, which highlights social, teaching, and cognitive presence (Garrison et al., 1999). In rural environments, social presence is often more easily cultivated on familiar social media platforms than within the rigid environment of a formal LMS (Sevnarayan, 2023).

Additionally, these 'shadow' spaces are conducive for a more culturally and linguistically responsive pedagogy. Although the institutional LMS usually dictates a specific academic register (usually English), social media platforms allow rural students to use translanguaging—switching between home languages and English—to navigate difficult academic concepts (Ngubane, 2020). By using social media as a linguistic and social 'safe space,' rural pre-service teachers show a sophisticated level of self-directedness and digital resilience, effectively constructing knowledge together in ways that the formal LMS is not currently designed to capture (Czerniewicz et al., 2020).

2.5. Instructional and Inclusivity Implications

Collectively, the literature suggests a complementary relationship between social media platforms and LMSs. While platforms such as WhatsApp, WeChat, and Telegram enhance social presence, immediacy, and accessibility, LMSs like Moodle remain central to structured academic learning, reflective engagement, and knowledge construction. Alqudah and Al-Smadi (2022) argue that Telegram's student-centred design aligns with contemporary instructional models that prioritise flexibility, interaction, and inclusivity.

However, Ngubane (2020) cautions that technological innovations in ODeL must not disadvantage historically marginalised groups, particularly rural students. Ensuring inclusive access to infrastructure, affordable connectivity, and digital literacy support remains critical to preventing the widening of educational inequalities. What remains underexplored is how rural pre-service teachers themselves negotiate these competing affordances—balancing accessibility, professionalism, academic integrity, and interaction—within their lived ODeL experiences.

Even though there is growing research done on LMSs and social media in education, limited research explicitly examines how rural pre-service teachers in ODeL contexts actively navigate, prioritise, and incorporate these platforms within their learning practices. This gap is especially significant in the Global South, where structural inequalities essentially dictate digital engagement.

Finally, from a behavioural standpoint, platform preference can also be understood through the Technology Acceptance Model (TAM), which states that perceived usefulness and perceived ease of use shape technology adoption. From a TAM viewpoint, the 'Perceived Ease of Use' of Telegram for rural users is fundamentally connected to its 'low-friction' entry point (Scherer et al., 2019). Different from the LMS, which often requires multiple authentication steps and high-RAM browser environments, Telegram's cloud-based storage supports seamless sharing of large PDF resources and video clips without being too demanding on the limited local storage of basic-level smartphones (Mansor & Rahim, 2020). This technical affordance directly influences the 'Perceived Usefulness' for pre-service teachers, who perceive the platform as a portable, permanent resource storage that exists outside the university firewall, accessible even when they are off-campus or in remote teaching practice placements (Sari & Wahyudin, 2021; Imamyartha et al., 2023). In rural ODeL environments, these perceptions are often dictated by factors such as data costs, network accessibility, and familiarity with mobile technologies, thus influencing students' proclivity towards social media platforms over LMSs prescribed by tertiary institutions (Scherer et al., 2019).

Although extensive research on LMSs and social media in higher education, limited studies have examined how rural pre-service teachers in ODeL environments navigate and prioritise these platforms within conditions of structural inequality. This study addresses this gap by highlighting student experiences in resource-constrained rural environments.

2.6. Synthesis of the Literature Review

Overall, the literature indicates a need to move beyond platform comparison towards comprehending how students negotiate and integrate multiple digital environments within their learning practices. In rural ODeL environments, this involves exploring how issues of access, digital literacy, and socio-economic conditions intersect with platform affordances to shape learning experiences. Closing this gap is important for informing inclusive and context-responsive pedagogical strategies in tertiary education.

3. Theoretical Framework

Contemporary scholarship on online learning indicates that researchers continue to grapple with identifying a single, universally effective online tool or pedagogical approach for diverse learning contexts. Increasingly, the literature suggests that effective online learning is best supported through blended instructional models that integrate formal Learning Management Systems (LMSs) with informal social media and messaging platforms. Such models recognise learning as a socially mediated, networked process rather than a purely individual or platform-bound activity. This shift from platform-centric to network-centric understandings of learning necessitates a theoretical framework capable of explaining distributed, technology-mediated cognitive development.

In this regard, Siemens's (2005) theory of Connectivism provides a suitable theoretical lens for the present study. Connectivism conceptualises learning as a process that occurs within networks comprising interconnected individuals, digital tools, information sources, and technological systems. According to Siemens (2005), knowledge is distributed across networks, and learning consists of the ability to form, traverse, and sustain these connections. Changes within one part of the network inevitably produce ripple effects across the entire system, influencing how knowledge is accessed, constructed, and shared. Principles central to connectivism include the essence of diversity of opinions, the role of non-human appliances (such as digital platforms) in storing knowledge, the ability to recognise connections between nodes and ideas, and the ability to make decisions in an environment of swiftly changing information.

Social networking platforms operate on the foundational principles of connectivism, enabling connections among people, groups, and digital entities to create integrated learning ecosystems. In online learning environments, students increasingly rely on Web 2.0 technologies—such as Moodle, WhatsApp, Telegram, Zoom, Teams, and YouTube—to interact, collaborate, and construct knowledge collectively (Greenhow et al., 2022). This inclination toward connectivity, interaction, and socialisation aligns strongly with connectivist assumptions that learning is enhanced through participation in dynamic, technology-mediated networks. Unlike traditional constructivist perspectives that foreground individual meaning-making, connectivism overtly recognises digital platforms as active nodes within learning systems, thus making it particularly appropriate to technology-rich ODeL environments.

Within the ODeL context, particularly among rural pre-service teachers, connectivism offers a valuable framework for understanding how learners navigate both formal and informal digital spaces. Rural students often gravitate toward social media platforms due to their immediacy, accessibility, and low data requirements, while simultaneously engaging with LMSs such as Moodle for structured academic learning. From a connectivist perspective, both platforms function as nodes within a broader learning network, each contributing distinct affordances to the learning process. Examining platform preference through this lens allows for analysis not just of usage patterns, but of how students strategically position themselves within interconnected digital ecosystems shaped by access, cost, and perceived academic legitimacy.

Connectivism further emphasises that learning occurs in rapidly changing knowledge environments, where information is continuously evolving. Consequently, learners' capacity to identify relevant information, discern its significance, and adapt their understanding in response to new inputs becomes critical (Siemens, 2005). This aspect of the theory is particularly pertinent in digital learning environments characterised by constant interaction and information flow. As reflected in the literature reviewed earlier, social media platforms are strong proponents of immediacy and connectivity, while LMS-based discussion forums support reflection, coherence, and academic depth. These varying affordances imply that effective knowledge-building may depend on how students navigate and integrate multiple networked environments rather than on dependence on a single platform.

Guided by Connectivism, this study therefore seeks to understand rural pre-service teachers' online learning experiences through Moodle discussion forums, and Telegram and WhatsApp, viewing both platforms as interconnected components of a broader digital learning network. The theory informed the development of interview questions focusing on connectivity, interaction patterns, perceived knowledge building, and platform affordances. It also guided the thematic analysis by framing digital platforms as nodes within a distributed learning system rather than as isolated tools. The theory provides an appropriate lens for examining how accessibility, interaction, and structure intersect to shape learning experiences in ODeL contexts, especially for students in rural and under-resourced settings.

4. Methodology

4.1. Research Design

This study assumed a qualitative descriptive case study design. A case study approach was appropriate because it allowed for an in-depth exploration of rural pre-service teachers' experiences of using Moodle discussion forums, WhatsApp, and Telegram within a bounded ODeL institutional context. The qualitative design enabled the researcher to capture participants' lived experiences and meaning-making processes in relation to digital platform use. All participants were drawn from rural areas across KwaZulu-Natal, a predominantly rural province in South Africa comprising eleven districts. Participants were selected from all eleven districts to ensure geographical diversity and to capture a broad range of rural learning experiences within the ODeL context. There were fifteen selected rural pre-service teachers involved in this study and they were all enrolled at the ODeL institution.

4.2. Sampling and Participant Recruitment

Purposive sampling was used to select participants who could provide rich and relevant insights into online learning experiences within a rural ODeL context. Purposive sampling was deemed suitable because the study required participants with direct experience using Moodle discussion forums, WhatsApp, and Telegram for academic engagement.

Participants had to meet the following criteria to be included in the study:

(1) they had to be registered pre-service teachers at the selected ODeL institution;
(2) they had to originate from rural areas within KwaZulu-Natal; and
(3) they had to have experience using Moodle discussion forums and/or social media platforms such as WhatsApp and Telegram for learning purposes.

Participants were identified through existing student registry and academic communication platforms within the College of Education. Potential participants were contacted telephonically and digitally (e-mail) and were provided with information pertaining to the purpose of the study, voluntary participation, and ethical considerations. Those who showed willingness to participate were then recruited for the study.

Fifteen rural pre-service teachers from the eleven districts of KwaZulu-Natal took part in the study. The sample size was deemed sufficient for an in-depth qualitative case study on account of the fact that the study prioritised depth of comprehending rather than statistical generalisation. Data collection proceeded until adequate depth and thematic saturation were achieved, with no substantially new insights emerging from later interviews.

4.3. Data Collection and Instruments

Data collection, sampling, and analysis procedures were aligned with the qualitative case study design and steered by the study's theoretical framework (Connectivism), making sure there was coherence across all methodological components.

Semi-structured interviews were employed as the primary data collection method. Interviews are central to case study research, as they allow researchers to capture participants' perspectives, meanings, and lived experiences in depth (Denscombe, 2014). According to Johnson and Christensen (2012), qualitative interviewing enables researchers to access participants' subjective worlds and understand phenomena from their viewpoints.

In this study, interviews were used to elicit rural pre-service teachers' experiences of e-learning and their use of Moodle and social media platforms. Fifteen (15) participants took part in telephonic interviews lasting between 30 and 45 min. All interviews were audio-recorded with participants' consent and subsequently transcribed verbatim for analysis. Potential limitations associated with telephonic interviewing were considered, and measures were taken to ensure clarity, consistency, and credibility of the data.

4.4. Data Analysis

The data were analysed using Braun and Clarke's (2019) six-phase thematic analysis framework. Thematic analysis was deemed suitable because it allowed the researcher to identify, analyse, and interpret recurring patterns of meaning across participants' experiences of employing Moodle discussion forums, WhatsApp, and Telegram within an ODeL context.

The analysis process started with repeated reading of the interview transcripts to enable familiarisation with the data. During this stage, the researcher listened to audio recordings while reviewing the transcripts to guarantee transcription accuracy and delve into participants' experiences. Initial observations and reflective notes were recorded throughout this process.

Afterwards, open coding was conducted manually by identifying significant statements, recurring ideas, and meaningful segments of text related to participants' experiences of platform use, accessibility, interaction, professionalism, safety, and learning engagement. Codes were produced inductively from the data rather than being predetermined. Examples of initial codes included "instant responses," "lecturer guidance," "privacy concerns," "low data usage," "scams," "academic professionalism," and "copy-and-paste behaviour."

The initial codes were then compared, grouped, and refined into broader categories based on conceptual similarities and recurring patterns across participants' responses. Through an iterative process of continual comparison, connected categories were combined to form overarching themes that depicted shared meanings within the data set. At this stage, the researcher constantly moved between the coded extracts and the full data set to guarantee that the developing themes precisely mirrored participants' accounts.

The themes were further reviewed and refined to ensure internal coherence and vivid distinction between themes. As a result of this process, four themes formed: (1) Professionalism and Credibility of Learning Platforms, (2) Interactivity, Responsiveness, and Accessibility, (3) Privacy, Safety, and Online Conduct, and (4) Complementary Use of Mul-

tiple Platforms. To align themes with participants' narratives and the study's research question, the theme names were revised repeatedly.

Connectivism guided the interpretation of the findings by framing Moodle discussion forums, WhatsApp, and Telegram as interconnected nodes within wider digital learning networks. The theory helped in interpreting how participants negotiated multiple online platforms to sustain interaction, accessibility, and knowledge-sharing within resource-scarce rural ODeL environments.

4.5. Trustworthiness and Credibility

To heighten trustworthiness, coding decisions and theme development were constantly reviewed against the raw interview data to ensure consistency and credibility. Word-for-word quotations were retained to maintain participants' voices and provide evidence for analytic interpretations. Credibility was further strengthened through triangulation with relevant literature and verification with selected university staff members. Member checking was also conducted by sharing aspects of the findings with some participants to confirm accuracy and interpretation (Creswell & Creswell, 2022).

5. Results

The analysis of participants' responses revealed diverse perceptions and experiences regarding the use of online learning platforms, particularly Moodle discussion forums, Telegram, and WhatsApp. Participants reported using multiple platforms simultaneously for academic purposes, with each platform offering distinct affordances and limitations. Four key themes emerged from the data: (1) Professionalism and Credibility of Learning Platforms, (2) Interactivity, Responsiveness, and Accessibility, (3) Privacy, Safety, and Online Conduct, and (4) Complementary Use of Multiple Platforms.

5.1. Theme 1: Professionalism and Credibility of Learning Platforms

The data revealed that while most participants used Telegram and WhatsApp alongside Moodle discussion forums, the platforms were perceived differently in terms of professionalism and academic credibility. Several participants viewed social media platforms as informal and lacking academic discipline.

Participant TN8 noted,

> "I use WhatsApp and Telegram sometimes to interact with other students. WhatsApp and Telegram aren't very professional. I have never found any unprofessional conduct on discussion forums."

Similarly, TP18 expressed concern about the unregulated nature of social media platforms:

> "On WhatsApp and Telegram, it is anybody's game. People say whatever they want to say... people are asking for money for assignments they are selling, and they get scammed. Plagiarism then becomes a problem."

While acknowledging the usefulness of social media platforms for quick access to information, some participants still preferred Moodle discussion forums due to their credibility and lecturer oversight. TP22 explained:

> "Telegram is very useful... you get an instant response. But for accuracy and credibility, I prefer a discussion forum because it is more controlled. It is lecturers who can guide us."

The presence of lecturers emerged as a key factor contributing to the perceived professionalism of discussion forums. TN3 stated:

> "I use Telegram, but I prefer the discussion forum because there is a lecturer on the platform who can guide us; on Telegram, there is not."

Some participants also associated professionalism with the ability to concentrate and engage deeply with learning. TP22 remarked:

> "The phone is very annoying when you try to concentrate. Messaging apps keep the phone busy, making it hard for me to focus."

5.2. Theme 2: Interactivity, Responsiveness, and Accessibility in Learning Platforms

Interactivity and response time strongly influenced participants' platform preferences. Several participants favoured Telegram for its immediacy and rapid peer feedback, particularly compared to the delayed responses on discussion forums.

Participant TP12 stated:

> "When you pose a question on the discussion forum, they take forever to respond, but on Telegram, the response is instant."

These sentiments were echoed by several participants (TN7, TP20, TN6, TP17, TP19, TP2, TP13, TP22, TP15, TP14), highlighting responsiveness as a critical factor in platform selection.

However, other participants emphasised that the two platforms served different instructional purposes. TP16 explained:

> "Discussion forums and Telegram serve different purposes. On discussion forums it is formal—you are telling the lecturer this is how much I know, guide me. Telegram is more like a study group."

Accessibility, particularly in relation to data usage, was another important consideration. TP17 noted:

> "Telegram and WhatsApp are easily accessible. I don't have to spend too much data to connect with my peers—it's not expensive at all."

5.3. Theme 3: Privacy, Safety, and Online Conduct

Concerns regarding privacy, safety, and ethical conduct were frequently raised in relation to social media platforms. Several participants expressed discomfort with exposing personal information, such as phone numbers, on WhatsApp and Telegram.

Participant TN4 explained:

> "Discussion forum is professional and doesn't involve your personal life. Socials expose your personal details like your number."

Participants also raised serious concerns about scams, academic dishonesty, and plagiarism on social media platforms. TN5 stated,

> "The problem with Telegram and WhatsApp is that you also find scammers there."

TP18 similarly highlighted:

> "People are selling assignments, and students get scammed. Plagiarism then becomes a problem."

However, some participants also raised concerns about unethical practices within Moodle discussion forums, particularly copy-and-paste behaviour. TP17 commented:

> "It defeats the learning purpose if students are allowed to copy and paste other students' responses."

Additionally, negative peer behaviour was reported on both platforms. TP23 described experiences of exploitation and bullying:

"On discussion forums students are parasites. . . On WhatsApp there is an element of bullying."

5.4. Theme 4: Complementary Use of Multiple Platforms

Despite contrasting perceptions, many participants viewed Moodle discussion forums and social media platforms as complementary rather than competing spaces. Participants reported strategically using different platforms for different learning purposes.

TP16 summarised this dual use effectively:

"Telegram is good for information exchange, while discussion forums are formal and guided by the lecturer."

Overall, all participants reported using Moodle's discussion forums, Telegram, and WhatsApp to support their learning, albeit for different reasons. Those who preferred social media platforms valued immediacy, accessibility, and peer support, while those who preferred discussion forums emphasised structure, credibility, and safety. The findings suggest that students navigate across platforms to balance interaction, inclusion, and academic integrity in the ODeL environment.

6. Discussion

This study revealed that rural pre-service teachers in an Open Distance e-Learning (ODeL) context relied on multiple digital platforms—Telegram, WhatsApp, and Moodle discussion forums—to support their learning. Rather than using a single platform exclusively, participants navigated across platforms, assigning each a distinct pedagogical function. This multi-platform navigation reflects a networked approach to learning aligned with connectivist assumptions that knowledge is propagated across interconnected digital nodes. Social media platforms such as Telegram and WhatsApp were valued for immediacy, rapid peer interaction, and access to shared learning materials. However, these platforms were also widely perceived as unprofessional, disruptive, and unsafe, exposing students to risks such as scams, privacy violations, and plagiarism. In contrast, Moodle discussion forums were viewed as formal, credible, and academically structured learning spaces, largely due to the visible presence and guidance of lecturers, which promoted accountability and discipline.

The perceived disruptive nature of social media platforms emerged strongly in the findings. Several participants expressed reluctance to use mobile phones and messaging applications for academic purposes, citing constant notifications and unrelated social interactions that disrupted concentration. This finding aligns with Wali et al. (2020), who argue that while mobile devices can enhance learning, social media platforms are often discouraged by lecturers due to their distracting nature. Notably, this finding contrasts with studies advocating for LMS platforms to resemble or integrate social media functionalities to enhance engagement (Mpungose, 2020). The divergence suggests that, particularly in rural ODeL contexts, increased interactivity does not necessarily translate into improved academic focus or perceived professionalism. From a connectivist standpoint, this tension exemplifies that not all network connections are equally constructive; the quality and intentionality of connections sway learning outcomes.

Concerns related to privacy, safety, and ethical conduct further shaped participants' platform preferences. Social media groups were perceived as violating personal privacy, exposing users' contact details, and enabling unethical practices such as scamming and the sale of academic work. These concerns resonate with Livingstone et al. (2020), who caution that social media use in education may expose both students and lecturers to privacy breaches and inappropriate conduct. Once again, this finding challenges literature promoting the seamless integration of social media into LMS environments (Mpungose, 2020),

suggesting that issues of safety and ethics remain significant barriers to such integration. For rural students learning in environments that have digital challenges, these risks are magnified, emphasising the importance of institutional safeguards within ODeL systems.

Conversely, Moodle discussion forums were widely perceived as safer and more credible learning environments. Participants attributed this to the platform's structured design, institutional control, lecturer presence, and protection of personal information. This finding supports Kier and Ives (2022), who argue that Moodle facilitates academic integrity, ethical conduct, and data security. However, participants also identified plagiarism within discussion forums, particularly through coping and pasting peers' responses. This highlights a critical tension between structural control and actual academic practice, echoing recent concerns regarding plagiarism in online learning environments (Mason & Platt, 2021). These findings underscore the need for explicit guidance on academic integrity, citation practices, and meaningful participation in online discussions. Additionally, they show that technological structure alone cannot guarantee ethical engagement without instructional intervention.

Another salient finding relates to the presence of 'hitchhikers' in discussion forums—students who access content but do not actively contribute. This observation aligns with A. Sun et al.'s (2022) concept of hitchhiking in group work. While such behaviour was viewed negatively by some participants, existing research suggests that passive engagement does not necessarily indicate the absence of learning. Brunton et al. (2022) argue that students may engage cognitively with content without posting contributions, and learning can still occur through observation. This perspective challenges conventional metrics of engagement that equate participation solely with visible interaction, such as posting frequency (A. Sun et al., 2022). Through the lens of connectivism, even marginal participation signifies a form of networked learning, as exposure to shared knowledge contributes to the reinforcement of cognitive connections.

From a theoretical standpoint, these findings resonate with social constructivist perspectives that emphasise learning as a socially mediated process guided by instructor facilitation (Lave & Wenger, 1991). Discussion forums, through structured interaction and lecturer guidance, align with constructivist pedagogy by fostering collaborative knowledge construction (Rasheed et al., 2020). However, as Li (2021) note, online students often engage for academic rather than social reasons, which may explain limited participation beyond task-oriented interaction. Although constructivism explains the collaborative dimension of learning, connectivism expands this understanding by considering the role of online platforms themselves as active agents within distributed learning networks.

Importantly, the findings highlight the inclusivity potential of social media platforms for rural pre-service teachers. Telegram and WhatsApp were regarded as accessible and affordable, particularly for students from under-resourced communities with limited connectivity and financial constraints. This finding aligns with Mansor and Rahim (2020), who identified Telegram's low data consumption as a key factor in promoting inclusion among marginalised student populations. In the South African context, where rural students often face persistent digital inequalities, such affordability remains a critical consideration. Therefore, platform preference cannot be conceived only in instructional terms but must also be understood through the lens of digital equity and structural access constraints.

Overall, the findings suggest that Moodle discussion forums and social media platforms function most effectively as complementary rather than competing learning spaces. Social media platforms support immediacy, peer interaction, and inclusion, while discussion forums provide academic structure, credibility, and institutional oversight. However, safety, ethical conduct, and academic integrity remain critical concerns across both platforms. Consistent with recent literature, these findings underscore the importance of clear institutional

policies, lecturer presence, and explicit guidance to ensure that online learning environments promote meaningful engagement without compromising academic integrity (Mason & Platt, 2021). Theoretically, the study contributes by indicating how rural pre-service teachers strategically navigate interconnected digital intersections, balancing accessibility, legitimacy, and pedagogical structure within ODeL environments.

7. Conclusions

This study concludes that while social media platforms such as Telegram and WhatsApp serve as powerful catalysts for peer-to-peer interaction and inclusion—particularly for rural pre-service teachers and other historically marginalised groups—they also introduce significant challenges related to safety, privacy, professionalism, and academic integrity. Their accessibility, low data consumption, and immediacy make them attractive learning spaces; however, the absence of institutional regulation and formal governance mechanisms exposes students to risks such as misinformation, plagiarism, and online exploitation.

In contrast, Moodle discussion forums were perceived as structured, credible, and ethically governed learning environments. The presence of lecturers and institutional oversight enhanced academic discipline, accountability, and the quality of engagement. Nevertheless, limited responsiveness and instances of passive participation reduced their perceived interactivity and immediacy for some students. These findings suggest that neither platform is sufficient in isolation to fully address the pedagogical, ethical, and contextual demands of rural ODeL environments.

Overall, the study demonstrates that social media platforms and LMS-based discussion forums play complementary roles within Open Distance e-Learning. Social media platforms enhance accessibility, immediacy, and peer support, while discussion forums sustain academic rigour, guided interaction, and institutional integrity. Effective ODeL provision therefore requires a balanced and intentional integration of both platform types, underpinned by strong digital literacy practices, ethical guidance, and active pedagogical facilitation that is responsive to the realities of rural and under-resourced contexts.

8. Recommendations

Based on the findings of this study, the following recommendations are proposed:

8.1. Intentional Pedagogical Integration of Platforms

ODeL institutions should adopt a blended digital engagement model that deliberately integrates social media platforms with LMS discussion forums. Social media platforms can be used for informal peer interaction, quick clarification, and community building, while discussion forums should remain the primary space for assessed academic engagement and knowledge construction.

8.2. Strengthened Lecturer Presence and Facilitation

Lecturers should maintain a visible and active presence in discussion forums to enhance interactivity, provide timely feedback, and discourage passive participation. Structured prompts, guided discussions, and regular moderation can reduce 'hitchhiking' behaviours and promote meaningful engagement.

8.3. Digital Literacy and Ethical Awareness Training

Universities should implement targeted digital literacy programmes for rural pre-service teachers, focusing on online professionalism, academic integrity, plagiarism avoidance, and safe digital practices. Such initiatives are critical for empowering students to navigate both formal and informal online learning spaces responsibly.

8.4. Clear Institutional Policies on Social Media Use

Institutions should develop clear guidelines for the academic use of social media platforms that outline acceptable conduct, privacy protections, and ethical standards. These policies should clarify the boundaries between informal support spaces and formal academic platforms.

8.5. Inclusivity-Oriented Platform Design

Given the affordability and accessibility of platforms such as Telegram and WhatsApp, institutions should consider inclusivity when designing digital learning strategies. Low-data, mobile-friendly solutions should be prioritised to ensure that rural and under-resourced students are not excluded from meaningful participation.

9. Limitations and Future Research

This study is limited by its qualitative case study design and small sample of rural pre-service teachers from a single ODeL institution, which restricts the generalisability of the findings. Data were based on self-reported interviews and may therefore reflect subjective perceptions or social desirability bias. In addition, the study focused only on students' perspectives and did not include lecturers' or institutional viewpoints, limiting a comprehensive understanding of pedagogical and policy-related influences. The contextual focus on rural South African students further means that findings may not fully translate to other ODeL settings with different infrastructural and socio-economic conditions.

Future research should employ larger-scale and mixed-method designs across multiple ODeL institutions to enhance generalisability. Studies incorporating lecturers' and instructional designers' perspectives would provide a more holistic view of platform integration and pedagogical practices. Longitudinal research could examine how engagement, academic integrity, and learning outcomes develop over time in blended platform environments. Further research is also needed to explore inclusive, low-data digital strategies that support under-resourced and marginalised students in developing country contexts.

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