

RESEARCH ARTICLE:

Challenges Impacting Higher Education Leaders in Achieving the Sustainable Development Goal of Quality Education in South Africa

Shamola Pramjeeth¹, Dominique Marie' Nupen² and Jayseema Jagernath³

Received: 02 March 2023 | Revised: 12 July 2023 | Published: 15 August 2023

Reviewing Editor: Dr. Tobi Alabi, University of Johannesburg

Abstract

Developing economies such as South Africa face numerous challenges to achieve sustainability within higher education (HE). This study examined the key challenges facing leaders within HE institutions (HEIs) in South Africa, as they aim to contribute significantly towards the achievement of Sustainable Development Goal 4 related to quality education. Using a qualitative research design, the study surveyed 75 leaders in various South African HEIs using an online survey platform. The findings revealed two overarching challenges across public and private institutions: an absence of strong leadership and a complex sociopolitical context. Within public institutions, additional challenges related to bureaucracy, outdated curricula, resourcing, and values were noted. Within private institutions, bureaucracy was also observed, as well as the digital divide; curricula and foundation; finance and affordability; inequitable access; lack of resourcing, benefits, and support.

Keywords: challenges; higher education institution; quality education; South Africa; sustainability leadership

Introduction

Sustainable development is a strategic priority increasingly encountered across industries and educational institutions, championed globally by the United Nations through the 17 Sustainable Development Goals (SDGs). The definition of sustainable development is commonly accepted as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1998: 16; International Institute for Sustainable Development, 2022). Under this definition, the realisation of sustainable development will determine the continued existence and well-being of our species. Education is widely acknowledged as crucial to the achievement of sustainable development, as established within Agenda 21 in 1992 and reiterated by the United Nations (Times Higher Education, 2021). However, formal research into the performance of higher education (HE) in this respect, as well as the challenges experienced by higher education institutions (HEIs) striving to make progress toward sustainable development, remains limited. In addition, publications focused on sustainability in HEIs have been skewed towards the Global North, while little is known about the Global South and African HE in particular (Ulmar and Wydra, 2020).

The SDG 4 specifically focuses on quality education as a critical component of sustainable development. This goal aims to drive the prioritisation of quality education so that proponents of sustainable development “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations, n.d.). The performance of South African HEIs against targets associated with the achievement of SDG 4, as well as the challenges sustainability leaders face within these institutions, is an area that has not been widely researched. This study sought to identify the challenges that leaders in HEIs perceive as obstacles in their respective HEIs, realising the focus of SDG 4 on quality education. If leaders in both private and public institutions have a better understanding of the key challenges impacting their specific type of institutions, it will immensely assist in their decision-making while they strategise on how best to realise the SDG 4 of quality education based on the resources and stakeholders at their disposal.

¹The IIE Varsity College, spramjeeth@varsitycollege.co.za | <http://orcid.org/0000-0002-8673-1634>

²The IIE Varsity College, dnupen@varsitycollege.co.za | <https://orcid.org/0000-0003-0977-8284>

³The IIE Varsity College, jjagernath@varsitycollege.co.za | <https://orcid.org/0000-0002-6210-9592>

The landscape of South African HE has undergone significant changes in the last two decades as the country strives to overcome the legacy of apartheid and address the challenges of reconstruction and development. The transformation and restructuring of the HE system have been guided by various policy documents and frameworks, such as the National Plan for Higher Education, 2001, the White Paper for Post-School Education and Training, 2013, and the National Development Plan, 2030 (NPC, 2012). These policies aim to create a more equitable, diverse, responsive, and quality-driven HE system that contributes to the social and economic development of the country. According to the Department of Higher Education and Training (DHET, 2022), there are 26 public universities in South Africa, which can be classified into three types: traditional universities, which focus mainly on academic programmes; universities of technology, which offer career-orientated programmes; and comprehensive universities, which offer a combination of both types of programmes. In addition, there are around 126 private HEIs that are registered and accredited by the DHET. The public HE sector enrolls just over one million students annually, while the private sector enrolls just under 100,000 students.

Literature Review

Some of the key challenges facing the South African HE landscape include improving access and success for students from disadvantaged backgrounds, enhancing the quality and relevance of teaching and learning, increasing research output and innovation, strengthening governance and management, and ensuring adequate funding and sustainability. Additional challenges are increasing student unpaid debt, insufficient student accommodation, student wellness challenges, load-shedding, graduate unemployment, declining enrolment numbers, student retention and throughput, and addressing social issues such as student protests, violence, racism, and gender inequality (Tjønneland, 2019; van der Merwe, 2021). Despite these challenges, the HE sector also has the potential and many opportunities to play a vital role in advancing the knowledge society, fostering social cohesion, improving environmental sustainability, and promoting democratic citizenship in South Africa. The Higher Education Sustainability Community of Practice (HESCoP) was established to assist HEIs in SA in meeting their sustainability goals and targets, and making institutions more sustainable. The primary goal of the HESCoP is to help the HE industry create an environmental sustainability framework that addresses all essential university operations, including teaching and learning, research, and community participation. The proposed framework aims to integrate environmental sustainability concepts into university curricula, advance environmentally sustainable research, and advocate for environmental awareness on campuses and in surrounding communities (USAF, 2023).

The United Nations SDGs consist of 17 goals and targets at the heart of the 2030 Agenda for Sustainable Development, as adopted by United Nations Member States in 2015 (United Nations, n.d.). These goals and targets are used to monitor progress toward sustainable development. Each of the 17 SDGs focuses on a particular aspect of sustainable development, while UNESCO advises that education is crucial to achieving the goals of the 2030 Agenda for Sustainable Development (Buckler and Creech, 2014). The importance of education in achieving this Agenda is evidenced by the placement of education as a standalone goal, SDG 4, as being the fourth of the 17 goals. The targets explicitly associated with SDG 4 speak to different components of quality education; they enable the monitoring of progress toward the realisation of SDG 4 by the 2030 timeline set by the Agenda for Sustainable Development. Over the last 30 years, HEIs have been incorporating sustainable development to varying degrees within their systems, processes, curricula, teaching, research, and local communities, both locally and globally (Leal-Filho *et al.*, 2019). HEIs are known to play an active role in providing leaders of tomorrow with critical knowledge and skills of the 21st century and are key stakeholder contributors to sustainability initiatives at the local community level based on their teaching and research capacities (Leal-Filho *et al.*, 2019). HEIs carry a societal responsibility for equipping staff and students with knowledge, skills, and tools to live as sustainable individuals (Bantanur *et al.*, 2015, cited in Leal-Filho, 2019). Decisions taken by HEIs and their stakeholders ultimately impact the communities at the social, economic, and environmental levels (Katiliute *et al.*, 2014, cited in Leal-Filho, 2019).

Therefore, HEIs have a fundamental role to play in transforming the goals established by the United Nations into tangible results (Liu, 2020) and provide students with a qualification as well as competence and skills to become global citizens that are agents of change where SD goals can become a reality (Hajer *et al.*, 2015; Ensign, 2017). These institutions help create equal access to educational opportunities and engage in community engagement through quality education. Students are equipped with the skills and knowledge necessary to embrace a culture of peace, tolerance for diversity, global citizenship, and lifelong learning. HEIs can also use their curriculum and access to both research and guidance to actively work towards the global realisation of sustainable development.

HEIs play a key role in facilitating socioeconomic growth and increases in economic development, which play a vital role in the fight against poverty. However, effective participation in sustainable development must be supported by the internal policies and practices of HEIs. They should also contribute to the development of students and graduates who can bring relevant knowledge and innovation skills to bear on the achievement of the full set of SDG goals both within their communities and internationally (Garroway and Capentier, 2019).

Many initiatives have been aimed at achieving the 2030 Agenda, and leaders will continue to identify new and innovative ways of working toward the Sustainable Development Goal of Quality Education. However, the demand for equal access to education in a world of unequal resources creates a persistent challenge for sustainability leaders. To achieve SDG 4, it is not sufficient to provide students with access to a classroom. One must also ensure that students are then able to learn once they have access to that classroom (OECD, 2001). Access to basic housing, water and sanitation, books and the Internet, which are necessary for learning, is limited in developing and some developed nations, making it difficult to achieve SDG 4 (Iwuoha and Jude-Iwuoha, 2020). The COVID-19 pandemic has exposed how rigid and unprepared educational systems are, particularly in the absence of adequate textbooks, access to technology, limited use of online learning, and advice to facilitate at-home learning (Chabbott and Sinclair, 2020; Oparinde and Govender, 2020). This shows the vulnerability of our heavy reliance on classroom-based instruction (Chabbott and Sinclair, 2020). To keep SDG 4 on track, access to appropriate textbooks, flexibility in teaching pedagogy, access to technology and the support thereof, access to the Internet and data, and guidance to support home-based learning are essential requirements, writes Chabbott and Sinclair (2020). Iyengar (2020) argues that COVID-19 increased disparities in digital literacy, and HEIs must integrate technology and digital literacy skills and knowledge into their offering to lessen differences in digital learning. To achieve the SDG 4 goal, leaders must navigate the numerous challenges brought about by the dynamic demand for skills and technologies in a poor economic environment. As reflected in the current literature, some of these challenges are discussed in more detail in this section.

There is a global recognition and acceptance among organisations of the significance of the 4th industrial revolution (4IR) and the importance of embracing this revolution. However, the adoption of 4IR is often constrained due to the lack of specific skills, relevant technology, and infrastructure. Mian *et al.* (2020: 1) note that the key skills workers need to acquire are "adaptive thinking, cognitive and computational skills, predominantly in the area of information technology, data analytics, etc.." This is supported by Assante *et al.* (2019, cited in Mian *et al.*, 2020: 4): "AI, IT, data analytics, robotics, as well as analytical thinking, decision-making ability, organisational skills, social intelligence, system and technical expertise, logical reasoning, troubleshooting", are required. This requires universities to revise and update their existing curricula, facilities, infrastructures, and knowledge in order to provide courses and training relevant to the 4IR (Umachandran *et al.*, 2018; Mian *et al.*, 2020) and to ensure that effective transfer of learning occurs (Mian *et al.*, 2020). Reskilling, retooling, and relearning need to occur within university academic teams. Furthermore, leaders in education experience the challenge of updating their curricula to meet the expectations of the world of work while simultaneously ensuring that these advances in technology and their integration into the curriculum do not serve as a barrier to making education accessible to all (Rieckmann and Bormann, 2020; Mian *et al.*, 2020). Leaders must ensure that all students have sufficient access to technology and are able to use it efficiently; a requirement that comes at a cost and without adequate funding in place, difficult for HEIs to achieve.

According to Buchler *et al.* (2007: 152), "... the education of adults in a society such as South Africa is a political, moral, historical and economic issue ... Adults have a critical role to play in the development of South Africa because of their accumulated knowledge and experience, which can be mediated by education processes to strengthen it and make it socially useful." (Buchler *et al.*, 2007). Ensuring that HEIs become institutions of lifelong learning is central to SDG 4. Walters (2015), identifies three key challenges in this respect: Creating true inclusivity across all student profiles; clearly identifying today's part-time and full-time students and understanding what it means to be an 'adult learner'; and offering flexible modes and delivery structures. A commitment of HEIs to become institutions of lifelong learning requires formal policies, dedicated lifelong learning units and departments, clear recognition of prior learning (RPL) processes, and senior academic leadership driving the lifelong learning agenda (Walters, 2015). The realisation of the Agenda for Sustainable Development as well as Education 2030, a structured pathway coordinated by UNESCO focused on making education accessible to all (UNESCO, n.d.), brings about a need for a large financial commitment from the government. This creates an additional level of pressure, especially for developing countries that are already feeling the strains of the increasing debt crisis (United Nations, n.d.). In cases where government struggles to provide adequate funding for SDG 4, the burden is placed

on HEIs to ensure that SDG 4 and the various outcomes are effectively funded. These challenges with finance often limit the success of progress towards achieving SDG 4 and will hinge on methods of securing more permanent and reliable, long-term financing for the education of vulnerable groups (OECD, 2001).

The COVID-19 pandemic has further impacted a strained local and global economy, impacting student revenues and fees payment. This, in turn, is affecting the financial liquidity of HEIs, resulting in reduced expenditures on key initiatives and developments, which negatively impacts the realisation of sustainability targets (Liu, 2020). Illanes *et al.* (2020) note that HEIs particularly, may find it difficult to strike the right balance between short-term requirements and long-term sustainability due to the pandemic. It is evident that there are various challenges to achieving SDG 4. However, increasing awareness of the importance of SDG 4 has initiated the start of conversations between leaders from around the world with the aim of finding common solutions for all. Advancement of SDG 4 within HE plays a pivotal role in the development of expertise needed for the realisation of sustainable development in societies and economies. It supports the contribution of these institutions to the critical challenges of today, such as the empowerment of women, protection of vulnerable groups, combating climate change, fighting inequality, and ending extreme poverty. The application of HE resources and core capabilities can also play a key role in assisting governments to fulfil their promise of universal education, providing all men and women with equal access and opportunities for high-quality learning opportunities (United Nations, n.d.).

Methodology

The interpretivist research paradigm guided this exploratory study (Creswell and Creswell, 2018) to gain a deeper understanding of the key challenges that leaders in South African HEIs believe are preventing them from fully meeting the SDG 4 targets. The study was exploratory in nature, as there is currently limited research to serve as reference points between HEI policies, regulations, teaching and learning practices, and the alignment with SDG 4 of quality education (Saunders *et al.*, 2019; Chouinard *et al.*, 2019). It should be noted that this paper was part of a larger study that used mixed-method research. For purposes of this paper, only responses to the open-ended question that assessed the key challenges that participants believed prevented leaders in South African HEIs from fully meeting the SDG 4 targets, are presented.

The ethical clearance for the study was obtained from the Independent Institute of Education in accordance with its ethics review and approval procedures (R. 00027). Data were collected using the Microsoft Forms online survey platform during March 2022 and April 2022. A semi-structured online questionnaire was chosen as the most suitable instrument in terms of COVID-19 lockdown restrictions. The researchers had to consider respondents' health and safety, and the geographical reach of public and private HEIs in the major provinces in South Africa. This also meant limited and, at times, restricted access to these institutions. The design of the questionnaire was informed by the literature. The instrument obtained demographic details of the participants, and sought to understand the involvement of participants in sustainability in their respective HEI. Whether the HEI had a designated person, team, or department formally appointed to drive sustainable development strategies within the institution also influenced decisions. Finally, the perceptions of participants on the key challenge(s) preventing leaders within South African Higher Education from achieving sustainable, quality education as associated with Sustainable Development Goal 4 Quality Education was also sought. The instrument was reviewed by three academics and vetted by the ethics committee of the institution. The target population for the study was leaders, managers, academics, and non-academics at both private and public HEIs in South Africa that would have knowledge about the HEI's sustainability plans and the challenges impacting the implementation of these plans. Using a nonprobability sampling methodology, namely convenience sampling and the snowball technique, the link to the semi-structured online questionnaire was distributed to the targeted population via emails and social media platforms such as LinkedIn and WhatsApp, to the researchers' fellow academic associates in both public and private HEIs. Data were collected over a two-week period.

A key limitation of this study was time and access to the targeted sample population. The researchers targeted 250 responses, with an average of 30 responses per HEI in eight institutions (accredited leading public and private HEIs) in South Africa. A total of 75 respondents completed the questionnaire. Reminder emails were sent to participants, and a call to participate in the study was posted twice on social media platforms. Of the 75 responses, 59 were from private HEIs and 16 from public HEIs. Fifty-five participants were female and 20 were male, with 49 participants being in an academic role and 26 in a non-academic role. In terms of their job roles, 42 participants were in managerial positions. Thirty-two participants noted their involvement in leading sustainable development

initiatives at the HEI. In terms of tenure, 29 participants worked at the HEI for over six years, 32 participants between two- to five years, and 14 participants, under a year.

The data collected from Microsoft Forms was exported to an Excel spreadsheet, cleaned and coded. Using Nvivo Pro12, the qualitative data was analysed on the participants' perceptions of the challenges that impact leaders in implementing SDG 4 in their respective HEI. The themes were identified through thematic and content analysis. Themes that were common across public and private institutions and specific to an institution type were evaluated.

Results and Discussion

The following discussion presents the findings of the study, followed by key recommendations. The overarching themes are further corroborated and/or refuted by the current literature.

Challenges Impacting the Implementation of SDG 4 within South African HEIs

The overarching theme of the Lack of Strong Leadership, and Sociopolitical Context, emerged from data. Within the public institutions specifically, some subthemes were identified as having impacted the implementation of SDG 4 within South African HEIs such as: lack of strong leadership, sociopolitical context, bureaucracy; outdated curricula; resourcing and values. Within the private institutions, the following subthemes emerged: bureaucracy; digital divide; curricula and foundation; finance and affordability; inequitable access; lack of resourcing, benefits, and support.

Lack of Strong Leadership

A key challenge noted by respondents was the lack of appropriate leadership and the appointment of a dedicated person to oversee or manage sustainability in the institution. This is not surprising as only 45% of the respondents indicated that the institution had a dedicated person, team, or department formally appointed to drive sustainable development strategies within the institution.

Respondent 67 (public) cited: *"There is no significant role or champion that is dedicated to this. It is simply something that is considered as something that must be done with no real purpose behind it"*. Respondent 57 (private) indicated that *"leadership from state governing bodies does not drive sustainability within HEIs"*.

Respondent 58 (private) stated: *"Sustainability is a huge concept and within higher education, it is important to break it further down into the key pillars of an institution and then identify strategies to make those pillars sustainable"*.

Respondent 55 (private) stated that there is *"a general lack of understanding and appreciation for the importance of the SDGs"*, arguing that *"a more focused approach to addressing, targeting and prioritising sustainability in education"* is required. Respondent 31 (private) stressed the need for HEIs to *"know how to achieve sustainability for achieving quality education and its importance"* alongside with being *"able to communicate to all staff members what needs to be done and how this is to be achieved"*.

The responses indicated a lack of leadership specifically designated to focus on sustainability, as well as a lack of understanding among the leaders of institutions as to how to achieve sustainability at their respective HEIs. Given the lack of research on sustainability within South African Higher Education (Ulmar and Wydra, 2020), a lack of clear leadership is perhaps not a surprising challenge to achieving a goal that in itself, seems to be poorly defined. Further to this, is a designated person or team necessary to drive sustainability at an HEI or should it not be integrated into the HEI's mission, vision, and organisational culture where everyone plays their role in ensuring sustainability? According to Visser and Courtice (2011, p. 2), a sustainability leader *"inspires and supports action towards a better world"*, noting traits of empathy, emotional intelligence, caring, visionary, creativity, enquiry and holistic thinking while being able to clearly communicate the vision, the roadmap and associated key roles and responsibilities in achieving the sustainability of the institute. In addition, the provision of adequate tools, resources, and support of the leader is essential in helping to achieve sustainability (Visser and Courtice, 2011).

Sociopolitical context

A second overarching theme identified under challenges to implementing SDG 4 within South African HE was the country's sociopolitical context within which HE functions. There were two main issues to this context: challenges in primary and secondary schooling, as well as values and inclusivity. Creating a sustainable student not only begins at HE, but rather, much earlier in the student's schooling journey. Respondent 2 (private) had the following feedback: *"The biggest challenge is the inequity in basic education"*, supported by Respondent 30 (private), who identified *"A broken school system"* as a key factor posing a challenge to implementing SDG 4. Supporting the statement by Respondent 30, Respondent 12 (private) stated: *"The quality of matric learners coming through the system into higher education, with matric pass mark lowered to 30%, students are often not equipped to deal with the challenges of HE."* Respondent 33 (private): *"secondary education pass marks are too low, and not all teachers have the correct knowledge for the subject they teach."* Respondent 22 (private) echoed similar sentiments by reiterating *"The types of students coming through the systems"*, while Respondent 55 (private) referred to *"poorly prepared students"*.

HEIs need to focus on creating a mindset change from *"a (general) public that does not care enough"* (Respondent 57, private) to one that is morally and value-driven to care for the environment and the community by creating graduates who possess a very high sustainable moral compass with a shared sense of responsibility for protecting the environment and communities they live in. This can be achieved by fostering a collaborative culture throughout the HEI community with an ethos of shared beliefs, values, and vision (NSFAS, n.d.). *"A lot of work needs to be done on the peopleness of our students, we just teach we don't talk to them about their rights, about the issues of gender, equality and their privilege nearly enough,"* (Respondent 1, private). This statement highlights that inculcating a culture of sustainability amongst staff and students, HEIs should go beyond curricula updates. Respondent 61 (public) highlighted the need to identify *"Personal values vs organisation values,"* however Respondent 23 (private) noted that *"Students are at times (unnecessarily) "blind" to certain opportunities that are afforded to them. There seems to be a significant focus on insignificant and futile attempts to be "inclusive", while "a sense of entitlement in students, fostered by their parents and perpetuated at university instead of being squashed, as it should be,"* exists with *"no consequences for anything"*, (Respondent 42, public). Leaders must ensure that the curriculum of their institutions consists of the correct values and skills required to adequately equip students to become mindful citizens who can lead society in achieving the goals laid out by the United Nations (Rieckmann and Bormann, 2020).

The subissues within the sociopolitical context create an environment within South African HEIs that poses multifaceted challenges to education as a whole. The socioeconomic context of South African HE is identified in the literature as a context filled with unsustainable inequalities (Du Plessis *et al.*, 2022), particularly as a result of the COVID-19 pandemic. A sustainability agenda is therefore unlikely to be deemed a priority within HEIs if it does not also seamlessly and cost-effectively support the impactful delivery of quality education within the realities of the current and emerging sociopolitical context and without adding significant costs to current institutional processes and structures. The impact of the lack of strong leadership and sociopolitical context will ripple through all SDG 4 targets.

Bureaucracy within public and private HEIs

A recurring sentiment amongst respondents from both public and private HEIs, as a subtheme to Lack of Strong Leadership, was that policies, regulations, and procedures are key obstacles impacting the implementation of sustainable, quality education (Mulford, 2003). All HEIs are governed by policies, regulations, and procedures to comply with the standards of good academic governance and teaching laid out by various governing bodies and Educational Departments within South Africa. There is a need for effective leadership in translating these policies and procedures into viable strategies aimed at creating sustainable education (Mulford, 2003). Responses to this survey indicate that, at times, these policies, regulations, and procedures are created in a manner that does not allow room for exceptions or factors in changing environments. Respondent 48 (private) noted that the *"Very stringent policies and procedures"* in public HEIs pose a key challenge to implementing sustainable education. Respondents 7 (private), 23 (private), 37 (private), 68 (public), and 70 (public) expressed similar sentiments. Respondent 22 (private) echoed views of respondents from the public HEIs, noting that there was an *"over-legislation"* of the policies at their private HEI and an *"organisational culture that does not promote sustainability"*.

Therefore, reviewing the policies and processes of the governing bodies is essential for institutions to remain relevant and competitive with other HEIs, with UNESCO reiterating the need for a reporting structure to lead, monitor and implement change within HEIs (2021). As said by Respondent 41 (private), *"there need to be correct structures in place"*. However, a mindset that is open to change is then required, and responses indicate that this is a challenge in terms of governing bodies and terms of the HEIs. Respondent 68 (public) felt that it is very *"difficult to change mindsets"* at the institution, thus making change difficult to implement and adopt.

Respondent 7 (private) expressed similar sentiments that the *"stringent policies and leaders of the institution prevent change"*, especially when *"(Certain) lecturers and/or academics might require a bit more freedom in achieving certain goals with their students"*, noted Respondent 23 (private).

Respondent 72 (public) echoed these thoughts: *"I feel the institution's policies need to be reviewed to align to the changes in the environment"*.

However, it is important to note that changes in policies should be well considered and purposeful. Respondent 18 (private) noted that a key challenge impacting the implementation of the Sustainable Development Goal of quality education was the institution's revised systems, identifying their *"new systems that don't work"*. The current volatile and uncertain environment brought on by the COVID-19 pandemic illustrates the importance of being open to change, embracing change, and adapting quickly to changing environments and contexts.

Curricula within public and private HEIs

Leaders in education experience the challenge of updating their curricula to meet the expectations of the world of work while simultaneously ensuring that integrating these advancements into the curriculum does not serve as a barrier to making education accessible to all (Leicht *et al.*, 2018; Mian *et al.*, 2020). To meet the SDG 4 targets, it is important for HEIs to continuously review and update their curriculum and teaching and learning strategies to ensure that students are equipped with adequate knowledge, skills, and tools of the 21st century to live as a sustainable individual when they enter the world of work. However, as Respondent 65 (public) stated: *"regulations and the curriculum are not updated regularly"*, with Respondent 66 (public) indicating that *"The CHE's and the institution's policies and regulations"* inhibit quick changes as there is a *"slow pace to keep the curriculum relevant."* Respondent 63 (private) expressed similar sentiments that *"regulatory barriers and slow change in content in curriculums and assessments methods"* pose a key challenge that impacts the implementation of sustainable, quality education. Lastly, outdated curricula and assessments lacking relevance as a result of general over-use may also be of concern. As mentioned by Respondent 22 (private), many institutions may not have reviewed their qualifications' relevancy and currency for the changing market with many of these qualifications being older than 10 years. Habib *et al.* (2021) established in their study of HEIs in Pakistan that institutions had not incorporated sustainability into the main areas of teaching and research, but more in the operational management of the institution. Little was done in terms of updating the curricula, upskilling of faculty, and in research.

Resourcing within public and private HEI benefits and support

Specific to private HEIs was feedback indicating that benefits and support structures do not align with those available within public HEIs and negatively impact the focus on SDG 4. Respondent 20 (private) further notes the availability of *"limited full-time positions and very low salaries"* as a demotivator for many staff. Respondent 41 (private) advises that *"there need to be correct structures in place"* to promote SDG 4.

Respondents 19 (private) and 30 (private) noted that *"Resources and understanding of what is needed"* posed a challenge to the implementation of SDG 4.

Respondent 1 (private) noted: *"Private education can unfortunately never be totally free and private institutions do not enjoy governmental support that decreases costs to allow the staff to focus more on sustainable goals"*.

Respondent 10 (private) felt that private HEIs *"do not have the same benefits and acknowledgement as public"*, with *"budget constraints and lack of time"* (Respondent 17, private) and the *"lack of support from Government"* (Respondent 40, private) further exacerbating the challenges impacting private HEIs implementing SDG 4.

Respondent 34 (private) highlighted that their HEI still has a lot of work to do to ensure that the institution meets the SDG 4 standards because *"We don't even have gender-neutral bathrooms. But if the model of caring is in place then surely sustainability will become a priority too"*.

HEIs are faced with the difficulty of inadequate resources to achieve SDG 4, particularly in developing countries. This is further compounded by the reduction in the recommended commitment to resourcing – from 6% of gross domestic product (GDP) to a range of 4–6% and from 20% of the national budget to 15–20% - from the Millennium Development Goals era (UNESCO, 2021). The scarcity of resources amongst public HEIs has led to an increase in for-profit HEIs, creating a greater divide in achieving the SDG 4 goal of equal education for all (Archer and Muntasim, 2020). Mian *et al.* (2020: 1) established in their study that it is paramount for universities to ensure "effective financial planning, increased industrial partnerships, advanced infrastructure, revised curricula, and insightful workshops" to assist in bridging the divide and ensuring institutions are well equipped to meet the changing market needs.

The digital divide within private HEIs

The digital divide is a term referring to the gap between individuals who have access to information and communication technology such as the Internet, computers, and smart devices, and those who do not (Steele, 2019). In the context of HE and particularly during and after the COVID-19 pandemic, the ability to comfortably access online resources has become a critical factor impacting student success. Respondent 43 (private) said: *"The digital divide remains a challenge"*. Respondent 4 (private) stated: *"COVID-19 has posed a challenge to face-to-face interaction, more especially for students who have challenges with virtual classrooms and lack of real social interaction."* Further exacerbating this divide is when institutions implement *"new systems that do not work"* (Respondent 18, private). Access to online education is a social equaliser. In addition, increases in blended learning have fundamentally changed many teaching and learning strategies, as well as platforms for access with which students must become familiar. Although aspects associated with the digital divide are not specifically addressed in the SDG 4 targets, access to technology has a wide impact across targets. Lythreathis *et al.* (2022: 1) found in their study that "sociodemographic, socioeconomic, personal elements, social support, type of technology, digital training, rights, infrastructure, and large-scale events" have been linked to the digital divide, with education being the most prominent factor. The authors further indicate that the pandemic has contributed significantly to this division.

Finance and affordability within private HEIs

Private HEIs within South Africa do not benefit from the large-scale government funding provided to public HEIs under the National Student Financial Aid Scheme (NSFAS), established under Act 56 of 1999 (NSFAS, n.d.). The Agenda for Sustainable Development combined with Education 2030 brings about a need for a large financial commitment from the government. This creates an added level of pressure, especially for developing countries that are already feeling the strains of the increasing debt crisis (United Nations, n.d.). In cases where the government struggles to provide adequate funding for SDG 4, the burden is placed on HEIs to ensure that SDG 4 and the various outcomes are effectively funded. These challenges with finance often limit the success of progress towards achieving SDG 4. One of the considerations made by the United Nations was to obtain a more permanent long-term financing method for the education of vulnerable groups (United Nations, n.d.). In identifying the challenges posed by the lack of funding and financial resources, Respondent 17 (private) identified *"Budget constraints and lack of time"*, Respondent 35 (private) *"Lack of funding to create sustainable opportunities"*, Respondent 3 (private) *"Private institutions should not have to carry the burden of the state. Costs of this goal impact on the bottom line,"* indicating the burden that falls solely to each private HEI in the event of offering free education to those unable to pay tertiary education fees. This comment highlights ongoing debates in the education sector on the role of HE, the role of government, and the intersection of these in best-serving communities and society (Swartz *et al.*, 2018). Respondents 45, 46, 49, 50, 51, 52 (private) all cited: *"Finance and time constraints"*, and Respondent 59 (private): *"Access to Finance"*.

Upon examining feedback related to aiming for access to free, quality HE, Respondent 1 (private) indicated that *"Private education can unfortunately never be totally free and private institutions do not enjoy governmental support that decreases costs to allow the staff to focus more on sustainable goals."* This is supported by Respondent 14 (private) who said: *"Education is expensive as lecturers need to be paid, and facilities are not free"*, Respondent 15 (private) *"Affordability, student indebtedness."*, Respondent 16 (private) *"education prices and disadvantage"*

families not able to afford education", Respondent 56 (private) "Education is still too expensive", Respondent 7 (private) "The Private HEI is profit-driven hence does not allow for affordability and free education."

Highlighting the concerns that some stakeholders do share about the potential for opportunism, Respondent 34 (private) stated:

"Private HEI is only interested in seats being filled as that is where the money is, nothing else really matters, unfortunately."

Respondent 8 (private): *"Students are hamstrung by increasingly exorbitant fees which make continuing within Higher Education difficult especially in the fields in which they would like to be a part."*

Respondent 50 (private): *"Financial constraints limiting access to education. Socio-economic constraints and widening income divide. Poverty, load shedding and femicide in South Africa as contributing issues"* to the implementation of SDG 4.

Inequitable access within private HEIs

Strongly linked to the issue of affordability is the issue of inequitable access to HE within private HEIs. The challenges to equitable access to HE extend beyond tuition fees. Aspects associated with language barriers, varying levels of foundational educational experiences, and student preparedness are just a few that make equity appear elusive (Machingambi and Wadesango, 2012). As noted by Respondent 8 (private): *"Students are hamstrung by increasingly exorbitant fees which make continuing within Higher Education difficult especially in the fields in which they would like to be a part"*. Respondent 23 (private) stated: *"There seems to be a significant focus on insignificant and futile attempts to be "inclusive". For example, free education isn't free."* In addition to this, Respondent 16 (private) noted that there is *"no access to relevant information"*, demonstrating that the issue of 'access' can extend beyond access to HEIs. Similar sentiments were echoed by Respondent 11 (private): *"I think we are still facing issues of accessibility to these developments and implementation is happening at a very slow pace."* Respondent 2 (private) highlighted that *"the biggest challenge is the inequity in basic education"*, with Respondent 39 (private) citing *"Language barriers"* and Respondent 33 (private) further noting that *"secondary education pass marks"* are *"too low,"* thus preventing many students from meeting the entry requirements for the qualification they wish to study.

The overarching themes of the lack of strong leadership and the sociopolitical context speak to the importance of increasing involvement in, and representation of an aligned interpretation and SDG strategy. Work still needs to be done to address bureaucratic processes and mindsets, and further research is required to determine whether HEIs that are doing particularly well in the implementation of SDG 4 have changed specific processes and policies to do so. Government policies remain somewhat outside of the control of HEIs; however, ongoing engagement with the government remains essential, and as pressure mounts for sustainability, external requirements for policies that are supportive of this may also tip the conversation. Regulatory barriers impact the agility of HEIs in terms of keeping curricula updated and current to industry demands – a further concern in the context of the aspect of providing students with appropriate skills being an identified challenge for private HEIs in particular. This is further evidence of the need for policies at the government level that support quality education in all its aspects.

The recurring challenges around access and affordability emphasise the importance of supporting students to successfully transition to tertiary education, the issues of student retention, and the importance of ensuring that students can gain the necessary skills for financial and career success. Interventions should move toward reducing the digital divide, including updating assessment strategies and offering options for students who are unable to connect online reliably. Findings indicate, however, that there must also be recognition of the student's responsibility and accountability within the tertiary system to access the opportunities afforded to them. Ultimately, challenges such as resourcing, finance, affordability, the digital divide, and inequitable access are all inextricably linked. The issue of resourcing within private HEIs and its impact on fees is a challenge that is likely to remain. Private HEIs face the challenge of managing education affordability through strategies such as increased student success rates, minimising repeat modules, and high levels of employability.

Conclusions

Achieving sustainability in HE is an urgent matter. In a South African context, it is also a rather complex matter due to the variances in both private and public institutions. To further complicate the South African HE sustainability agenda, research indicates that sustainability is primarily based on a Western perspective and may not include all aspects considered relevant for an African context (Ulmar and Wydra, 2020). Regardless of the definition and components that make up sustainable development, education remains a basic human right that is required for sustainable growth and the long-term survival of humankind. It is evident that there are various challenges in achieving SDG 4. However, increased awareness of the importance of SDG 4 is generating conversations between leaders from all over the world to find common solutions for all. Due to the small sample size and the low response rate of public institutions, it is recommended that the study be replicated to allow equal representation of the views of both private and public institutions on this topic.

Based on an overall discussion thus far in this study, the following key recommendations can be highlighted.

- Stakeholders involved in HEIs should establish dynamic methods of addressing the dominant issues of lack of availability of financing that face many students as the economy continues in a downward spiral.
- Leaders within HEIs must create awareness of SDG 4 by developing a focused task team/s within the institution to facilitate the integration of the SDG 4 outcomes into policies and to encourage widespread internal and external stakeholder engagement.
- HEIs must embrace their position as institutions of lifelong learning by updating their curricula, resources, and infrastructure to adequately equip students to be sustainable citizens. This includes effective support for students transitioning to tertiary education.
- There is a need to create affordable educational products and technologies that facilitate the eradication of the digital divide and the transfer of skills needed for the 4IR.
- Leaders must ensure that curricula contain the correct values and skills required to adequately equip students to become mindful citizens, who can lead society in achieving the United Nations SDGs (Leicht *et al.*, 2018). Leaders should further ensure that educators are aware of the different demographics of their students and that communication strategies speak to all individuals (Chankseliani and McCowan, 2020).

References

- Archer, D. and Muntasim, T. 2020. Financing SDG 4: Context, Challenges, and Solutions. In: Wolff, A. ed. *Goal Four: Tensions, Threats, and Opportunities in the Sustainable Development Goal on Quality Education*. Boston: Brill Sense, 170-193.
- Assante, D., Caforio, A., Flamini, M. and Romano, E. 2019. Smart Education in the context of Industry 4.0. Available: <https://orcid.org/10.1109/EDUCON.2019.8725057> (Accessed 01 April 2022).
- Brundtland, G. 1998. Report of the World Commission on Environment and Development (WCED). Available: <http://www.un-documents.net/ocf-ov.htm> (Accessed 01 April 2022).
- Buchler, M., Castle, J., Osman, R. and Walters, S. 2007. Equity, Access And Success: Adult Learners in Public Higher Education. Available: <https://rb.gy/wftyI> (Accessed 1 April 2022).
- Buckler, C. and Creech, H. 2014. Shaping the Future We Want: UN Decade of Education for Sustainable Development (2005-2014). Available: <https://sustainabledevelopment.un.org/content/documents/1682Shaping%20the%20future%20we%20want.pdf> (Accessed 01 April 2022).
- Chabbott C. and Sinclair, M. 2020. SDG 4 and the COVID-19 Emergency: Textbooks, Tutoring, and Teachers. *Prospects*, 49: 51–57.
- Chankseliani, M. and McCowan, T. 2020. Higher Education and the Sustainable Development Goals. *Higher Education*, 81: 1–8

Chouinard, U., Pigosso, D. C., McAlloone, T. C., Baron, L. and Achiche, S. 2019. Potential of Circular Economy Implementation in the Mechatronics Industry: An Exploratory Research. *Journal of Cleaner Production*, 239: 1-12.

Creswell, J. W. and Creswell, J. D. 2018. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th Ed. Thousand Oaks: SAGE Publications.

DHET. 2022. Statistics on Post-School Education and Training in South Africa: 2020. Available: <https://www.dhet.gov.za/Information%20Systems%20Coordination/Statistics%20on%20Post-School%20Education%20and%20Training%20in%20South%20Africa%202020.pdf> (Accessed 03 July 2023).

Du Plessis, M., Jansen van Vuuren, C. D., Simons, A., Frantz, J., Roman, N. and Andipatin, M. 2022. South African Higher Education Institutions at the Beginning of the COVID-19 Pandemic: Sense-making and Lessons Learnt. *Frontiers in Education*, 6: 1-17.

Ensign, M. 2017. Let's Train 'Extension Agents' for the 21st Century. Available: <https://www.chronicle.com/article/Let-s-Train-Extension/240664> (Accessed 17 April 2022).

Garroway, C. and Carpentier, C. L. 2019. Why are we behind on SDG Finance and what can we do about it? Available: <https://unctad.org/news/why-are-we-behind-sdg-finance-and-what-can-we-do-about-it> (Accessed 19 April 2022).

Habib, M. N., Khalil, U., Khan, Z. and Zahid, M. 2021. Sustainability in Higher Education: What is Happening in Pakistan? *International Journal of Sustainability in Higher*, 22(3): 681-706.

Hajer, M., Nilsson, M., Raworth, K., Bakker, P., Berkhout, F., de Boer, Y., Rockstrom, J., Ludwig, K. and Kok, M. 2015. Beyond Cockpit-ISM: Four Insights to Enhance the Transformative Potential of the Sustainable Development Goals. *Sustainability*, 7(2): 1651-1660.

Illanes, P., Law, J., Mendy, A., Sanghvi, S. and Sarakatsannis, J. 2020. Coronavirus and the Campus: How can US Higher Education Organise to Respond? Available: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/coronavirus-and-the-campus-how-can-us-higher-education-organize-to-respond> (Accessed 9 April 2022).

International Institute for Sustainable Development. 2022. Sustainable Development. Available: <https://www.iisd.org/mission-and-goals/sustainable-development> (Accessed 01 April 2022).

Iwuoha J. C., and Jude-Iwuoha A.U. 2020. COVID-19: Challenge to SDG and Globalization. *Electronic Research Journal Social Sciences Humanities*, 2(3), 103-115.

Iyengar, R. 2020. Education as the Path to a Sustainable Recovery from COVID-19. *Prospects*, 49(1-2): 77-80.

Leal-Filho, W., Vargas, V. R., Salvia, A. L., Brandli, L. L., Pallant, E., Klavins, M., Ray, S., Moggi, S., Maruna, M., Conticelli, E. and Ayanore, M. A. 2019. The Role of Higher Education Institutions in Sustainability Initiatives at the Local Level. *Journal of Cleaner Production*, 233: 1004-1015.

Leicht, A., Heiss, J. and Byun, W. J. ed. 2018. *Issues and Trends in Education for Sustainable Development*. Paris: UNESCO Publishing.

Liu, S. 2020. Higher Education and Sustainable Development Goals during COVID-19: Coping Strategies of a University in Wuhan, China. *Journal of Public Health Research*, 9(1): 12-17.

Lythreathis, S., Singh, S. K. and El-Kassar, A. N. 2022. The Digital Divide: A Review and Future Research Agenda. *Technological Forecasting and Social Change*, 175: 1-11.

Machingambi, S. and Wadesango, N. 2012. The Problem of Access, Quality and Equity in South African Higher Education and Strategies for Revitalisation. *Journal of Social Sciences*, 30(3): 283-291.

Mian, S. H., Salah, B., Ameen, W., Moiduddin, K. and Alkhalefah, H. 2020. Adapting Universities for Sustainability Education in Industry 4.0: Channel of Challenges and Opportunities. *Sustainability*, 12(15): 1-31.

Mulford, B. 2003. School Leaders: Challenging Roles and Impact on Teacher (OECD Commissioned Paper). Available: <https://www.oecd.org/education/school/37133393.pdf> (Accessed 01 May 2022).

NPC. 2012. National Development Plan 2030: Our Future – Make it Work. Available : <https://www.nationalplanningcommission.org.za/assets/Documents/ndp-2030-our-future-make-it-work.pdf> (Accessed 03 July 2023).

NSFAS. n.d. Our Mission. Available: <https://www.nsfas.org.za/content/mission.html> (Accessed 13 May 2022).

OECD. 2001. The DAC Guidelines for Strategies for Sustainable Development. Available: <https://www.oecd.org/dac/environment-development/2669958.pdf> (Accessed 01 April 2022).

Oparinde, K. M. and Govender, V. 2020. Disruptions from COVID-19: Challenges and Opportunities for Research Outputs in South African Higher Education. *Alternation*, 32(Special Edition): 332-347.

Rieckmann, M. and Bormann, I. 2020. Higher Education Institutions and Sustainable Development: Implementing a Whole-Institution Approach. Available: <https://www.mdpi.com/books/pdfdownload/book/2783> (Accessed 16 April 2022).

Saunders, M., Lewis, P. and Thornhill, A. eds. 2019. *Research Methods for Business Students*. 8th edition. Harlow: Pearson Education, 122–161.

Steele, C. 2019. What is the Digital Divide? Available: <http://www.digitaldividecouncil.com/what-is-the-digital-divide/> (Accessed 17 April 2022).

Swartz, R., Ivancheva, M., Czerniewicz, L. and Morris, N. P. 2018. Between a Rock and a Hard Place: Dilemmas Regarding the Purpose of Public Universities in South Africa. *Higher Education*, 77: 567-583. <https://doi.org/10.1007/s10734-018-0291-9>

Times Higher Education. 2021. The Impact Rankings 2021. Available: <https://www.timeshighereducation.com/press-releases/impact-rankings-2021-released> (Accessed 19 April 2022).

Tjønneland, E. N. 2019. Crisis at South Africa's Universities – What are the Implications for Future Cooperation with Norway?. Available: <https://www.cmi.no/publications/6180-crisis-at-south-africas-universities-what-are-the#:~:text=Finally%2C%20the%20challenges%20facing%20South,the%20ANC%20leadership%20and%20government> (Accessed 03 July 2023).

Ulmar, N. and Wydra, K. 2020. Sustainability in African Higher Education Institutions (HEIs): Shifting the Focus from Researching the Gaps to Existing Activities. *International Journal of Sustainability in Higher Education*, 21(1): 18-33.

Umachandran, K., Jurcic, I., Ferdinand-James, D., Said, M. M. T. and Rashid, A. 2018. Gearing up Education towards Industry 4.0. *International Journal of Computers and Technology*, 17(2): 7305–7311.

UNESCO. 2021. Women in Higher Education: Has the Female Advantage put an End to Gender Inequalities? Available: <https://unesdoc.unesco.org/ark:/48223/pf0000377182> (Accessed 19 April 2022).

UNESCO. n.d. Leading SDG 4: Education 2030. Available: <https://www.unesco.org/en/education/education2030-sdg4> (Accessed 01 April 2022).

United Nations. n.d. Do you Know All 17 SGDs?. Available: <https://sdgs.un.org/goals> (Accessed 01 April 2022).

USAF. 2023. Environmental Sustainability Cognisance and Action is taking Root in South Africa's Higher Education System. Available: <https://www.usaf.ac.za/environmental-sustainability-cognisance-and-action-is-taking-root-in-south-africas-higher-education-system/> (Accessed 03 July 2023).

Van der Merwe, C. 2021. Eight Challenges Facing South African Universities in 2022. Available: <https://www.researchprofessionalnews.com/rr-news-africa-south-2021-12-eight-challenges-for-south-african-universities-in-2022/> (Accessed 03 July 2023).

Visser, W. and Courtice, P. 2011. Sustainability Leadership: Linking Theory and Practice. Available: <https://ssrn.com/abstract=1947221> (Accessed 19 May 2022).

Walters, S. 2015. Higher Education in Lifelong Learning in South Africa. In: Yang, J., Schneller, C. and Roche, S. ed. *The Role of Higher Education in Promoting Lifelong Learning*. Hamburg: UNESCO, 88-104.