

Towards Higher Education for Sustainable Development in BRICS: Focus on Brazil and South Africa

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Abstract

Scholarly literature informs that education for sustainable development (ESD) has become a significant educational initiative to address global challenges in the past decades. However, academic attention was mainly devoted to primary and secondary education. Some scholars report that the main focus on these two levels of education has averted scholarly attention from research exploring the relationship between higher education and sustainable development (SD). Academic dialogue about ESD in higher education has only recently gained momentum. Although all levels of education have an essential role to play in sustainability, the role of higher education is critical as higher education institutions (HEIs) are responsible for ensuring that future leaders understand the needs of the present and future. This responsibility is delegated to HEIs since they educate professionals who will take up leadership positions within society and incorporate sustainability into their organisations' operations. In addition, the commitment of HEIs to sustainability serves as an example to other institutions. It is evident from the findings that maximising the implementation of ESD in higher education first calls for thorough identification of challenges limiting such implementation. Driven by the need to fill the gap in the existing literature, this study, based on systematic document analysis, brings attention to challenges associated with implementing ESD in institutions under investigation in the two BRICS countries, namely Brazil and South Africa. The two-folded research purpose was to (a) systematically examine relevant documents to explore the effectiveness of HEIs in South Africa and Brazil in implementing ESD and (b) provide recommendations for how HEIs in both contexts can enhance the implementation of ESD.

Keywords: Higher Education in BRICS; Education for Sustainable Development (ESD); Sustainable Development; ESD in Brazil and South Africa

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Introduction and Background

According to Kieu et al. (2016) and Mandikonza and Lotz-Sisitka (2016), HEIs in developing countries (such as South Africa and Brazil) have a pivotal role to play towards ESD. This is because many developing countries (including South Africa and Brazil) are vulnerable to natural disasters and remain embedded in complex social issues such as poverty and inequality (Mandikonza and Lotz-Sisitka, 2016; Kieu et al., 2016). However, in most developing countries, ESD is only starting to gain academic momentum (Solera & Laya, 2017). Kieu et al. (2016) noted that ESD had shown promising progress in the education systems of developing countries but has yet to achieve satisfactory progress. Progress is hindered by weak tertiary institutions, inadequate financial and human capital, and a lack of prioritisation for ESD in the curriculum and teacher training programmes (Kieu et al., 2016). Marques et al. (2018) affirm that the attitudes and actions towards ESD of HEIs can serve as an example to other organisations and citizens. In this endeavour, a multifaceted process is essential to proceed from merely promoting the term sustainability to changing the attitudes and actions of citizens to achieve it. Such a process would necessitate vision, policy and funding, which has proven difficult for developing countries (Kieu et al., 2016).

There is an urgent need for HEIs in developing countries to utilise their resources to educate professionals who will potentially take up leadership positions within society and incorporate sustainability into their organisations' operations. Although measuring the extent to which HEIs contribute to sustainability in society has been challenging, recent scholarly literature indicates that HEI graduates are more productive and better equipped for challenges in a globalised knowledge society for three reasons (Farinha & Caeiro, 2018; Fehlner, 2019). Firstly, human capital is developed through teaching, and citizens become more productive. In addition, the acquired knowledge, skills and competencies enable them to work in a digitalised and

innovative society (Farinha & Caeiro, 2018). Consequently, citizens are more informed and thus prepared to make sustainable decisions. In addition, they become better positioned financially, enhancing their quality of life and promoting their countries' economic growth. Secondly, research on SD has the potential to contribute to sustainability through innovation and new technologies, which also maximise productivity, economic growth, consumption methods, and citizens' living standards (Farinha & Caeiro, 2018; Fehlner, 2019). Lastly, SD in extension activities enables HEIs to directly engage with society, which may positively impact demographic trends, health, environmental awareness, and responsible behaviour. Simply put, through extension activities, HEIs have the potential to improve nutritional habits and hygiene and encourage responsible social, environmental and economic behaviour, which, as a result, may improve family planning and promote inclusion (Fehlner, 2019). To this end, HEIs are responsible for utilising their resources, research, staff and students to benefit their host communities (Ferguson & Roofe, 2020; Thomas, 2020).

Zooming in on the BRICS countries under investigation, South Africa was an early supporter of the 2030 Agenda for SDGs (Statistics South Africa, 2019). As is evident, Awuzie and Emuze (2017) noted that South Africa plays a leading role in Africa in adopting the 17 SDGs. Consequently, countries, businesses, and HEIs have promulgated legislation, strategic frameworks, policies, and vision and mission statements in line with the agenda for SD. However, in practice, the promulgated legislation and strategies continue to yield poor implementation, as they do not contain a guide to attaining South Africa's SD aspirations (Awuzie & Emuze, 2017). It is promising that Awuzie and Emuze (2017) and Statistics South Africa (2019) provide evidence that, on paper, South Africa and Brazil are actively engaged in SD initiatives. However, Nunez (2019), Petterson (2016), and Timperley (2018) offer opposing evidence suggesting that,

in practice, this is not the case. Consequently, South Africa and Brazil have remained grounded in unsustainable activities (Montmasson, 2016). Engagement in sustainable activities does not always translate into effectively implementing and achieving set sustainable goals. More specifically, strategies on sustainability are accessible to universities to help them understand and incorporate SD in their education activities and practices. However, adopting a strategy to achieve sustainability does not imply implementing the strategy (Awuzie & Emuze, 2017). Consequently, negative ramifications such as unsustainability, social injustice, poverty, and climate change continue to exist in Brazil and South Africa.

HEIs are well-positioned to solve societal challenges such as unsustainability, social injustice, poverty and climate change. These institutions can disseminate accurate information about SD grounded in legal and scientific facts (Brandli et al., 2015). There is a need for more research into SD for the Brazilian and South African governments and thus for citizens for two reasons. Firstly, research on sustainability has the potential to bring prosperity and improvements to society (Marques et al., 2018). Joyce Msuya (Acting Executive Director of the UN) stated that economic growth could almost be doubled by following green economic approaches (Department of Environmental Affairs, 2019). Secondly, O'Malley (2019) noted that the SDGs can only be achieved with HEIs contributing to research, teaching and extension activities. More specifically, SDG 4 underpins all the other SDGs, making its (SDG 4) attainment imperative for achieving the other SDGs. Although all levels of education have an essential role towards the realisation of SDG 4, the role of HEIs towards the realisation of SDG 4 is imperative (Ferguson & Rooft, 2020). Research about concrete operational steps that HEIs can follow to implement ESD has a high potential to serve as an example to HEIs, businesses, and the government (Novo-Corti et al., 2018).

Fehiner (2019) highlights that the concept of ESD has become a significant educational initiative to

address global challenges in the past decade. However, the academic attention was mainly dedicated to primary and secondary education. Research exploring ESD in higher education was absent (Fehiner, 2019). Fehiner also noted that the main focus on primary and secondary education has also averted academic attention from research exploring the relationship between higher education and SD. Academic dialogue about ESD in HEIs has only recently gained momentum. Scholarly literature indicates that sustainability research publications from developing countries are low, legislation yields poor implementation, and the SDGs can only be achieved with HEIs contributing to research.

Against this backdrop, based on systematic document analysis, this study brings attention to challenges associated with implementing ESD in institutions under investigation within the two BRICS countries—Brazil and South Africa. For the purpose of this study, the document analysis relied upon the purposeful selection of 60 documents from five Brazilian and five South African HEIs. The selected documents included strategic plans, mission and vision statements, institutional development plans, research strategies and journal articles. In alignment with the ethical clearance granted for this study, the names of the institutions under investigation and thus the titles of the selected documents are kept anonymous. The two-folded research purpose was to (a) systematically examine relevant documents to explore the effectiveness of HEIs in South Africa and Brazil in implementing ESD and (b) provide recommendations for how HEIs in both contexts can enhance the implementation of ESD. The following sections address the set objectives. It starts with a discussion of the interrelated nature of challenges in Brazil and South Africa, charting the key challenges in implementing ESD in Brazil and South African HEIs. It then discusses the strategies to enhance the implementation of ESD in Brazilian and South African HEIs.

Interrelated Nature of Challenges in the Two BRICS Nations Under Investigation

Based on the research findings, it is evident that maximising the implementation of ESD in higher

education first calls for thorough identification of challenges limiting such implementation. The challenges of ESD implementation in Brazil and South Africa are interrelated; thus, one challenge gives rise to a new challenge. Many challenges exist due to the holistic nature of SD, as it is a concept that not only connects different areas of knowledge but articulates knowledge from distinctive disciplines. The following section discusses sustainability-related challenges experienced by Brazilian and South African HEIs. After exploring the challenges mentioned above, the next section outlines sustainable strategies worth considering towards overcoming the many challenges and thus maximising the implementation of ESD in higher education.

The Main Challenges in Implementing ESD in Both Contexts

In terms of challenges associated with the implementation of ESD in HEIs, the challenges are many and include a lack of holistic vision and integrated approaches towards innovation and sustainability; an isolated academic work environment; limited pedagogical approaches that develop sustainable mind-sets and a shortage of updated teaching material, just to mention a few. However, this section focuses on the following six main reported issues from the two contexts: a lack of understanding of the notion of SD and ESD; poor interdisciplinary and transdisciplinary cooperation within each institution; a lack of support towards sustainable initiatives from senior management; a lack of institutional sustainability policies grounded in a balanced focus on environmental, social and economic realms of sustainability, poorly specified curricular content and inadequate teacher training and professional development towards ESD.

The first challenge evident in the Brazilian and South African institutions under investigation was a need for more understanding of SD and ESD. In fact, the majority of the Brazilian HEIs under investigation did not (a) define what sustainability means in the context of their institution and (b) articulate the role of stakeholders (staff and students) towards

sustainable development. Poor understanding of ESD and no participation in ESD activities were also the reality in most South African HEIs under investigation. It is concerning that the role of stakeholders in achieving sustainability was also not clearly defined and articulated. Due to a poor understanding of the holistic and interdisciplinary nature of sustainability, it is poorly implemented in the core activities and policies in the South African context. To this end, as in both BRICS contexts, a poor understanding of ESD's holistic and interdisciplinary nature led to its poor implementation in practice.

The second challenge is grounded in interdisciplinary and transdisciplinary cooperation and sustainability approaches, to which most but not all Brazilian and South African HEIs have adopted sound approaches. Most Brazilian HEIs reported their desire to conduct core activities (teaching, research and community engagement) in a transdisciplinary and interdisciplinary fashion. They also dedicated attention to developing specialists that could conduct research, extension and teaching from diverse perspectives. Meanwhile, South African HEIs have noted that the interdisciplinary and transdisciplinary approach is essential to solving complex challenges related to local and global sustainability. In this regard, most South African HEIs have responded to contemporary society's dynamic economic, social and environmental changes by employing an interdisciplinary approach to research, dialogue and teaching. The emergence of Covid-19 has added urgency to the employment of interdisciplinary and transdisciplinary approaches. In addition, the pandemic catalysed innovation and collaboration. Initially, the pandemic was viewed as the domain of politicians and health scientists; however, it became clear that the world is dealing with a humanitarian and economic crisis. Every discipline, field of study and sector of society has a role to play, which will require inter- and transdisciplinary dialogues. To this end, most South African HEIs under investigation have capitalised on the opportunity presented by Covid-19 to scale up their service role and

employ an interdisciplinary and transdisciplinary approach to their core activities.

The third challenge and the one reported as the most significant for ESD in both contexts, was related to a need for more support for sustainable initiatives from senior management. Without any doubt, a holistic institutional strategy towards sustainability insertion requires support from top management. Unfortunately, individuals employed in the top management of HEIs who understand the holistic nature of sustainability are scarce. Consequently, multiple challenges emerge, such as a lack of interest in sustainability issues on the part of the professionals who act in the management, a lack of effective policies, structures and practices towards sustainability and a lack of sustainability committees, often leaving academics to work towards ESD in isolation. Managers of Brazilian HEIs, comprising the dean, vice-dean, chief of staff, university mayors, deans, general secretaries and directors of units directly linked to the rector, appeared to actively participate in developing strategic plans and institutional development plans in the majority of Brazilian HEIs. In the aforementioned documents, planning tools with clear objectives, responsibilities, actions, goals and deadlines were set to establish sustainable practices and rationalisation behind expenses needed. As evident, senior management supports sustainable practices in most Brazilian HEIs under investigation; however, not all. A similar situation was evident in South African HEIs. Top management endorsed the establishment of offices specifically addressing, reporting and developing strategies to respond to the SDGs. Furthermore, the top management of less than half of the institutions under investigation opened opportunities for implementing sustainability initiatives by signing the United Nations Global Compact.

The fourth challenge refers to a lack of sustainability policies capturing all the realms of sustainability. For example, in Brazil, sustainability policies were evident; however, they focus on daily operational activities and encourage sustainable practices such as saving

electricity instead of incorporating the broader dimensions of sustainability. Examples of policies dedicated to SD are the Solid waste management plan and the Human rights policy. To this end, ESD needs to be specified and articulated in policy documents, which will combat the institutions' poor understanding of the holistic nature of SD. Currently, there is a lack of SD policies in the majority of the sampled South African HEIs. However, most institutions have environmental sustainability and sustainable environmental management policies.

The poor implementation of ESD-related policies may negatively impact the curricula and research outputs of HEIs, which is the fifth challenge. The curriculum of HEIs does not fully include and, in some cases, disregards information about sustainability (Avila et al., 2017). Updating curriculum content and teaching materials is necessary to adapt to the dynamic nature of sustainability. As reported within the analysed documents, less than half of Brazilian HEIs are committed to teaching local and global content in a curriculum incorporating multiple economic, social and environmental perspectives and developing opportunities promoting ethical and responsible action in society. As is evident, the curriculum includes topics and initiatives related to affirmative action, diversity, human rights, inclusion and the environment. Meanwhile, South African HEIs ensure rigorous quality assurance of all academic programmes and courses. Curriculum content is continuously renewed, promoting multidisciplinary research and teaching initiatives to drive innovation, strengthen sustainability, and increase societal impact. To this end, it is clear that Brazilian and South African HEIs incorporate sustainability-related content in their curriculums. However, the inclusion of SD content does not equate to ESD, as SD content is poorly specified and fails to capture the holistic nature of SD.

The last challenge is associated with professional development and teacher training conducive to fostering the knowledge and skills required to teach ESD. Both contexts do satisfactory work in

professional development; however, more attention is needed to link the development to the necessary competencies to teach ESD. More than half of the Brazilian and South African HEIs provide opportunities for lifelong learning through various short courses to academics and other professionals. Furthermore, support is offered to individual staff in their professional growth, which includes assisting with developing teaching portfolios. Although efforts to develop educators professionally are promising, they are outside ESD professional development.

Regarding teacher training and sustainability, efforts to improve ESD in teacher education have made satisfactory progress in the two BRICS nations. Furthermore, there is evidence of sound educational teaching practice, training and policy in South African HEIs. However, more needs to be done to incorporate ESD into Brazilian and South African teacher education.

Strategies to Enhance the Implementation of ESD in Both Contexts

This section provides recommendations for maximising ESD in Brazilian and South African HEIs, drawing on purposively sampled documents for this study. Keeping in mind, previously described challenges, attention is paid to the role of educational leaders in supporting ESD, teacher training and professional development, revising policy, adopting a whole-institution approach as well as interdisciplinary curriculum and research requirements. In addition, the role of quality assurance and external benchmarking agencies, such as global university ranking systems, is explored.

The discussion outlines six strategies that could maximise the implementation of ESD.

The first strategy, and the one with the most potential for scaling up the implementation of ESD and ensuring longevity and improvement, is commitment and support from top management of HEIs. The development and adoption of an institutional strategy for SD need to be supported by rectors, managers, and professors to sustain sustainability programmes and initiatives. The commitment and support of

educational leaders to sustainability require articulation in strategic planning, the mission and vision statement and policies. Furthermore, educational leaders need to be aware of academics with a personal interest and motivation to engage in ESD; however, their engagement may be hindered by factors such as lack of time and financial resources. There are calls for educational leaders to allocate time and resources to designing new courses and reviewing existing courses, allowing academics to engage in ESD without increasing their workloads.

Management has one of the essential roles to play in scaling up the implementation of ESD; however, the role of educators is also crucial. The second strategy is endorsed by UNESCO (through their Global Action Programme), which is to improve the ability of educators to reorient their teaching practice towards ESD through the provision of appropriate teacher training and professional development of staff (UNESCO, 2014). Professional development recognises the need for lifelong learning, as change is a constant feature of the 21st Century. Professional development learning opportunities can be provided through informal or formal learning methods, such as training, mentoring, workshops, action-learning sets, workplace projects, and accreditation schemes. As per teacher training, scaling up the implementation of ESD at all levels of education would require ESD to be included in teacher training and during employment in the form of professional development. To prepare teachers for the challenge of implementing ESD at all levels of education, HEIs and teacher training programmes should embrace pedagogies that foster the competencies that enable teachers to serve as competent change agents. It is important to note that ESD is not well-established in teacher training or professional programmes in Brazil and South Africa; it is often disregarded. A good starting point to embrace ESD in teacher training and professional development programmes would be to include content and discourse that revolve around the following ideas and strategies:

- brainstorm strategies that help apply new pedagogies in the context of different professional disciplines;
- discuss the reorientation of assessment as a progress tool for students and what this would mean for learning objectives viewed through an ESD lens;
- collaborate and explore scholarly literature before discussing strategies to challenge power relationships in learning and teaching;
- create scenarios in which sustainability thinking and practice apply to different industries and professions; and
- explore theory discussing strategies to achieve transformative educational change in institutions.

Embracing ESD in professional development and teacher training programmes and throughout the core activities of HEIs should be articulated in policy, which accounts for a third recommended strategy. The purpose of sustainability policies is to encourage students to participate in SD dialogue, scholarly activities and initiatives, which is required due to the vast size and population of HEIs. Thus, SD dialogue, scholarly activities and initiatives should be enforced (through policy), as it is challenging to promote awareness amongst so many staff and students. It is essential for educational leaders to not merely symbolically commit to ESD on paper; instead, policy should adopt a whole-institution approach in which all actions and decisions stipulated on paper are displayed through actions (of staff, students, and educational leaders) towards transformation and the implementation of ESD. A whole-institution approach is necessary to ensure that change towards sustainability is not isolated in one core activity of HEIs. Indeed, a whole-university approach to ESD implementation should embrace sustainability in research, curriculum, campus operations, extension activities, the mission and vision statement, policies, targets and objectives, the creation and implementation of educational strategies, and strategic planning and partnerships with stakeholders. In short, an institution-wide approach links the theory and principles of ESD taught in the classroom with

the principles of ESD tangibly implemented in the HEI. Accordingly, students will be able to make the connections between theory and practice and the relationship of their studies with the campus itself and the broader world. Developing an institutional understanding of sustainability and related terms and including it in core activities is required before implementing a whole-institution approach. The successful implementation of ESD throughout the institution depends on the staff and managers' understanding of sustainability's holistic and interconnected nature. Employing a whole-institution approach can potentially increase the number of sustainability actions within the HEI and the local community. In addition, a whole-institution approach can empower students to be the architects of solutions to local and global sustainability challenges.

The next strategy refers to interdisciplinary and transdisciplinary approaches, which receive special attention as they link to the permanent complex relationships between sustainability's economic, social and environmental realms. HEIs should promote inter- and transdisciplinary collaborations, dialogues, and actions in their core activities and whole-institution approach in their research, teaching and extension activities. These approaches allow academics and students to engage with multiple perspectives and solutions. Academics working on multi-, inter- and transdisciplinary projects often gather expertise and knowledge from various disciplines, fields and stakeholders to find practical solutions to real-life problems. Higher education for SD has gained importance in different fields of research and different areas of educational practice, thus making these approaches essential. Approaches that consider perspectives and solutions from various fields are needed to effectively respond to the many challenges imposed on HEIs by the holistic nature of sustainability. Cooperation among HEIs through international events such as conferences and workshops has been identified as conducive to sharing knowledge, learning, and establishing new research projects across diverse fields.

The fifth strategy is to utilise existing quality assurance processes and external benchmarking of HEIs to make sustainability a requirement in curriculum and research. The effectiveness of external agencies in encouraging compliance and implementation of sustainability strategies is grounded in the reality that HEIs receive funding for their commitment to sustainability strategies. In addition, there is a high possibility that by making ESD an explicitly stated and assessed outcome of the curriculum, student engagement would increase. There is a possibility that if sustainability is not part of the curriculum or exams, students may disregard it. In addition to including sustainability quality assurance and external benchmarking rubrics, ESD should also be included in the criteria for determining quality and competitiveness. In this context, a national ranking incorporating sustainability as a criterion has excellent potential to motivate HEIs to implement ESD. A university ranking system can serve as an instrument to measure the scope of ESD implementation, allowing the progress to be benchmarked against and compared to other HEIs.

The last suggested strategy refers to research, which needs particular attention due to its potential to generate knowledge in advancing sustainable society. Consequently, the availability and accessibility of scientific databases are critical to facilitate the research process and specific research areas under the broad umbrella of sustainability. Researching ESD may be challenging, as academics and educational leaders are often overwhelmed by other duties. It is also possible that academics and educational leaders would only adjust the scope of their research with pressure for change. For this reason, adding multi-, inter- or transdisciplinary research on ESD as a promotion criterion or as a criterion to attain research funding could serve as an incentive to maximise the implementation of ESD in research.

Conclusive Thoughts

Education about SD in Brazil and South Africa is essential to transform citizens' value systems and reshape how citizens think about and act on

economic, societal and environmental challenges (UNESCO, 2014). Therefore, it is concerning that most HEIs do not mention the concept of "education for sustainable development", even though they position themselves to contribute to SD through their academic activities. A further concern is that the curricula of Brazilian and South African HEIs do not prioritise sustainability-related content; thus, they do not show a clear commitment to developing sustainability-related competencies and values in students. If sustainability is to be implemented effectively in Brazilian and South African HEIs, more attention should be devoted to classroom teaching that equips students with the competencies to participate in the discourse on and action towards equal economic, environmental and social opportunities (Hensley, 2017). The recommended strategy with the most potential to enhance the implementation of ESD is establishing and evolving an ESD ideology with a long-term commitment, time and continuous support from educational leaders. For educational leaders to offer support and commitment in priority areas and catalyse, an effective transformation would require ESD-related training for individuals in leadership positions.

With regards to the effectiveness of Brazilian and South African HEIs implementing ESD, the process is being hindered by the reality that HEIs prioritise strengthening the financial sustainability of their institutions and achieving competitive advantage over nurturing sustainability-related competencies. The Fees Must Fall protests in South Africa, a decline in state and external funding in both BRICS nations, and the emergence of Covid-19 as contextual conditions have made attaining financial sustainability in HEIs challenging and simultaneously imperative. Furthermore, to survive, innovate and ultimately thrive, HEIs must continue to attract students and staff with the desired levels of competence. To this end, HEIs' compliance with sustainability mandates and their goal of achieving social justice gives the impression that it is a two-folded response to external pressures. On the one hand, HEIs are expected to serve as examples to other

institutions and citizens. Thus, to maintain their integrity and reputation, HEIs comply with sustainability mandates. On the other hand, HEIs operate as businesses; hence they cannot comply with sustainability requirements at the expense of their financial sustainability and their position in global rankings. Top HEIs attract top staff and students, enabling them to remain top institutions. Talented students lead to better results, which, in turn, allow HEIs to establish a prestigious reputation. Like business aims to increase productivity, HEIs aim to produce the best research outputs and graduates. In the process, however, the effective implementation of ESD is often side-lined, as strategic decisions and resources are employed based on their contribution to financial sustainability and global university rankings.

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Ethical Approval and Conflict of Interest

This study, approved by the Scientific Committee of Education and Human Rights, relies on document analysis as a qualitative research method. Thus, no human participants were involved. The study received ethical clearance from the Edu-REC at NWU – NW U - 0 1 2 7 6 - 2 0 - A 2. Both authors confirm no conflict of interest.

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