CHE

COUNCIL ON HIGHER EDUCATION

REPORT

ALTERNATIVE FUTURES FOR LEARNING AND TEACHING IN HIGHER EDUCATION IN SOUTH AFRICA

SCENARIOS FOR 2036

Delivered in partnership with the Institute for Futures Research

Stellenbosch Business School
STELLENBOSCH UNIVERSITY

PREFACE

The higher education (HE) system in South Africa faces interrelated challenges of socio-economic development, the contextual relevance of knowledge production and dissemination, rapid advances in technology, the continuing need for systematic, societal and economic transformation, and the increasing fragility of the planetary ecosystem due to environmental degradation. The third industrial revolution had already precipitated a marked shift by some higher education institutions (HEIs) towards technology-enhanced online and blended forms of education provisioning and the advent of the fourth industrial revolution (4IR), and now the fifth industrial revolution, has accelerated this, including through rapid advances in technologies such as artificial intelligence, robotics, blockchain, the internet of things and big data analytics. This is driving a more comprehensive approach to responding to both opportunities and the challenges posed by technological advances across the system, where the COVID-19 Pandemic already accelerated the shift towards online and blended learning.

Higher education institutions are unlikely to revert fully to traditional and/or former ways of providing for learning and teaching now that the crisis caused by the pandemic is largely over. Important advances have been made, and important lessons have and continue to be learned. New technologies continue to emerge and new futures for learning, teaching and assessment are being envisaged. These need to be researched and documented to draw together a consolidated and growing knowledge base that can inform equitable policy and practice going forward. Importantly, for the Council on Higher Education (CHE), the implications of the rapidly evolving learning, teaching and assessment environment for both external and internal quality assurance (QA) needs to be understood.

The REconceptualising LeArning and TEaching (RELATE) Project was an umbrella project implemented by the Council on Higher Education (CHE) in collaboration with the higher education sector to understand and to contribute to sector responsiveness to some of the challenges and developments outlined above. The RELATE Project had the broad purpose of reimagining learning and teaching futures in higher education, post-pandemic, post-disaster and post-disruption, and to develop some of the quality assurance artefacts that are required for these futures. The RELATE Project is a meta-project consisting of a number of sub-projects focussed on specific aspects. Three reports in this series have been published:

RELATE Research Report 1: An annotated bibliography and literature review
RELATE Research Report 2: A meta-analysis of institutional learning and teaching plans for 2021
RELATE Research Report 3: Reflecting on student success during COVID-19: Lessons to take forward.

This report on the imagined future scenarios for learning and teaching in 2036, prepared by the Institute for Futures Research at Stellenbosch Business School; is the final report in the RELATE Project. This report is the result of an extensive process delineated in detail in the report. The four scenarios narrated in the report give ample food for thought and will enable all higher education players (institutions, regulators and other stakeholders) to consider the future scenarios for higher education and to play an active role role in not only avoiding the decline of the sector, but in creating enabling and transformative environments for higher education, and ultimately for South African students to thrive.

Dr Whitfield Green

Chief Executive Officer | Council on Higher Education

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ACRONYMS AND GLOSSARY OF TERMS

CHE	Council on Higher Education
HE	Higher Education
HEI	Higher Education Institution
PSET	Post-school education and training
QA	Quality Assurance
QAF	Quality Assurance Framework
SA	South Africa

1. INTRODUCTION

The Council on Higher Education (CHE) initiated the RELATE project to reconceptualise learning and teaching in higher education (HE) in South Africa (SA) in response to multiple shifts and ongoing disruptions, from the global public health crisis, to digital transformation and climate change amongst others.

As part of the RELATE project, the CHE engaged the Institute for Futures Research (IFR) to facilitate activities to craft alternative futures for learning and teaching in HE in SA towards 2036. The purpose of the engagement was to consider how learning and teaching could develop over the next 12 years, and to articulate the implications for the roles of CHE and other actors in the SA HE sector. In thinking about current and emerging trends, possible future scenarios emerge, which guide the requirements for creating a suitably responsive learning and teaching HE ecosystem for SA going forward.

2. FUTURES THINKING AND USING SCENARIOS TO DEVELOP FORESIGHT

At its core, futures thinking involves the systematic exploration of potential futures to inform present-day decision-making. By considering a wide range of possibilities, futures thinking enables us to identify emerging trends, anticipate disruptive changes, and develop strategic responses to both opportunities and challenges. It is an ongoing process of learning, adapting, and preparing for the many possibilities that lie ahead.

Key principles of futures thinking:

- Contrary to popular belief, futures (or foresight) work is **not about making predictions**. There are no absolute facts about what is yet to happen, and the available evidence is always partial and based on assumptions. Foresight is about expanding our understanding of what could happen, why it might happen, and how we can influence it.

- There is no 'official future'; there are always many potential **alternative futures**. The key driving forces and the interplay of trends and developments, combined with the decisions we make, determine which future ultimately materialises.

- **Systemic thinking** is applied to understand the complexity and interdependence within a system. This approach considers the interconnections and interactions within a system, recognising that changes in one part can have significant ripple effects throughout. By examining the entire system, we can identify leverage points, anticipate unintended consequences, and develop more holistic and resilient strategies for the future.

- Engaging **multiple perspectives** brings in diverse insights, knowledge, and experiences from stakeholders. This diversity enhances the depth and breadth of understanding regarding potential future developments.

- **Our actions—or inaction—shape the outcomes we experience**. By proactively engaging with potential future scenarios, we can steer developments in a desired direction and mitigate negative impacts.

This discipline relies on various tools and methodologies, including trend analysis and scenario planning, to create structured narratives about potential futures.

What scenarios are and why they are used to develop foresight

Scenarios are structured narratives or stories that describe different ways in which the future might unfold. They are not predictions or forecasts, but rather plausible and diverse depictions of potential futures. Scenarios are used to explore and understand the complexities and uncertainties of the future. Each scenario is based on different assumptions about how current trends and uncertainties might evolve, allowing stakeholders to consider a wide range of potential outcomes.

3. CRAFTING A SET OF SCENARIOS

In exploring alternative futures for learning and teaching in HE in South Africa by 2036, the CHE engaged selected stakeholders in a participatory scenario workshop facilitated by the IFR. Prior to the workshop, the IFR collaborated closely with the CHE to define the project's scope, and conducted comprehensive desk and trend research to inform the process. The RELATE Research Reports 1,2 and 3 of the CHE also formed an input into these activities. During the workshop, participants reflected on and debated assumptions and key factors or driving forces of change. They systematically analysed these factors, explored plausible developments, and collectively provided insights to shape potential future trajectories and scenarios. This participatory approach allowed stakeholders to contribute actively to the development of realistic and diverse future scenarios, ensuring that the outcomes were grounded in a broad range of perspectives and expert knowledge.

This approach involved the following steps:

- **Framing:** Scoping of the project and establishing a clear understanding of the central issue to ensure focused scenario development.
- **Scanning:** Systematic gathering and grouping of information about the internal and external environments of the situation being explored.
- **Key factor analysis:** Analysing the factors or driving forces impacting the situation within the designated geography and time horizon. Synthesising and prioritising each factor according to its potential impact on the situation and its inherent degree of uncertainty.
- **Cross-impact analysis of pivotal uncertainties:** Analysing how pivotal uncertainties interact to identify the role that each factor could play in the scenarios.
- **Developing distinct scenario narratives** that are plausible and relevant to the main issue being investigated.
- **Exploring the implications** of the scenarios to inform strategic planning.
- **Disseminating the scenarios** and lessons learned with stakeholders to facilitate informed decision-making.

3.1. Framing

Framing or scoping the project is the initial step in the scenario planning process. It sets the foundation for the entire exercise by clearly defining the boundaries, objectives, and key questions to be addressed. This step ensures that the scenario planning effort is focused, relevant, and aligned with the organisation's strategic needs.

For this project, the primary focus was on exploring alternative futures for learning and teaching in HE in South Africa towards the year 2036.

The time horizon of 2036 was selected because it extends beyond the typical 5-year strategic plan, allowing for long-term thinking 10 to 12 years into the future. This extended horizon enables a more comprehensive exploration of potential future scenarios, ensuring that strategic planning is robust and forward-looking, and not constrained by simple extrapolation of the status quo. The focus is on learning and teaching in HE and, although it touches on other aspects of HE, these were not within the scope of this activity. The geographical focus is primarily on South Africa while also considering the broader context of the African continent and the influence of the international sphere.

3.2. Scanning

Scanning is done to identify important factors or driving forces that could influence the future of the topic or issue being explored within the geography and the set timeframes. At this stage, information from the topic or issue's internal and external environments is systematically gathered and organised.

3.3. Key factor refinement and analysis

The factors or signals of change, identified in the scanning phase, are reflected on and debated. The aim is to determine and agree on the key factors to be used in developing the scenarios. These key factors are then evaluated in terms of their degree of uncertainty and their potential impact on the future of learning in HE. The

process of systematically refining and prioritising the factors creates the foundation for developing relevant and robust scenarios.

Identification and agreement of key factors

The list of key factors influencing the future of learning and teaching in HE in SA into 2036 were identified, confirmed and validated through a dual process:

- Desktop research and an environmental scan of key trends involving a broad literature review
- Workshop discussions with CHE stakeholders to validate the key factors influencing the future of learning and teaching in HE in SA in 2036.

The following 28 factors were used in the scenario development process.

Access and equity

1	**Pressure to increase access to and success in higher education**	HE in South Africa faces pressures from political, socio-economic, and funding challenges. The National Development Plan aims to increase throughput rates and graduate numbers significantly by 2030, necessitating increased enrolments and quality enhancement initiatives to support socio-economic development and produce a skilled workforce.
2	**Affordability of higher education for students**	Many students face affordability challenges in accessing HE. The growing demand places financial pressure on public finances, HEI budgets, and resources, impacting affordability and accessibility. Key aspects include maintaining affordable tuition fees, addressing high accommodation and travel costs, and developing sustainable financial aid systems.
3	**Pressure to address inequalities in and through higher education**	Pressure to promote equity of access and redress past inequalities, and to ensure that the staff and student profiles in higher education progressively reflect the demographic realities of SA society.

Institutional capacity and resources

4 Approach to institutional capacity and resourcing

Higher education institutions (HEIs) in South Africa exhibit significant disparities in capacity and resourcing, often reflecting broader societal inequalities such as those between urban and rural areas or digital divides in terms of access, capabilities, and usage. While progress has been made in enhancing the capacity and resources of various HEIs, concerns persist for those institutions that continue to lag behind and require focused interventions.

5 Availability of funding for learning and teaching

Insufficient budget growth and declining subsidies threaten the sustainability of HE institutions. Increasing student numbers and mounting student debt further exacerbate this issue, potentially impacting the quality of learning and teaching, and other core functions of HEIs.

6 Cost of quality assurance services

Compliance with quality assurance demands places significant pressures on academic and administrative staff, leading to substantial costs for institutions. These financial burdens can strain budgets and divert resources away from other critical areas of learning and teaching.

7 Internal quality assurance capacity and capability of HEIs

Building capacity and enhancing capabilities within HEIs is essential for effective internal quality assurance. The new Quality Assurance Framework (QAF) aims to introduce streamlined, digitised, and collaborative processes. These new methods will demand enhanced financial, technical, and human resources within both the CHE and HEIs.

8 Numbers and skills of people involved in learning and teaching activities

The future of learning and teaching in HE will be significantly influenced by the number of qualified individuals pursuing careers in this field.

9 **Institutional and academic governance, leadership and management**

HEIs are increasingly facing challenges such as internal corruption, the falsification of qualifications, and students finding innovative ways of circumventing rules, procedures and requirements.

10 **Development of capacity and capability for data analytics**

HEIs increasingly recognise the value of data-driven decision-making; they are investing in advanced analytics tools and training to enhance institutional performance. Increased data analytics could optimise student outcomes, personalise learning experiences, and improve administrative efficiency. However, achieving these benefits requires substantial investment in technology, infrastructure, and skilled personnel, as well as time for staff training and ongoing professional development.

Safety and support

11 **Safety and security within learning and teaching environments**

Ensuring safety and security in learning environments is essential for all. This includes protecting physical safety, ensuring digital and cybersecurity, and fostering emotional wellness and mental health.

12 **Student support**

The expansion of the South African HE system necessitates addressing evolving student needs, including financial, academic, and psychosocial support, particularly for at-risk students. Concerns about the quality of outsourced support services highlight the need for HEIs to develop robust internal mechanisms to provide consistent and effective student support.

Teaching and learning innovation

13 Non-credit-bearing learning and teaching, and development and adoption of micro-credential offerings

Micro-credentials and non-credit-bearing options such as MOOCs are expanding. It offers broader access to HE, more personalised learning experiences, and diversifies the range of educational providers.

14 New and emerging institutional types in higher education

The landscape of HE is evolving with the emergence of new institutional types, resulting in both increased competition and collaboration between private and public HE institutions, with the private higher education sector continuously expanding.

15 Generative and other AI disrupting learning and teaching

Developments in artificial intelligence (AI), particularly generative AI, are creating a paradigmatic shift in HE. While it offers vast potential for innovation in educational practices by enabling more personalised and adaptive learning experiences for students, it can also disrupt traditional teaching methods, challenge academic integrity, and require significant changes in curriculum development and assessment practices. Its transformative power necessitates addressing issues of academic integrity, quality assurance, and ethical considerations when integrating AI into HE.

16 Investment in learning and teaching technologies

It is essential for HEIs to make timely investments in and adopt appropriate technologies and innovative learning and teaching practices to remain relevant and effective. However, these advancements come with challenges, including the need for adequate resources, capacity development, and infrastructure development. A significant challenge is the risk of investing large sums of money in ICT that may not be appropriate or fit for future purpose.

17 Digital skills and competencies

As the digital age advances, the necessity to develop digital skills and competencies in HE becomes increasingly critical. A significant challenge for South Africa is bridging the digital divide.

18

Ability to keep pace with new knowledge and ongoing curriculum reform

HEIs face significant pressure to undertake regular curriculum reform to keep their programmes relevant, responsive, and agile. This requires aligning the pace of accreditation with the rapid development of new knowledge, and emerging skills requirements.

Global and regional influence

19

Response to global and regional challenges

The HE system is increasingly vulnerable to challenges such as economic slowdowns, extreme weather events, climate change, and social and political tensions. Despite these vulnerabilities, HEIs are uniquely positioned to address these challenges through their core functions of teaching, research, and community engagement.

20

Global connections and collaboration

In an era of increasing internationalisation, HEIs are forming cross-border collaborations and partnerships to enhance research efforts, facilitate student and staff exchanges, and build institutional capacity. There is a need to adapt to a rapidly globalising world and to remain competitive in the educational landscape. However, the rise of protectionism and shifting political landscapes may challenge the sustainability of this globalisation trend, potentially impacting HEIs' ability to maintain and expand their international collaborations.

Policy and Regulatory Influences

21

National goals for higher education

NDP: Increase the throughput rates for degree programmes to more than 75% by 2030. Aim for a combined total (private and public) of 425 000 graduates by 2030, and more than 5 000 doctoral graduates per year.

NP-PSET: Goal to increase enrolment and throughput in qualifications.

The national goals point to the importance of developing employability skills, fostering social engagement, and maintaining high-quality and relevant education. These goals reflect the need for HEIs to adapt to changing societal and economic demands while maintaining their broader educational mandates.

22 **Uneven HEI ability to integrate policy and good practice into learning and teaching**

HEIs vary in their ability to efficiently incorporate good practices and policy changes into learning and teaching.

23 **Development of an enabling and aligned regulatory environment**

The existing regulatory regime is often viewed as multi-layered, onerous and bureaucratic, hindering the agility and responsiveness of HEIs.

24 **Integration, coordination and articulation within the PSET system**

The National Plan for Post-School Education and Training (NP-PSET) outlines several key requirements for a well-functioning Post-School Education and Training (PSET) system. This factor deals with the efficiency of integration, coordination and articulation within the system.

Future directions

25 **Perceived importance of research relative to learning and teaching**

Research plays a crucial role in the HE ecosystem. However, institutional cultures often prioritise research, which can lead to learning and teaching being undervalued and underfunded. Professors may become more focused on research, potentially neglecting their teaching responsibilities. This imbalance can reduce the focus on improving teaching methods and learning, ultimately undermining the quality of education.

26 **Provision of lifelong and lifewide learning in higher education**

The concept of lifelong and lifewide learning in HE is gaining prominence due to technological advancements and societal needs. Paradigms about learning are shifting from front-loading education (where learning is concentrated in the early years of life) to lifelong, competency-based learning.

27

Student preferences, imperatives and demands for learning and teaching

Students' preferences and demands for learning and teaching are evolving, leading to tensions between traditional and modern educational approaches. Students increasingly expect a more personalised, student-centric learning experience.

28

Differing perceptions on the purpose of higher education

The purpose of HE is a subject of ongoing debate and varying perspectives, shaped by cultural, social, economic and political contexts. These differing perceptions significantly influence policy-making, institutional strategies, and student expectations

3.3.1. Determining the key certainties and uncertainties

In this phase, the identified factors are evaluated in terms of their potential impact on the future of learning and teaching in HE and their degree of uncertainty. The aim is to determine the most critical and influential factors that could shape the futures of the sector. This process aids in understanding the stable elements (certainties) that are likely to persist and the dynamic elements (uncertainties) that could vary significantly, allowing the development of alternative scenarios.

1. **Key Uncertainties**
   These factors are highly uncertain but impactful. They represent pivotal uncertainties that could materially alter the landscape of learning and teaching in HE.

2. **Key factors with lower levels of uncertainty**
   These factors are characterised by lower levels of uncertainty but high impact. They represent significant trends that are likely to shape the future and should be a central focus in strategic planning.

The factors that were categorised as key certainties are still relevant in scenario development. While those with lower levels of uncertainty may not significantly influence alternative futures individually, they collectively shape the overall context of learning and teaching in HE. Systematically categorising and refining these factors enable stakeholders to navigate future complexities more effectively.

Analysis activities during the workshop categorised the 28 factors initially identified into 13 factors with lower levels of uncertainty, and 15 factors with higher levels of uncertainty.

Key Uncertainties

- Approach to institutional capacity and resourcing
- Availability of funding for learning and teaching
- Perceived importance of research relative to learning and teaching
- Non-credit-bearing learning and teaching, and development and adoption of micro-credential offers
- Affordability of HE for students
- Ability to keep pace with new knowledge and ongoing curriculum reform
- Uneven HEI ability to integrate policy and good practice into learning and teaching
- Internal quality assurance capacity and capability of HEIs
- Investment in learning and teaching technologies
- Generative and other AI disrupting learning and teaching
- Response to global and regional challenges
- National goals for higher education
- Development of an enabling and aligned regulatory environment
- Integration, coordination and articulation within the PSET system
- Institutional and academic governance, leadership and management

Key factors with lower levels of uncertainty

- Pressure to increase access to and success in higher education
- Student support
- Digital skills and competencies
- Numbers and skills of people involved in learning and teaching activities
- Safety and security within learning and around teaching environments
- Cost of quality assurance services
- Development of capacity and capability for data analytics
- Global connections and collaboration
- Pressure to address inequalities in and through higher education
- New and emerging institutional types in higher education
- Provision of lifelong and lifewide learning in higher education
- Student preferences, imperatives and demands for learning and teaching
- Differing perceptions on the purpose of higher education

3.4. Cross-impact analysis

Cross-impact analysis is a method used to explore and understand the interdependencies of the key uncertainties. It helps to identify how a change in one factor might influence other factors. This method ensures that the scenarios take into account the multifaceted interactions that could influence future outcomes, providing a deeper insight into the potential dynamics of change.

The steps followed and an example of a cross-impact matrix is presented below.

3.4.1. Cross-impact matrix

Key uncertainties are listed along both the rows and columns of a matrix, creating a grid where each cell represents potential interaction between two factors. The potential impact of Factor A on Factor B and C is then assessed on a 4-point scale, where 0 is no impact, 1 is low impact, 2 is moderate impact, and 3 is high impact.

	Factor A	Factor B	Factor C	Active score
Factor A		1	2	3
Factor B	3		3	6
Factor C	2	2		4
Passive score	**5**	**3**	**5**	

3.4.2. Determining factor roles through active and passive score calculation

Cross-impact analysis is used to determine the roles of various factors by calculating their active and passive scores.

- **Active score:** The total of the impact scores for each factor across the row it occupies. It indicates how strongly that factor influences other factors.
- **Passive score:** The impact scores for each factor down the column it occupies. It reflects how strongly a factor is influenced by other factors.

These scores help to understand how strongly each factor influences other factors (active score) and how much a factor is influenced by other factors (passive score). The resulting roles of the factors are categorised as follows:

High Active Score High Passive Score	**Pivotal factors**	Strongly influence and are strongly influenced by other factors. They play a central role in the system and should be kept in mind at all times due to their high interactivity and impact.
High Active Score Low Passive Score	**Active and impulsive factors**	These factors have a strong influence on other factors but are not significantly influenced by them. They are effective levers for change and can be targeted for interventions to drive system-wide impact.

Low Active Score High Passive Score	**Reactive or Passive factors**	These factors are highly influenced by other factors but do not significantly influence others. They serve as useful indicators for observing the effects of changes within the system.
Low Active Score Low Passive Score	**Buffering factors**	These factors neither significantly influence nor are significantly influenced by other factors. While they might not play a critical role, they can contribute to the overall stability of the scenario dynamics.

Results from the cross-impact analysis by participants is shown below:

Factor	Role
Availability of funding for learning and teaching	HH Pivotal
Approach to institutional capacity and resourcing	HH Pivotal
Perceived importance of research relative to learning and teaching	HH Pivotal
Ability to keep pace with new knowledge and ongoing curriculum reform	HH Pivotal
National goals for HE	HL Active
Response to global and regional challenges	HL Active
Generative and other AI disrupting learning and teaching	LH Reactive
Affordability of higher education for students	LH Reactive

Investment in learning and teaching technologies	LH Reactive
Non-credit-bearing learning and teaching, and development and adoption of micro-credential offers	LH Reactive
Internal QA capacity and capability of HE	LH Reactive
Institutional and academic governance, leadership and management	LL Buffering
Integration, coordination and articulation within the PSET system	LL Buffering
Development of an enabling and aligned regulatory environment	LL Buffering

3.5. Developing scenario narratives

3.5.1. Methodology

The Scenario Mixing Console is an interactive tool designed to explore and analyse potential future scenarios. Similar to an audio mixing console, where different channels are adjusted to produce various soundscapes, one can experiment with and adjust the level or influence of different factors to generate distinct and plausible future outcomes. The framework revolves around different scenario archetypes, each representing a different possible future. For each scenario archetype, a "mixing console" is created, with the various factors represented as separate channels. The "level" or influence of each factor is adjusted according to the scenario context. By manipulating these levels, strategists can explore how different combinations of factors might shape the future. This approach ensures that the generated scenarios are diverse, comprehensive, and grounded in a deep understanding of how different forces interact within a given context.

For this project, four scenario archetypes were used:

- **Continue:** This scenario assumes that current trends and policies will largely persist without significant disruptions. It reflects a future where the status quo is maintained, with incremental changes but no fundamental shifts.
- **Decline:** The scenario represents a future where systems deteriorate due to various stressors, such as economic, environmental, or social crises. It explores the potential consequences of severe disruptions that lead to a decline or failure of current systems.

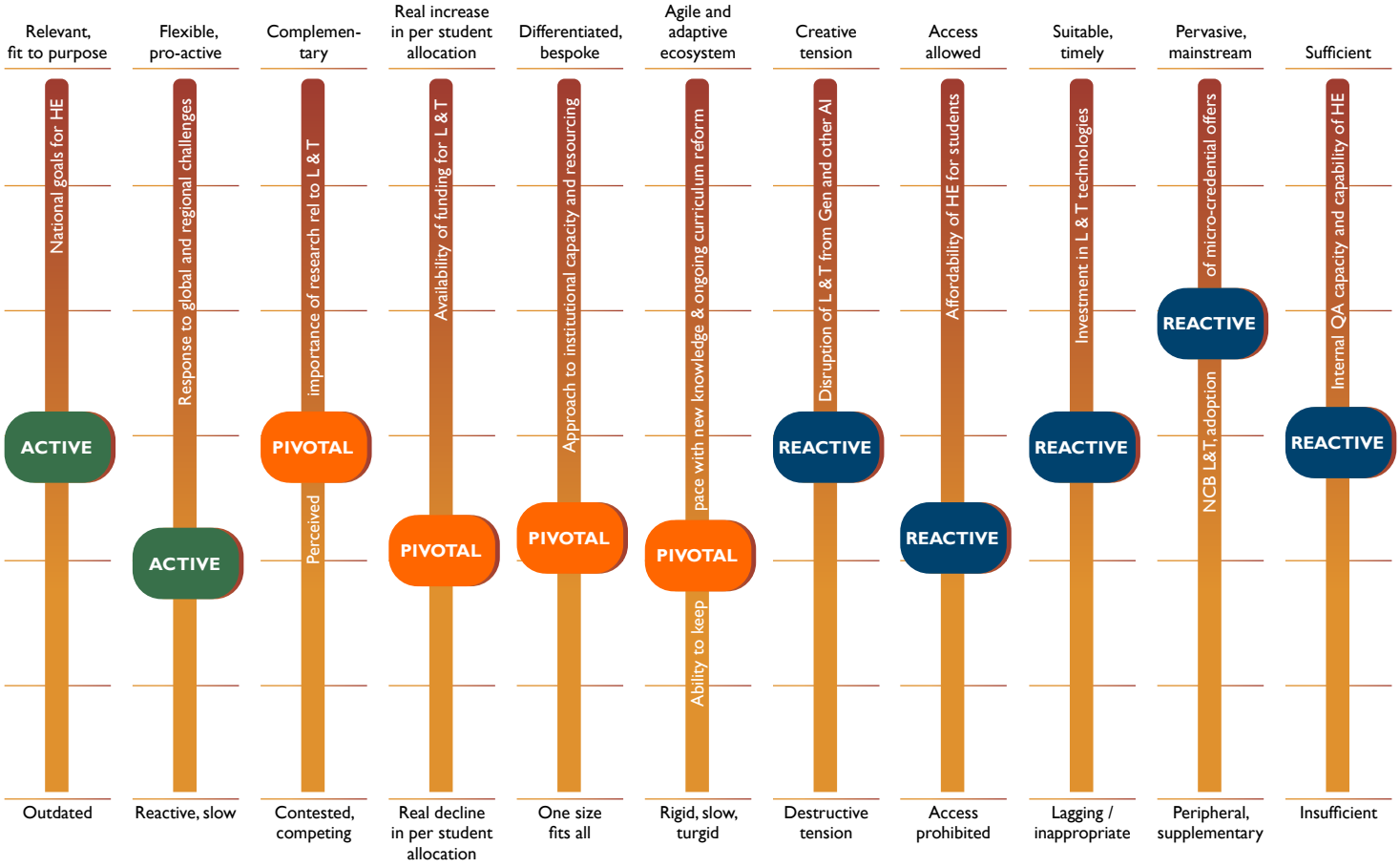
- **Disciplined Improvement:** This scenario envisions a concerted effort to improve existing systems through disciplined, incremental changes. It involves a future where change is managed and controlled, often through deliberate policy interventions or reforms.

- **Transformation:** The transformation scenario imagines a future where radical changes occur, leading to the emergence of entirely new systems, structures, or paradigms. This could be driven by technological breakthroughs, significant cultural shifts, or other transformative changes that redefine the future landscape.

3.5.2. Alternative futures of learning and teaching in HE in South Africa: 2036 scenarios

A mixing console portraying the 2036 positions for each pivotal factor and a narrative to describe the future situation were developed for each of the archetypes. The Continue scenario is presented first, followed by the Decline scenario, then the Disciplined Improvement scenario, and finally the Transformation scenario.

3.5.2.1. The Continue Scenario



Upholding the divide in HE: Slow and uneven progress

The 2036 HE sector in SA struggles to navigate the complexities of progress, equity, and innovation. Although crafted to address the challenges of the past and present, the national goals for HE struggle to meet evolving needs. Political and social imperatives drive efforts to improve equity and access, significantly increasing student

numbers. However, this influx of graduates does not seamlessly translate into a workforce capable of driving the country's socio-economic development.

Diverse and conflicting stakeholder interests further complicate the direction and implementation of national goals. Some stakeholders focus on enhancing facilities and resources, some on boosting enrolment and graduate numbers, while others push for improved research output or better alignment with industry needs. This contestation creates a fragmented environment, slowing decision-making and hindering effective resource allocation. The environment of "cautiously upholding the divide" means that while fairness and basic metrics, such as enrolment numbers and equity, are maintained, the sector fails to foster the innovative engagement needed to develop learning and teaching for a future-fit workforce.

The one-size-fits-all policies and approaches to institutional capacity and resourcing fail to address the wide disparity among HEIs. While some institutions manage incremental improvements, many struggle with inadequate resources and support, leading to uneven progress and a widening gap between institutions.

Internal quality assurance (QA) capacity and capabilities reflect similar challenges. Standardised success metrics do not align with institutions' diverse needs, leading to missed opportunities for staff empowerment and institutional growth. As a result, many institutions fall behind national educational standards, unable to keep pace with new knowledge and ongoing curriculum reform. This further exacerbates the sector's struggles, undermining the overall quality of learning and teaching in HE.

Funding for learning and teaching continues to decline in real terms per student, exacerbating operational challenges. As funding becomes increasingly constrained, institutions struggle to maintain quality education while coping with rising enrolment numbers. This financial strain is often passed on to students, undermining the affordability of HE despite national goals aimed at making education accessible to all.

In response to these financial and operational pressures, there is a noticeable shift towards non-credit-bearing learning and micro-credential offerings. These supplementary offerings become a lifeline for both institutions and students, providing flexible and often more affordable education options. However, they also signify a divergence from traditional degree programs, reflecting the sector's adaptation to its constraints.

The perceived importance of research varies widely across institutions, creating a fragmented system where educational quality is inconsistent. Some institutions prioritise research, enhancing their prestige and funding, while others focus on the quality of learning and teaching. This leads to significant differences in student experiences and the potential for graduates from all institutions to compete equally in the labour market, further complicating the narrative of progress.

As global and regional challenges intensify, HE institutions become more proactive but not swiftly enough to meet the demands. Conflicting priorities and systemic fragmentation hinder intentional improvements. Traditionalist views about education metrics clash with progressive approaches. As a result, institutional responses to global challenges are inconsistent, leading to varied outcomes in preparedness and resilience.

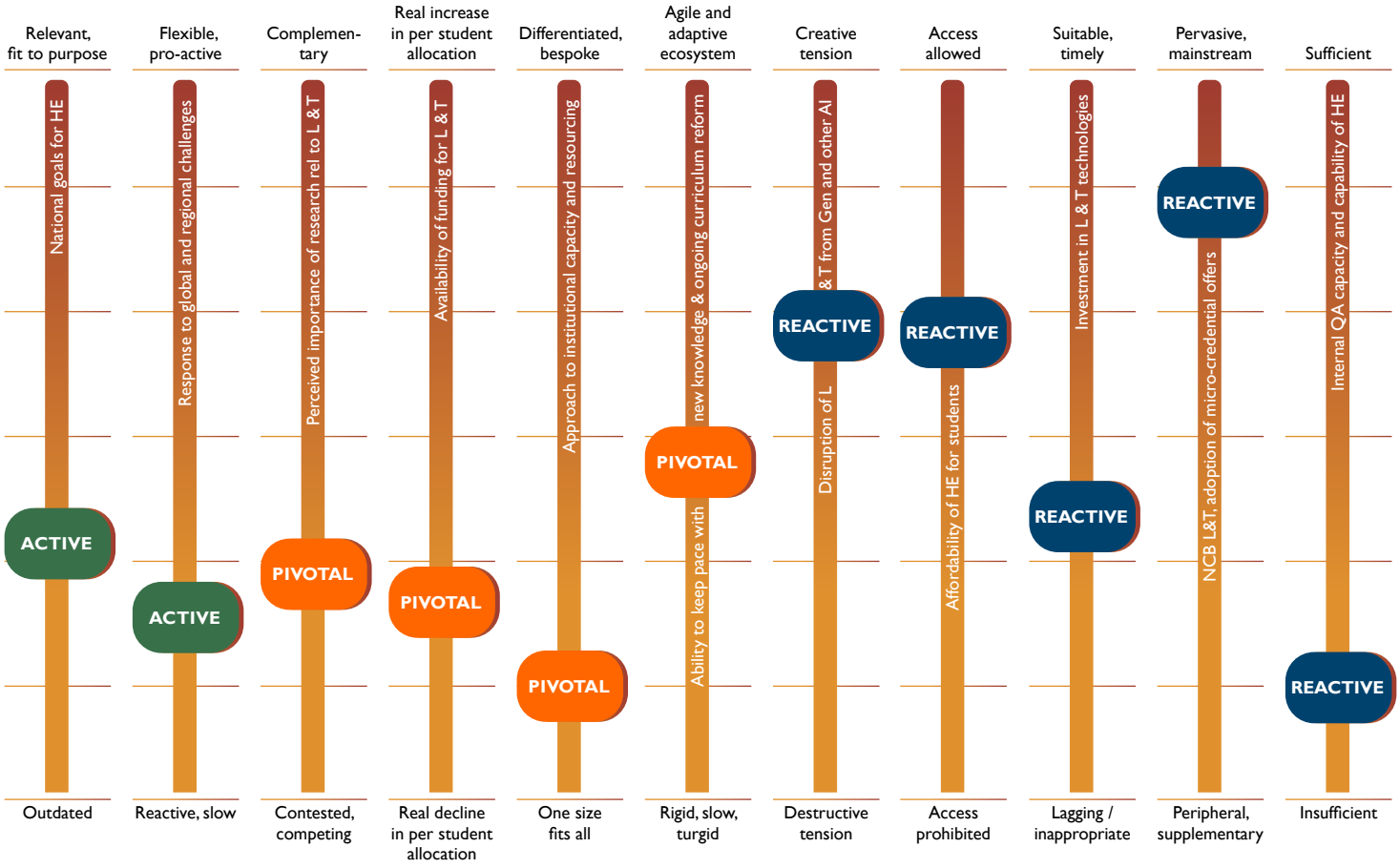
The role of technology in learning and teaching underscores the sector's fragmentation. Disparities in institutional capacity lead to uneven adoption of learning and teaching technologies. Increased competition sees some HEIs making unsuitable investments in an attempt to catch up, often causing more harm than good. The rapid pace of technological change remains a hurdle, with both overeager and resistant stances posing risks. Institutions,

in an attempt to carefully investigate to ensure that investments are future-fit and beneficial for students, are increasingly behind the adoption curve.

Generative and other AI technologies introduce pockets of creative tension. While some institutions embrace AI, leveraging its potential to revolutionise learning and teaching, others resist, fearing disruption. This divide slows the overall transformative application of AI, with unnecessary caution in some cases and idealistic investments in others.

The "Continue" scenario paints a picture of a stable but constrained education system, managing incremental changes without the dynamic innovation needed to fully realise its potential, and increasingly vulnerable to disruption.

3.5.2.2. The Decline Scenario



Aspiring to mediocrity

By 2036, learning and teaching within South Africa's HE system had experienced a marked decline across all metrics, grappling with outdated frameworks and an inability to adapt to the rapidly evolving needs of the sector. Although the national goals for HE were well-intentioned, they had become increasingly irrelevant, overshadowed by a relentless focus on immediate concerns. This short-sightedness left little room for the critical attention needed for long-term planning and innovation, resulting in a stagnating sector.

Implementing the national goals was complex, as diverse stakeholder interests from social and political parties created a contentious and fragmented environment. These conflicting priorities led to fierce disputes over resource allocation, with stakeholders debating whether funds should be directed towards facilities, student scholarships, or faculty development. This ongoing tug-of-war intensified, slowed decision-making processes and hindered the effective deployment of resources. This resulted in a pronounced stop-start trajectory that severely impeded progression towards future readiness.

The need for a differentiated approach to institutional capacity and resourcing became glaringly apparent yet unattainable. The contested environment and focus on present and past issues led to a one-size-fits-all approach. Limited funding and diverging goals stifled the tailored strategies necessary for transforming the HE system. Internal quality assurance (IQA) capacity and capability fell lower on the list of priorities, remaining reactive and slow, struggling to keep pace with the evolving demands of the sector.

Funding per student declined, further exacerbating disputes over resource allocation. This decline placed additional strain on HEIs, who were already pressured by the need to make HE more affordable.

In this environment, the sector seems to be comfortable with aspiring to mediocrity. A focus on metrics, such as enrolment numbers, took precedence over proper support and the empowerment of HEIs to improve learning and teaching. The development of future-fit students and members of society became a secondary concern as the system grappled with its reactive stance. The lack of cohesive and forward-thinking strategies led to a HE system that could not keep pace with the demands of the future, ultimately contributing to its weakening.

To increase graduate numbers and provide more affordable education, non-credit-bearing and micro-credential offerings became more mainstream. However, they only partially addressed the sector's more profound issues.

These overarching challenges severely compromised the ability to keep pace with new knowledge and ongoing curriculum reform. Nevertheless, sporadic and opportunistic pockets of innovation emerged within the system, often spearheaded by private sector initiatives and forward-thinking actors who attempt to compensate for the rigidity elsewhere.

The perceived importance of research relative to learning and teaching suffers in this contested environment. The predominant national focus on enrolment numbers and basic needs pushes research contributions to the periphery, ultimately compromising the overall quality of education within the ecosystem.

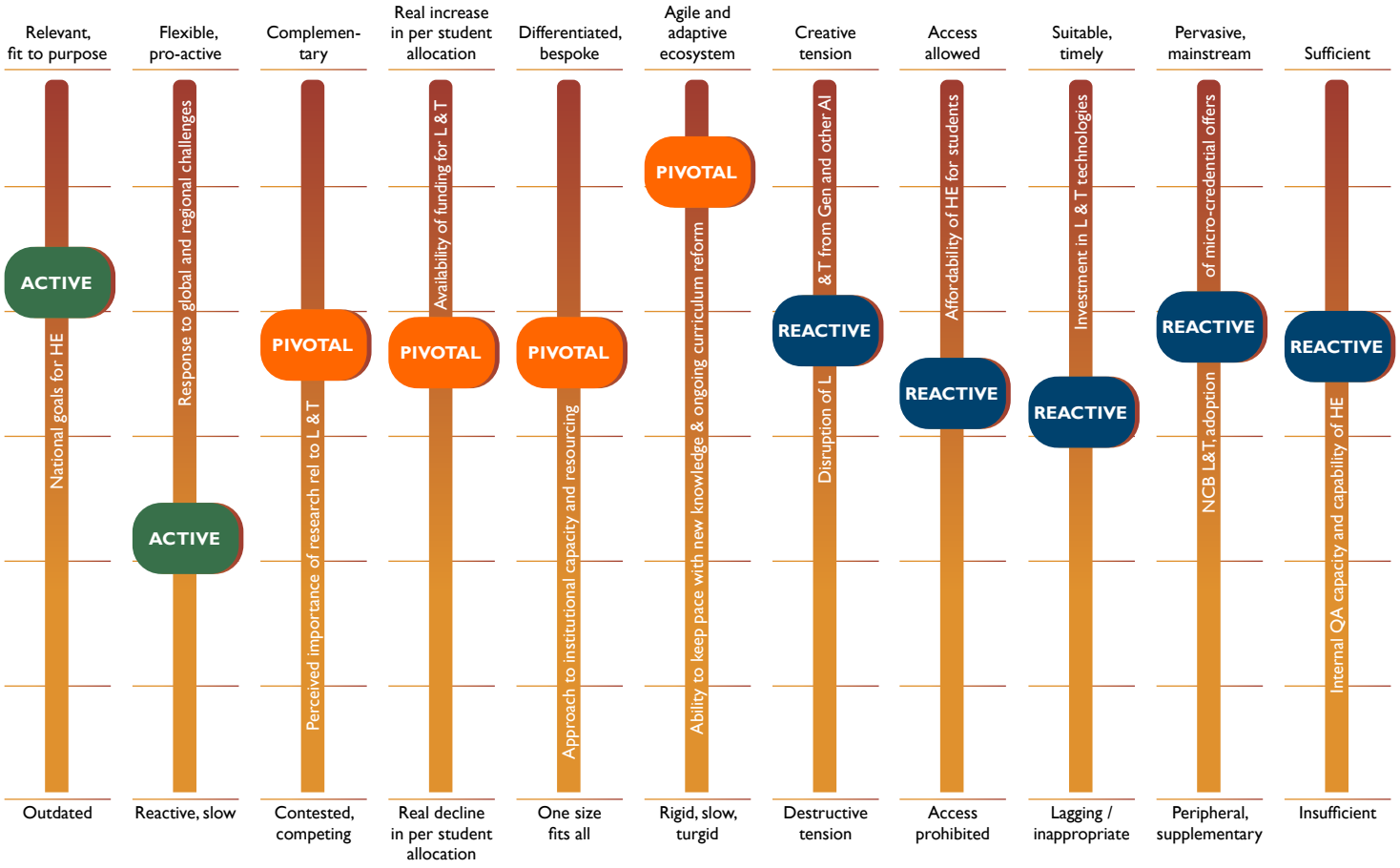
The response to global and regional challenges becomes insular, driven by the prevailing view that "charity begins at home." Funds to proactively position HEIs as critical players in addressing broader challenges were considered luxuries and therefore deprioritised. Traditionalist stakeholders focus on fighting immediate fires rather than preparing for future ones.

Technology investments in the sector were a mixed bag. Some investments were timely but unsuitable, exacerbating resource strains. However, there were also pockets of success where stakeholders made appropriate investments to close gaps in the HE system. Unfortunately, these successes were insufficient to achieve a sector-wide impact.

Amidst this rigidity and contention, the potential of generative and other AI technologies created a landscape of creative tension. Visionaries saw AI as a means to overcome the hurdles imposed by bureaucratic and traditional perspectives. However, their efforts were often stymied by the very system they sought to revolutionise.

This scenario reveals how the system's inability to break free from its reactive stance and adapt to future demands ultimately led to its decline.

3.5.2.3. The Disciplined Improvement Scenario



Orchestrating the Future

In 2036, learning and teaching within South Africa's HE sector stands as a testament to the power of collaboration and strategic foresight. The journey began in 2025 with a critical realisation: traditional methods were insufficient to meet future demands, prompting a shift towards a systemic mindset and an ecosystem approach. This shift was catalysed by a groundbreaking summit where HE leaders, policymakers, industry stakeholders, and community representatives gathered to consider alternative futures of learning and teaching in HE. They acknowledged the urgent need to become more adaptive and to keep pace with new knowledge and ongoing curriculum reform. This shared understanding sparked a commitment to openness and collaboration, setting the stage for systemic change.

The re-envisioning of national goals played a pivotal role. The process involved inclusive consultations with all stakeholders, ensuring that the goals were comprehensive and reflected the sector's diverse needs. Clear roles and responsibilities were delineated, creating a supportive environment for implementation. This cohesive strategy aligned efforts across institutions, fostering a culture of continuous improvement and innovation.

Recognising the wide disparities among HEIs, a tailored approach to institutional capacity and resourcing emerged. This strategy ensured more efficient and sustainable resource allocation, leading to balanced and effective capacity-building across the sector.

A concerted effort was made to strengthen internal quality assurance (QA) capacities. Training programs for QA personnel were implemented, focusing on the latest global best practices and innovative approaches to quality management. Institutions were equipped with digital tools and platforms to streamline QA processes, making them more efficient and less burdensome. Automation and AI-driven analytics helped in monitoring and maintaining high educational standards. This systematic enhancement boosted the credibility and effectiveness of the HE sector.

The public and private sectors collaborated to create funding pools. The streamlined allocation of funds ensured that financial resources were more abundant and used more efficiently. This financial stability underpinned the sector's ability to innovate and adapt, reinforcing the overall ecosystem's resilience. The orchestrated approach to resource management translated into increased affordability for students. Efforts to reduce operational waste and improve budget allocation lowered tuition costs. Scholarships and financial aid programs were expanded, targeting underrepresented and economically disadvantaged students.

The shift towards micro-credentials and non-credit-bearing courses was embraced wholeheartedly. These offerings were seamlessly integrated into the HE framework, providing flexible and customised educational pathways. A platform was developed to assimilate these credentials with traditional programs, allowing students to stack credentials towards a certification or a degree. This system enriched learning and aligned education with the evolving needs of the job market, creating a more skilled and adaptable workforce.

A more balanced integration of research and teaching emerged as a cornerstone of the improved system. Research initiatives were designed to directly inform and enhance teaching practices, while pedagogical advancements contributed to a robust research environment. Collaborative projects and interdisciplinary research became the norm, with funding incentives tied to the successful integration of research with learning and teaching. This synergy ensured that students benefited from cutting-edge research and received a high-quality education.

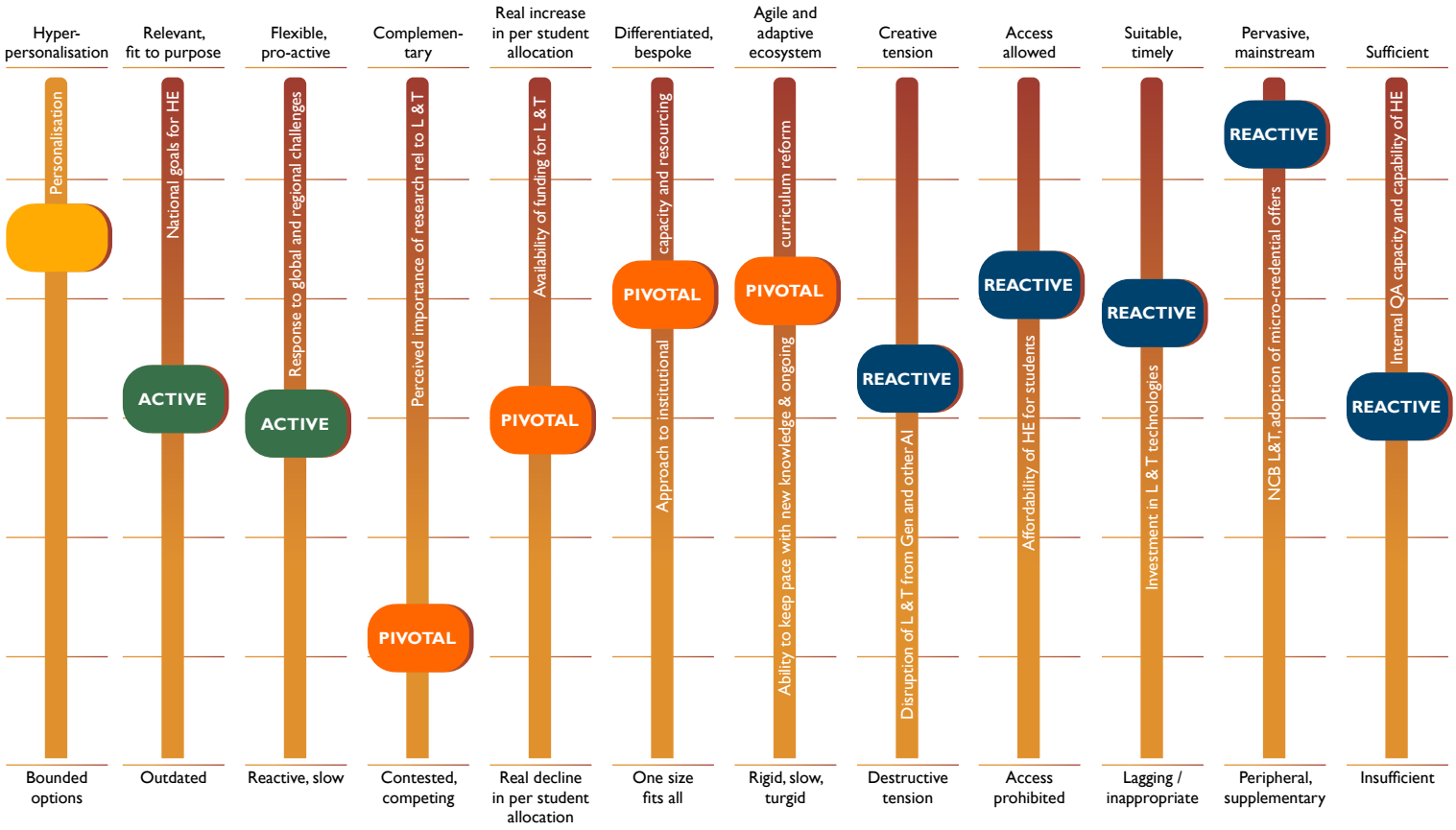
The HE sector's approach to global and regional challenges became more proactive. Institutions formed consortia to tackle issues like climate change, public health, and technological innovation. These consortia fostered cross-border research collaborations, student and faculty exchanges, and joint degree programs. This global perspective enriched the local context, making HEIs more resilient and better prepared to respond to external pressures.

Investments in technology were guided by thorough foresight and strategic planning. Institutions adopted digital tools and platforms tailored to their specific needs, ensuring that technological advancements enhanced educational delivery. Pilot programmes for emerging technologies, such as virtual reality for immersive learning and AI for personalised education, were implemented and scaled based on their success. This careful and intentional use of technology supported the sector's goals of adaptability and innovation.

Generative and other AI technologies were integrated thoughtfully into the educational ecosystem. Institutions developed AI labs and innovation hubs where faculty and students collaborated on AI-driven projects. AI was used to personalise learning experiences, streamline administrative processes, and enhance research capabilities. The sector's openness to experimentation and innovation around AI created a dynamic and forward-thinking educational environment.

The "Disciplined Improvement" scenario is a narrative of gradual, strategically aligned progress driven by collaboration, innovation, and systemic thinking. By aligning diverse interests and focusing on intentional improvements, South Africa's HE system evolved into a resilient, responsive, and future-ready ecosystem. This disciplined improvement narrative is a story of vision, cooperation, and the relentless pursuit of excellence, positioning learning and teaching within South Africa's HE system as a model of adaptive and forward-looking development. Through collective effort and systemic thinking, the sector became better equipped to meet the evolving needs of students and society, leading to a stable and efficient higher education system, ready to face the future with confidence.

3.5.2.4. The Transformation Scenario



A tailored tomorrow: A new era of personalised learning in HE

By 2036, learning and teaching within South Africa's HE sector has undergone a radical transformation driven by an accelerating demand from students for hyper-personalisation. This profound change began unfolding years earlier, catalysed by a confluence of societal needs and technological advancements. High unemployment rates have led to widespread social unrest, with graduates protesting against a system that failed to ensure employability. Meanwhile, Generation Z and Generation Alpha, digital natives accustomed to personalised experiences in all facets of life, demanded a more adaptive and responsive learning experience.

The push for hyper-personalisation was not limited to education alone. Industries like healthcare and retail have already embraced this trend, with personalised medicine and bespoke shopping experiences becoming the norm.

A spill-over effect from these sectors further accelerated the demand for a tailored approach in learning and teaching as stakeholders recognised the potential benefits.

Employers sought a system that better aligned with their requirements for a future-ready workforce. Concurrently, the instability in job security due to increasing automation prompted a societal shift towards lifelong and life-wide learning.

This convergence of forces—social unrest, generational expectations, industry demands, and the influence of hyper-personalisation from other sectors—created a potent catalyst for transformation. Incremental approaches were no longer sufficient. Society demanded a comprehensive overhaul of the HE system to meet contemporary needs and future challenges. This set the stage for a profound and collaborative reinvention of learning and teaching in HE, driven by the imperative to create a more personalised, flexible, and responsive learning environment.

At the heart of this transformation lies the sector's ability to adopt an agile and collaborative approach, leveraging the collective expertise of educators, industry leaders, and students to drive curriculum reform. Like the disciplined improvement scenario, key players foster a more integrated and systemic approach. However, while curriculum reform in the disciplined improvement scenario is more collaborative and integrated, it remains primarily driven from a top-down perspective. In the transformation scenario, learners play an active role in shaping their education, contributing to a more integrated and bottom-up approach to reform.

Responding to societal demands, the government embarks on a comprehensive overhaul of national goals for HE. Traditional metrics like enrolment numbers and graduation rates are replaced by more dynamic and adaptive goals focused on personalisation, flexibility, and employability. These new goals are co-created with input from industry, HE decision-makers, international stakeholders and students, ensuring a shared vision for a future-fit educational system. This collaborative effort transforms national goals into a dynamic framework that fosters a workforce aligned with the socio-economic development needs of the country.

This transformation also enhances the HE sector's response to global and regional challenges. HEIs become more proactive and resilient, driven partly by the younger generations' strong sense of social justice and activism. These students demand courses that address global challenges like climate change, inequality, and mental health. HEIs respond by incorporating these issues into their curricula and establishing cross-border collaborations. These partnerships strengthen the talent pool, share knowledge, and unlock funding for research and development. The HE sector is becoming a hub for addressing wicked problems, enhancing its global relevance and impact.

Personalised learning and teaching require substantial funding, but the transformation opens up new pathways and opportunities. Government support increases, backed by the collective push for systemic change. Innovative business models and partnerships attract additional funding sources. HEIs benefit from economies of scale, reduced operational waste, and targeted offerings. Technology plays a crucial role in automating processes and reducing costs, further supporting financial sustainability.

New business models create a variety of affordable and accessible options for students. The modular design of the educational system allows students to select courses based on their financial capacity, offering flexibility to spread out their education over time. This design also supports part-time study, enabling students to gain hands-on experience while continuing their education. Additionally, partnerships with industry provide financial support and increase the accessibility of HE. These collaborations ensure that education is not only more affordable but also closely aligned with industry needs, enhancing employability and reducing financial barriers for students.

Micro-credentials and non-credit-bearing courses are fully assimilated into the educational framework. These offerings provide flexible and customised learning pathways, enhancing employability and meeting diverse learner needs. They are seen not as competition but as integral components of the educational ecosystem, enriching the learning experience and opening new pathways into academia and the workforce.

Institutional capacity and resourcing are tailored to meet diverse learning and teaching needs. HEIs collaborate to form clusters of competence, allowing them to offer specialised, high-quality programs. This collaborative model leverages shared knowledge and resources, ensuring that all institutions can enhance their capabilities effectively. The result is a more balanced and effective capacity-building strategy across the sector.

In response to the modular design and personalised approach, internal quality assurance (IQA) processes undergo a complete overhaul. Industry bodies play an active role in accrediting courses, and ensuring alignment with sector-specific needs. Large companies partner with HEIs to co-develop and QA bespoke courses. This collaborative approach ensures that QA processes are integrated, co-developed, and continuously improved. Technology, particularly AI, is leveraged for automation and data analytics, enhancing the efficiency and effectiveness of QA activities.

Different stakeholders hold varied stances on the prioritisation of research, reflecting the sector's diverse needs and goals. Some institutions and industry leaders emphasise the necessity of robust research programs to drive innovation, economic growth, and global competitiveness. They argue that high-quality research is essential for advancing knowledge and addressing complex, interdisciplinary challenges. Conversely, other institutions, particularly those focused on teaching and direct employability, prioritise learning and the practical application of knowledge. These institutions adopt non-traditional mechanisms that emphasise generalist and life-wide learning approaches. They cater to the demand for broad-based education that equips students with a versatile skill set, adaptable to various industries and roles. This dynamic interplay between research and learning enriches the HE ecosystem, making it more resilient and capable of meeting diverse expectations and challenges.

Technology becomes a key enabler. While making suitable investments in technology remains challenging, considering the rapid pace of innovation and emerging risks, shared knowledge and partnerships lead to more informed and better decision-making. This proactive approach reduces the risks associated with hasty or inappropriate investments, ensuring that technological advancements are integrated seamlessly into the learning environment. This integration fosters a culture of continuous innovation and adaptability.

The openness to leveraging AI creates a dynamic environment where creative tension drives innovation. AI helps to provide personalised learning experiences and predictive analytics and automate processes and operations. Educational institutions are trying AI-based tools to improve teaching and learning while working together to minimise risks and adapt to changes. The impact still disrupts many learning and teaching activities as the new working methods require ongoing capacity building and additional resources.

By embracing modular and personalised design, strategic funding, innovative partnerships, and cutting-edge technologies, the HE sector not only addresses present challenges but also anticipates and adapts to future learning and teaching needs.

4. LEARNING FROM THE SCENARIOS

Scenarios are not predictions; they are tools for exploring multiple plausible futures. Their purpose is not to forecast a singular, inevitable outcome but to develop a range of alternative futures that could serve as 'memories of the future' and to guide strategic thinking and decision-making.

A few cross-cutting insights emerged from the scenario set developed here:

- A wide range of factors interact to influence the futures of learning and teaching.
- Some of the factors can be influenced by stakeholders, while others are not within their spheres of influence. It is important to be clear on who can influence what, and which factors should be tracked through trustworthy information systems.
- If the *status quo* persists, the system is likely to deteriorate, entrenching existing inequalities.
- If institutions fail to embrace the potential of new technologies, they risk alienating digitally native students who prefer more modern and innovative methods of engagement.
- Learning, teaching and research should not be regarded as competing priorities; the potential synergies should be realised through an integrated approach.
- Poor decision-making, short-sighted strategies and slow reaction times could trigger a downward spiral.
- Clear roles and goals are important. A well-defined division of responsibilities and a shared understanding of objectives could enhance collaboration and make it easier to navigate the complexities of higher education reform.
- The three steering mechanisms (funding, planning, and quality assurance) can be leveraged to achieve preferred futures.
- Institutions can experiment with new approaches without destabilising the broader system.
- The CHE should ensure that the accreditation process does not create barriers for those HEIs that wish to innovate. The challenge lies in maintaining a balance between encouraging innovation and ensuring the stability and quality of the overall system.
- Common ground should be found between ambitious goals and realistic constraints.

In processes where stakeholders engage with the scenarios, the following considerations may contribute toward informing strategic planning:

- How do each of the scenarios challenge current assumptions about learning and teaching?
- What does a preferred future look like, and what can we do from today onward to move towards it?

- Are there steering mechanisms that can be leveraged to achieve a preferred future?
- What are the risks emerging from these scenarios, and how can they be mitigated?
- How might different higher education institutions experience these scenarios differently based on their unique contexts, resources, and challenges?
- How can higher education institutions and other role-players within the system ensure that their strategic plans remain flexible and responsive to changes in the environment?
- What role should technology play in learning and teaching in higher education, and how can it be integrated effectively?
- What opportunities do these scenarios present for innovation in learning and teaching?
- How could the existing roles of different stakeholders (CHE, HEIs, government, students, industry, etc.) shift over time?
- How can stakeholders collaborate to mitigate risks and benefit from emerging opportunities?
- How could the insights gathered from the scenarios influence pedagogical approaches, and how might methods of learning and teaching evolve over the next decade?

5. CONCLUDING THOUGHTS

Scenarios do not represent one expected future but offer a spectrum of possibilities that could emerge due to the development of various factors and the interplay among them. The reality could be a combination of different elements from the scenarios, with stakeholders experiencing different aspects of each scenario to varying degrees.

Moreover, scenarios highlight the agency we have in shaping the future. They help us identify levers within our control that can influence the trajectory of HE into the future in ways that align with our goals and values or avoid and mitigate undesirable outcomes.

The scenarios developed here provide a structured approach to considering how key factors might influence learning and teaching in South Africa. By deeply considering each scenario, decision-makers can explore the roles they may need to play, identify gaps or overlaps in responsibilities between stakeholders, and develop a richer understanding of the dynamics at play. This process of 'mental rehearsal' of plausible futures is critical because it builds an inventory of experiences and insights, enabling leaders to be better prepared as the future unfolds.

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