



## **Adapting to the New Frontier: The Transformative Role of Academics in Shaping Higher Education**

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### **ABSTRACT**

The higher education trajectory globally has transformed since 2020. Research alludes to the exacerbated change as a result of the SARS-CoV-2 pandemic. Students and academics underwent personal and professional transitions, creating a plethora of mental health and work-life balance challenges. Education post-pandemic explores a prodigious infusion of technology. Thus, there is a need to assess the current teaching and learning practices and investigate the evolving role of academics in the future higher education space. Academics play a pivotal role in higher education by driving research, designing curricula and mentoring students. The paper examines how the academic landscape needs to be envisioned to cater to the needs of the new cohort, Alpha Generation, that will enter higher education in 2029. There is an expectation to nurture intellectual curiosity, inspire critical thinking and prepare them for future challenges. The study aims to examine the academic landscape that is evolving in a disruptive environment. A qualitative research approach using a review of secondary desktop sources was the best-suited methodology for the study as it yields the most viable outcome to the academic landscape by envisioning the evolving role of educators in the post-2025 higher education space. Clear search parameters were designed to respond to the aims of the study. Defined inclusion and exclusion criteria contained in the study. Data was analysed by thematic analysis. The theories that underpin this study are Gagne's Conditions of Learning Theory, the Technological Pedagogical Content Knowledge (TPACK) model and the Technological-Motivational-Learning Theory. Thus, the study reviewed existing and current studies to analyse the shifts in higher education in South Africa, which aim to reshape the landscape by challenging traditional models and promoting institutions to adapt to meet the evolving needs. The findings expose the current needs of Generation Z in education and intensify the need to upskill its systems and processes to prepare for the upcoming Alphas Generation, focusing on embracing disruptive technology and utilising digital pedagogical and content knowledge. The recommendations include embracing activated online pedagogies, upskilling academics, and utilising EdTech and gamification in higher education.

**Keywords: Academic; Alpha Generation; Distance Education; Higher education; Pedagogies and Technology.**



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# 1. INTRODUCTION

## 1.1. Introduction

The disparities in education rests in the age-old global north-south divide. Traditional higher education practices and teaching approaches in countries from the global south refer to conventional face-to-face classroom configurations and paper-based resources and assessments. Sen (2011) places the traditional education approach as teacher-centred. The teaching is disseminated by the academic, who controls the pace of the class interaction (Buhl-Wiggers et al., 2022). In contrast, in developed countries, phenomena such as online learning and flipped classrooms have been traditional teaching and learning approaches since 1982 and 2006, respectively. The inequalities lie in the lack of resources, digital infrastructure and socio-economic variances. Therefore, the developed countries had little to no teaching and learning transition during the pandemic. The focus at this time was student well-being and mental health (Morreira et al., 2020; Laufer et al., 2021). The transformation and adaptation focus on both the academic and the student results from the constant metamorphosis higher education institutions (HEIs) undergo globally. The pandemic has compelled higher education to operate differently while reviewing the stark realities facing their future. The recent inundation of online courses has changed the mode of instructional delivery across the globe without the need for students to meet in a physical location. There is a shift towards e-learning and disruptive education with the use of the fourth industrial revolution technology in both public and private HEIs (contact and distance education), leading to the enhancement of information and communication technology (ICT) (Jere, 2020). The rapid development and implementation of new technologies seek to make learning individual and socially constructed by students (learner-centred activities) to maintain a diversity of knowledge. Xhaferi et al. (2018) explain the vital importance of knowledge, understanding, and technology adoption regarding teaching and learning in the higher education sector. Chui (2024) highlights the notable shifts that focus on technology integration, skills development, enhanced learning experience, global collaboration, and access to flexibility of learning. DHET (2020) recommended that HEIs equip their facilities with the tools to adapt to technology and e-learning in virtual classes. This paper examines the transformation of higher education while evaluating the role of academics and students in adapting teaching approaches to achieve academic success.

## 2. METHOD

### 2.1. Research Design

The study followed a qualitative research design of secondary desktop research. The authors undertook rigorous methodological scholarship review and discussions based on the data collection tools. Due to the predictive nature of the study, data was collected from various sources, including scientific and academic sources, document analysis from official education department sources in South Africa, verified blogs and conference proceedings. Initial readings on the broad framework were conducted over a fifteen-week period. The abstract and keywords determined the eligibility of the article. Inclusion criteria included keywords and content on the transformation in higher education, pedagogical changes, and need analysis for academic staff. As part of the inclusion criteria, resources analysed included resources from 2019-2024.

A pre-and post-pandemic context provided a perspective for the study and articulated a framework for the transformation in higher education. The keywords were further deconstructed by studies on the role of academics and the integration of technology and pedagogy. Theoretical seminal work was the exception to the five-year-old resource rule as it offered a robust underpinning. The exclusion criteria were higher education studies that focused on other aspects of the institution, such as finance and administration.

Document analysis was conducted to benchmark and understand the global state of higher education, bearing the South African context in mind. Fifty-five resources were analysed and discussed in the article from 170 abstracts reviewed. An interpretivist approach was used in the data analysis process, where thematic analysis using the CASP (Critical Appraisal Skills Programme) checklist to analyse data and significant themes.

Three closely aligned theories underpin this paper. These include Gagne's Conditions of Learning Theory, the Technological Pedagogical Content Knowledge (TPACK) model and the Technological-Motivational-Learning Theory. Gagne's theory (1985) argues that the environment plays a significant role in learning and focuses on purposeful engagement as the higher education landscape transforms. The phases display that learning foundations must be laid for students to progress to more complex levels. "This model can flexibly accommodate the use of multiple pedagogical elements in presenting the information" (Pandey, 2020, p.60). The theory has proven successful in online applications for redesigning content and activities. Gagne's (1985) conditions can be applied to the design of hybrid learning environments, ensuring that technology serves not just as a tool for delivering content but as an integral part of the instructional process (Kusumawati, 2020; Iqbal et al., 2021). The TPACK model assesses the teaching, learning, and development needed to address the skills shortages and the professional development of academics through the transformation of HEIs. Educators are technologically proficient and pedagogically informed, encouraging them to adopt teaching methods that best suit the technological tools available. Technological-Motivational-Learning Theory (Lopez & Abadiano, 2023) highlights using interactive digital tools to increase student engagement and motivation by ensuring a more dynamic and relevant learning experience. This theory amplifies the preceding theories by emphasising that technology can stimulate intrinsic motivation, and students increasingly interact with digital learning tools using personalised learning paths, gamification elements, and collaborative platforms. TPACK encourages development that equips academics with the knowledge to integrate technology meaningfully into the modules. This can be achieved by digital resources like video applications and collaborative spaces to engage students (Ong & Annamalai, 2023; Trigueros, 2023). Gagne's theory ensures that content delivery remains structured and goal-oriented. Technological-Motivational-Learning Theory motivates students to actively participate and persist through challenges, offering a platform for self-regulation and personalised feedback. The theory focuses on students and aligns with Generation Z's learning expectations. Students seek diversity and multi-modal learning methodologies. The theory is "useful to fully understand the learning style of Gen Z to avoid mismatching the teaching-learning approach" (Lopez & Abadiano, 2023, p.781).

### **3. FINDINGS AND DISCUSSION**

#### *3.1. Findings*

Transformation is ongoing in higher education and ought to be consistent for an institution to remain at the forefront of innovation. Technology has undoubtedly played a fundamental role in education delivery and shifted the dynamic of the traditional approach in

developing countries. The flipped classroom model shifts foundational learning to pre-class activities, such as video lectures, allowing in-class time for deeper discussions and application of knowledge. This approach does not dismiss traditional lectures but repurposes classroom time for interactive, student-centred learning. While blended learning integrates in-person teaching with digital tools, maintaining the interpersonal aspects of traditional teaching while offering the flexibility of online resources. For example, a traditional lecture can be followed by online discussions or quizzes to reinforce concepts. However, this perspective is fraught with academics who remain wedged in traditional teaching modalities. Since this is the only approach they know, the transition to technological tools and innovations is somewhat challenging. Hence, academics must bridge traditional and technological approaches by serving as facilitators who guide discussions, provide personalised support, and leverage technology to enhance learning outcomes. In addition, By framing technological advancements as enhancements to, rather than replacements for, traditional teaching methods, the evolving roles of both academics and students are fully realised. This ensures a cohesive and future-ready educational experience.

Moreover, three dominant categories of literature on enhancing learning in a blended learning format exist. This is categorised as efficiency, transformation, and education enhancement. Efficiency can be regarded as offering more scalable, sustainable, and cost-effective delivery options, such as decreasing students' time spent in class to foster a more adaptable environment or minimising expenditure associated with such (Buhl-Wiggers et al., 2022). New activities, technology, software, and processes are required to keep institutions updated on the digital approaches applicable to HEIs. This includes industry partners for collaborations to assist in maintaining student learning and interaction (Buhl-Wiggers et al., 2022).

The enhancement of education to student learning outcomes is highly regarded in literature. There is a need to introduce new activities in the classroom and to allow institutional design to be a continuous work in progress, shifting, remoulding and rethinking design at every opportunity. This is consistent with Gagne's theory on the Conditions of Learning (Zhong, 2023). In a flipped classroom approach, the strategy aims to support pedagogical methodology to promote and enhance student-centred learning, allowing a lecturer to spend less time teaching and instead engaging with students (Buhl-Wiggers et al., 2022). Academics may not readily accept this approach as it is inconsistent with their traditional approach. It is thus cardinal that an institution reinforces and standardises the preferred method of exercising the concept of what a flipped classroom approach is perceived to be. This will allow for uniformity

within an institution and strengthen the educational vision of the institution (Gerber & Eybers, 2021; Lee et al., 2020; Linling & Abdullah, 2021).

Online education delivery has also emphasised the value of engaged interaction with students. Technology facilitates personalised learning experiences, facilitates adaptative learning platforms and caters for diverse learning styles and needs. The need to incorporate contemporary approaches to education is paramount as the new and future generation of students is well-aligned with technology (Lopez & Abadiano, 2023). Therefore, the curriculum and delivery must be re-aligned to incorporate the elements of teaching and learning that are attractive to students. Integrating digitisation with human interaction is possible, as technology undoubtedly caters for seamless group work and interaction (Oktaviani & Mandasari, 2020; Falloon, 2020). Problem-solving skills and the focus of their thought process help them transcend into uncharted digitalised territories. Digital classrooms and e-learning allow for a new platform for training students to think beyond the traditional techniques and approaches that have been exhausted. Fisk (2017) explains that the new vision of learning encourages learners to learn the skills and knowledge needed and identify the source to learn these skills and knowledge. Ideally, this promotes the retention of knowledge and student engagement at its maximum, achieving the desired outcomes and accessible education (Haleem et al., 2022). At this juncture, HEI should be concerned with dwindling enrolment numbers, demographic shifts, student needs, and student concerns regarding return on investment.

### *3.2. Discussion*

The traditional approach to pedagogy is no longer relevant, as there is a need to reintroduce and re-define new approaches. Technology, pedagogy, and content knowledge are vital to integrating teaching and learning in higher education. Changes in digital pedagogy include utilising five key components: chaos, creation, correction, conversation, and curation (Naidoo & Singh-Pillay, 2022). Academics had to become familiar with software and tools to keep the online student enthused and engaged. These applications included but were not exclusive to Mentimeter, Slido, Padlet, MiroBoard and Kahoot. The guiding Bloom's taxonomy has equally transitioned from its traditional form to digital taxonomy (Husain, 2021). An interesting element in the 21st-century pedagogical shift is the facilitator and student collaboration. This collaboration can harness immense innovation and foster a culture of inclusivity that is ideal for all stakeholders subject to pedagogical shifts occurring in higher education (Ramos et al., 2022).

Flexible pedagogies delved into new pedagogical approaches for the future, namely learner empowerment in actively involving students in learning development (Ryan & Tilbury,

2013). This canvased the idea of rethinking scenarios for the future globally, decolonising education around intercultural experiences and understanding the higher education system on a more granular level. Transformative capabilities delved into changing the focus of education from knowledge and understanding to agency and competence through pedagogies guided by engaged whole-person and transformative approaches to learning (Madgafurova et al., 2023). Actively adopting an integrative and systemic approach to pedagogy in higher education to generate inter-disciplinary, interprofessional, and cross-sectoral learning to maximise collaboration and shared perspective. Addressing bias and social learning encompasses creating learning environments and cultures that harness the emancipatory power of spaces and interactions outside the formal curriculum, primarily through new technologies and extracurricular activities (Paudel, 2021).

According to McCowan et al. (2022), quality in higher education has become an increasingly pivotal issue. "Quality online teaching considers evaluating course characteristics, including the design of learning materials, the virtual environment, and the alignment of curricular components with learning outcomes" (Lobos et al., 2022, p.815564). In addition to introducing these pedagogical interventions, HEIs have focused on changing the curricula and disciplines and engaging with and creating possible affiliations with professional bodies. Various structural issues frequently impede the execution of academic development programs, such as the absence of robust, clear national laws, a shortage of facilitators, and faculty members' full teaching workloads, which leaves little time for professional development and restricted finance. This may be due to a general lack of funding in higher education or a priority placed on initiatives other than improving instruction (Hudson, 2017).

### 3.2.1 Teaching and Learning

The model by Berge (2008) aptly describes the changing role of the academic, albeit over a decade earlier. The model illustrates the transition from in-person to online with components of an instructor's involvement in social, managerial, technical, and pedagogical roles. Furthermore, the model is relevant in the current academic landscape as the aspects analysed fall under social, pedagogical, managerial, and technical roles. Therefore, the role of an academic is to serve as a mentor, guide, and coach in an online environment, a social role of creating a social environment online that promotes student cohesiveness and human relationships, a pedagogical role that involves keeping engagement on track and interacting and ensuring students contribute to the body of knowledge in the field, and the managerial role refers to monitoring and maintaining online teaching and learning interaction. Lastly, in a technical role, academics need to be confident in using information communication technology

(Berge, 2008). It was resounding that HEIs needed to train academics continuously to successfully understand and utilise platforms seamlessly while promoting technology in teaching and learning. Kumar (2020) explains that the shift to online teaching and learning has changed using the Learning Management System (LMS). It became a key source of content delivery, lectures, information, and student assessment submission, and it was a point of contact for students and academics. Academics are compelled to become more tech-savvy with ICT as it has become a crucial component in teaching and learning in higher education.

### 3.2.2 Curriculum

HEIs focus on the curriculum and classroom design rather than institutional support, quality assurance or governance, which are critical components of a functioning HEI. Paulse et al. (2022) affirm that academics were required to adjust the necessary resources for the module and justify the new means of teaching and learning to ensure that no students are disadvantaged. Llopis (2022) contends that learning in the future will include two core components: individualised learning and fluid accessibility to learning. Personalised and adaptive learning will allow students to achieve mastery levels through a series of practice exercises, guidance, and support from academics via system-generated hints and advice, which are suggested. Accessibility is referred to as removing all barriers to HEIs.

Positive reinforcements such as gamification, badges or entry into the next level will need to be used to promote a positive learning experience and boost students' confidence in their academic abilities. There should be choices for students to determine how they want to learn. Although the learning outcomes of a course are pre-determined by the curriculum, students need to be free to choose the learning tools or techniques they prefer. In project-based learning, students will be required to apply their knowledge and skills to complete short-term projects. In this way, they will practise their organisational, collaborative, and time management skills, which will be useful in their future careers. There is a more personalised, immersive, interactive, self-paced, adaptive, experiential, collaborative, and active way of learning (Costa et al., 2021), and this culminates in four learning models for HEI. All models are named after familiar toys. The Tamagotchi design is structured similarly to the traditional approach, where a student's pathway from school to HEI to employment is structured similarly. The Jenga model prescribes a concrete foundational qualification supported by additional training/learning from various providers. The Lego structure is more fluid because the student may combine different pieces of training from varied service providers rather than a formalised learning approach. The Transformer approach is where school-leavers "have already acquired their identities and life experiences. They attend a HEI later in life, integrating their life



experience into their studies. They need a flexible course of study that alternates between didactic control by teachers and advisors and their self-determination" (Orr et al., 2020, p.ix). Although these students existed traditionally, they are now being categorised to target higher education and training provider's strategic outcomes and programmes.

Students will be exposed to data interpretation, in which they will be required to apply their theoretical knowledge to numbers and use their reasoning skills to make inferences based on logic and trends from given sets of data. The manual part of mathematical literacy will become irrelevant as computers perform statistical analysis and predict future trends. Students' factual knowledge can be assessed during the learning process, while the application of the knowledge can be tested when they are working on their real-life simulated projects.

Augmented or virtual reality may provide outcomes of their findings via projects using the necessary software and apps. Students' opinions and inputs must be considered when designing, revising, and updating the curriculum. Their inputs will help the curriculum designers maintain curriculum contemporariness, up-to-date, usefulness and relevance. Textbooks are becoming outdated by the time they are published, whereas the internet can provide the most updated data, thus rendering textbooks dated. The LMS provides the capability of being updated in real-time and producing the most recent data. Future students tend to be independent learners, thus forcing teachers to assume the new role of facilitators they need as guides supporting their learning process.

The LMS allows for improved access and monitoring of learning activities while supporting student and institutional growth and development. The driver for this transformation of convenient instructional delivery is attributed to how the LMS has evolved from simple delivery and management systems to critical pieces of modern institutional learning and performance improvement capabilities. The next generation of LMS must be open, personal, social, and flexible, supporting learning analytics and the transition to mobile computing. This new generation of LMS must meet the needs of the changing environments of education and student to allow them to reach their potential.

## **4. CONCLUSIONS**

### *4.1. Conclusion*

This study ventures into the future landscape of higher education, addressing the seismic shifts provoked by the COVID-19 pandemic and forecasting the adaptations required for emerging generations of students. It comprehensively analyses current educational practices, emphasising the necessity for a dynamic evolution in academia, student engagement, and educational infrastructure. As we approach 2029, higher education will predominantly cater to

Gen Z and the incoming Alpha Gen, whose learning preferences and technological fluency demand innovative approaches to curriculum development, teaching methodologies, and learning environments. The research advocates for a transformative shift towards gamified learning experiences and the incorporation of educational technologies, proposing the concept of a metaversity—a blend of virtual and physical learning spaces to accommodate the diverse needs of future learners.

The study acknowledges the challenges of integrating such forward-thinking strategies, particularly in maintaining physical HEI campuses and addressing the digital divide. In regions like South Africa and other similarly positioned countries, physical campuses will serve a dual purpose: preserving access to education for underprivileged students and acting as a bridge to cutting-edge educational technologies and practices, thereby enhancing their employability prospects.

At the heart of these transformative strategies lies the pivotal role of academics. The transition to a metaversity model and the effective engagement of future student generations hinges on the ability of educators to undergo comprehensive training. This includes developing soft skills for managing online relationships and mastering the technological competencies required for creating engaging digital learning environments. Such dual-faceted professional development is crucial for educators to fulfil their roles effectively in the evolving educational landscape, ensuring they can meet the needs of students who are native inhabitants of a digital world.

#### *4.2. Recommendations*

By implementing these strategies, HEIs can address the dynamic needs of Generation Z and Alpha students, ensuring a seamless transition to advanced education systems. These approaches will empower institutions to create inclusive, engaging, and future-proof learning environments that align with evolving societal and technological demands. To effectively address the evolving educational needs of Generation Z and Generation Alpha, higher education institutions (HEIs) must adopt forward-thinking strategies that transform traditional modalities into advanced, student-centered approaches. The following recommendations outline practical, detailed actions (Table 1):

Table 1: Application based recommendations

No.	Approach	Application	
4.2.1.	Adopting Digital-First Approaches HEIs must integrate cutting-edge digital tools into teaching and learning processes to align with the expectations of digital-native students	Gamification	Introduce game-based learning tools such as Kahoot! or Quizizz to enhance engagement. These platforms encourage active participation through interactive quizzes and competitions.
		Immersive Technologies	Implement AR/VR solutions to create realistic simulations. For example, virtual labs for STEM students or AR-enhanced history lessons.
		AI Integration	Use AI-driven tools for personalised learning, such as adaptive learning platforms that adjust content delivery based on individual progress. Chatbots can provide real-time assistance to students.
4.2.2.	Redesigning Curriculum Delivery Curricula should be reimagined to emphasise flexibility, interactivity, and relevance	Hybrid Learning	Offer a mix of asynchronous modules (self-paced online content) and synchronous sessions (live discussions and workshops).
		Project-Based Learning	Foster interdisciplinary projects where students collaborate on real-world challenges. For example, business and IT students working together to design an e-commerce solution.
		Global Classrooms	Utilise platforms like Zoom or Microsoft Teams to connect students with peers and experts across the globe, fostering collaboration and cultural exchange.
4.2.3.	Building Faculty Capacity Academic staff must be equipped with the skills to navigate a technology-driven educational environment	Professional Development	Conduct regular workshops on using emerging technologies like VR and AI in teaching
		Teaching Mentorships	Establish mentorship programs where experienced educators support colleagues in adopting innovative pedagogies.
		Certifications	Encourage faculty to pursue certifications in learning management systems (LMS) such as Moodle or Blackboard to enhance online teaching delivery.

4.2.4.	Fostering Student-Centric Education HEIs should prioritise active, inclusive learning strategies that cater to diverse needs	Experiential Learning	Incorporate internships, co-op programs, and service-learning projects that provide hands-on experience. For instance, partnering with local organisations for community-based projects.
		Skill-Based Assessments	Transition from traditional exams to assessments focusing on creativity, critical thinking, and problem-solving.
		Interactive Tools	Use collaborative platforms such as Padlet for brainstorming and annotation tools for real-time feedback on student work
4.2.5.	Establishing a Metaversity Framework HEIs must begin planning for hybrid campuses that integrate virtual and physical spaces	Virtual Campuses	Create interactive virtual environments where students can attend lectures, collaborate with peers, and participate in events. Platforms like Gather.Town or Second Life can be used.
		Simulated Learning	Develop VR experiences such as mock courtrooms for law students or digital trading floors for business students.
4.2.6.	Enhancing Institutional Support Institutions must invest in resources to ensure equitable access and smooth digital transformation	Infrastructure	Upgrade Wi-Fi networks, provide device loan programs, and establish digital resource libraries to eliminate technological barriers.
		Accessibility Tools	Introduce assistive technologies such as screen readers and speech-to-text applications for differently-abled students.
		Comprehensive IT Support	Implement 24/7 helpdesk services to address technical challenges faced by students and faculty.
4.2.7	Emphasising Career Readiness Align academic programs with industry needs to prepare students for future careers:	Integrated Skill Development	Incorporate coding, data analytics, and digital marketing into undergraduate programs to meet industry demands.
		Industry Partnerships	Collaborate with corporations for internships and certifications, such as Google's Career Certificates or Microsoft's Cloud Certification.

		Portfolio Development	Encourage students to create professional portfolios showcasing their projects, skills, and achievements
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The future of education lies in not just adapting to change but leading it. Embracing innovation, fostering inclusivity, and equipping students and academics with tools to thrive in a digital-first world transforms higher education into a dynamic force for empowerment and progress. Educating today's generations shapes the world of tomorrow, ensuring confidence, creativity, and purpose drive future achievements.

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