



D2L

Harnessing Digitisation to Unlock Student Success in South Africa



Introduction

In some ways, universities in South Africa are unrecognisable from pre-COVID-19 institutions. While many were already on a digital transformation journey, most had to accelerate their plans to deliver fully online learning, quickly.

At the time, the speed of change was challenging, but fast-forward to now, most universities in South Africa have retained many of the initiatives they rushed to put in place during the pandemic. Fundamentally, there has been an acceptance that technology has the power to improve student engagement, increase retention rates and support better outcomes. Higher education institutions have also recognised that the insight available through data analytics can be used to improve and inform individual course design—inspiring new thinking around how content can be built and delivered in a way that is best suited to each student’s success.

The focus now is on ensuring that the value of the technology available is maximised, by both students and staff. There also needs to be joined-up thinking around how universities can fulfil some of their key objectives: teaching, learning and developing employable skills.

Yet all this change is taking place against a backdrop of challenges—infrastructure, connectivity and social inequality, for example.

Seven years on from the Fees Must Fall movement, students are still **protesting** about accommodation provisions and spiralling student debt. Equity in education remains a key goal for the sector, but there are numerous barriers to overcome—from a socioeconomically diverse student population to access to devices and inadequate water supply, among other things.

In this paper, we look at some of the lessons learnt from an unprecedented period in the higher education sector, the challenges universities still face and what the future might hold.

We are grateful to our contributors from North-West University (NWU), the University of Cape Town (UCT), Tshwane University of Technology (TUT) and the University of the Free State (UFS).



Multiple “seats” of learning, accessible to all

The concept of solely campus-based university education has changed. The extent of that change varies from university to university, depending on a number of factors—from the core ethos of the individual institution to the infrastructure in place to support learners who prefer to study remotely. But, to some extent, a shift has taken place across the board in South Africa.

“Everyone was desperate to get back onto campus as quickly as possible when we were in the midst of the pandemic,” says Professor Herman van der Merwe, deputy dean of the Faculty of Economic and Management Sciences at NWU. “Fast-forward to now, and they’re not so sure.”

Professor van der Merwe argues that many of NWU’s students flourished when studying online. This presents both challenges and opportunities. “It can make a university education more accessible to people in society who have previously felt closed off from that route—candidates with physical disabilities, for example, who may have needed additional support on campus,” he adds. “Online learning has seen some of those barriers come down.”

But he also believes there are more challenges ahead. Social inequality and financial pressures still have a big impact on students and their families. One of the knock-on effects of online learning being a proven model is that it could lead parents to reconsider the financial outlay associated with university accommodation.

Professor Bhekisipho Twala, deputy vice-chancellor (Digital Transformation) and professor in artificial intelligence and data science at TUT is conscious of the impact of inequality: “We are a big university, with 64,000 students from a combination of urban and rural communities,” he says. “In terms of demographic profile, most of our students are the first generation within their family to go on to higher education. They rely on financial aid and have no access to advanced technology.”

While catering to people from diverse backgrounds and enabling them to be flexible about where they learn is a clear goal, issues around uneven digital literacy skills (across both students and staff) also continue to hold the sector back.

This is one area where change is happening post-pandemic—as many universities were quick to react by securing and issuing hardware and data to students, as well as upskilling staff and students on using the technology available. What universities need now is for the underlying infrastructure to keep pace. Internet access, particularly in rural areas, continues to be a huge challenge. An unreliable electricity supply also fuels the digital divide. To capitalise on the opportunities provided by remote, blended or hybrid learning, students and staff need a foundation they can rely on. They also need to adapt to change at a manageable pace.



Rethinking content design and delivery

“The key is not to do digital transformation for the sake of it, but to ‘bring more of the world in through digital,’” says Sukaina Walji, director of the Centre for Innovation in Learning and Teaching (CILT) in the Centre for Higher Education Development (CHED) at UCT. This message resonates loud and clear among institutions in South Africa. There’s no doubt that universities are welcoming with open arms the possibilities brought about by technology, but it must be seen to be contributing to the university’s overall purpose and agenda.

“Learning management systems or virtual learning environments have a critical role to play in our approach to blended learning and teaching,” says Professor Francois Strydom, senior director, Centre for Teaching and Learning (CTL), UFS. “What we want from our technology partners is a flexible content delivery platform that could lead to a more affordable use of textbooks and course materials. We also want solutions that enable technologically enhanced pedagogical practices that are flexible and adaptable to the socioeconomic, political and technological disruptions that characterise the 21st-century workplace and world.”

This desire for flexibility is echoed across the sector. For TUT, it’s about having the right staff and supporting them with the right technology. “Since the pandemic, we’ve been working hard to transform our university using the technologies that we have available—turning it into a digital-first, smart campus,” says Professor Twala. “Our learning management system has been critical for us. We’ve been able to monitor assessments and engagement more effectively, whether students are on or off campus. Technology has also enabled our teachers to come up with new ideas on the most effective ways to teach, and they have embraced the use of apps and more interactive, blended learning.”

At NWU, technology has led to a complete rethink on content design. Professor van der Merwe puts content at the heart of everything, even above the mode of delivery. “Personally, I think the term ‘hybrid’ learning is damaging,” he says. “It implies that the same content can be used online and in a face-to-face environment. That’s simply not the case.”

He argues that, rather than looking at hybrid as the future, the sector should be designing different experiences for online or in-person learning. “Can we really still justify that having someone in a classroom for 15 hours each week is the only way to get the right outcomes?” he asks. “If you’re going to invest the time in getting students onto campus, you have to make sure you’re keeping them engaged.”

Professor van der Merwe’s vision is to have content that is designed to be delivered in an optimum way for each module—whether that’s online, face-to-face or practical/applied. “This requires a rethink on how we teach every element of a course,” he says. “We need to gather evidence to guide the design—for example, can we demonstrate that Module A should be taught online only, based on outcome data? Eventually we can get to a point where everything is designed according to the mode of learning that lends itself best to each topic.

“And if we make sure that students are equipped with what they need to succeed, I think we can get maximum value.”

Walji at UCT also believes that technology has freed up teachers to rethink content delivery. “Despite the complexities of moving fully online, teachers did enjoy the flexibility and freedom it offered,” she says. “It feels more natural now to have guest lecturers, for example, and it’s much less of an event to have people teaching from different locations.





“When lectures are on-demand and readily available online, students can also catch up with missed sessions more easily. Maybe this will herald a release from the tyranny of the timetable.”

Vision 2030 encapsulates UCT’s transformative purpose, to “unleash human potential to create a fair and just society”. The three pillars at the heart of Vision 2030 are excellence, transformation and sustainability.

“This embodies where we want to be as an institution, and engaging more with digital technologies is key to realising our ambitions,” adds Walji. “Our students need to be prepared for the tools that they will encounter in the workplace. And, from a teaching perspective, technology is also helping our teaching staff to become more innovative and flexible in their work.”

For UFS, it’s crucial that staff have more autonomy over how they teach, and technology can enable this. “There doesn’t need to be one signature pedagogy,” says Professor Strydom. “We want to empower our staff and departments to be innovative in the design of their courses.”

Some teachers will need to be supported on this journey. “We have a skills challenge, in that digital transformation requires computing and coding skills that are still lacking in Africa,” says Professor Twala. “The sector needs to recruit more highly skilled lecturers. We can all potentially offer AI degrees, for example, but do we have the right people to teach them?”

Lessons from data

A key lesson learnt during the pandemic was about the value of data. “Through the #NoStudentLeftBehind initiative, advanced data analytics was used to identify students who were not connecting to online learning platforms, in order to reach out to those requiring assistance,” says Professor Strydom at UFS. “The quantitative data was integrated with students’ qualitative narratives to tailor individualised support through academic advising, tutorial support and other student support services in faculties and student affairs.”

It’s hard to overemphasise the impact this is having on retention and outcomes. Trends and insight being harnessed from data are also helping to create better learning experiences that are “essential for helping students overcome any learning deficits that have resulted from the pandemic,” says Professor Strydom. “The key is to use data analytics in combination with sophisticated learning and teaching technologies to create unique personalised learning experiences for our students,” he adds.

For UCT, data will also inform how it makes decisions in the future, so long as it is used ethically. “There are huge opportunities to use data analytics to improve student success rates, responding more quickly to issues, for example, or providing students with dashboards so they can monitor their own success,” says Walji. “For staff and management, it opens up opportunities to identify patterns and act upon them—such as identifying pass rates for individual courses over a five-year period and analysing what may have caused any fluctuations.

“Engagement is key to improving outcomes for students,” she adds. “We’re beginning to identify where students aren’t engaging with course content and looking at how we can improve our early warning and intervention systems.





A technology-driven future

Institutions need to constantly re-evaluate themselves and adapt in order to produce graduates with the right skills for a global workplace.

TUT is on a mission to ensure that all students graduate with relevant, employable skills. To help bridge the gap between university and industry, the institution has pledged to adapt curricula to ensure they reflect what employers want and need—now and in the future. It has recently launched the [Institute for the Future of Work](#) to make this happen.

“We’re the only African university with a digital transformation portfolio,” says Professor Twala. “We recognise that to empower the next generation, we need to have the knowledge and teaching capabilities within TUT to equip our students with the skills they need to enter a digital workplace.

“We want to be the most digitally advanced university in South Africa,” he adds. “Our students are keen to embrace interactive learning and develop new skills, such as coding, and we are actively encouraging that. I’d also argue that every single student should take a digital analytics course— regardless of the degree they’re studying for. Those skills have become vital in almost every workplace.”

There is a lot more emphasis being placed on these micro credentials, like university-wide digital skills modules. They are seen as having a big impact on employability—helping to achieve a better balance between knowledge and applied learning. “There’s huge value in being able to apply the knowledge you’ve acquired in a practical environment,” adds Professor Twala. “Tourism management students, for example, need hands-on experience out in the field, just as architecture students need to spend time on real-world build projects.”

The sector as a whole believes that there should be more conversations happening between universities and industry to understand the skills that are needed now and in the future. The UFS also believes that an important part of a South African university’s mandate is to make a positive difference in the wider communities it serves. Almost all the academic courses at the UFS have a service-learning component, where students can apply what they have learnt in, and with, specific communities. This enables them to co-create knowledge with community-based partners and find innovative, sustainable solutions for pressing societal needs.

Celebrating Change

It's a great time of change for the South African higher education sector. While institutions continue to face challenges around infrastructure, social inequality and digital access, there's been a fundamental shift in attitudes towards teaching and learning since the disruption of Covid-19. From our conversations with

senior leaders within the sector, it seems everyone is excited about what's possible. The key now is to ensure that everyone who has a vested interest in the sector's success—from policy-makers and technology providers to educators and employers—understands the part they have to play in helping every learner fulfil their potential.

The Evolving Landscape of AI

"AI will not replace people—but the person using AI might replace you," says Pieter Geldenhuys, futurist and director of the Institute for Technology, Strategy and Innovation. Geldenhuys was speaking to University World News recently about a course he is running with North-West University to upskill people in artificial intelligence (AI) technology.

AI is on the agenda across the higher education sector, and it brings both challenges and opportunities. "While teaching is evolving, methods of assessment aren't changing at the same pace," says Sukaina Walji at the University of Cape Town. "We may start to see this accelerate," she adds, but there may be some positive outcomes. "With AI becoming more sophisticated, there's a danger it will be used more and more to produce essays or complete assignments. But this opens up the possibility of looking at whether assessments can be more experiential or portfolio based, or whether we can introduce more project-based or gamification-based degrees. This would not only ensure fairness, but it would also bring assessments in line with more contemporary ways of teaching and learning."

Geldenhuys also argues that AI could, in fact, reward original thinking. "Because generative AI such as ChatGPT repeats everything that everybody else is saying, nothing it produces is original. Humans need to become creative in using these tools," he says.

The sector is not alone in its concern over the growth in AI, but it's important not to overreact. AI skills will be valuable in the future workplace and will touch practically every industry. It's crucial that universities face it rather than fear it—and embrace some of the opportunities AI provides to further improve the way we teach and learn.

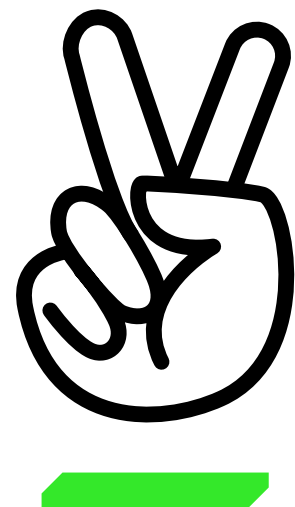
With thanks to:

Professor Herman van der Merwe Deputy dean of the Faculty of Economic and Management Sciences, North-West University (NWU)

Sukaina Walji Director of the Centre for Innovation in Learning and Teaching (CILT) in the Centre for Higher Education Development (CHED) at the University of Cape Town (UCT)

Professor Bhekisipho Twala Deputy vice-chancellor (Digital Transformation) and Professor in Artificial Intelligence and Data Science at Tshwane University of Technology (TUT)

Professor Francois Strydom Professor Francois Strydom, Senior Director, Centre for Teaching and Learning, University of the Free State (UFS)









ABOUT D2L

D2L develops software that makes the learning experience better. Our cloud-based platform—Brightspace—is the leading learning management system (LMS) for blended and fully virtual learning. It's easy to use, flexible, and smart. With Brightspace, schools can personalise the learning experience for every learner to deliver real results. Brightspace is used by learners in K-12, higher education, and the corporate sector, including the Fortune 1000.

Learn more about D2L for schools, higher education, and businesses at [D2L.com](https://www.d2l.com).

-  @D2Linc
-  @D2L
-  @D2L_EMEA
-  Enquiries@D2L.com

Contact Us

Phone: 1-519-772-0325 (Worldwide)
Toll Free: 1-888-772-0325 (North America)
+44 (0) 203 865 1265 (United Kingdom and Europe)
0-800-452-069 (New Zealand)
1-800-778-631 (Australia)
0-800-891-4507 (Brazil)

Tel: +44 203 865 1262

GLOBAL HEADQUARTERS

137 Glasgow Street Suite 560
Kitchener, ON
N2G 4X8

D2L ASIA PTE LTD

3 Phillip Street
#10-02 Royal Group Building
Singapore 048693

ASIA-PACIFIC

1 Queens Road, Suite 1144
Melbourne, Victoria 3004
Australia

D2L EUROPE LTD

2nd Floor, Battersea
Power Station, 18,
Circus Rd S,
London,
SW11 8BZ