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Exploring inclusivity of online formative assessments in vocational training centres

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ABSTRACT

Vocational training centres (VTCs) in Zimbabwe have embraced blended learning approaches beyond the COVID-19 pandemic. Consequently, formative assessments have been conducted on different e-learning platforms to gauge the students' preparedness for final examinations and the effectiveness of the online teaching methods being applied by lecturers. Previous research has focused on identifying the e-learning platforms adopted by most universities during the pandemic and on the online learning experiences of students. However, the effectiveness of formative assessment in achieving equity among diverse students has been overlooked. The present research is informed by inclusive pedagogy to assess the inclusivity of formative assessments conducted on different e-learning platforms in the context of gender and rurality. Data was collected from students using semi-structured interviews and focus-group discussions. The results revealed that VTCs in Zimbabwe were not prepared for exclusively online formative assessments. Therefore, the advantages of online formative assessments identified in other studies seem to diminish in value, while disadvantages become more prominent. The dominant aspects that hinder online formative assessment were technical issues, lecturers' lack of technical skills, and the format of formative assessments being incompatible with online learning. Based on these findings, research implications for universities and researchers are discussed.

Keywords: Online formative assessments, vocational training centre (VTC), inclusive pedagogy, online learning

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Introduction

Globally, the emergence of the COVID-19 pandemic in 2020 resulted in disruptions in the education system (Mahlangu & Makwasha, 2023). Owing to restrictions imposed by the World Health Organization in an effort to reduce the wide spread of the virus, face-to-face classes in education institutions were brought to a halt. Moreover, typical face-to-face assessments were suspended by many higher and tertiary institutions (HTIs) from the first quarter of 2020 due to the pandemic (Shariffuddin et al., 2022). Many HTIs therefore resorted to online assessment in order to evaluate students' performance. Since then, tertiary institutions in Zimbabwe have adopted the use of online platforms to assess the performance of their students as well as their readiness for examinations (Chitanana, 2024). Several online assessment platforms have appeared and these include Quizlet, Socrative, iSpring Suite, Google Forms, Microsoft Forms and Qorrect for online assessments (Kaputa, 2021; Mahlangu & Makwasha, 2023). Amakali et al. (2026) reveal that Moodle is the dominant platform for online assessments in Namibia. The present study, however, identifies online formative-assessment platforms that are used by vocational training centres (VTCs) in Zimbabwe. This is crucial in understanding the existing platforms that are used for online formative assessments.

Previous research focused on academic dishonesty in online assessments (Shariffuddin et al., 2022), lecturers' perceptions of online assessments in Lebanon (Mirza, 2021) and factors that influence the adoption of online formative assessments in Africa (Pete & Soko, 2020). In the Zimbabwean context, research has focused on how information technology bridges the distance barrier, on the integrity of online assessments and on challenges faced in the adoption of online assessments (Kaputa, 2021; Kurehwatira & Hlongwane, 2024; Muchemwa, 2023; Mutseekwa & Mudavanhu, 2021). However, the adoption of online formative assessments among tourism and hospitality students has been overlooked (Mawuye & Mushoriwa, 2023; Nyika & Modise, 2023). Our research focuses on the inclusivity of online formative assessments that have been adopted by VTCs and which offer tourism and hospitality management programmes in Manicaland Province, Zimbabwe. To ascertain their performance in final examinations, it is imperative to appreciate how students from diverse backgrounds have embraced online formative assessments.

To do this, this article employs a qualitative approach to exploring the inclusivity of online formative assessments that have been adopted in Zimbabwe. Prior research has focused on secondary research to draw conclusions (Dzingirayi & Musemburi, 2021; Sudakova et al., 2022). A qualitative dimension thus helps to appreciate inclusivity of online formative assessments in the context of gender and spatial dimensions.

The article explores the following key areas:

1. The platforms used for online formative assessments; and
2. The inclusivity of platforms used for online formative assessments.

The following research questions were identified in the study:

1. What are the platforms widely used for online formative assessments in VTCs?
2. How do spatial differences influence inclusivity of online formative assessments among students enrolled with VTCs?
3. In what ways does gender influence inclusivity of online formative assessments among students enrolled with VTCs?
4. What are the experiences of tourism and hospitality management students who utilise online platforms for formative assessments?

Literature review

Baleni (2015) defines online formative assessment as the use of information and communication technologies (ICT) to support the learning process and evaluate learning outcomes. It is a systematic process that allows lecturers to continuously gather evidence of students' learning using relevant technologies (Simon, 2019). In this study, online formative assessment refers to a series of carefully planned instructional activities that utilise digital technologies to monitor students' learning progress and subsequently enhance their understanding and skills. Discussions regarding students' performance, as well as subsequent feedback, are facilitated through web-based ICT. Furthermore, assessments are done while lecturers and students are separated by time and space, enabling rapid, specific feedback to be given to large cohorts of students on their performance (Sudakova et al., 2022).

The integration of online formative assessments in educational institutions has become a global trend, driven by advancements in technology and the need for flexible, inclusive learning environments (Pete & Soko, 2020). Ibnatul et al. (2022) identify Socrative, Google Forms and Geddit as the online platforms that are commonly used to facilitate formative assessments. The creation of open-source learning management systems such as Moodle have enabled higher and tertiary education institutions to offer online tutorials (Kaputa, 2021). The online platforms facilitate both formal and informal formative assessments (Nagandla et al., 2018). The formal formative assessments contribute to the final examinations and include written tests, exercises, assignments and quizzes. The informal formative assessments facilitate comprehension, creativity and understanding and examples include oral presentations, discussion forums, group tasks, drama and puzzles (Asamoah et al., 2022).

In Zimbabwe, polytechnics and VTCs have increasingly adopted online formative assessments to enhance teaching and learning processes (Mahlangu & Makwasha, 2023; Nyika & Modise, 2023). However, the inclusivity of these assessments remains a critical concern, particularly in a context marked by socio-economic disparities, limited digital infrastructure and varying levels of digital literacy. The present study examines the inclusivity of online formative assessments in Zimbabwean VTCs, with a particular focus on rurality and gender dimensions.

Inclusivity in education refers to the removal of barriers that prevent students from fully participating in educational activities, regardless of their socio-economic status, geographic location, or physical and cognitive abilities (UNESCO, 2020). In the context of online formative assessments, inclusivity involves designing assessments that are accessible, equitable and responsive to the diverse needs of students (Boiral et al., 2021). Consequently, formative assessments must be adapted to online environments in ways that do not disadvantage specific groups of students. Amakali et al. (2026) advocate for assessment frameworks that are inherently accessible rather than requiring post-hoc accommodations. Additionally, Bearman et al.'s (2023) digital accessibility framework provides crucial insights into how online environments can either perpetuate or eliminate educational barriers, establishing that true inclusivity requires proactive design considerations.

Adoption of online formative assessments in Zimbabwe

The acceleration of online formative-assessment adoption in Zimbabwe reflects both global digitalisation trends and local contextual imperatives. Chitanana (2024) reveals that the COVID-19 pandemic exposed fundamental disparities in digital readiness across Zimbabwean educational institutions. This aligns with regional research by Awajan (2023), who identified similar patterns across sub-Saharan Africa, where emergency remote teaching highlighted pre-existing infrastructural deficits.

Chitanana (2024) provides crucial, context-specific insights, demonstrating that, while VTCs recognised the scalability potential of online assessments, implementation faced significant obstacles that included unreliable electricity supply, limited bandwidth and inadequate device accessibility. Ngema (2024) observes that post-pandemic adoption patterns reveal persistent institutional capacity challenges that continue to impact on assessment inclusivity. The transition from emergency remote teaching to sustained online assessment practices has proven more complex than initially anticipated, with many institutions struggling to maintain the digital infrastructure necessary for consistent assessment delivery.

Benefits of online formative assessments

Contemporary literature demonstrates significant benefits of inclusive online formative assessments, particularly in addressing barriers faced by non-traditional students. Temporal and spatial flexibility emerges as a primary advantage, enabling participation among students who often balance employment and caregiving responsibilities (Baleni, 2015; Zigama, 2025). Joseph (2023) indicates that asynchronous assessment options increase completion rates among working students by up to 35%, highlighting how flexible scheduling can accommodate diverse life circumstances that traditionally exclude students from formal assessment processes.

Personalised learning pathways facilitated by digital platforms represent another significant inclusivity benefit, allowing for individualised feedback mechanisms that address diverse learning needs (Livingston-Galloway & Robinson-Neal, 2021). Advanced analytics platforms, as explored by Chen et al. (2026), enable real-time adaptation of assessment difficulty and format based on individual performance patterns. This creates a responsive learning environment that can accommodate different learning paces and styles. This personalisation extends beyond simple difficulty adjustment to include varied presentation formats and response mechanisms that can better serve students with different preferences and abilities (Shafraeli et al., 2026).

Furthermore, multimodal assessment capabilities accommodate varied learning preferences and accessibility requirements through multimedia integration (Gikandi & Morrow, 2016). Recent developments reported by Shafraeli et al. (2026) show that incorporating audio, visual and interactive elements can reduce assessment anxiety while improving comprehension across diverse student populations. This multimodal approach is particularly valuable in vocational education contexts, where practical-skills assessment can benefit from video demonstrations, interactive simulations and other media-rich formats that better reflect real-world application scenarios.

Theoretical framework

Crawford (2020) defines a theoretical framework as the underlying structure that scaffolds a study. The theoretical framework serves as both the foundation upon which research is constructed and the guideline that researchers follow to make their contribution. The present study is based on the assertion that online formative assessments use Internet and computer technologies to facilitate interaction between students and lecturers (Banji et al., 2021). It seeks to understand students' experiences of participating in online formative assessments, with a view to promoting inclusivity. Amakali et al. (2026) indicate that inclusivity is a principle that supports and welcomes diversity among all students.

This study adopts an inclusive pedagogical approach in order to examine the outcomes of formative assessments administered via online platforms. Inclusive pedagogy acknowledges the individual differences among students and enables active participation. Alordiah (2025) notes that inclusive pedagogy aims to eliminate social exclusion based on race, gender, ethnicity and social class. In this context, Joseph (2023) presents narratives of formative assessments involving students with disabilities in vocational education. This study also considers barriers arising from gender and spatial differences among students enrolled in VTCs in Zimbabwe, with the aim of ensuring that all students attain high grades. Thus, inclusive pedagogy is grounded in equity, where student diversity is valued and lecturers seek to create rich learning opportunities that are available to all students to stimulate their participation in the classroom community.

Methodology

This study employed a qualitative research design in order to investigate the inclusivity of online formative assessments adopted by VTCs in Manicaland Province, Zimbabwe. A qualitative approach is appropriate for exploratory and interpretive inquiries into human behaviour and social contexts (Nimehchisalem & Mat Hussin, 2018). This is ideal given the nature of the research question, which seeks to understand the inclusivity of online formative assessments from the perspectives of students and lecturers. According to Cresswell (2013), qualitative research is well suited for exploring complex phenomena in educational contexts where numerical data may not capture the depth of participants' lived realities.

The study was anchored in the interpretivist paradigm, which posits that reality is socially constructed and best understood through the subjective experiences of individuals. Interpretivism emphasises understanding how people make sense of their world within specific cultural and social contexts (Calás et al., 2013). This paradigm was appropriate for the study, as it focuses on gaining in-depth insights into how students from different backgrounds experience and perceive online formative assessments. By adopting an interpretivist stance, the researchers were able to engage with participants empathetically, aiming to co-construct knowledge and interpret the meanings they attached to their assessment experiences (Taherdoost, 2017).

The qualitative design enabled the researchers to examine how gender and spatial differences influence access to, and experiences with, online formative assessments. It also allowed for the collection of rich, narrative data through open-ended interactions with participants, thereby providing a comprehensive picture of inclusivity challenges and opportunities in the transition to online formative-assessment platforms.

The study targeted students and lecturers from selected VTCs in Manicaland Province, Zimbabwe. The institutions were chosen owing to their increasing reliance on online platforms for formative assessments, particularly in response to the COVID-19-induced shift to digital education methods. The institutions were also selected primarily because they offer tourism and hospitality courses accredited by the Higher Education Examinations Council (HEXCO). Such institutions included Mutare Polytechnic, Magamba VTC, Marange VTC, Manica Skyview School of Hospitality and Tourism (MSSHT) and Simukai VTC. The focus on tourism and hospitality students reflects the recent surge in enrolment experienced by institutions, buoyed by the country's tourism growth trajectory. A purposive sampling strategy was intentionally adopted to select participants with direct experience of online formative assessments. According to Patton (2015), purposive sampling is effective for identifying information-rich cases in qualitative research. The sampling was also stratified to ensure diversity in terms of gender (male and female students) and spatial background (urban and rural students). A total of 40 participants were drawn from the identified institutions, comprising 36 students

(eight males and 28 females) and four lecturers involved in course delivery and assessment. This sample size was sufficient to reach data saturation, where no new themes emerged during data analysis. The sampling approach ensured representation across different demographic and institutional characteristics while maintaining a focus on participants with relevant experience in online formative-assessment contexts.

Semi-structured interviews and focus-group discussions (FGDs) were used to collect data from the lecturers and students, respectively. The interviews allowed for consistency in questions while permitting flexibility to probe further into emerging topics. The interviews explored lecturers' perspectives on institutional readiness for online assessments, on challenges in ensuring inclusive access and on pedagogical adaptations for diverse students from spatial and gender dimensions. Each interview lasted approximately 45 to 60 minutes and was audio recorded with participants' consent. The interviews were conducted in English at the participants' host institutions and during the time convenient to them.

Three FGDs were conducted with student participants, providing a platform for dynamic discussions and collective reflection on the inclusivity of online formative assessments. The discussions were undertaken virtually in order to include individuals from diverse locations. The topics covered included access to devices and Internet connectivity, digital literacy and technical support, and perceptions of fairness, flexibility and anxiety during online formative assessment. The FGDs helped to capture a wide range of experiences and fostered participant interaction that enriched the data. Each discussion lasted approximately 90 minutes and was moderated by the researcher using a pre-tested discussion guide.

Data from interviews and FGDs were transcribed verbatim and analysed using thematic analysis, following Braun and Clarke's (2006) six-phase approach: familiarisation with the data through repeated reading; generation of initial codes; searching for themes among codes; reviewing themes for internal coherence; defining and naming themes; and producing the final report. The researchers listened and relistened to the recorded audios to familiarise themselves with the data and points that emerged from both the interviews and FGD sessions. These were then captured on computer. Thereafter, similar points were grouped together to facilitate interpretation and analysis. The analysis was both inductive (data-driven) and deductive (guided by research questions), allowing for flexibility as well as responsiveness to emerging issues. Coding was done manually and patterns were cross-validated through peer debriefing to enhance analytical rigour. Key themes included accessibility, equity, digital readiness and gendered experiences.

To ensure the trustworthiness of the findings, the study applied Lincoln and Guba's (1985) framework. Credibility was ensured through prolonged engagement with participants, triangulation of data sources (interviews and FGDs) and member-checking where participants reviewed summaries of findings for accuracy. Transferability was enhanced by providing rich, contextualised descriptions of the study setting, participants and assessment platforms used. Dependability was achieved by documenting all stages of the research

process in detail, thereby allowing for an external audit if necessary. Confirmability was maintained through reflexive journaling by the researchers to bracket biases and by maintaining an audit trail of decisions made during data collection and analysis.

Ethical clearance was obtained through appropriate institutional channels and several ethical principles were observed throughout the research process. All participants were provided with detailed information sheets and signed consent forms prior to participation, thereby ensuring informed consent. Data were anonymised and pseudonyms were used in reporting to protect participant identity, thus maintaining confidentiality throughout the study. Participants were informed that their involvement was voluntary and that they could withdraw at any point without penalty. All digital recordings and transcripts were securely stored in password-protected files accessible only to the researchers, ensuring appropriate data protection in compliance with relevant guidelines.

Results and discussion

Case setting

The study focused on exploring the inclusivity of online formative assessments among VTCs that offer tourism and hospitality management programmes in Manicaland Province, Zimbabwe. Manicaland Province, which is located on the eastern border with Mozambique, comprises seven administrative districts, namely Buhera, Chipinge, Chimanimani, Makoni, Mutare, Mutasa and Nyanga (Makonya & Makandwa, 2025). Notable VTCs that offer tourism and hospitality management courses are Mutare Polytechnic, Magamba VTC, Manica Skyview School of Hospitality and Tourism (MSSHT), Marange VTC and Simukai VTC. The institutions offer HEXCO-accredited courses that range from a professional-competence certificate to a national foundation certificate, a national certificate, a national diploma and a higher national diploma. Only Mutare Polytechnic offers higher national diploma programmes. Students can enrol for an array of courses that include tourism and hospitality management, professional cookery, food and beverage services, travel and leisure management, and bakery studies.

The HEXCO courses include both formative and summative assessments. However, this study focused on formative assessments only. The former contribute 60% towards the final mark and are structured as follows: 20% theory assignments, 20% practical assignments and 20% tests. Continuous assessment is done for each and every module from national foundation certificate to higher national diploma. The researchers observed that students maintain a physical file and that two assignments are submitted for each subset of the continuous assessment. The present study focused on both curriculum-embedded and informal formative assessments.

Online platforms adopted by VTCs in Manicaland

The research findings reveal that online platforms adopted to support formative assessments were Google Forms, Google Meet, Zoom, WhatsApp, email, Google Classroom and Moodle. Students indicated that they used WhatsApp because it was relatively cheap when compared with other online platforms. One student further added that WhatsApp 'enables them to discuss anytime'. These findings align with Ngema's (2024) assertion that flexibility promotes inclusivity and equity in vocational education through the elimination of the need for physical presence. One female participant explained that online formative assessments (OFAs) allow her to do household chores first and then complete the assessments. The OFAs enable female participants to demonstrate their knowledge and skills in their own time and in ways that best suit their circumstances. Muwaniki and Matara (2025) also indicate that social media enhances vocational education by fostering greater accessibility, engagement and independent learning.

All the lecturers concurred that the WhatsApp platform facilitates informal formative assessments that help them to gauge student understanding and comprehension. The researchers further noted that Moodle and Google Classroom were the least-adopted online platforms. Although two lecturers confirmed that their institutions had facilitated training in the use of Moodle, they assumed that it was complicated. This reinforces Pedrotti and Nistor's (2016) assertion that technology adoption is affected by how users perceive its usefulness. The researchers also noted that students were reluctant to adopt Moodle and Google Classroom, This further supports Singh et al.'s (2023) conclusion that lecturers should be at the forefront of technological adoption. This should be supported by well-structured assessments that are easy to navigate and clearly articulated (Shafraeli et al., 2026).

The findings reveal that access to online formative-assessment platforms among students in VTCs in Manicaland Province is uneven. While urban-based students reported relatively easy access to Internet-enabled devices and stable Internet connectivity, their rural counterparts faced significant challenges. Limited access to reliable electricity, high mobile-data costs and lack of technological devices hindered students from participating fully in online formative assessments. Consequently, spatial disparities emerged as a critical barrier to inclusivity. Despite this, male students based in Marange and Nyanyadzi acknowledged that improvements such as the use of solar energy in rural homes, the electrification of local schools, and the establishment of village information centres had positively facilitated their online participation. However, one lecturer highlighted that, despite these infrastructural improvements, 'participation of rural students in online assessments remains limited, particularly for the female students who are expected to perform household chores during the weekends'. Evidence from the study supports Kaputa and Ndabambi's (2018) conclusion that cultural background influences students' use of ICTs.

Rural students reported losing connection during critical assessment periods when using Moodle and Google Classroom. This was attributed to low bandwidth that characterises

rural communities. The low participation of rural students on Moodle, for example, may be attributed to Muwaniki and Matara's (2025) conclusion that the cost of data is beyond the reach of many individuals in rural communities. From this perspective, the online formative assessment process becomes discriminatory. Moreover, the digital divide was exacerbated by socio-economic inequalities. One participant from a rural community indicated that he uses a mobile phone that does not support Internet access. Students from low-income families were less likely to own personal computers or smartphones, relying instead on shared community resources such as Internet cafés (UNESCO, 2020).

Online formative assessments adopted by VTCs

The research findings revealed that online formative assessments adopted by VTCs include tests, quizzes, assignments, discussions and checklists. Both students and lecturers revealed that practical assignments, such as food preparation, were done physically. This can be attributed to the lack of requisite infrastructure for most students to conduct such practical assignments from their homes. Furthermore, one lecturer aptly stated: '[T]he infrastructure at the school presently cannot accommodate online supervision of practicals conducted from multiple locations.' Another lecturer also noted that 'the coordination of the purchasing of ingredients needs to be centralised to ensure fairness'. Thus, participants indicated that curriculum-embedded online formative assessments were limited to theory assignments and tests across all case institutions. The researchers observed that different online platforms were used for different classes at the same institution and across institutions.

The dominant online formative assessments were theory assignments and tests and all students acknowledged participation in these assessments. One student explained that theory assignments are shared via email and are required to be submitted within a prescribed period. Another student indicated that they receive and submit theory assignments using Google Classroom. One participant indicated that they use Google Classroom to write in-class tests. Two lecturers revealed that they make use of Google Forms to conduct tests and exercises. Participants noted that the online submission of theory assignments and tests enables them to maintain an online record that they can refer to at any time.

The study findings reveal that participants undertake both planned and spontaneous online formative assessments. In this case, students from all institutions confirmed participation in online discussions, quizzes and oral tests. One student indicated that they undertake an oral examination on a weekly basis via Google Meet. Lecturers indicated that online discussions are used to gather information regarding students' progress. Although these do not contribute towards the final mark, online discussions provide feedback on students' performance. This provides guidelines for improving students' understanding and skills. Online assessments also help to develop students' creativity and stimulate classroom participation regardless of spatial detachment (Asamoah et al., 2022).

The researchers noted that participants at three VTCs are involved in informal online formative assessments, which are largely spontaneous and unexpected. These informal assessments, which include oral tests, narratives and group tasks, are characterised by a recap of the day's activities. They are conducted using WhatsApp, with participants sending both texts and audio notes. One student explained that WhatsApp enables her to keep track of the discussions, which improves her ability to comprehend a particular topic. One lecturer indicated that he uses Google Classroom to share quizzes.

Inclusivity of online formative assessments adopted

Gender dynamics played a significant role in shaping the inclusivity of online formative assessments. Female students reported more challenges in engaging with online platforms compared with their male counterparts. This supports Mahlangu and Makwasha's (2023) assertion that cultural expectations and domestic responsibilities disproportionately limit the time female students allocate to online learning. Female students reported lower engagement rates in online assessments, attributed primarily to competing domestic obligations, including childcare responsibilities, household management duties and cultural expectations regarding women's roles within family structures. These findings illuminate how traditional gender roles translate into digital educational spaces, creating new forms of gendered educational inequality.

Furthermore, issues of online harassment and a lack of gender-sensitive support systems also emerged as deterrents to female participation. One female stated: '[T]he language used in WhatsApp groups is intimidating, especially when we are discussing such modules as hospitality law and economics.' However, in institutions that provided structured support, such as digital literacy workshops and online counselling services, female students demonstrated performance levels comparable to those of male students. This aligns with prior studies advocating for institutional interventions to mitigate gender disparities in online education (Mahlangu & Makwasha, 2023). The research also documented successful institutional interventions that effectively mitigated gender disparities. Educational institutions that implemented comprehensive support systems, including dedicated digital literacy programmes for women, flexible assessment scheduling and robust online safety protocols, achieved near-parity in male and female participation rates.

These interventions proved particularly effective when combined with mentorship programmes that paired female students with successful alumni and when technical support was provided through culturally sensitive channels. The data suggest that gender disparities in online formative assessment are not inevitable consequences of technological adoption but rather addressable challenges that require intentional institutional commitment and resource allocation. The research findings support earlier observations that gender differences influence technology acceptance (Alblooshi et al., 2019; Attuquayefio & Addo, 2014) and, consequently, the adoption of online formative assessments.

The study findings revealed that 20 students were drawn from Manicaland's rural districts and four students were from rural communities outside Manicaland. One lecturer explained that differences in areas of origin result in language differences among students, particularly 'in Manicaland where we have the Ndau, Manyika and Barwe dialects.'. These language dialects are noticeable during informal online assessments, as they are characterised by wide use of indigenous languages. 'My peers associate my tone with backwardness and I rarely talk during online conversations that are held on Google Meet,' explained one student. Another student added that she prefers sending her feedback using WhatsApp texts so that other students do not hear her tone. This indicates that social background negatively affects students' participation during informal online formative assessments. However, as clarified by another student, this is the case 'when the online conversations are not moderated by a lecturer'. From this perspective, the researchers noted that the effect of the students' areas of origin on the adoption of online formative assessments is amplified by habits perpetuated during informal online conversations. Olayemi et al. (2021) explain that training and workshops help to ease individual differences that may hinder online learning.

Students' perceptions of the effectiveness of online formative assessments varied considerably. Many students appreciated the flexibility and immediate feedback provided by platforms such as Google Forms and Google Classroom. However, concerns were raised about the authenticity and fairness of assessments. Cases of academic dishonesty, such as impersonation and collusion, were reported, challenging the reliability of online evaluations. The study findings revealed that academic dishonesty was rampant in curriculum-embedded assessments regardless of gender. For instance, one female student indicated that her sister completes quizzes and tests that are conducted on Google Classroom, as she herself needs to score high marks. The situation transcends both gender and spatial differences as students aim to obtain high marks. This echoes Muchemwa's (2023) call to implement measures that safeguard the integrity of curriculum-embedded online formative assessments.

Conclusions and recommendations

The adoption of online formative assessments in VTCs is dependent on lecturers' skills and willingness to embrace technology. Infrastructural improvements in rural communities have helped students to participate in online formative assessments. However, female students remain burdened by household chores, which limit their online participation, especially after school hours. Online platforms such as WhatsApp and Google Classroom help students to complete tasks during their free time. The WhatsApp platform is widely used by students because it is cost-effective and is perceived to be simple and easy to use. Its adoption and use require monitoring in order to overcome language differences inherent among students. The findings collectively suggest that online formative assessment represents both significant opportunity and substantial risk for educational equity. Technological capabilities offer unprecedented opportunities for personalised feedback, flexible engagement and enhanced learning outcomes. These benefits are realised where online formative assessments are inclusive and address individual inequalities.

The research underscores the critical importance of comprehensive institutional support and deliberate attention to equity considerations in the design and implementation of online formative assessment systems. Success requires not merely technological adoption but a fundamental reimagining of how educational institutions support diverse student populations in digitally mediated learning environments. Emerging technological solutions show promise for enhancing assessment inclusivity through more sophisticated and adaptive approaches. Artificial intelligence-driven adaptive assessment platforms, as explored by Rambharose (2025), provide personalised feedback mechanisms and adjust assessment complexity in real time based on individual student responses and performance patterns. These systems have the potential to create more responsive and inclusive assessment experiences that can accommodate diverse learning needs automatically.

Future research directions emphasise the need for context-specific evaluation frameworks that measure inclusivity outcomes rather than merely technological adoption rates. These frameworks must consider the complex interplay between technological capabilities, institutional capacity and individual student needs to provide meaningful assessments of whether online formative assessments are truly achieving their inclusivity potential. Research must move beyond simple adoption metrics to examine whether technology implementation is actually removing barriers to educational participation and improving learning outcomes for traditionally marginalised student populations.

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