

# **Digitalisation in a faculty of education: processes and possibilities**

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Abstract:

Digitalisation in education has necessitated reimagining of teaching and learning practices in higher education institutions (HEIs). This study examines the development of a digitalisation programme within a faculty of education at a South African open distance e-learning institution. The unique context of the faculty, which primarily serves teachers (in-service and preservice), highlights the urgency of integrating digital tools to improve teaching, learning and research.

Using a qualitative research design, this study analyses conceptualisation documents prepared by the digitalisation committee to identify key components of a relevant, reflective and sustainable digitalisation strategy. In addition, open ended questions posed to the digitalisation committee are analysed for depth of purpose regarding the program. The program's aims to improve digital literacy across the university community, integrating innovative pedagogical approaches, embedding open educational practices in curriculum design, and fostering professional development. Challenges within this context include the low uptake of technology by faculty and the persistent disruption of AI. The digitalisation endeavour found that flexible and swift changes to policy and implementation was the new normal for projects of this nature.

The results highlight the importance of institutional support, strategic planning, and professional capacity building in implementing digital transformation. The study offers insights into how HEIs can address challenges and embrace opportunities presented by rapid technological advancements, ultimately preparing future teachers to navigate digital environments. This work contributes to the growing discourse on digitalisation in education, providing a framework for sustainable implementation in diverse contexts.

Keywords: digitalisation in higher education; digitalisation committee; digitalisation processes

## **1. Introduction:**

Digitalisation projects in education have gained significant attention in recent years, driven by the need to enhance teaching and learning experiences through technology integration. Digitalisation has emerged as a transformative force, offering new possibilities and opportunities to enhance learning (Farias-Gaytan, Aguaded, & Ramirez-Montoya, 2022). In Africa specifically, The Digital Transformation Strategy for Africa 2020-2030 (African Union, 2020) states that digital transformation is catalyst for inclusive, and sustainable development. Digitalisation represents a paradigm shift in education, using technology to create more accessible, inclusive, responsive, interactive, supportive, and effective teaching and learning environments. Digitalisation in education refers to the process of integrating digital technologies, tools, and practices into the teaching and learning environment to improve educational experiences, improve learning outcomes, and transform educational systems. It involves using digital tools, platforms, and resources to support and improve various aspects of education, including curriculum design, instructional delivery, assessment, student participation and support, and administrative processes.

Digitalisation in education encompasses the strategic integration and use of digital technologies, such as computers, the Internet, educational software, online platforms, multimedia resources, assistive devices, and learning management systems (LMS) and data analytics to revolutionise and modernise the entire educational ecosystem. Furthermore, the strategic focus of the institution in this study, as an open, distance institution that leverages open practices such as open pedagogy and open educational resources (OERs).

The process of digital transformation in higher education is multifaceted and requires strategic planning, pedagogical adaptations, and the development of digital competencies among educators. The complexities of these

processes cannot be underestimated. However, as set out by Mishra and Koehler (2009), the confluence of technological skills, pedagogical knowledge and skills, and content knowledge is most critical for education.

The role of **institutional support** in facilitating digitalisation cannot be overstated. Vivek and Nanthagopan (2023) discuss how top-down and bottom-up initiatives are crucial in shaping the digital landscape of higher education institutions in Sri Lanka, suggesting that successful digitalisation requires collaborative efforts across various levels of the institution (Vivek & Nanthagopan, 2023). Similarly, Lytvyn's research on Ukrainian higher education institutions underscores the importance of strategic planning and institutional commitment to digital transformation, which is vital for aligning educational practices with modern technological demands (Lytvyn, 2024). In South Africa, many policies and frameworks exist to align South Africa to international trends, however, implementation of digitalisation policies often falls short due to lack of infrastructure and connectivity that plagues developing countries.

Moreover, the **impact of digitalisation** on teachers' self-understanding and pedagogical practices is profound. Fransson et al. explore how digitalisation reshapes teachers' roles and perceptions within the educational context, highlighting the need for educators to adapt their teaching strategies to leverage digital tools effectively (Fransson et al., 2018). This transformation is further complicated by the varying levels of digital literacy among educators, as indicated by the findings of Mališ et al., which suggest that the maturity of digitalisation efforts can differ significantly across institutions and regions (Mališ et al., 2022).

The **challenges associated with digitalisation** are also noteworthy. Küsel's work illustrates that the development of digital media in higher education is a time-consuming process that requires careful organisation and collaboration among diverse educational stakeholders (Küsel, 2024). This sentiment is echoed by Nagel, who emphasises the necessity for teacher education curricula to adapt to the demands of digital competence, which is essential for preparing future educators to navigate the complexities of digital learning environments (Nagel, 2021).

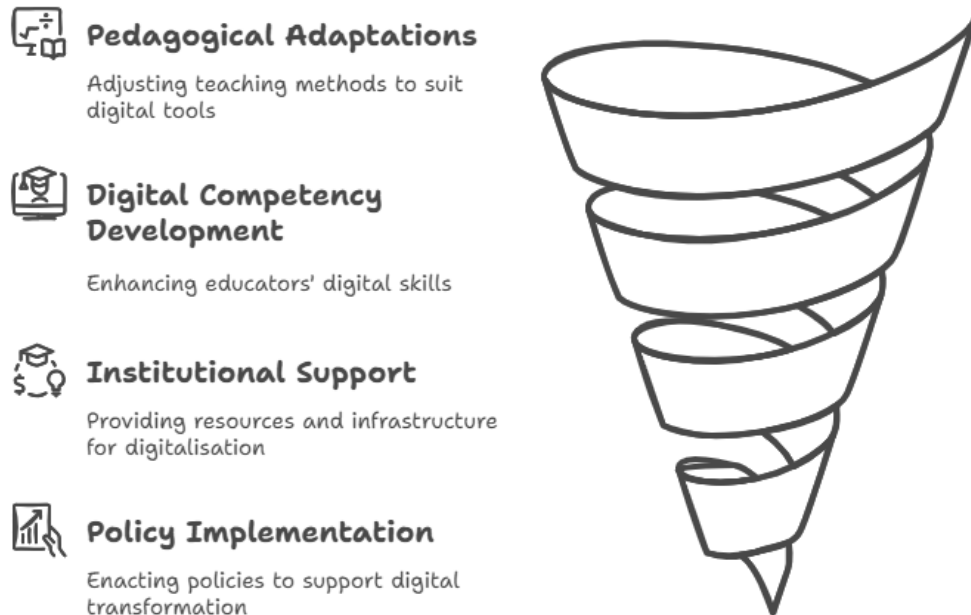
The context of this study is the education faculty at an open distance e-learning institution in South Africa. The faculty primarily provides education for preservice teachers, while also providing further education for inservice teachers and postgraduate master and doctoral programmes. Two disruptive waves were experienced throughout education, namely, the COVID-19 pandemic, followed by the mass launch of generative AI. The experiences during the pandemic have shown that the education sector, from primary to higher and tertiary education, has undergone a significant digital transformation (Chisita & Chizoma, 2021). During and after COVID, several frameworks and models have been developed to guide educators in building or improving digital proficiency in their students and allowing them to use new and emerging technologies in their future classrooms (Falloon, 2020).

Since this specific faculty produces a large number of teachers, the need to digitalise the teaching, learning, and research space is imperative. Not only to ensure relevant teaching, but also to ensure the uptake of technology in classrooms, notably lacking in many schools. UNESCO-ICHEI (2025) reports that ensuring that every learner is taught by a qualified teacher remains a massive challenge in Africa due to insufficient governance structures and supporting resources. The education faculty at the institution reported on in this study, spans 10 different departments and one institute for open distance learning running close to 200 modules across undergraduate BEd degrees and certificates and post-graduate programmes. Attempting a digitalisation programme across this diversity would not be a simple task.

As current research argues (Falloon, 2020; Howard & Tondeur, 2023; Inamorato dos Santos, Chinkes, Carvalho, Solórzano & Marroni, 2023), higher education institutions (HEIs) need to move beyond technical and literacies conceptualisations by recognising the increasingly complex knowledge and technologically savvy skills young people need to function ethically, safely and productively in diverse, digitally mediated environments. It is against this growing body of evidence that we recognise the urgent need to implement a digitalisation strategy.

The above text was inputted into NapkinAi (9 June 2025), and the following resulting image is presented in Figure 1.

# Digital Transformation in Education



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Figure 1: Digitalisation in higher education

In the light of the above context and background, we sought to put together a digitalisation programme for the faculty that would be relevant, reflective, and sustainable.

This led to the following research question:

What are the key components of a relevant, reflective, and sustainable digitalisation programme for the faculty?

## 2. Methodology

A qualitative research design was used to analyse the conceptualisation documents prepared by the digitalisation committee. Document analysis allows an in-depth understanding of the vision, priorities, and rationale behind the programme design of the committee. This method was chosen because it allowed researchers to critically engage with official texts and uncover embedded meanings, assumptions, and values that shaped the formulation of the digitalisation initiative. The focus on textual data aligns with the interpretive paradigm, which seeks to understand phenomena through the meanings that people assign to them within particular contexts.

The documents analysed included formal committee reports, strategic plans, and internal communications describing the goals, processes, and anticipated outcomes of the digitalisation programme within the faculty of education. These were purposively selected for their relevance and richness in detailing the conceptual and operational framework of the programme. The analysis followed a thematic approach, in which key themes and patterns were identified, coded, and interpreted in relation to broader institutional and educational priorities. This methodological

approach facilitated a nuanced understanding of how the digitalisation agenda was framed and justified at the institutional level.

A smaller part of the methodology was the responses to a voluntary online survey that the committee completed after a number of meetings and workshops. Their responses are documented as part of the implementation of the project to explore their perceptions around the project strategies and implementation goals.

### **3. Findings**

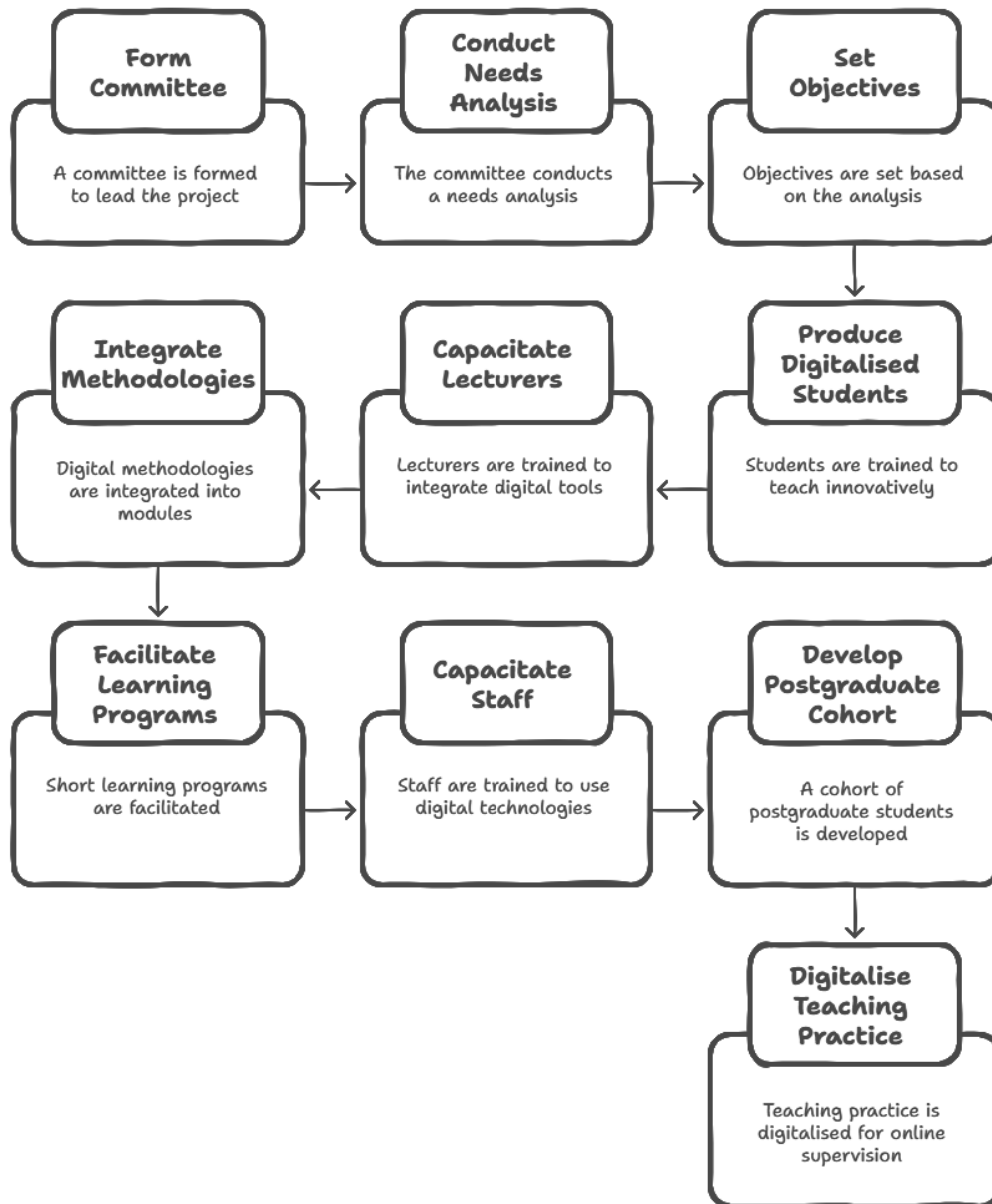
The institution was led by a committee constituted by a large number of representatives from the faculty of education. They met online and then in person to formulate the objectives of the committee.

The digitalisation project committee set out the following objectives based on a needs analyses conducted by the committee:

1. Produce digitally equipped students who can teach innovatively and effectively in digital spaces, i.e., have digital pedagogical competence that accommodates diverse learners in future contexts.
2. Ability of lecturers to effectively integrate digital technologies, tools, and practices into their teaching, research, student support, and community engagement.
3. Integrate digitalisation methodologies into existing modules using digital tools that support teaching and learning.
4. Produce and facilitate short learning programmes on digital education to reach lecturers from various institutions and teachers in service throughout the country and the world.
5. Capacitate administrative and professional staff, supervisors, teaching assistants (TAs), markers, e-tutors, and external moderators to effectively use digital technologies and tools relevant to their roles.
6. Develop a cohort of postgraduate students whose research focus is centred on digitalisation in education; and, lastly,
7. Digitalise teaching practice by using teaching practice module sites for online supervision. This will include linking supervisors and methodology lecturers for online supervision purposes.

The overall plan of the committee was as set out above and was entered into NapkinAi and the resulting figure is presented in Figure 2.

## Digitalisation Project Objectives



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Figure 2: Overview of the Digitalisation Committee of the project

Aligned with the aims above, the proposed objectives of the strategy include enhancing digital literacy among the university community (i.e. students, academics, professional and administrative staff, TAs, etc.); implementing innovative pedagogical approaches; effectively using educational tech; designing curriculum in line with open

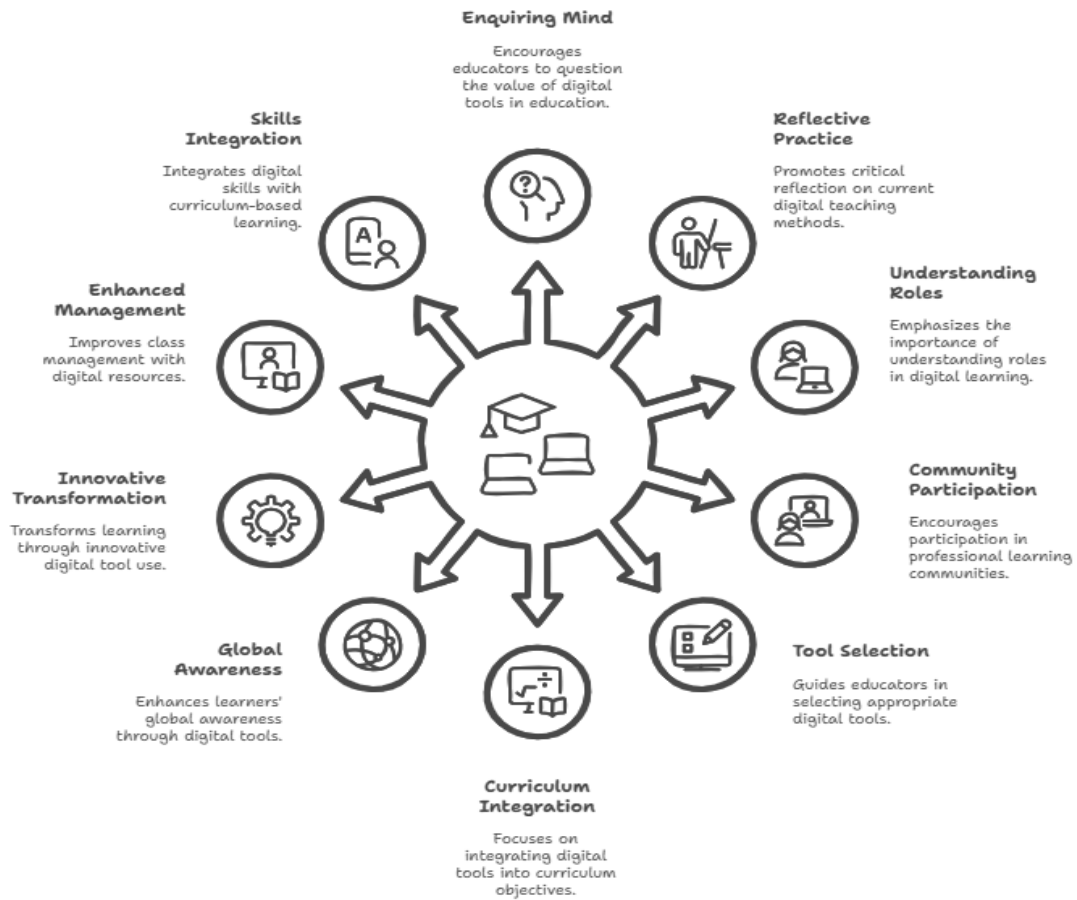
educational practices (OEP); prioritising professional development among staff; establishing collaborative networks; and monitoring and evaluation.

There was a strong sense from the committee that their specific faculty had a dual function, that of using digital tools to support the learning of preservice teachers as well as modelling how preservice teachers could use technology in their own classrooms. The committee sourced several relevant documents to support teachers in this endeavour (eg, UNESCO's (2023) ICT competency framework for teachers, UNESCO's "The digital teacher course"; European Commission's (EC, 2024) self-reflection for teacher digital competence; and Department of Basic Education's (DBE, 2019) 'Professional Development Framework for Digital Learning'). The committee also took note of the International Labour Organisation's 'Digitalisation in teaching and education in Ethiopia, Kenya, Malawi, Rwanda, and the United Republic of Tanzania' Digitalisation, the future of work and the teaching profession project' (2021) synopsis report. The documents referred to by the committee reflect that they cast their net to international, national, and local documents that could inform their project.

The DBE (2019) document, as the one that directly informed the type of teacher they were producing, contained the digital competencies expected of teachers. The committee presented these to some selected modules, anticipating greater socialisation of the document.

Visually, these competencies can be presented and understood more holistically as follows.

# Digital Learning Competencies



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Figure 3: Digital learning competencies for teachers

The committee met in person to discuss their strategy and its implementation. They were asked to respond to a voluntary survey at the end of their session.

One of the open-ended questions was:

'What obstacles or challenges do you anticipate in the process of digitalising the faculty?'

Three main themes emerged from the responses: resources and funds needed, resistance from academics, and academic workload.

## 1. Resources and funds (23%):

*ICT may experience some challenges with our vision and practical implementation of the project.*

*Lack of funds may hamper our project*

*Students who are not resourced in terms of using digital learning tools.*

The committee focused on the systems that supported the vision of the project, as well as the lack of funds to implement the project. Of interest is that one of the participants mentioned that the students themselves lacked the digital tools. It appears that the committee members were aware of the resource challenges from institutional level through student personal resources for learning using digital tools.

## **2. Academic resistance (67%):**

*Fear of change, negative mindsets*

*The lecturers were resistant due to the view of seeing this as extra work.*

*Buy-in of lecturers*

*Resistance/negative attitude from Academics.*

*Lack of a shared vision*

*Resistance to adopting new technologies and changing traditional teaching methods can be a significant barrier*

*Senior staff not interested in participating*

*Lecturers' non-compliance*

*Negativity, citing workload challenges. Citing technological barriers at the institution instead of trying forge ahead with digitalisation*

This was the most dominant theme, indicating a significant cultural and psychological barrier to change. Subthemes include fear of change and negative mindsets. This fear can come from uncertainty, lack of confidence in the use of new technologies, or previous negative experiences. Many of the committee members are academics and lecturers themselves, and may have a keener awareness of how their colleagues may respond to a digitalisation focus to their work.

## **3. Workload (10%):**

*Time constraints due to work overload*

*Resistance from colleagues. And a big one is workload.*

*Lecturers need ongoing professional development to stay abreast of the latest digital tools and teaching methodologies.*

Here, the committee members could foretell that the added workload would impact academics, and they also noted that this type of endeavour would require more professional development.

A second open-ended question had the committee answering the question.

'What specific digital competencies do you believe are essential for lecturers?'

Three main themes emerged: digital literacy and fluency; instructional and digital design, and pedagogical integration of technology.

## **1. Digital literacy and fluency (27%)**

*Digital literacy in terms of new platforms that the institution implements*

*AI literacy is going to be necessary*

*Use of online learning tools effectively*

*Initially, more than basic use of LMS, but actually the ability to integrate various tools. Thereafter the capacity building on other tools offered by the Microsoft package*

Digital literacy refers to the ability to navigate, evaluate, and create information using a variety of digital technologies effectively and critically. Fluency goes a step further, implying not just familiarity, but confidence and creativity in using digital tools.

## **2. Instructional and Digital Design (27%)**

This theme focusses on the ability to design effective digital learning experiences.

*Digital instructional design, Media literacy*

*Inclusion of multimedia in their teaching and learning material*

*Developing OERs and other digital tools*

*From content delivery to experience design: Lecturers are expected to move beyond delivering content to designing learning experiences that are interactive, accessible, and student-centered.*

Many intersections of instruction, design and digitalisation are proposed by the committee members. Some members coined terms such as “digital instructional design” which may be similar to technology enhanced learning. There is also a sense that higher education lecturers are now moving away from knowledge vessels towards becoming experience designers using technology.

## **3. Pedagogical Integration of Technology (46%)**

This theme highlights the importance of digital pedagogy: not just using tools, but using them effectively for teaching and learning.

*Learning with and about technology*

*Creative use of digital tools to support learning is also lacking.*

*Use of online learning tools effectively.*

*Online Presence- Lecturers can benefit from using this to engage with students.*

*Using technologies that are available to simplify their work. Reflecting on the technologies we have available and considering their best use for teaching. Creative use of digital tools to support learning is also lacking.*

*Digital Assessment Tools: Lecturers should be comfortable using digital tools for assessment, such as online quizzes, exams, and grading platforms.*

This was the dominant theme coded from the responses and shows the more complex nature of digitalisation in higher education. It is not just about knowing how to use tools, but understanding when, why, and how to use them to support learning, indicating that a reflective practice is needed when considering the digitalisation of teaching and learning and not a technocratic implementation.

## **Conclusion**

Digitalisation of a college is a daunting process, since it involves several interconnected stakeholders and discrete priorities and aims. The aims of the digitalisation process need to be clearly articulated. However, since digitalisation itself changes continually, these aims need to be flexible. The committee tried to balance the need for structure in terms of policy guidelines and frameworks and the need to be responsive to changes. It will be a feature of

any future pedagogical response. Although outside the scope of this paper, the committee worked extensively on an AI framework for faculty and facilitated a large stakeholder-based seminar before formulating these guidelines.

A few key take-aways are relevant from the work of the committee.

- a committee heading up this type of project needs to comprise of diverse stakeholders, and preferably those who will directly implement the directives.
- the documents, policies or frameworks formulated need to remain flexible and be available soon after their production.
- Structure and guidance provided by documents needs to balance responsiveness to the field (e.g. the abrupt and swift arrival of AI).

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