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Digital divide and social justice in an open distance e-learning institution: Pre-service teachers in rural South Africa reflection on using Moodle as a learning management system

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Abstract

Learning Management Systems (LMSs) are a cornerstone of Open Distance and e-Learning (ODeL). Literature suggests that LMSs are presented as instruments for democratizing access to higher education. In South Africa, LMSs are particularly instrumental, given the country's legacy of apartheid and historical disparities in accessing higher education. However, limited empirical research has examined how first-year rural students experience LMS-mediated learning and its ramifications for social justice. Drawing on reflective journals from six purposively selected first-year pre-service teachers at a South African ODeL institution, this qualitative paper explores how the digital divide structures their engagement with Moodle, an LMS. Guided by Fraser's social justice theory, findings indicate that the digital divide extends beyond material access to include misrecognition of rural students' circumstances, limited pedagogical inclusion, and inflexible temporal structures embedded in LMS design. This contributes to assessment pressure, pedagogical disconnection, and social isolation. In this paper, we conceptualize the digital divide as structural violence surfacing from institutional arrangements that reproduce educational injustices. The paper argues that socially just e-learning in ODeL requires attention not only to technological provision but also to versatile pedagogy, temporality, and relational support that recognize rural students' unique existential realities in post-apartheid South Africa.

Keywords: Digital divide, E-learning, Learning management system, Moodle, ODeL, Rural education, Social justice.

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Contents

Contribution of this paper to the literature
The main contribution of this paper is to demonstrate how the digital divide in ODeL environments functions as structural violence, thwarting equitable learning for rural students. Through unreliable connectivity, inadequate digital infrastructure, and power outages. This reproduces and reinforces educational injustices in post-apartheid South Africa.

1. Introduction

In post-apartheid SA, ODeL has been positioned as central to the expansion of access to higher education due to its versatility, which is seen as favourable to geographically marginalised students predominantly situated in rural areas (Ghoulam, 2025; Tabe, Motala, & Chiramba, 2025). For Mahosi (2025), rural South Africa is characterised by geographical isolation and sparsely populated settlements shaped by the apartheid legacy of spatial injustice. Thus, to date, rural areas in SA are marked by limited access to essential services such as electricity, quality education, and digital infrastructure, as well as ongoing socio-economic neglect (Mahosi, 2025). In this sense, ODeL is frequently positioned as an instrument for addressing historical educational injustices. ODeL enables students to enrol and pursue higher education without physically relocating to attend on-campus lectures. Thus, ODeL situates teaching and learning, online discussion forums, and assessment on digital technologies (Haleem, Javaid, Qadri, & Suman, 2022). These digital technologies primarily include LMSs. In this paper, we specifically refer to Moodle. This offers an online space for pedagogical practices to unfold, rather than a traditional face-to-face method of teaching and learning (Letsapa, 2025). Moodle controls student participation and academic expectations by structuring access to learning materials, assessment schedules, and discussion forums. It is for this reason that various higher education institutions in SA have adopted LMSs such as Moodle. It facilitates and maintains asynchronous and synchronous learning through tools such as discussion forums, quizzes, assignment submission portals, and messaging systems (Sims, 2025). Arzu-Carmichael (2022) and Maclin (2022) describe Moodle as a flexible, self-directed, and just platform for educational participation. However, social justice scholars have warned against portraying LMSs (such as Moodle) as widely accessible platforms (Arzu-Carmichael, 2022; Maclin, 2022). For Qaddumi and Smith (2024), LMS-mediated learning is marked by hidden requirements for internet access, an undisturbed power supply, digital competency, and self-directed learning. These presumptions can significantly challenge effective educational engagement for students in rural areas, where digital infrastructure is often unreliable. Zwane and Mudau (2024) affirm this reality, stating that students in rural SA commonly experience limited access to suitable devices, intermittent connectivity, and exorbitant data costs, which thwart their sustained participation in LMS-mediated learning. It is conspicuous that the digital divide in SA intersects with historical infrastructural disparities and broader socio-economic injustices (Mwansa, Ngandu, & Mkwambi, 2025). As a result, students in rural South Africa sometimes have to make difficult choices between purchasing data for connectivity and meeting their basic needs, while also reorganising their study plans around electricity availability and stable network connectivity (Hendricks & Mutongoza, 2023). Such conditions expose that the digital divide is not only fixed to access. However, it extends beyond the temporal, relational, and pedagogical aspects of participation. Arguably, the digital divide functions as structural violence, invisibly and silently determining who advances to the next level in their educational outcomes and who is likely to remain behind (Shabangu & Jita, 2025). Against this backdrop, this paper explores how first-year rural PSTs experience Moodle-mediated learning within a South African ODeL institution. This paper conceptualizes the digital divide as a form of structural violence. It demonstrates how material disparities are embedded in institutional and pedagogical arrangements that systematically disadvantage certain groups of students. Building on this perspective, this study examines how the digital divide intersects with instructional practices, assessment methods, time constraints, and rural students' sense of belonging within the ODeL institution. Guided by the research question: *How do rural PSTs experience Moodle-mediated learning in an ODeL context, and what are the implications for social justice in higher education*? The study draws on reflective narratives to explore how LMS (Moodle) in ODeL contexts can widen access to higher education for traditionally marginalized communities, while simultaneously perpetuating social injustices when the unique realities of these communities are not adequately recognized.

2. Literature Review

2.1. Reframing the Digital Divide as Structural Violence

Traditionally, the digital divide has been framed in terms of inequalities in access to hardware, including computers and internet connections (van de Werfhorst, Kessenich, & Geven, 2022). However, contemporary studies have gone beyond the accessibility explanation to emphasise the institutional and structural dimensions of digital inequalities. Thereby, conceptualising the digital divide as structural violence that systematically limits participation in educational settings and other social spaces (Pajuste, 2025). For Shabangu (2025), structural violence is observed in educational settings through unequal access to educational resources, and it accounts for unequal educational opportunities, particularly in marginalised areas such as farms and rural settlements. Thus, within the ODeL South African context, unreliable power supply, insufficient and unpredictable internet connections, limited access to adequate digital devices, and the exorbitant cost of data constitute significant barriers to meaningful engagement with LMS (Ajani, 2025). Such existential impediments affect rural students' ability to participate in online learning activities, such as completing quizzes and assessments, engaging with content, and interacting with peers. Through the lens of structural violence, the digital divide is not an individual limitation. However, it is a long-lasting structural condition rooted in infrastructural inequalities and broader socio-economic constraints (Chiu, 2025). Drawing on Galtung (1969) seminal concept of structural violence, the digital divide in rural areas should be understood as an extension of structural violence. It is characterised by political, economic, and social arrangements that isolate rural students, reducing their educational engagement and reproducing patterns of subjugation within higher education. Therefore, such an understanding of the digital divide as a form of structural violence challenges higher education institutions to reimagine a socially just e-learning environment, underpinned by recognitive policy positions and pedagogical approaches that respond to the unique existential challenges of rural students in LMS-mediated learning.

2.2. Open Distance and e-Learning (ODeL) in South Africa

Higher education in SA is profoundly shaped by the legacy of colonialism and, more specifically, apartheid, with its discriminatory policies. Such as, admission to higher education institutions was racialised, and black students in particular were mainly restricted to historically disadvantaged universities (Makhanya, 2024). Hlatshwayo (2020) contends that these structural logics of racial exclusion persist in democratic SA and shape patterns of educational engagement and attainment. As a result, the democratic government has attempted to expand access to higher education as a key element of the broader social justice agenda. ODeL has emerged as a significant pathway for democratising participation, especially from historically marginalised communities such as rural communities (Mlambo, Mlambo, & Adetiba, 2021). ODeL primarily relies on digital technologies, such as LMSs, for teaching and learning across geographically dispersed locations (Mhlongo, Mbatha, Ramatsetse, & Dlamini, 2023). Sims (2025) notes that, within South Africa, ODeL has been positioned at the centre of teaching and learning to facilitate access to learning materials, resources, assessments, and academic communication, including announcements and institutional updates. LMSs such as Moodle organise content and learning conditions, including tools like online quizzes, assignment submission portals, and discussion forums. Gamage, Ayres, Behrend, and Smith (2019) present these tools as marked by flexibility, equitable participation, and self-directed learning. However, it is worth noting that the way Moodle is administered in the ODeL in SA assumes a blanket approach. In other words, one size fits all, through the assumption of reliable internet connections, uninterrupted power supply, digital competence, and self-directed learning. However, for numerous students in rural SA, such assumptions are far-fetched, given their misalignment with students' lived experiences in rural settlements. Studies show that rural students often face structural barriers to fully engaging with online learning (Hendricks & Mutongoza, 2023; Hlatshwayo, 2022; Majola & Mudau, 2022). These structural settings not only hinder students' ability to meet assessment due dates but also impede their engagement with peers and instructors in discussion forums. Thereby, compromising conducive online learning environments for these students. It is therefore evident that ODeL in SA represents optimism and democracy in enabling previously disenfranchised groups to access higher education. However, in its current shape, it can be argued that it actively reproduces disparities in pedagogical design. In addition, institutional support structures exacerbate these disparities by failing to acknowledge the socio-economic challenges faced by rural communities. While ODeL in SA holds the potential to expand access, it is worth noting that ODeL operates in a space where historical and systemic disadvantages are entrenched and perpetuated through digital injustices.

2.3. Rural Contexts and Digital Inequalities

The South African rural settlement presents unique constraints for LMS-mediated learning that are deeply rooted and shaped by the legacies of socio-economic and infrastructural disparities (Moonasamy & Naidoo, 2022; Nyathi, 2025). Mpungose (2020) observed that students in rural areas oscillate between community and family responsibilities, including walking long distances to fetch water from rivers, collecting firewood, herding cattle, and doing household chores. These competing realities directly contest students' time allocation for engaging with their learning materials. Thus, rurality within the South African context should not be interpreted as a geographic indicator. However, it ought to be understood as a protracted struggle for justice produced by colonialism and apartheid policies of land, forced removals, dispossession, and leading to the establishment of the former homelands (Afolabi & Ajani, 2023; Vibert, 2020). These homelands were intentionally underdeveloped and neglected by the apartheid regime. Historical injustices continue to determine who has access to quality education after three decades of democracy. In higher education, this reality is evident in rural students' limited capacity to participate adequately in ODeL. This increases the cost and uncertainty of participation in LMS-mediated learning (Ajani, 2025; Zwane & Mudau, 2024). Thus, comprehending rurality from a historical and relational perspective exposes that the digital divide in South African higher education is multifaceted and extends beyond access to encompass temporal pressures, teaching and learning, as well as socio-cultural marginalization. Such a vantage point affirms that when LMS-mediated learning is designed on the assumption of a stable electricity supply and reliable internet connectivity, it risks reproducing social injustices unless rural realities are recognized and incorporated into institutional planning and pedagogical practice.

3. Theoretical Framing

This paper is grounded on Fraser's framing of social justice, which advances recognition, redistribution, and representation as inherently intertwined conditions for accomplishing parity of participation (Fraser, 2008). According to Fraser, parity participation can be understood as a social setting in which institutionalised barriers that preclude some individuals from participating on an equal basis are eradicated to advance social justice. Social justice should not be understood as an outcome of isolated interventions; rather, it should be understood as an outcome of social arrangements that respond immediately to material conditions, cultural recognition, and political voices (Fraser, 2008). The meaningful contribution of Fraser's theory lies in the complementary nature of these three dimensions of social justice. They appear analytically distinct but are mutually constitutive. Furthermore, Fraser (2006) posits that the fight against injustices in modern societies cannot be limited to a single dimension; rather, representation, recognition, and redistribution are deeply interconnected and "stand in relations of mutual entwinement and reciprocal influence" (p. 79). Justice claims ought to be assessed by examining how inequalities in social participation are reproduced, maintained, and, at some point, contested across these intertwined dimensions. Fraser's (2008) multidimensional theory rejects narrow responses to injustice and proffers an expansive lens for comprehending engagements in an intricate institutional environment. Therefore, social justice is well-suited to critique LMS-mediated learning within the ODeL institution. Wherein communication and engagement are systematically organised through a digitally managed institutional framework. Within the ODeL context, engagement is not simply an individual operation. However, it is primarily shaped by assessment designs, pedagogical practices, and governance procedures. Thus, through a Nancy Fraser lens, LMS-mediated learning spaces can be understood as social environments in which engagements are actively structured and regulated, rendering them open to social justice analysis. The redistribution dimension of social justice attempts to sensitise the interpretation to the material and structural conditions that either create an enabling environment or constrain

engagement in LMS-mediated learning. At the same time, redistribution challenges scholars to rethink how institutions allocate resources and opportunities, and, more importantly, how these allocations influence rural students' ability to engage as peers in digital educational spaces (Fraser, 2008). Unlike viewing unequal engagements as a student's individual inability, the redistribution dimension centres on how institutional arrangements produce differentiated capabilities for engagement. In addition, the recognition dimension directs our attention to the cultural and symbolic dimensions of justice, particularly the extent to which institutional practices isolate others, excluding them from participating in LMS, while embracing and affirming others (Fraser, 2008). In addition, the recognition dimension allows for the assessment of how institutional assumptions about students shape which experiences are considered legitimate and which are rendered invisible. The last dimension, representation, addresses questions of political voices and inclusion that institutions ought to consider when making their decisions. For Fraser (2008), representation attempts to question whose realities are catered for and whose are neglected as the rules, policies, and modes of governing the LMS mediate learning. It is worth noting that representation serves as a foundation for justice, given that it concerns the framing of who is considered a legitimate actor in social interaction and whose interests are recognised within institutional discourse (Fraser, 2008). This dimension examines the governing systems through which conditions of engagement in the ODeL are established and contested. Fraser's tripartite framework proffers a comprehensive and transformative lens for critiquing engagements in LMS within the ODeL context. By amalgamating redistribution, recognition, and representation, the framework conceptualises participation as a multidimensional social accomplishment rather than an individualised function (Fraser, 2008). This theoretical lens provides a basis for the ensuing interpretation of empirical data that explored the social justice implications of LMS-mediated pedagogical practices, institutional arrangements, and participation structures within South African higher education.

4. Research Methodology

4.1. Research Design

In this paper, we employed a qualitative, interpretive research design to interrogate rural PSTs' lived experiences in navigating Moodle-mediated learning within an ODeL institution. An interpretive approach was instrumental in foregrounding PSTs' meaning-making processes and exploring how digital pedagogical practices intersect with structural disparities, rurality, and social justice. Such research was deemed appropriate for exploring the existential and affective domains of LMS-mediated pedagogy, which can be obscured by technocentric design.

4.2. Research Context

The study was conducted at the University of South Africa (UNISA), an ODeL institution offering teacher education programmes. Moodle serves as an LMS for teaching and learning, assessment, and communication with students. Even though LMS spaces are typically framed as neutral instruments for expanding access to higher education, their design and operationalization are embedded in institutional logic that may either constrain or enable engagement. Thus, the ODeL setting offers a critical space for critiquing how digital infrastructures negotiate educational inclusion for PSTs in rural areas.

4.3. Participants and Sampling

We adopted a purposive sampling method to select six PSTs enrolled in the Bachelor of Education (B.Ed.) at UNISA. Purposive sampling influenced our recruitment and ensured we recruited PSTs from rural areas across SA. PSTs were considered rich data sources, given their continued use of Moodle in historically marginalized rural areas (Emmel, 2013). The intentionally small sample aligns with the qualitative nature of this study, which aims to deepen understanding of the intersection of social justice and the digital divide in the ODeL context. Additionally, this study aspires to develop a theoretically transferable understanding of the implications of social justice for LMS-mediated learning in the ODeL context.

4.4. Data Generation

Data was obtained through reflective journals written over a single semester of an academic year. Journaling provided a space for PSTs to reflect on and document their lived experiences using Moodle as their pedagogical site within the ODeL institution (UNISA). The data collected focused on the structural barriers PSTs encountered. Additionally, we sought to understand how these students developed peer support and resilience, and their views on participation, viewing these findings through the lens of justice.

4.5. Data Analysis

Fraser's social justice theory served as a framework for thematic data analysis. Data was thematically organized according to Fraser's dimensions of redistribution, recognition, and representation. This tripartite dimension provided an analytical framework for exploring material, institutional, and infrastructural dimensions of PSTs' experiences. Data analysis included inductive attention to emergent themes, such as resilience and peer support, remaining theoretically grounded while responsive to participants' narratives.

5. Findings and Discussion

This section presents and discusses the findings generated from participants' reflective journals. The data is thematically organized and analyzed through the lens of Fraser's social justice theory, encompassing redistribution, recognition, and representation as the dimensions used to structure the data. These dimensional themes are presented to depict how Moodle-mediated learning systemically organizes participation for rural PSTs within the ODeL setting. These dimensional themes serve as a framework for data analysis. It is worth noting that they allow for the surfacing of emergent themes: peer support and resilience. These represent PSTs' adaptability mechanisms as they negotiate their complex roles in digital learning. In line with the paper's qualitative, interpretive nature, PSTs'

narratives are employed to foreground their lived experiences. In addition, discussion is intertwined with empirical data to broaden the discourse on digital inequalities and their implications for a socially just e-learning environment.

5.1. Redistribution: Access and Infrastructure Gaps

Redistribution requires that all students, regardless of their geographic location, have adequate digital infrastructure supporting equal access to material resources and enabling participation in educational and social settings (Fraser, 2008). To achieve parity in LMS-mediated learning participation, adequate digital infrastructure and access to teaching and learning materials should be a top priority for ODeL institutions like UNISA. Digital educational platforms such as Moodle are often introduced as tools of flexibility and access. However, research shows that students in rural areas may face infrastructural challenges that prevent full LMS access (Ajani, Govender, & Gamede, 2025; Zwane & Mudau, 2024).

"I did not have a phone and computer for the first two assignments, so I submitted handwritten and scanned work. They were not marked because the lecturer said Turnitin would not detect them for plagiarism checks. I nearly failed because of this" (Participant 2).

In many rural areas of SA, first-year students admitted to higher education institutions lack digital skills and devices, a phenomenon attributed to geographic inequalities. This is also commonly known as spatial inequality. Access to digital skills and devices is further worsened by inadequate infrastructure, such as stable network connections and a reliable power supply. Participant 2's narratives affirm this reality, thereby narrating how material access disadvantaged them from participating on an equal basis with the rest of the PSTs. Despite the participant's improvisation to navigate these structural barriers, the participant submitted a handwritten assignment. However, the technocratic institutional arrangement failed to consider this alternative method, citing that the handwritten assignment cannot be recognized by Turnitin, a technocratic tool. Such an exclusion symbolizes how rigid digital assessment procedures can reproduce structural injustice. Thus, from a redistribution lens, the absence of digital devices intersects with institutional choices that hinder students' ability to participate fully; as such, this demonstrates that parity of participation requires both institutional flexibility and the provision of the required resources.

"Load shedding in my village can last up to 12 hours. I missed the quizzes because they were timed, and I could not access Moodle during the power outage" (Participant 4).

In South Africa, load shedding is described as a planned power outage to minimize grid congestion (Yende & Madolo, 2023). Yende (2024) has noted that this power outage has significantly disrupted higher education, particularly institutions situated in rural areas. Its severe impact is also observed in the ODeL, especially for students residing in rural regions. While load shedding is a national crisis in SA, its impact is not felt equally. Prolonged power outages beyond the allotted 5-hour limit may be considered a sacrifice zone. The concept of sacrifice zones is reflected in participant 4's narrative, suggesting that rural settlements are treated as non-commercial zones and deliberately left without electricity for extended periods, so that more commercial areas are insulated. Students living in these areas, who depend on electricity to power their devices, access learning materials, and participate in coursework, are disproportionately affected by power outages. Therefore, participant 4's inability to complete the timed quiz should not be interpreted as incompetence. Instead, it reflects structural barriers that prevent participation in online quizzes. From this narrative, it is evident that redistribution cannot be narrowly confined to material terms such as computers and laptops. It also extends to infrastructure that supports the use of these materials and promotes equity and parity.

"Due to low internet connectivity, I experienced technical difficulties with Moodle, such as slow loading times, login issues, and problems with submitting assignments. These issues were frustrating and often disrupted my study flow" (Participant 5).

In this narrative, we noted the emotional and psychological harm to participant 5. This harm stems from the student's frustration with an unstable connection. It is also clear from the narrative that disrupted connections are not just a passing event. However, the participants' daily reality, unfortunately, resulted in a student being unable to submit their timed quiz. In such situations, Fraser (2008) challenges us to reconsider whether material inequalities constitute a distributive injustice. Given that LMS presumes stable network connections that do not exist for students living in primarily rural areas, this exacerbates educational injustices.

"I only have my phone and limited data. Downloading notes takes too long, and sometimes I cannot submit my assignments on time because the internet drops" (Participant 1).

In this narrative, participant 1 primarily relies on the smartphone as the only device available to access Moodle, with insufficient data to download the learning materials. This narrative demonstrates that engagement in the LMS is not primarily determined by students' attitudes. It is also determined by appropriate material distribution. If institutions centre social justice in their pedagogical practices, they must recognize students' unique constraints and allocate resources to address these realities to advance the social justice agenda.

Together, these experiences narrated by PSTs depict that infrastructural and material disparities systematically prevent students in rural areas from meaningfully engaging in Moodle-mediated learning. For Fraser (2008), such inequalities constitute a redistribution injustice, wherein students are denied material resources that necessitate parity of participation. Thus, we argue that if ODeL institutions are to achieve social justice, there is a necessity for structural and deliberately designed interventions targeted at previously marginalized communities, such as rural communities, which are still grappling with the legacies of apartheid. By addressing these material differences, Moodle-mediated learning environments would move towards equal access and meaningful engagement for all students.

5.2. Recognition: Misalignment Between Institutional Expectations and Students' Lived Realities

According to Fraser (2008), recognition can be understood as the extent to which institutional arrangements recognize and value diverse student experiences, identities, and geographies in efforts to accomplish equality of opportunity in ODeL. Recognition involves planning pedagogical practices, student evaluations, and support systems that consider students' prior knowledge, socio-economic and cultural conditions, and digital competencies. The

potential of LMSs to create greater equity in teaching and learning can be undermined when students' lived experiences and institutional expectations collide, leading to stress, confusion, and marginalization. The narratives below illustrate how the LMS acts as a gatekeeper rather than an enabling tool, highlighting aspects of this misrecognition.

"I am a first-year student. It was challenging to navigate and know all the features of the Moodle app because we were not provided with training" (Participant 3).

According to participant 3's narrative, first-year students in the ODeL may not be able to engage meaningfully with the LMS if they do not receive the necessary institutional support and orientations. First-year rural students are often not proficient with digital platforms. In the absence of organized instructional support, the institution's inability to acknowledge and consider first-year students' needs is a form of misrecognition that can potentially reinforce existing inequalities in educational access.

"As a first-year student coming from a rural area, I did not understand a lot about the system at first" (Participant 1).

Participant 1's narrative echoes participant 3's sentiment, particularly regarding institutional presumptions about rural students' digital literacy. Rural students might not possess the baseline level of proficiency assumed by this approach to LMS administration. This is likely to cause misunderstandings and instant disillusionment. Such a disparity exemplifies why educational institutions should validate the experiences of diverse students. This would lead to scaffolded engagement rather than treating students as all-encompassing users of digital platforms.

"While I was busy writing a quiz, the signal would be lost completely, causing frustration. I ended up writing under stress and focusing on the deadline rather than getting good grades" (Participant 4).

In this narrative, we have noted the intersection between infrastructural challenges and institutional expectations. Institutional arrangements seem to ignore the unique contextual experiences of rural students and prevent them from interacting in the same way as students from other regions, including time pressure, strict deadlines, and the assumption of a permanent internet connection.

"Managing time effectively to complete assignments and participate in discussion forums was difficult. There were many activities, and I could not balance everything. This caused stress, and I ended up failing some modules while focusing more on others" (Participant 6).

In this narrative, participant 6 describes how institutional misrecognition of workload and instructional design persists. The cumulative effects of these misrecognitions can lead to disengagement. An LMS sets up multiple activities concurrently, and for rural students who may not have prior digital experience, watching them can be overwhelming; some students (like participant 6) may not be able to keep up with the pace. In this case, structured training to encourage equal participation should be prioritized.

Therefore, drawing on these narratives, it becomes evident that students in rural communities are often excluded from educational opportunities based on assumptions about their independent learning abilities, digital skills, and connectivity. In Nancy Fraser's view, social justice is achieved when institutions recognize differences in students' lived circumstances and adopt teaching and learning practices that enable equitable participation. This raises the question of whether exclusionary practices experienced by rural students generate uncertainty, anxiety, and tension, and whether the implementation of LMS platforms without responsive support and context-sensitive design becomes a site where educational inequities are reproduced.

5.3. Representation: Limited Student Voice and Participation

According to Fraser (2008), the theory of social justice holds that representation is "the degree to which students are consulted and their voices are heard and included in decisions about their academics and how the ODeL and its LMS are implemented." Moodle is designed to be navigated independently, with prior computer skills, and to follow a predetermined schedule for assessments, providing few options for first-year students in rural South Africa to organize courses, assessments, and interactions. PSTs share narratives that illustrate how structural arrangements limit student voice and meaningful participation by excluding students from consultation, limiting real-time opportunities for engagement, and failing to provide relevant solutions.

"We are never asked about how Moodle works for us or what challenges we face. Decisions are made, and we are just expected to adjust" (Participant 2).

In this narrative, participant 2 refers to the bureaucratic nature of decision-making; decisions are made elsewhere, not in consultation with students, and they are expected to comply. This approach silences student voices, given that Moodle is established as a fixed system with guidelines and practices, and limiting student voices reinforces hierarchical power dynamics while ignoring students' contributions to their educational experience.

"Even when we raise issues about deadlines, there is no feedback or response. It feels like our concerns don't matter" (Participant 3).

The narrative shared by 3 illustrates the institutional aspect of representation by deliberately disregarding student feedback. In the absence of adequate and responsive procedures to address students' concerns, their participation in the LMS relies mainly on fixed timetables and non-inclusive consultation. As it currently stands, it is the only communication channel that limits students' ability to contribute to evaluation, design, and teaching decisions.

"As a first-year student, studying online was a big adjustment from classroom learning. I lacked understanding of online tools, and I had to quickly adjust my mindset and ways of learning to meet requirements" (Participant 5).

The narrative of participant 5 shows the complexity faced by first-year students and the need to adapt in LMS-based learning without institutional support. This reflects the lack of frameworks in course design that account for first-year students' perspectives. Students are forced to bear the brunt of adjustment in the absence of channels for communicating their concerns. This narrative affirms a mismatch between institutional assumptions and students' real experiences.

"Timed quizzes and activities were structured without opportunities for discussion or real-time clarification, so I had to complete them on my own" (Participant 6).

Participant 6's narrative highlights the lack of platforms for students to participate in assessment design. It emphasizes that efficiency and consistency dominate over communication and teamwork in LMS-mediated learning.

The absence of discussion boards and real-time explanations means students are not actively involved in shaping their educational conditions, limiting egalitarian participation and reinforcing hierarchical institutions.

Drawing on these narratives, the lived experiences of rural students show that LMS often prevent them from actively participating in decisions that shape their learning experiences, highlighting the critical lack of representation in these stories. When assessment plans, platform navigation, and interaction structures are decided without student involvement, students are treated as passive beneficiaries rather than active participants. According to Fraser, this exclusion constitutes a form of distortion, since institutional arrangements deny students the voice they need to achieve fair participation. Together, these narratives demonstrate that institutional mechanisms prioritizing student voices, incorporating feedback into the design of teaching and assessment, and ensuring students have a meaningful voice in the systems that govern their education are essential to achieving social equity in ODeL.

5.4. Resilience and Peer Support

Irrespective of significant systematic, pedagogical, and technical challenges experienced by participants in rural settlements, participants demonstrated collective support as an adaptive strategy to sustain their engagement in Moodle-mediated learning. Offline preparation was also noted as a common mechanism;

"I had to walk to visit the library to download all relevant information so I could access it offline even when the connection was a problem" (Participant 1).

"I downloaded my assessment resources early and started working on them offline in case of any technical errors" (Participant 2).

Peer networks also played a crucial role:

"I resorted to forums and WhatsApp and Telegram groups in seeking peer assistance" (Participant 3).

"I used discussion forums and group activities to connect with classmates. Collaboration enhanced my learning experience and provided support" (Participant 4).

These survival tactics indicate how students can organize themselves and exercise agency while managing structural and institutional barriers. Self-initiated and peer-supported learning enhanced motivation, engagement, and involvement, but resilience alone did not eliminate inequities. Through Fraser's lens, ODeL institutions could improve fairness by formalizing peer assistance, offering offline access, and fostering collaborative opportunities. This is because recognizing and supporting such adaptive techniques is consistent with recognition and representation. However, a meticulous evaluation demonstrates the shortcomings of informal justice. Despite their efficacy, these peer-based coping strategies are not proof of fairness but rather a compensatory reaction to institutional and structural flaws. Students' reliance on unofficial networks places the onus of ensuring fair participation on them, highlighting the lack of adequate institutional support. Therefore, from a social justice perspective, peer support and resilience should be viewed as responses to structural injustices rather than remedies for them. These results highlight the need for structured participatory opportunities, material support, and institutional recognition to enhance students' adaptive strategies.

6. Implications for Socially Just ODeL

Findings from this study indicate that a thorough consideration of the pedagogical, material, and participatory factors that influence student involvement is necessary to achieve socially fair e-learning in ODeL environments. Institutional commitment to fair access to digital resources, such as devices for students in under-resourced and rural areas, learning materials that work offline, and reasonably priced connectivity, is necessary to address redistribution. LMS-mediated learning has the potential to prolong the digital divide as a form of structural violence and to escalate already existing socioeconomic disparities in the absence of such measures. From a recognition standpoint, instructional strategies need to be adjusted to account for students' diverse lived realities, to validate students' efforts, and to reduce the extra work required for effective involvement in limited circumstances. This entails implementing flexible assessment schedules, asynchronous learning designs, and responsive lecturer engagement. For students' adaptive strategies, such as offline preparation and peer support, to be valued as valid forms of involvement rather than departures from institutional standards, they must also be acknowledged. Formal procedures for student involvement in LMS governance and pedagogical decision-making are necessary to advance representation. Students, particularly those from marginalized rural communities, have no voice in the learning environment due to a lack of consultation procedures, feedback channels, and participatory involvement in assessment planning and platform design. Representation can potentially transform LMS-mediated learning into an inclusive, participatory environment rather than a one-way content-delivery model. These effects demonstrate that providing technology is not the sole option for achieving social justice in ODeL. To provide fair, contextually responsive, and socially just learning environments, institutions must integrate redistribution, recognition, and representation. Higher education institutions can create digital learning practices that promote equal participation by addressing systemic inequities and the digital divide as structural violence, acknowledging students' experiences, and strengthening participatory agency to democratize educational opportunities.

7. Conclusion

This study examines how structural inequalities extend beyond access to include pedagogy, assessment, time constraints, and peer involvement, and how they significantly impact the learning outcomes of Moodle-mediated learning in ODeL contexts. Social justice emphasizes redistribution, recognition, and representation as central to achieving equal participation in ODeL. Despite individual resilience and adaptation strategies, institutional systems continue to overlook these efforts. Comprehensive institutional strategies are therefore needed to achieve socially equitable ODeL, including providing resources to address infrastructure inequalities, implementing pedagogical changes that account for students' diverse backgrounds and abilities, and establishing participatory mechanisms to empower students. The persistence of systemic marginalization of rural students in post-apartheid South Africa constitutes structural violence, manifesting through poor connectivity, insufficient resources, and unequal access. Over time, this results in unequal life opportunities. This study contributes to scholarship on the intersection of social justice and the digital divide in digital education by highlighting students' views and experiences in rural South

Africa and their implications for social justice. It provides guidance for creating an LMS-enabled learning environment that is egalitarian, inclusive, and context-sensitive. Rather than relying on student resilience, peer support, and technological accessibility, ODeL should reorganize institutional frameworks to facilitate meaningful and equitable participation and progress towards social justice in higher education.

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