Research Article

ERRCDF
Rethinking Education 4 Inclusive Development

Democratic Education in Technology-Mediated Postgraduate Nursing: Equity and Access in Resource-Limited Contexts

Bokang A. Mahlelehlele[1] iD

Jeanette E. Maritz[2*] iD

Gisela H. van Rensburg[3] iD

AFFILIATIONS

[1&3]Department of Health Studies, University of South Africa, Pretoria, South Africa.
[2]Institution of Social and Health Sciences, University of South Africa, Pretoria, South Africa.

CORRESPONDENCE

Email: maritje@unisa.ac.za*

Abstract: This study explores how Master of Nursing Science students navigate technology-mediated learning and institutional support, examining how digital platforms either promote or hinder equitable access in resource-limited contexts through a critical pedagogy lens. A qualitative research approach, specifically constructivist grounded theory, was used to explore the problem. Data were collected during three focus group discussions involving 24 Master of Nursing Science students from the National University of Lesotho. The analysis identified key structural barriers, including unreliable internet connectivity, inadequate training on digital platforms, and disparities in technological literacy, which constrained students' full participation in online learning. In response to these challenges, students developed adaptive strategies such as peer support networks, self-directed learning, and emotional resilience. However, relying on individual agency rather than systemic transformation underscores the persistent inequities that postgraduate students experience in resource-limited contexts. The findings highlight the need for universities to transition from passive resource provision to proactive institutional engagement, ensuring structured support that fosters meaningful learning experiences. To achieve equitable access in technology-mediated postgraduate nursing education, institutions must invest in digital infrastructure, faculty development, and psychosocial support mechanisms. This study contributes to the discourse on democratic education by advocating for systemic reforms that promote inclusive and participatory learning environments in postgraduate nursing education.

Keywords: Access, democratic education, postgraduate nursing, students' support, technology.

1. Introduction

Postgraduate nursing education is essential for strengthening health-care systems, advancing clinical expertise, and cultivating leadership and research capacities among nurses (Jagganath, 2023). However, access to such education remains markedly unequal, particularly in resource-limited settings, where students face institutional, financial, and technological barriers that hinder academic progress and professional advancement (Wu et al., 2025). While postgraduate programmes are intended to foster academic excellence, collaboration, and social mobility, prevailing inequalities such as digital exclusion, inconsistent institutional support, and unaffordable connectivity undermine these aims (American Association of Colleges of Nursing [AACN], 2021; Chiramba & Ndofirepi, 2023).

These structural barriers raise critical questions about the extent to which the principles of democratic education, including equity, participation, and the co-construction of knowledge, are being realised in contemporary postgraduate nursing education. Drawing on the seminal work of John Dewey, democratic education entails more than broadening access; it calls for the creation of inclusive, dialogic, and responsive learning environments that actively engage learners as co-participants in knowledge production and social transformation (Dewey, 1916). In technologically mediated

learning spaces, this ideal is tested by uneven digital infrastructure, pedagogical readiness, and institutional responsiveness.

The National University of Lesotho (NUL), located in Roma, 34 km southeast of Maseru, is the country's oldest and most prominent higher education institution in Lesotho. The institution has taken active steps to address these educational disparities. NUL has committed to modernising its curriculum and expanding digital access through the integration of online and distance learning platforms (NUL, 2025). These developments were accelerated during the COVID-19 pandemic, which underscored both the promise and precarity of digital education in sub-Saharan Africa. While the university's investment in open and distance learning (ODL) has enabled broader geographic access, significant challenges persist, including limited internet coverage in rural areas, inadequate digital literacy support, and infrastructural constraints (Ndibalema, 2025; Du & Wang, 2024).

As part of its health-care strategy, NUL launched the Master of Nursing Science (MNS) programme in 2020 to respond to the country's urgent demand for advanced clinical and leadership training (NUL, 2025). Delivered via ODL, the MNS programme allows nurses to pursue specialisation while remaining in their professional roles. The programme comprises 203 credit hours over three to five years and aligns with national postgraduate education policy. By 2022, the programme had enrolled its second cohort and continued to expand its reach within Lesotho's health sector (NUL, 2025).

Despite its potential to enhance professional development and access, the realities of the MNS programme's delivery call for closer scrutiny. Specifically, there is a need to understand whether MNS students experience meaningful inclusion, engagement, and support, which are key markers of democratic education, in a context shaped by technological and institutional limitations. This study therefore investigates how MNS students at NUL navigate the opportunities and exclusions embedded in technology-mediated learning, and to what extent their experiences align with the ideals of democratic education.

1.1 Democratic education

The relationship between democracy and education is fundamental, as democratic principles such as liberty, equality, dignity, cooperation, and shared responsibility shape educational practices and objectives (Mkhomi, 2023). Education serves not only as a means of acquiring knowledge but also as a vehicle for developing critical consciousness and active citizenship (Bosio & Waghid, 2023). In nursing education, democratic principles are essential for nurturing critical thinking, ethical reasoning, and collaborative decision-making, enabling nurses to navigate complex healthcare systems, advocate for patient rights, and contribute to equitable healthcare delivery (AACN, 2021).

Democratic education is a contested concept shaped by diverse political discourses that influence who has access to education, how knowledge is produced, and how power is allocated in learning environments (Sant, 2019). A review of 377 studies by Sant (2019) identifies six discourses supporting democratic education—liberal, deliberative, multiculturalist, participatory, critical, and agonistic—each offering a different interpretation of democracy in education. In postgraduate nursing education, these discourses manifest in various ways. The liberal and deliberative models, for instance, align with nursing's emphasis on evidence-based practice, clinical reasoning, and ethical decision-making, wherein students are trained to engage in structured inquiry and professional dialogue (AACN, 2021). However, postgraduate nursing education also corresponds with critical and participatory models, which emphasise equity, social justice, and healthcare transformation (Abu & Moorley, 2023), requiring nurses to confront systemic health disparities and advocate for marginalised communities. While these democratic ideals underpin postgraduate education policies (NUL, 2025; AACN, 2021), this study questions whether they are effectively enacted within technology-mediated learning environments, where structural and digital inequities may curtail

students' ability to participate fully and equitably. The question then arises as to whether technology, rather than democratising learning, reinforces exclusion and entrenches existing disparities.

Research on democratic education in higher education has explored various student populations, but there is a notable gap in studies explicitly focusing on postgraduate students in professional disciplines, particularly nursing. Some studies have examined the experiences of historically marginalised students, particularly those from rural areas (Waghid & Davids, 2022), while others have explored the participation and access of racially and linguistically diverse students in the United Kingdom (UK) (Cantafio, 2024). However, most studies lack a clear definition of participant groups and methodological transparency, making it difficult to assess their empirical applicability across diverse educational settings. Furthermore, while existing research highlights issues of access and participation, there is limited exploration of how democratic education principles function (or fail to function) within technology-mediated postgraduate nursing programmes in resource-constrained contexts. This gap necessitates an empirical study that directly engages with the experiences of postgraduate nursing students, particularly in relation to their engagement with technology-mediated learning, institutional support structures, and academic participation.

1.2 Problem statement

MNS students in Lesotho face intersecting challenges that restrict their meaningful participation in postgraduate education and compromise the realisation of democratic educational ideals. Democratic education, as articulated by Sant (2019) and Cai (2023), demands equity, inclusion, and participatory engagement in learning. However, these principles are often undermined in resource-limited contexts, where students must navigate systemic inequities that inhibit their ability to access and benefit from higher education (Mtshali et al., 2019).

At the NUL, postgraduate nursing education has only recently been localised, following years of dependency on foreign institutions for advanced training. Yet, the establishment of such programmes continues to face systemic constraints, including a shortage of qualified nurse educators, limited institutional capacity, and insufficient infrastructure to support postgraduate learning (Mtshali et al., 2019). These conditions challenge the implementation of contextually relevant and democratically oriented education in nursing. Moreover, MNS students are engaged in both coursework and independent research, making them especially susceptible to institutional and technological barriers in technology-mediated education. Their experiences could further provide rich insights into the tensions between democratic ideals and structural realities in resource-limited settings.

Wu et al. (2025) conducted a scoping review on the educational challenges faced by postgraduate nursing students during the COVID-19 pandemic. Their findings reveal key difficulties, including the abrupt transition to online learning, inconsistent course delivery, and varying responses to changes in clinical environments. Financial constraints heightened mental health concerns, and basic needs insecurities further exacerbate these challenges, particularly for students from low-income backgrounds. Similarly, Roslan et al. (2017) highlight that postgraduate students frequently experience stress, anxiety, and isolation, especially when institutional and social support systems are inadequate. These psychological burdens, combined with technological and institutional constraints, limit students' ability to fully engage in postgraduate education, highlighting a gap between democratic ideals and actual experiences.

Technology-mediated education, introduced as a solution to broaden access, has paradoxically exacerbated existing disparities. Limited internet connectivity, high data costs, and inadequate digital literacy make it difficult for students to access digital learning resources and participate in online discussions (Morbitzer et al., 2021). These barriers create forms of epistemic exclusion that contradict the democratic promise of equal educational opportunities. In addition to technological

barriers, institutional support structures play a crucial role in determining postgraduate students' success. Universities in developing contexts often struggle to provide sufficient resources due to financial and infrastructural limitations (Morbitzer et al., 2021). This lack of institutional support manifests as poor communication, inadequate academic resources, and insufficient psychological support systems, all of which significantly impact students' academic performance (Ramli et al., 2021). According to Chaudhry et al. (2024), institutional and social support systems are essential for fostering students' psychological well-being and academic engagement.

This study, therefore, investigates how MNS students at the NUL in Lesotho navigate the contradictions between technology-mediated learning, institutional support, and the ideals of democratic education. It seeks to understand how students experience, negotiate, and resist exclusions in their academic environments, and what these experiences reveal about the potential for building more inclusive, participatory, and just forms of postgraduate education.

Based on the highlighted problems, the following research questions were raised to guide the study:

- How do MNS students navigate the contradictions between technology-mediated learning, institutional support, and the ideals of democratic education in a resource-limited setting?
- What institutional and structural support mechanisms can promote equitable access and participation for MNS students in a resource-limited context?

1.3 Theoretical framework

This study is grounded in critical pedagogy, a theoretical framework developed by Paulo Freire (1970), which seeks to address issues of power, inequality, and social justice, particularly in contexts that have historically marginalised certain groups. Freire (1970) argues that education should not merely be about transmitting knowledge but empowering students to critically engage with their world and challenge oppressive structures (Giroux, 2011). Rather than positioning students as passive recipients of information, critical pedagogy promotes education as a dialogical and participatory process in which students and educators co-construct knowledge through reflection and action (Freire, 1970; Giroux, 1988). This theoretical approach underscores the political nature of education, asserting that learning environments should not reproduce existing hierarchies but instead serve as spaces for transformation and empowerment. Central to critical pedagogy is the idea that education should enable individuals to recognise and challenge social injustices. By fostering critical thinking and social awareness, students are encouraged to participate actively in their learning and in broader societal change (Freire, 1970; Giroux, 1988).

Paulo Freire's educational philosophy remains profoundly relevant in the African context, particularly in its emphasis on critical consciousness, participatory learning, and the transformation of oppressive structures. In many parts of Africa, where education systems continue to grapple with the legacies of colonialism, economic disparity, and structural inequality, Freire's call for education as a liberatory practice aligns with the broader struggle for equity and social justice (Freire, 1970). Nyirenda (1996) underscores the significance of Freirean pedagogy in addressing Africa's educational challenges, particularly in adult literacy and rural development programmes, where education is not merely about acquiring skills but about empowering students to interrogate and reshape their realities. In this sense, Freire's methods challenge top-down, externally imposed educational frameworks that often fail to engage with local knowledge and lived experiences. Instead, they promote a dialogical model of education that encourages students to critically engage with their socio-economic conditions and actively participate in transforming their communities.

The relevance of critical pedagogy to this study extends beyond its philosophical foundation; it provides an analytical toolkit to interrogate the structural contradictions that MNS students at the NUL in Lesotho face in realising the ideals of democratic education. Building on this foundation, critical pedagogy offers a lens to examine the gap between the ideals of democratic education and

the lived realities of MNS students in resource-limited contexts. These students often encounter structural and institutional exclusions, such as poor internet access, limited digital support, and fragmented academic scaffolding, which marginalise them within systems that claim to democratise access through technology (Mtshali et al., 2019). Critical pedagogy helps reveal these issues not just as logistical problems but as symptoms of deeper power inequalities (Freire, 1970; Giroux, 2011).

In the context of technology-mediated postgraduate nursing education, Freire's emphasis on dialogue, participation, and praxis allows us to assess whether educational platforms genuinely foster reciprocal learning and student voice (Freire, 1970; Giroux, 1988). When students navigate poorly supported online environments without reliable connectivity or academic guidance, their ability to participate is undermined. This contradicts the democratic promise of inclusion. Critical pedagogy prompts us to ask who is empowered by current structures and who is excluded, thereby exposing how institutional practices can reinforce existing hierarchies.

For MNS students at the NUL in Lesotho, who contend with professional, geographic, and gendered marginalisation, critical pedagogy draws attention to their specific vulnerabilities (Mtshali et al., 2019; Nyirenda, 1996). Unlike general students, they must balance clinical duties, professional development, and study, making their exclusion both academic and professional. Applying Freire's framework foregrounds the need for democratic education to go beyond access and enable context-sensitive, supported, and participatory learning in postgraduate nursing.

2. Materials and Methods

The study followed a qualitative research approach, which is suitable for exploring the complexity and contextual specificity (Creswell & Poth, 2024) of MSN students' experiences of technology-mediated education in a resource-limited environment. This approach was appropriate as it allowed for a context-specific examination of the experiences of postgraduate nursing students in such settings. Qualitative research is valuable for understanding how systemic challenges manifest in specific educational environments, offering a detailed exploration of patterns, interactions (Renjith et al., 2021), and underlying aspects influencing postgraduate nursing education. However, this design has limitations, including potential subjectivity and researcher bias, which necessitate careful interpretation of the findings. Additionally, while qualitative studies provide rich, contextual insights, they are often less generalisable than quantitative research due to their focus on specific settings and populations (Creswell & Poth, 2024). Despite these constraints, the qualitative approach was essential for capturing the depth and complexity of postgraduate nursing students, contributing to a broader understanding of structural and institutional challenges or opportunities in resource-limited settings.

Within this approach, a constructivist grounded theory (CGT) design was employed, as developed by Charmaz (2014). Charmaz's constructivist version emphasises the co-construction of meaning between researcher and participant, recognising the importance of reflexivity. CGT is particularly appropriate when the aim is not merely to describe, but to develop an interpretive understanding of social processes shaped by power, context, and interaction. This article reports only on the first phase of the larger CGT study aimed at generating a social-psychological education model to promote digital transformation and student well-being.

The study focused on the first cohort of MNS students. At the time of the study, this was the only active postgraduate nursing programme at the institution, as no honours or doctoral nursing students were enrolled. The MNS programme had a total population of 30 students, all of whom were eligible to participate in the study. This figure represents the entire population of MNS students during the study period. Purposive sampling was employed to select participants who had direct and sustained engagement with the MNS programme and technology-mediated learning. While the target population was 30, only 24 students ultimately participated due to scheduling conflicts, lack

of availability, or non-response to invitations despite follow-up efforts. The high participation rate (80%) ensured that diverse perspectives were captured. Given the small population size, the study aimed for maximum participation rather than data saturation, in line with qualitative research principles in focused populations. The majority of the students were female (n=16, 66.7%), while male students (n=8, 33.3%) comprised the remaining participants.

2.1 Data collection

MNS students were interviewed through online focus group discussions, in line with Polit and Beck's (2024) recommendation for exploring shared experiences among participants. Zoom video communication served as the interview platform (Creswell & Poth, 2024), as it was already familiar to the students from their online classes, ensuring ease of access and minimising any potential technological barriers. The use of focus group interviews facilitated participants in sharing and discussing diverse viewpoints, enriching the data collected on the challenges faced regarding equitable access in postgraduate education (Nyangu & Nkosi, 2019). Each focus group comprised eight students, and the sessions lasted approximately 90 minutes, with a brief break after 45 minutes to maintain participant engagement and comfort. Prior to the main data collection, a pilot focus group was conducted with students from different master's programmes to refine the semi-structured interview guide. The pilot aided in identifying timing issues, adjusting communication techniques, and preparing the facilitator and moderators for the actual focus group sessions.

Consequently, minor adjustments were made to the structure of the focus groups to improve clarity and time management during the discussions. Given that the postgraduate students were not regularly on campus, with physical classes conducted only twice per semester, they were contacted via the MNS coordinator. Each student received an information sheet and informed consent form via e-mail, inviting them to participate in the study. Once students consented, a suitable time was arranged for each group to have a synchronous online discussion (Creswell & Poth, 2024). Care was taken to ensure that the focus groups were held at times convenient for all participants, and privacy was upheld by ensuring that all students participated from secure locations. Given the nature of the focus group methodology, it was essential to inform participants that internal confidentiality could not be guaranteed, as other group members could disclose information shared during the discussion (Tolich, 2009). While external confidentiality was assured, participants were expressly informed in the consent form about the potential limitations of confidentiality within the group setting. The focus group sessions were conducted in English and audio recorded with the participants' permission for accurate transcription and analysis. All recordings were securely stored to ensure data quality and address potential ethical concerns, and participants' identities were anonymised in the transcriptions. Additionally, the researcher maintained a methodological journal throughout the data collection process, a form of memo writing (O'Connor et al., 2018), to document dilemmas, decisions, and reflections, enhancing reflexivity and transparency in the research process.

2.2 Data analysis

Data were analysed using open coding, the first phase of data analysis in CGT (Charmaz, 2014; Creswell & Poth, 2024). Focus group transcripts were professionally transcribed and then reviewed line by line to identify initial codes that captured the actions, meanings, and recurring processes described by participants. These descriptive and conceptual codes were generated inductively and remained close to the participants' language, reflecting the co-construction of meaning that underpins CGT. Codes were compared across transcripts to identify areas of convergence and divergence, forming early analytic categories grounded in the data. To enhance trustworthiness, an independent, qualified researcher co-coded the transcripts, supporting reflexivity and rigour in the analytic process (Saldaña, 2021). Following the initial open coding, the emerging categories were interpreted through the lens of Freire's critical pedagogy, allowing the researchers to explore how power, participation, and equity were negotiated by MNS students in technology-mediated

postgraduate nursing education. This interpretive engagement facilitated a deeper understanding of the relational and structural conditions shaping students' experiences in a resource-limited context. Consensus-seeking discussions were held with the independent coder before the themes were finalised.

2.3 Ethical consideration

This study received ethical approval from three institutions: the Unisa College of Human Sciences Research Ethics Committee (16681223_CREC_CHS_2023), the National University of Lesotho Institutional Review Board (NUL/ETX/2023/03), and the Lesotho Ministry of Health (ID 208-2023). Institutional permission was also granted by the NUL (REG/ADM-1.37), ensuring compliance with ethical standards for research involving human participants. Informed consent was obtained from all participants prior to data collection, with assurances regarding the study's purpose, procedures, voluntary participation, and the right to withdraw without penalty. Ethical principles of respect for persons, beneficence, non-maleficence, and justice were strictly upheld. All personal information was anonymised in the transcripts to maintain confidentiality and protect participants' identities. Data were securely stored on a password-protected computer, and confidentiality agreements were signed with the transcriber and external co-coder. To protect participants' identities, pseudonyms such as Male 1, Male 2, etc., were assigned to male students, while Female 1, Female 2, etc., were assigned to female students. Although the study posed minimal risk, potential emotional distress and power dynamics between the first author and student participants were acknowledged. To mitigate these risks, co-authors were present during the focus groups to provide a supportive environment and minimise bias. Participants could withdraw at any time and were reminded of available support services. No distress was observed or reported. The equitable selection of participants ensured fair representation, aligning with the study's goal of addressing equity and access in postgraduate education.

3. Presentation of Results

This section presents the results and discussions of the study in alignment with the research questions. A central narrative emerged from the data, underscoring the significant barriers MNS students encounter in accessing equitable education at NUL. The findings draw from all three focus group discussions (FG1, FG2, and FG3), which included mixed-gender participation. While some male participants were notably vocal, the findings incorporate diverse perspectives, including female voices that were central to understanding the nuanced experiences of MNS students. The following themes respond directly to the research questions and illustrate how democratic educational ideals, such as participation, inclusion, and equity, are challenged or upheld in a resource-limited, technology-mediated context. To ensure that the voices of various participants are represented while maintaining confidentiality, participant quotes are labelled with their corresponding focus group (FG) number (1, 2, and 3) and gender (M = Male, F = Female).

3.1 Theme 1: Challenges in technology-mediated learning

MNS students navigating technology-mediated learning encountered significant barriers that limited their academic participation. These challenges included network issues, inadequate preparation, limited technological literacy, and difficulties in engaging academically. Such barriers reinforce systemic inequalities, making learning environments exclusionary rather than inclusive and contradicting the ideals of democratic education.

3.1.1 Subtheme 1: Network challenges

Students frequently reported unstable internet connectivity, which disrupted their learning experiences. These challenges were particularly problematic for students in rural or low-income areas, where internet access was unreliable and costly, as evidenced by the following quotes:

> *"But the challenge would be the network coverage at that point in time. It would get so interrupted that you would miss the gist of the lecture or the webinar." (Male 1, FG1)*

> *"… and you find out that, due to the topological layout of our country, there are some areas where the network is not available. So, it was a really big challenge because we had to travel and sometimes there's no network, even though we do have data, but there's no network." (Male 1, FG3)*

> *"However, as I have shown, I was coming from a remote area, the network was a problem." (Female 2, FG2)*

> *"Sometimes we would have to reschedule for a class because of a bad reception." (Female 4, FG2)*

Several studies confirm that network connectivity is a critical determinant of student engagement in online learning (Tapp, 2020; Childs & Vearrier, 2021). For example, one study found that counties with high dropout rates experienced exacerbated effects during the COVID-19 pandemic due to a lack of reliable connectivity for remote learning (Groves et al., 2023). Similarly, Bhaskar et al. (2021) argue that inadequate digital infrastructure widens the educational access gap, disproportionately affecting students from marginalised backgrounds.

From a critical pedagogy perspective, network challenges serve as a structural barrier to equal education, preventing marginalised students from fully participating in learning. Freire (1970) emphasises that education should be accessible to all and not dictated by socio-economic disparities. The persistence of these barriers reflects educational inequities, where only those with resources can fully engage in digital learning.

3.1.2 Subtheme 2: Inadequate preparation and orientation

Many students expressed frustration at the lack of effective orientation and training on using digital learning platforms. Without structured support, students were expected to navigate complex online systems independently. Some students shared their experiences:

> *"I feel like the university didn't apply enough effort to make sure that everyone was on board, everyone was comfortable with using the technology, and that everyone was well-resourced to use the technology." (Male 2, FG1)*

> *"Yes. So, a lot of us wasn't prepared, wasn't well-oriented to be using that [technology] and it came with a lot of challenges." (Male 3, FG1)*

> *"Personally, I feel like I wasn't well-oriented. It was my first time to be using it. We were just highlighted …" (Female 1, FG1)*

> *"For me, it was not easy in the beginning. I was not very good with all the social media platforms. Even using Zoom was quite a challenge." (Female 2, FG2)*

> *"Us, as BBTs, we have challenges. As the previous speaker has just said that we are not introduced." (Female 1, FG3)*

Research indicates that insufficient digital training is a major obstacle in higher education. Brown et al. (2023) highlight that students with inadequate onboarding programmes often experience higher levels of frustration and disengagement. Similarly, Tayoub et al. (2023) found that institutions offering comprehensive training sessions see improved student performance in online learning environments. According to Freire's notion of dialogical learning, students should be actively engaged in shaping their education rather than being passive recipients of content. The lack of orientation reflects an authoritarian approach to education, in which institutions impose learning structures without equipping students with the necessary skills to navigate them. This contradicts the principle of student-centred learning, which is fundamental to democratic education.

3.1.3 Subtheme 3: Limited technological literacy

While some students adapted quickly to digital platforms, others struggled due to limited exposure to technology. This further alienated students from fully engaging with learning materials. Participants expressed themselves:

> "My experience as a post-master [laughing] student using technology was not that difficult as I was more conversant with all the tools or the softwares that were deployed. Everything, we used Zoom, we used all these virtual-meeting softwares, and I was conversant with it." (Male 1, FG3)

> "Personally, I feel like I wasn't well-oriented. It was my first time to be using it. We were just highlighted but, when you get your space and try to use it, it wasn't as the way it was highlighted." (Female 3, FG1)

> "We were learning through Zoom and it was not easy for me because it was my first encounter." (Female 2, FG2)

> "So, for me, it was easy to use Zoom or any means of technology." (Female 3, FG2)

Several studies indicate that digital literacy is a key factor influencing academic success in online programmes (Yustika & Iswati, 2020; Holm, 2024). Research by Hollenbeck and Nesbitt (2023) found that students from under-resourced backgrounds face significant difficulties adapting to e-learning environments due to limited prior exposure to digital tools. Freire (1970) argues that education should empower students to engage critically with their learning environment. However, as this study shows, some students have limited technological literacy and are excluded from full participation, reinforcing power hierarchies in education. Rather than enabling learning, technology becomes an instrument of exclusion, particularly when institutions fail to provide the necessary training.

3.1.4 Subtheme 4: Impaired academic participation

Due to the above barriers, students found it difficult to fully engage in academic activities, leading to missed classes, reduced interaction with supervisors, and overall disengagement from coursework. This is evidenced by the quotations below:

> "And as an elderly learner, how do I feature? Where do I feature now? And you go like … sometimes I don't even participate much because I feel like I am boring them with technology-related questions." (Female 5, FG2)

> "For me it was about the incompetence to really operate this thing of Zoom. I wouldn't know where should I press to post my question, where should I …? So, I would prefer just to be there, part of the class, keep quiet, be receptive." (Female 2, FG2)

> "I was even afraid to speak because I was not sure if people would hear me or would understand what I was trying to say. So, I was a little bit nervous." (Female 3, FG1)

Prior research has found that barriers to digital learning often result in decreased academic participation and performance. The demotivation to learn observed in this study aligns with existing research, such as a study by Otaiba and Petscher (2020), which argues that students who face technical difficulties are at a higher risk of disengagement. Similarly, Evans and Pawlina (2021) highlight that faculty responsiveness and student interaction are crucial to the success of online learning. The lack of structured support mechanisms prevents students from fully utilising digital learning platforms. Freire (1970) criticises education systems that promote passivity rather than active engagement. The absence of institutional support mechanisms leaves students to struggle in isolation, contradicting the principles of collaborative and interactive learning that define democratic education. To align with Freire's vision of participatory education, institutions must provide interactive, student-led digital learning spaces.

3.2 Theme 2: Coping strategies and resilience

Despite these challenges, students employed various strategies to adapt and persist in their learning journey. These included peer support networks, self-directed learning approaches, and emotional resilience. From a critical pedagogy standpoint, these coping mechanisms reflect student agency and resistance against structural limitations.

3.2.1 Subtheme 1: Peer support networks

Students relied on peer collaboration to navigate academic challenges. Group discussions, information-sharing, and collaborative problem-solving played a crucial role in overcoming institutional barriers. Students remarked as follows:

> *"And for that challenge of not having a supervisor, I had to ask from my classmates how are they tackling the problem, then they referred me …" (Female 2, FG3)*

> *"I think we coped by helping each other. We were talking, we created our own platform where we would share ideas and frustrations, even though it wasn't always." (Female 3, FG1)*

> *"I found talking with my colleagues, whether on WhatsApp or either we meet physically, to work for most times when I was confronted with distress." (Male 2, FG1)*

> *"We had study groups, people of different expertise and experiences helped a lot." (Male 2, FG3)*

The peer support practice observed by students aligns with recent studies highlighting the importance of peer support in distance learning. Versfeld and Vinson (2024) found that students actively participating in peer-led study groups report higher engagement and lower stress levels. Loes (2022) indicates that collaborative learning significantly positively affects academic motivation levels over four years of undergraduate education, regardless of students' racial or ethnic backgrounds. Freire (1970) argues that learning should be dialogical and rooted in collective action. The emergence of peer networks in this study supports his notion that students, when empowered, can create their own learning communities even in restrictive educational environments. However, reliance on peer-led solutions should not replace institutional responsibility.

3.2.2 Subtheme 2: Self-directed learning approaches

Faced with limited faculty engagement, students took ownership of their learning by exploring alternative learning resources, such as online tutorials, academic forums, and study groups. The following quotations were noted from participants:

> *"So, meeting and talking about these and sharing resources was one of the main, main, main coping mechanisms for me." (Male 2, FG1)*

> *"And whenever [I] had any challenges, I will always go to YouTube. There are plenty of videos there." (Male 1, FG3)*

> *"I had to seriously sit down and study how to use Microsoft Excel and produce the quality of work that was expected of me." (Male 2, FG1)*

Studies confirm that self-directed learning is a crucial survival strategy in online education. Suarez-Balcazar et al. (2020) emphasise the significance of community-based participatory research (CBPR) in empowering individuals and communities, which can lead to improved educational outcomes as students learn to apply their knowledge in real-world contexts. This approach encourages students to take initiative and seek resources beyond the classroom, thereby enhancing their learning experiences. Similarly, Liu et al. (2024) observe that higher-performing students more frequently access course files, engage in forums, and utilise online quizzes. Reyna et al. (2024) emphasise that autonomous learning enhances digital competency but also highlight the risk of institutional neglect, where students are left without sufficient academic support. The findings from this study align with

Freire's concept of problem-posing education, where learners are encouraged to critically engage with content and construct knowledge independently. While the findings highlight student agency, they also expose the lack of institutional support that forces students into self-reliance rather than fostering collaborative learning environments.

3.2.3 Subtheme 3: Emotional and psychological resilience

Many students reported experiencing stress and anxiety due to technological and institutional challenges. However, they developed emotional coping strategies to persist in their studies as seen in the quotes below:

> "So, with the letter to self, I also had personal goals clearly outlined. So, what soothed me, …, it's just looking back and looking at those small steps that I've taken, what they have done in life, in work, career, as well as life. So, celebrating those small wins on my personal goal, it's one of the things that helped me to cope better." (Male 1, FG1)

> "I think, from my personal perspective, I would say the only way to cope was just to focus on saying, 'I've just started this, so let me finish it up so that at least I get the qualification'." (Male 1, FG2)

> "When I'm feeling more stressed, I would just switch my mind off from things, forget they exist, and then just move from the place and go home." (Female 1, FG1)

Multiple studies confirm that students in challenging learning environments rely on psychological resilience strategies. Several studies have revealed that emotional coping mechanisms, including self-regulation and time management, are essential for student success in digital learning spaces (Spinrad et al., 2020; Eisenberg, 2020). This underscores the need for institutions to provide structured mental health resources to support students in managing academic stress, as suggested by Murali and Avudaiappan (2024). Freire (1970) emphasises that true empowerment in education occurs when institutions support students in their struggles rather than expecting them to endure hardships alone. The persistence of psychological stress among students, as revealed in this study, highlights the urgent need for universities to implement structured psychosocial support systems that prioritise student well-being and create an environment where resilience is bolstered by institutional change.

4. Conclusion and Recommendations

The findings highlight how MNS students encounter systemic barriers in technology-mediated learning that restrict their ability to fully engage in education. Freire's (1970) critical pedagogy emphasises that education should be liberating rather than restrictive; however, institutional barriers perpetuate exclusion rather than foster empowerment. Despite these challenges, MNS students demonstrated agency and resilience by using peer networks, engaging in self-directed learning, and employing emotional coping strategies. Nonetheless, achieving true educational equity necessitates institutional interventions to address technological inequalities, enhance faculty-student engagement, and provide structured student support services.

To realise the principles of democratic education within MNS nursing education, institutions must take deliberate steps to dismantle structural barriers and foster equitable participation. Democratic education requires that all students, regardless of their socioeconomic or geographic background, have equal access to learning opportunities. In this context, investment in technological infrastructure (Du & Wang, 2024) becomes essential to reduce digital exclusion and ensure that all students can fully participate in technology-mediated learning environments. Furthermore, structured digital literacy training (Ndibalema, 2025) for both students and supervisors promotes epistemic access and shared responsibility in learning, which are central to participatory and dialogical education. Peer mentoring programmes (Chen et al., 2025), grounded in horizontal learning relationships, align with the democratic aim of student agency and collective problem-solving. Timely and responsive institutional communication is equally critical, as it supports

transparency and accountability, enabling students to make informed academic decisions (Mncina et al., 2024). Finally, the provision of psychosocial support reflects the democratic ethics of care, recognising students as whole persons whose well-being is integral to their educational success (Maritz, 2024). These institutional strategies, when implemented with intentionality and in dialogue with students, can begin to transform resource-limited postgraduate environments into more inclusive, participatory, and justice-oriented educational spaces.

While this study offers valuable insights into the experiences of MNS students in resource-limited settings, it has several limitations. The sample size was confined to students from a single institution and a single programme, which may affect the generalisation of findings to other contexts. Additionally, the study relied on self-reported experiences, which, while rich in detail, may be influenced by individual perceptions and recall bias.

Future research should embrace comparative studies across multiple institutions and regions to investigate whether similar challenges persist in varied contexts and cohorts. Longitudinal studies could provide deeper insight into how students navigate and adapt to systemic barriers over time. Furthermore, further inquiry into postgraduate supervisors' perspectives on democratic education in postgraduate nursing could yield a more holistic understanding of how institutional policies and teaching practices shape student experiences. Ultimately, intervention-based studies assessing the effectiveness of technology investments, supervisory training, and structured peer support programmes would contribute to evidence-based strategies for enhancing equity in postgraduate nursing education.

5. Declarations

Data Availability: The data supporting the findings of this study are available from the corresponding author upon reasonable request. Access will be granted to researchers who meet the criteria for data sharing established by the institutional review board or ethics committee.

References

Abu, V. K., & Moorley, C. R. (2023). Social justice in nursing education: A review of the literature. *Nurse Education Today, 126*, 105825. https://doi.org/10.1016/j.nedt.2023.105825

American Association of Colleges of Nursing (AACN). (2021). *The essentials: Core competencies for professional nursing education*. The Voice of Academic Nursing.

Bhaskar, S., Nurtazina, A., Mittoo, S., Banach, M., & Weissert, R. (2021). Editorial: Telemedicine during and beyond COVID-19. *Frontiers in Public Health, 9*(21), 662617. https://doi.org/10.3389/fpubh.2021.662617

Bosio, E., & Waghid, Y. (2023). Cultivating students' critical consciousness through global citizenship education: Six pedagogical priorities. *Prospects*, 1-12. https://doi.org/10.1007/s11125-023-09652-x

Brown, A., Lawrence, J., Redmond, P., Cohen, J., Foote, S. M., & Stone, C. (2023). *HERDSA guide: Enhancing online engagement in higher education*. Higher Education Research and Development Society of Australasia.

Cai, J. (2023). Current situation and issues of education equity in China. *International Journal of New Developments in Education, 5*(1), 63–67. https://doi.org/10.25236/IJNDE.2023.050111

Cantafio, G. U. (2024). An exploration of teaching diverse students in a higher education institution in the UK: A case study of a university in London. *Equity in Education & Society, 4*(1), 76–91. https://doi.org/10.1177/27526461231225240

Charmaz, K. (2014). *Constructing grounded theory: A practical guide through qualitative analysis* (2nd ed.). Sage Publications.

Chaudhry, S., Tandon, A., Shinde, S., & Bhattacharya, A. (2024). Student psychological well-being in higher education: The role of internal team environment, institutional, friends and family support, and academic engagement. *PLOS One, 19*(1), e0297508. https://doi.org/10.1371/journal.pone.0297508

Chen, J. C. C., Plank, J. R., Tsai, A., Hussain, S., & Singh, R. (2025). The value of a peer mentorship programme for postgraduate students in New Zealand: A qualitative study. *Medical Science Educator, 35*, 319–329. https://doi.org/10.1007/s40670-024-02189-4

Childs, B. H., & Vearrier, L. (2021). A journal of the COVID-19 (plague) year. *HEC Forum, 33*(1–2), 1–6. https://doi.org/10.1007/s10730-021-09448-6

Chiramba, O., & Ndofirepi, E. S. (2023). Access and success in higher education: Disadvantaged students' lived experiences beyond funding hurdles at a metropolitan South African university. *South African Journal of Higher Education, 37*(6), 56-75. https://doi.org/10.20853/37-6-6021

Creswell, J. W., & Poth, C. N. (2024). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). Sage Publications.

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. Macmillan.

Du, Z.-Y., & Wang, Q. (2024). Digital infrastructure and innovation: Digital divide or digital dividend? *Journal of Innovation & Knowledge, 9*, 100542. https://doi.org/10.1016/j.jik.2024.100542

Eisenberg, N. (2020). Findings, issues, and new directions for research on emotion socialisation. *Developmental Psychology, 56*(3), 664–670. https://doi.org/10.1037/dev0000906

Evans, D. J. R., & Pawlina, W. (2021). Effects of COVID-19: The need to assess the real value of anatomy education. *Anatomical Sciences Education, 14*(2), 129–131. https://doi.org/10.1002/ase.2061

Freire, P. (1970). *Pedagogy of the oppressed*. (M. B. Ramos, Trans.). Continuum.

Giroux, H. (2011). Rejecting academic labour as a subaltern class: Learning from Paulo Freire and the politics of critical pedagogy. *Fast Capitalism, 8*(2), 35–40.

Giroux, H. A. (1988). *Teachers as intellectuals: Toward a critical pedagogy of learning*. Greenwood Publishing Group.

Groves, L. H., Dyson, L., Homel, L., Kachare, A., Tesfaye, H., & Yamada-Lifton, M. (2023). No internet = no high school diploma? Data to identify counties at risk of increased dropout rates during the COVID-19 pandemic (I1.A5). *Data & Analytics for Good*, 1. https://data-for-good.pubpub.org/pub/t0dx3qui

Hollenbeck, J. E., & Nesbitt, B. M. (2023). COVID-19, eLearning, the digital divide and underprivileged children. *The Hoosier Science Teacher*, 46(1), 12–15. https://doi.org/10.14434/thst.v46i1.35877

Holm, P. (2024). Impact of digital literacy on academic achievement: Evidence from an online anatomy and physiology course. *E-Learning and Digital Media*, 22(2), 139–155. https://doi.org/10.1177/20427530241232489

Jagganath, G. (2023). Exploring the experiences and benefits of postgraduate studies in South Africa: The research master's degree. In *African Development and Global Engagements: Policy, Climate Change, and COVID-19* (pp. 115–137). Cham: Springer International Publishing.

Lephoto, M. (n.d.). *Distance education in Lesotho: A case study*. SAIDE.

Liu D., Carter L., Lin, J. (2024). Towards connectivism: Exploring student use of online learning management systems during the COVID-19 pandemic. *Online Learning, 28*(2), 1–25. https://doi.org/10.24059/olj.v28i2.4047

Loes, C. N. (2022). The effect of collaborative learning on academic motivation. *Teaching & Learning Inquiry 10*, 1–13. https://doi.org/10.20343/teachlearninqu.10.4

Maritz, J. E. (2024). A reflexive autoethnography of supervisory psychosocial-educational support in online academic family meetings for postgraduate nursing students during the pandemic. *Cogent Education, 11*(1), Article 2398831. https://doi.org/10.1080/2331186X.2024.2398831

Mkhomi, S. (2023). Teaching democratic values through history in South African primary schools. *Yesterday and Today*, *29*(1), 100–16. https://dx.doi.org/10.17159/2223-0386/2023/n29a6

Mncina, T., Letsie, H., Nkhi, S., & Mofana, M. (2024). Effective communication in postgraduate supervision: Shaping experiences and overcoming challenges. *Interdisciplinary Journal of Education Research, 6*, 1–21. https://doi.org/10.38140/ijer-2024.vol6.13

Morbitzer, K. A., McLaughlin, J. E., & Devanathan, A. S. (2021). How-to guide for overcoming barriers of research and scholarship training in Pharm.D. and pharmacy residency programs. *Journal of the American College of Clinical Pharmacy, 4*(6), 743–753. https://doi.org/10.1002/jac5.1426

Murali, R., & Avudaiappan, V. (2024). Unveiling the invisible struggles: Exploring student perspectives on mental health in universities. *IEEE Potentials, 43*(3), 31–35. https://dx.doi.org/10.1109/MPOT.2024.3486902.

NUL. (2025). National University of Lesotho. https://www.rocapply.com/study-in-lesotho/lesotho-universities/national-university-of-lesotho/

Ndibalema, P. (2025). Digital literacy gaps in promoting 21st-century skills among students in higher education institutions in sub-Saharan Africa: A systematic review. *Cogent Education*, *12*(1), 2452085. https://doi.org/10.1080/2331186X.2025.2452085

Nyangu, I., & Nkosi, L. (2019). Exploring group dynamics in focus group interviews. *Journal of Qualitative Research, 15*(4), 189–203. https://doi.org/10.3102/0034660980973

Nyirenda, J. E. (1996). The relevance of Paulo Freire's contributions to education and development in present-day Africa. *Africa Media Review, 10*(1), 1–20. O'Connor, M., Carpenter, B., & Coughlan, M. (2018). Reflexivity in qualitative research: Memo-writing in grounded theory. *Nurse Researcher, 26*(2), 15–21. https://doi.org/10.7748/nr.2018.e1593

Otaiba, S. A., & Petscher, Y. (2020). Identifying and serving students with learning disabilities, including dyslexia, in the context of multitiered supports and response to intervention. *Journal of Learning Disabilities, 53*(5), 327–331. https://doi.org/10.1177/0022219420943691

Polit, D. F., & Beck, C. T. (2024). *Nursing research: Generating and assessing evidence for nursing practice* (12th ed.). Wolters Kluwer.

Ramli, M., Nasir, M., & Som, S. H. M. (2021). You're such a burden, COVID-19! Psychological impact among postgraduate students in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 11*(4), 37–52. https://doi.org/10.6007/ijarbss/v11-i4/9022

Reyna, M. J. T., Gonzales, M. J. D. R., Gomez, M. R. J. M., Llanos, M. L. C., Silva, M. L. A. A., Estrada, M. J. C. L., ... & Merino, L. S. G. (2024). Digital skills to improve autonomous learning in students of a private university in Trujillo. *Education Administration: Theory and Practice, 30*(1), 4887–4893. https://doi.org/10.53555/kuey.v30i1.8467

Renjith, V., Yesodharan, R., Noronha, J. A., Ladd, E., & George, A. (2021). Qualitative methods in health care research. *International Journal of Preventive Medicine, 12*, 20.

Roslan, S., Ahmad, N., Nabilla, N., & Ghiami, Z. (2017). Psychological well-being among postgraduate students. *Acta Medica Bulgarica*, *44*(1), 35–41. https://doi.org/10.1515/amb-2017-0006

Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). Sage Publications.

Sant, E. (2019). Democratic education: A theoretical review (2006–2017). *Review of Educational Research, 89*(5), 655–696. https://doi.org/10.3102/0034654319862493

Spinrad, T. L., Morris, A. S., & Luthar, S. S. (2020). Introduction to the special issue: Socialisation of emotion and self-regulation: Understanding processes and application. *Developmental Psychology, 56*(3), 385–389. https://doi.org/10.1037/dev0000904

Suarez-Balcazar, Y., Francisco, V. T., & Chávez, N. R. (2020). Applying community-based participatory approaches to addressing health disparities and promoting health equity. *American Journal of Community Psychology, 66*(3–4), 217–221. https://doi.org/10.1002/ajcp.12487

Tapp, H. (2020). The changing face of primary care research and practice-based research networks (PBRNs) in light of the COVID-19 pandemic. *The Journal of the American Board of Family Medicine, 33*(5), 645–649. https://doi.org/10.3122/jabfm.2020.05.200400

Tayoub, S., Sakouili, A., & Chroqui, R. (2023). Students' related factors' effect on their performance in online learning: A case study. In *2023 7th IEEE Congress on Information Science and Technology (CiSt)* (pp. 419–424). IEEE.

Tolich, M. (2009). The principle of caveat emptor: Confidentiality and informed consent as endemic ethical dilemmas in focus group research. *Bioethical Inquiry, 6*(1), 99–108. https://doi.org/10.1007/s11673-008-9124-3

Versfeld, J., & Vinson, C. (2024). Exploring first-year engineering student perceptions of peer-led study groups in a Global South context: Explorer les perceptions des étudiants de première année en ingénierie sur les groupes d'étude dirigés par les pairs dans un contexte du Sud global. *Journal of Student Affairs in Africa, 12*(1), 115–128. https://doi.org/10.24085/jsaa.v12i1.4751

Waghid, Y., & Davids, N. (2022). Is democracy still relevant in South African higher education? *South African Journal of Higher Education, 36*(2), 1–7. https://doi.org/10.20853/36-2-5142

Wu, C. J., Chen, S. M., & Ramis, M. A. (2025). Educational challenges for post-graduate nursing students throughout the COVID-19 pandemic: A scoping review. *Nursing & Health Sciences, 27*(1), e70032. https://doi.org/10.1111/nhs.70032

Yustika, G. P., & Iswati, S. (2020). Digital literacy in formal online education: A short review. *Dinamika Pendidikan, 15*(1), 66–76. https://doi.org/10.15294/dp.v15i1.23779