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# Evolving Technology in ODeL at Higher Institution in Eswatini: Lecturers' Perspectives

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**Abstract**
*As education continues to evolve in response to technological change and societal needs, the quality of delivery in Open Distance and e-Learning (ODeL) has become a central concern for educators, researchers, and policymakers. This qualitative study, grounded in an interpretivist design and employing a phenomenological approach, examined the perspectives of lecturers at higher institutions of learning in Eswatini. Ten participants were purposively selected and engaged through semi-structured interviews and focus group discussions. Findings revealed varied attitudes toward ODeL technologies. Some lecturers expressed frustration and resistance, especially when using the Learning Management System (Moodle), online assessment platforms, and videoconferencing tools such as Zoom and Microsoft Teams. They reported challenges including limited digital literacy, increased workload, unreliable internet connectivity, and insufficient institutional support. By contrast, technologically confident lecturers viewed these tools positively, noting their potential for interactive teaching, collaborative learning, and the use of multimedia resources to enhance student engagement. The study concludes that lecturers' attitudes toward ODeL technologies are uneven, which may affect the quality and consistency of teaching delivery. To address this gap, it is recommended that the higher institutions of learning in Eswatini should implement targeted professional development programmes focusing on specific tools and digital pedagogy. Such training would enhance lecturers' technological competence, build confidence in online teaching, and promote more consistent integration of digital resources. This, in turn, would strengthen the overall quality of teaching and learning in ODeL environments.*

## Introduction

Open Distance and e-Learning (ODeL) represent a major shift in higher education delivery across the globe and is increasingly essential in developing contexts. The COVID-19 pandemic accelerated adoption of digital platforms (e.g., Moodle, Zoom, Microsoft Teams), forcing lecturers and institutions to adapt rapidly from face-to-face to online or blended modes of teaching (Lufungulo, 2023). In Eswatini, ODeL has become a strategic priority to expand access and flexibility for learners while addressing resource and geographic constraints, yet this transition has exposed disparities in infrastructure, readiness, and pedagogy (Madlela & Ngakane, 2022).

Lecturers are central actors in the quality of ODeL provision. Their attitudes, digital literacy, and institutional support structures influence how technologies are adopted and used pedagogically (Mthethwa-Kunene & Maphosa, 2019). The study's main aim is to present a nuanced account of lecturers' lived experiences integrating evolving technologies in ODeL at the higher institutions of learning in Eswatini, situate these findings in the regional literature, and offer practical recommendations to strengthen digital pedagogy and professional development.

## Literature review

### The digital learning turn and higher education in Africa

Global agencies and regional studies highlight both the promise and the uneven realities of digital learning in Africa. UNESCO (2020) argues that digital technologies can accelerate progress toward inclusive quality education, but achieving this requires deliberate policy, infrastructure, and capacity building (UNESCO, 2020). Empirical studies across sub-Saharan Africa reveal consistent barriers: unreliable internet, high data costs, power outages, limited access to devices, and uneven digital skills among lecturers and students (Research synthesis on ODeL in Africa, 2022 - 2025).

### Learning Management Systems and Moodle in Eswatini

Studies focusing specifically on the higher institutions of learning in Eswatini, have examined Moodle adoption and utilisation. Mthethwa-Kunene and Maphosa (2019) reported that students' use of Moodle was affected by acceptance factors, digital skills, and infrastructural constraints, issues likely mirrored among academic staff as well. More broadly, institutional LMS adoption often succeeds or fails depending on targeted training, technical support, ease of use, and alignment between LMS features and pedagogic practice (Maluleke, 2025).

### Lecturers' experiences and attitudes toward ODeL technologies

Qualitative investigations in Southern Africa indicate mixed lecturer responses to sustained online teaching. Some educators reported positive transformations in pedagogy, increased opportunities for student interaction, and richer multimedia use; others described frustration, "technostress", increased workload, and resistance linked to low digital confidence (Lufungulo, 2023; South African case studies 2024–2025). Research also documents "Zoom fatigue", assessment integrity concerns with online platforms, and the need for clearer digital pedagogy rather than platform-specific training alone.

### Professional development and digital pedagogy

Sustained, scaffolded professional development (PD) that blends tool training with pedagogical design (e.g. designing interactive online sessions, formative online assessment, inclusive digital resources) is associated with improved lecturer confidence and better student outcomes (UNESCO reports; Ferreira-Meyers, 2024). Models that combine communities of practice, micro-credentialing, and institutional incentives show promise in resource-constrained settings.

The regional literature supports that attitudes are uneven and mediated by digital confidence, infrastructure, and support. There is a consistent recommendation for targeted PD that is tool-specific *and* pedagogically oriented.

## Theoretical Framework: Bandura's Self-Efficacy Theory

This study is underpinned by Albert Bandura's Self-Efficacy Theory (1997), which forms a central component of his broader Social Cognitive Theory. Self-efficacy refers to individuals' beliefs in their own capabilities to organize and execute the actions required to achieve specific performances (Bandura, 1997). These beliefs influence thought patterns, emotional reactions, motivation, and ultimately behaviour. Within the context of teaching and learning, self-efficacy determines how teachers approach new challenges, such as adopting educational technologies or transitioning to Open Distance and e-Learning (ODeL) environments.

Bandura identified four key sources of self-efficacy:

1. Mastery experiences: Successful performance of a task strengthens self-belief, whereas failure weakens it. For lecturers, positive experiences using Learning Management Systems (LMS) like Moodle or videoconferencing tools build confidence in integrating digital resources effectively.
2. Vicarious experiences: Observing peers successfully using technology increases one's own belief in being able to do the same. Peer demonstration and mentoring are therefore vital in professional development contexts.
3. Verbal persuasion: Encouragement and constructive feedback from colleagues, administrators, or training facilitators can enhance lecturers' confidence in using digital tools.
4. Physiological and emotional states: Stress, anxiety, or fatigue can undermine confidence, while positive emotional states promote persistence and resilience when facing technical challenges (Bandura, 1997; Schunk & DiBenedetto, 2020).

In the context of ODeL at tertiary level in Eswatini, lecturers' self-efficacy beliefs shape their willingness to engage with evolving technologies. Those with high technological self-efficacy are more likely to explore new tools, experiment with digital pedagogy, and persist despite technical difficulties (Tondeur et al., 2020). Conversely, lecturers with low self-efficacy may exhibit resistance or avoidance.

## Methodology

### Research design and rationale

A qualitative, interpretivist design with phenomenological methods was adopted to explore lecturers' lived experiences of ODeL technologies. This approach is suited to in-depth, contextual understanding of attitudes and practice (Creswell, 2013).

### Participants and sampling

Ten lecturers from various higher institutions of learning in Eswatini were purposively selected to capture diverse faculties, levels of prior technology use, and genders. Purposive sampling enabled selection of participants with recent ODeL teaching experience and allowed variation in digital confidence.

**Data collection**

Data were gathered through semi-structured interviews (individual) and a focus group to surface both personal narratives and collective reflections. Interviews probed experiences with Moodle, videoconferencing (Zoom/Teams), online assessment platforms, perceived benefits/challenges, institutional support, and PD experiences. All sessions were audio-recorded with consent and transcribed verbatim.

**Data analysis**

A thematic analysis informed by phenomenological reduction was conducted: transcripts were read multiple times, significant statements extracted, meanings formulated, and themes clustered (Moustakas, 1994). Triangulation between interviews and focus group data enhanced credibility.

**Ethical considerations**

Ethical clearance was obtained from the relevant institution committees. Participants provided informed consent; data were anonymised, securely stored, and participants could withdraw at any time.

**Findings**

Thematic analysis produced five overarching themes that align closely with the abstract: Uneven attitudes and digital confidence; Technical and infrastructural barriers; Workload and time demands; Pedagogical affordances and engagement; and Institutional support and professional development needs.

**1. Uneven attitudes and digital confidence**

Participants clustered into two broad groups. Group A expressed discomfort and resistance, often citing low self-efficacy with specific tools (especially Moodle configuration and online assessment settings). Under this group a majority of the participants were saying:

*"For me I am just being forced by the fact that we had to arrange classes online, otherwise working with these online technologies is not my favourite approach. We are used in using hardware resources like books and chalkboards instead of these online tools".* These assertion cemented the negative attitude that this group of lecturers had which in turn negatively affected their confidence in handling lessons with online technologies.

Group B were technologically confident, creative in using multimedia, and enthusiastic about blended learning possibilities. Several lecturers reported that confidence often followed hands-on practice and peer observation. These in summary said in one voice":

*"We wonder why some of our colleagues shun away from enjoying the use of online teaching and learning technologies. This is the best and simple way of handling lessons.* This confirms the fact that some lecturers had no challenges in dealing with online teaching and learning

technologies when others were in deep problems. The findings replicate regional patterns reported in the literature (Mthethwa-Kunene & Maphosa, 2019; Lufungulo, 2023).

**2. Technical and infrastructural barriers**

Unreliable internet connectivity, high data costs, and intermittent power supply were pervasive concerns that constrained synchronous teaching and access to LMS resources. Participants located in urban areas tended to report fewer connectivity issues than those teaching from rural home locations, revealing an urban-rural digital divide. One lecturer who stays in the rural place said , "*Sometimes electricity would go off yet one is in the middle of a sessions and wifi connection also goes off and this greatly affect the drive to use online teaching and learning technologies".* Such sentiments were also shared by those who lived in urban and they pointed out that the issue of load shedding was their major source of problems. Nonetheless, infrastructural constraints are not only a problem in eSwatini but there are well-documented in the African context.

**3. Workload and time demands**

Lecturers reported that preparing online materials, grading online assessments, and providing asynchronous student support increased workload. The design of online learning materials (chunking content, creating videos, setting-up quizzes) required substantial time up front, despite potential long-term efficiencies. This "initial investment" effect was a recurrent narrative.

**4. Pedagogical affordances and engagement**

Technologically confident lecturers described successful use of breakout rooms, polls, multimedia, and discussion forums to increase interaction and collaboration. Several recounted creative assessment practices (e.g., multimedia assignments) that aligned better with competences than traditional exams. These positive pedagogical affordances mirror findings from Zambia and South Africa indicating potential pedagogical gains when tools are used intentionally.

**5. Institutional support and PD needs**

Participants emphasised that ad-hoc, platform-only training was insufficient. Instead, they desired scaffolded Professional Development (PD) combining tool training, instructional design, assessment strategies, and mentoring. They also requested dedicated instructional designers and clearer policies on workload and online assessment integrity. These recommendations echo UNESCO and practitioner literature advocating integrated digital learning strategies and continuous PD.

## Discussion

The findings validate that, attitudes toward ODeL technologies in the various institutions of higher learning in the kingdom are indeed uneven and mediated by digital confidence, infrastructure, workload implications, and the nature of institutional support. Two cross-cutting analytical points emerge.

### Self-efficacy and supported adoption

Bandura's concept of self-efficacy helps explain divergent lecturer experiences: those with higher digital self-efficacy were more willing to experiment, redesign assessment, and invest in multimedia instruction; those with low self-efficacy avoided features, defaulting to simpler (but less engaging) modes. Institutional PD that explicitly targets self-efficacy (mastery experiences, vicarious learning via peer modelling, verbal persuasion, and reduced emotional arousal) would likely yield better adoption outcomes. This aligns with evidence that blended PD and communities of practice enhance lecturer competence.

### Structural barriers and equity

Infrastructure problems are not merely technical issues but equity concerns that shape who benefits from ODeL. Lecturers' capacity to deliver synchronous rich media depends on students' and staff's internet access and devices (Ghansah, 2025; Abera, 2025). Without parallel investments in campus and national digital infrastructure and policies to subsidise access, pedagogical innovations risk widening educational inequalities.

### Workload and policy implications

Online pedagogy requires a redistribution of labour and resources. Academic institution must acknowledge the upfront time investment required for quality online course design and consider workload credit, incentives, and support staff (instructional designers, media teams). Clear policies on assessment integrity, fair workload allocation, and recognition of online teaching efforts are necessary to sustain lecturer motivation.

## Conclusions

This study offers a detailed account of lecturers' experiences with ODeL technology at tertiary in Eswatini, echoing regional evidence that the digital transition is both promising and uneven.

Key conclusions:

1. Lecturer attitudes vary significantly and are strongly associated with digital self-efficacy.
2. Infrastructural constraints—unreliable connectivity, high data costs, and power interruptions—remain primary obstacles to consistent online delivery.
3. Online teaching increases upfront workload; institutional recognition and support are needed to make such workloads sustainable. Targeted, pedagogically focused professional development that addresses tools and instructional design is essential for more consistent, quality ODeL.

## Recommendations

Based on the findings and regional literature, the following actionable recommendations are proposed for the colleges and universities in Eswatini:

1. From the finding that lecturers lack professional knowledge and short courses on the use of online teaching and learning technology, there is s need to implement a tiered PD pathway (beginner → intermediate → advanced) combining tool training (Moodle, Zoom/Teams), instructional design workshops, micro-credentials, and mentoring. Use a blended PD model with peer coaching and communities of practice.
2. Establish a central instructional design unit to assist lecturers with course design, multimedia production, and assessment blueprints. This reduces individual workload and raises course quality.
3. Amend workload policies to credit online course development and maintenance time, and consider incentives for innovation.
4. Advocate for institutional and national partnerships to subsidise data, improve campus connectivity, and provide loaner devices for staff and students in need. Work with regional stakeholders to advance digital infrastructure.
5. Provide guidance on online assessment integrity, authentic assessment design, and use of LMS features that promote academic honesty while being inclusive of students with limited connectivity.
6. Implement ongoing monitoring of PD uptake, LMS usage patterns, and student outcomes to iteratively improve interventions.

## Limitations and suggestions for future research

This study is qualitative and based on ten purposively sampled lecturers; findings are not statistically generalisable but offer rich contextual insight. Future research could use mixed methods with larger samples, explore student perspectives in parallel, and conduct longitudinal studies to assess the effects of PD interventions on lecturer practice and student learning outcomes.

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**Conflict of Interest**
I, Hlobsile T Methula declares that there is no conflict of interests regarding the publication of the paper or otherwise.

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