Education for Sustainable Development in Higher Education Institutions in Southern Africa

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Abstract

The implementation of education for sustainable development (ESD) demand for a review of the current epistemological and pedagogical practices in the context of the objectives of the United Nations Decade of Education for Sustainable Development (UNDESD). Most of higher education institutions are grappling with the introduction of education for sustainable development into the curriculum. The paper is interrogating possible epistemological and pedagogical practices for higher education institutions in Southern Africa. It draws on reports from Southern Africa Higher Education Institutions. The paper highlights on themes and topics that may be of interest, most useful and suitable for teaching education for sustainable development in contributing to the implementation of UNDESD at higher education institutions. It explores social, economic, political and ecological issues, local contexts and impact. The paper stimulates and invites debates on sustainability issues and their implication for research, community engagement and teaching and learning practices at higher education institutions and curriculum policy change to promote social transformation

Keywords: Education for Sustainable Development; Higher Education Institutions; Re-orientation; Epistemological; Pedagogical practices.

INTRODUCTION

The current initiatives on education for sustainable development in Southern Africa had been given impetus by the UN declaration of a Decade of Education for Sustainable Development (ESD). The UNDESD came at a time when debates were gaining momentum on what, how, why, where and who should or is to be playing an effective lead in partnership with UNESCO and other agencies. The current debates on what is education for sustainable development are trying to understand the concept, its appropriateness, implications in different contexts and education policies. The debates on how to appropriate/re-orientate education to incorporate education for sustainable development was trying to interrogate different approaches to harmoniously mainstream education for sustainable development without causing any tension within higher education institutions' curriculum. This paper is examining the possibility and appropriateness of ESD in the curriculum and focus on its implications as far as epistemological and pedagogical discourses are concerned in higher education institutions in Southern Africa. It is meant to assist educators in higher education institutions in their implementation of environmental and sustainability education for sustainable development.The analysis is based on the authors' views drawing on education for sustainable development concept and discourses. It is also drawing on the current practices and initiatives in higher education institutions as reflected in

education practitioners' reports at the Southern Africa Development Community (SADC) Regional Environmental Education Centre (Ketlhoilwe, 2008). It also draws on the base-line study reports by Lotz-Sisitka, Gumede, Olvitt, & Pesanayi, (2006a) on the status of education for sustainable development debate, practice and suggests mechanisms needed for supporting this practice concentrating on themes and topics that may be identified as most useful and suitable for teaching education for sustainable development in higher education institutions to make a meaningful contribution to the implementation of UNDESD. More insights are drawn from the Sub-Saharan Africa Strategy of Education for Sustainable Development (2006) and other initiatives in the Southern Africa region.

United Nations Decade of Education for Sustainable Development

United Nations Decade of Education for Sustainable Development (UNDESD) came at a time when different views are still part of the debate about what education for sustainable development is. The UN General Assembly Resolution 59/237 that declared the Decade encourages Governments to consider the inclusion of measures to implement the Decade in their respective education systems and strategies, and where appropriate national development plans (UNESCO, 2005). The overall goal of the UNDESD is to integrate the principles, values and practices of sustainable development into all aspects of education and learning. It also invited governments to promote public awareness of the decade and wider participation during the Decade, *inter alia*, through cooperation with and initiatives engaging civil society and other relevant stakeholders especially at the beginning of the Decade (*ibid*).

UNDESD's main thrusts are improving access to quality basic education; re-orientating existing education programmes; developing public understanding and awareness; and providing training (UNESCO, 2002: 2). The Decade of Education for Sustainable Development addresses pedagogical processes, the validation of knowledge and the functioning of education institutions. It also promote a set of underlying values, relational processes and behavioural outcomes, which should characterize learning in a range of contexts (*ibid*) including research and community engagement in higher education institutions. The dilemma that may arise as a result of the emerging education for sustainable development as a dominant narrative may be the choice of emphasis on environmental education or education for sustainable development in some countries resulting in slow pace in curriculum innovation process to address sustainability. A variety of contextual understanding of education for sustainable development is already shaping education policy discourses and influencing pedagogical practice in higher education institutions. Some of the Southern African universities have established a research network on education quality for sustainability and are working in patnership with UNEP to mainstream environment and sustainability issues in African universities (MESA). The MESA initiatives are broadened to include other universities across the globe through the GlobalUniversities Partnership for Environmental Sustainability (GUPES). These initiatives promote both collaboration among higher education institutions and epistemological practices during the UNDESD and beyond.

Debates around education for sustainable development discourses may continue to compound curriculum processes in higher education institutions and perhaps globally. What is perceived to be a choice between education for sustainable development and other education systems may be further compounded by its complexity, uncertainty, unstable and competing perceptions, and open-ended understandings of education for sustainable development. In Southern Africa, like in most parts of the world education is undergoing some transition as it begins to emphasize sustainable development. Education for sustainable development had been contested by some intellectuals such as Jickling and Wals (2003), Huckle and Sterling (1996). It has been blamed for being instrumentalist and for attempting to narrow education as an open-ended process and for constituting 'development' as the endpoint for educational discourse. Sustainability is perceived as shallow in theory requiring further research and discussion in the context of higher education. This remains a challenge to higher education institutions. It appears there is a dire need for curriculum development in higher education institutions to direct education for sustainable development. UNESCO (2002) argues that education policy development should encompass or create space for education for sustainability across sectors and stretch beyond compartmentalized sectors and provide linkages, exchange and interaction among stakeholders in education. As acknowledged by UNESCO (2002), the root of education for sustainable development is firmly planted in the environmental education efforts and has striven towards achieving the goals and outcomes similar and comparable to those inherent in the concept of sustainability. Therefore, in incorporating sustainability in the education system, environmental education should not simply be viewed "as something of an 'historical artifact' informing ... recent discourse on 'ESD'" (Lotz-Sisitka, 2004: 48), but should enable a more dynamic and reflexive discourse with contemporary validity and value. Higher education institutions in Southern Africa region should consider both global and regional strategies in curriculum innovation to contribute to the implementation of the UN Decade of Education for Sustainable Development.

The Sub-Saharan strategy on UNDESD

To translate UNDESD goals and objectives into workable and measures the sub-Saharan Africa strategy for Education for Sustainable Development coined its strategic objectives as follows;

- To improve the harmonization and commitment for the implementation of education for sustainable development at the regional and national level
- To broaden public awareness on and to strengthen the practice of principles of sustainable development both in individual and collective lives
- Promote an education system, which enhances African cultures especially in the dimensions that contribute to sustainable socio-economic development
- To strengthen in all its dimensions the quality of education within the framework of sustainable development
- Consolidate and diversify partners with a focus on education for sustainable development (UNESCO-BREDA, 2006).

These are some of the leads for higher education institutions' curriculum innovations to introduce education for sustainable development. They could be considered for curriculum design, for teaching, in research and in community engagement. To implement these strategies in higher education systems, we do not only require curriculum policy changes, strategies and plans, we also need a deeper understanding of what it is, required and what to implement or appropriate in a particular contexts. This would require an understanding of the principles of environmental sustainability and their implications to contextual institutional mandates. A review of projects reports from SADC Regional Environmental Education Centre has revealed that higher education institutions in Southern Africa are at different stages of considering and or implementing UNDESD

The regional foci when teaching education for sustainable development

Global environmental processes are driven by powerful international organizations such as the United Nations, World Wide Fund for Nature (WWF) and World Conservation Union (IUCN). The driving discourses are based on equity, climate change, poverty, health risks and vulnerability, environmental governance, sustainable development and education among others. Amongst the key global socio-ecological issues are: inadequate supply and availability of fresh water, rapid population growth, and inequality, food shortage, depletion of tropical forests, loss of biodiversity, pollution, desertification and many more (Ketlhoilwe, 2007, 2008).

The 2006 SADC-REEP ESD consultation process covering 600 participants in 14 countries had indicated an interest in education and training initiatives that can help society re-orient towards poverty reduction/alleviation, food security, ecological sustainability and health. The key findings of the consultation process covered the following,

    a) Inadequate debate on sustainable development
    b) Partnerships and participation in the UNDESD
    c) Education for sustainable development practice and quality and
    d) Supporting Education for sustainable development practice. (Lotz-Sisitka, Gumede, Olvitt, & Pesanayi, 2006b).

These are areas for considerations in higher education institutions focal areas, namely teaching, research and community engagement to contribute effectively to education for sustainable development. One of the key aspects of education for sustainable development seem to be a need to foster and sustain an on-going open-ended critical review of ways in which sustainable development is being interpreted, appropriated and applied in different social and environmental contexts (Lotz-Sisitka, et al. 2006a). Education for sustainable development creates a new challenge to balance economist, environmentalist and social ideologies in knowledge-creation and for education thinking and practice in Southern Africa (ibid). The content of educational programmes in higher education institutions should be contextualized to take into account national and local realities and concerns. The 2006 (Lotz Sisitka, Gumede, Olvitt, & Pesanayi) consultation process on education for sustainable development in Southern Africa indicated that institutions and organisations are responding to a diverse range of issues and challenges through environmental, social issues and risks, economic and political challenges.

i) Environmental issues and risks: These areas include increased environmental degradation; over-exploitation of natural resources for short-term benefits; land degradation leading to decline in productivity of the land and food in-security; fresh water contamination; drought; poaching and loss of biodiversity; deforestation; desertification; pollution and inadequate sanitation. It also includes vulnerability to environmental change (e.g. floods, droughts, global warming); costal zone degradation and marine issues (degradation of the marine environment and marine resources) (Lotz-Sisitka et al., 2006a). Some of the environmental risks and issues identified that could be also areas of focus in higher education institutions curriculum relates to loss of natural heritage, land use conflicts and uncontrolled urban development (*ibid*). These issues and challenges are not common to everyone and in every context. Higher education institutions could consider these issues in their core activities. That is in their teaching, research and community engagement to effect a social change.

ii) Social issues, risks and challenges: To effectively contribute to UNDESD implementation social issues, risks and challenges in Southern Africa such as HIV/AIDS that result in deepening of poverty and instability in the human resource-base should be part of higher education curriculum. Other social challenges that could be focus for teaching, research and community engagement in higher education institutions include health risks such as malaria; malnutrition and health of children; gender inequality, discrimination and vulnerability of women and children to health risks and abuse. Further social challenges in Southern Africa are street children and orphans; industrial health issues and decrease in general levels of wellness in the work place; increased vulnerability; population growth and settlement patterns; social values and moral regeneration. The quality of education is seen to be too theoretical and the valuing of education in some societies is of low priority (Lotz-Sisitka et al., 2006a). Higher education insitutions should elevate the status of these issues through implementation of education for sustainable development and research.

iii) *Economic challenges:* Southern Africa is characterised by socio-economic challenges such as poverty and decrease in standards of living. There is high level of unemployment, food security, skewed distribution of land wealth, consumerist culture and lifestyles particularly amongst the rich and the youth. In addition the region experiences dominance of globalization and neo-liberal economic approaches; structural adjustment policy impacts (e.g. job losses and unemployment); shortage of resources needed to provide adequate housing, facilities and capital for appropriate development; inadequate resources for social services such as health and education. (Lotz-Sisitka et al., 2006b). These issues may provide the basis for curriculum design in higher education institutions to contribute to the Decade of Education for Sustainable Development.

iv) *Political challenges:* The Southern Africa region, like most of the less developed regions of the world experiences corruption; poor governance; lack of political commitment and lack of synergy amongst government departments. There are gaps between policies, practices and needs on the ground. The region still experiences short term objectives of politicians; decentralisation of policy making (linked to lack of synergy and lack of capacity for delivery and implementation), war and lack of security (Lotz-Sisitka et al., 2006a). These issues are a threat to sustainability and higher education institutions, through their core mandates, that is teaching, research and community services could contribute to the reduction of these political concerns.

The Sub-Saharan Africa strategy (UNESCO-BREDA, 2006) on education for sustainable development suggests that it is no longer necessary to add themes but to renew educational concepts and approaches by strengthening the meaning and substance given to education. Education for sustainable development should be designed basically as the means to develop a critical thinking that induces a change of attitudes and behaviours among students in higher education institutions and within the community. One of the major challenges of education for sustainable development is to meet the training needs of educators and trainers with the view to a profound change in the ways of thinking, attitudes and behaviours for a sustainable development (*ibid*).

Teaching and learning of education for sustainable development should go beyond acquisition and transmission of knowledge, individual development, socialization and economic development to include concrete action towards poverty reduction, peace and social and political stability, gender equality and equity, health promotion, environment sustainability, culture in relation to skills, behaviours and values to be promoted and the enforcement of the principles of good governance and transparent management (UNESCO-BREDA, 2006). These may form the basis for curriculum reform to make a meaningful contribution to the UNDESD. Viable strategies to enhance education for sustainable development implementation include partnerships, participation and networking. These inclusive

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frameworks involve participation by formal schooling, universities, training colleges, and public awareness and community development (Lotz-Sisitka, Gumede, Olvitt, & Pesanayi, 2006b).

To ensure education for sustainable development practice and quality the following were identified as strategies deployed by the 14 SADC member states

- Involving people in sustainable development actions to meaningfully reduce poverty and improve the quality of life of the people – through participatory approaches and methods, integrated solutions and critically evaluating the appropriateness of environmental and sustainability education practices
- Participatory, active and learner-centred methodologies
- Dealing with complex issues
- Working with values, ethics and cultural diversity
- Creativity of and critical thinking
- Working with indigenous and local knowledge.
- Ensuring inclusivity in eeducation for sustainable development practice(Lotz-Sisitka et al., 2006b).

To support education for sustainable development practice, it is mportant to provide adequate institutional policy support, good evaluation and monitoring strategies in higher education institutions. Curriculum and learning support material will need to be developed and or reviewed to strengthen institutional capacity building. Research activities should encompass obligations to provide feedback to researched cummunities. In many Southern Africa countries, environmental non-governmental organizations are working in partnership with governments to achieve sustainability. This partnership is indicative of change in how power patterns operate. Sharing of responsibility and accountability may go a long way in achieving the global call to engage communities in social practices including research and sharing of the research results.

Most of the Southern African states are engaged in a variety of initiatives to integrate and infuse emerging issues such as environmental, human rights, gender, HIV/AIDS into the mainstream curriculum. Environmental and sustainability issues are cross-cutting, and require multi-disciplinary responses. In preparation for the World Summit on Sustainable Development, a consortium of universities in southern Africa, acknowledged that given the current global human and environmental concerns, universities have significant potential to effect changes in sustainable development processes. Through the Kasane Declaration (2002), universities delegates to the conference declared that in order to maximize their role as important agents in sustainable development, universities should;

- develop human resources capable of integrating social and economic equity, environment and development through democratic and participative processes;
- develop life long learning skills based on problem and project oriented approaches;
- ensure gender equity in their programmes and activities;
- promote the use of information and communication technology in the generation, acquisition and dissemination of knowledge;
- ensure that indigenous and contemporary knowledge systems are brought into the learning and research processes;
- facilitate exchange of views and experiences that will pave the way for educational reforms;
- facilitate equitable socio-economic development through close collaboration with civil society as well as public and private sector in order to support economic, environmental, and technological development;
- be receptive to interacting with other role players in formulating strategies for training and research in sustainable development;
- serve as a role model in sustainable resources management.

In order to succeed in this endeavour, universities will benefit from systematic and coherent cooperation as well as networking for achieving lasting relevance by making significant and meaningful contributions towards achieving the envisaged goals.

The challenge is how these issues and strategies could be incorporated into existing curriculum models and frameworks. Various strategies had been suggested. They include the following;

- *Infusion approaches* – This involves infusing issues into existing curriculum frameworks. This strategy had been adopted by Botswana in its Revised National Policy on Education (Botswana Government, 1994).
- *Integrated approaches* – which involves cross curricular strategies such as project work and local investigations, where knowledge and skills from various subjects are all used to address the same set of issues
- *Re-orientation* - of subjects to include emergent issues (including ESD) as integral to the subjects. This involves restructuring subject content and outcomes to incorporate emerging social issues so that these become a key dimension of what is learned in the subject. This implies that emerging issues are valued in the same way as any other content and skills in the subjects, and that they are integrated into assessment systems and are also dealt with in textbooks and other 'normal' curriculum processes (Lotz-Sisitka, 2006b)

Teaching and learning approaches at higher education institutions

Teaching and learning methods are ways of doing something such as lecture, bibliographic research, survey, and role playing games. The teaching and learning strategies includes problem solving, discussions, field trips and fieldwork, experiments, projects, and cooperative learning. It should be noted that one method or strategy may probably not achieve all the learning objectives and students may not equally respond in terms of learning and developing skills. Therefore a combination of methods or strategies may be required in education for sustainable development (Ketlhoilwe, 2008) The choice of teaching and learning method in higher education institutions could be guided by what is to be achieved as there is no specific and generic effective method for all situations in a learning environment. Students could be introduced to perspectives such as behaviourism, liberal humanism, critical theory, and social constructivism[1] to understand various strategies of teaching and learning they could use in the implementation of education for sustainable development. Most of the countries in Southern Africa favour learner-centred education in pedagogical discourses in environmental learning. This approach acknowledges what the student brings into the learning situation. This may be a wealth of knowledge and social experiences gained over the past years from interaction with the environment and the community. The teaching and learning approaches in higher education institutions should be open ended to enhance education for sustainable development integration into the main stream of education and take into consideration the experiences of the students. It should be generic enough to allow learning preferences for individuals employing multiple modes of learning to achieve the objectives of the courses within institutions and community contexts. Links with the local community may enable students to appreciate the significance of sustainable development locally and internationally. Opportunities for linkage through the internet with other institutions regionally and international may open opportunities for the exchange of ideas and views on sustainable development (Ketlhoilwe, 2008)

According to Scoullos and Malotidi (2004), seeking to educate for environment and sustainable development requires educators to inspire and encourage a commitment to the values of social justice and equity, peace and ecological integrity, democracy and respect to nature, promoting adoption of new lifestyles and living patterns. Above all educators should create a realistic hope in which the possibility of change and the real desire for change are accompanied by concerted and active participation. (Scoullos and Malotidi, 2004: 30).

Higher education institution's students should be engaged in active learning, such as simulations exercises, group discussions, and field-work to effectively engage with environment and sustainability issues. Teaching and learning approaches should offer experiential learning opportunities and exploit students' prior experiences regarding socio-ecological issues to complement the theoretical framework that are grounding the teaching and learning processes

Research skills should be taken as core activity across higher education curricular to broaden and strengthen participation and knowledge generation about education for sustainable development (Ketlhoilwe, 2008). "UNESCO (2005) also indicates that education for sustainable efforts in the UNDESD need to be informed by research and development work" (Lotz-Sisitka, 2006b: 29). There are a number of research approaches that could enhance education for sustainable development and contribute to UNDESD implementation.

Research could be participatory and action-based emphasizing systematic reflection by the researchers be they learners or lecturers. The students could be guided to engage in research in sustainable development practices. This would include research into socio-economical and ecological problems in and within communities. This could also emphasize pedagogical techniques that equip learners with analytical tool for complex and contemporary socio-

ecological, economic and political situations. Higher education institutions' education for sustainable development programme may emphasize on information dissemination to share research findings with communities and other researchers nationally and internationally (Ketlhoilwe, 2007). The use of ICTs in research and teaching could bring a number of advantages in the implementation of education for sustainable development. Higher education institutions could set up e-learning programs for their staff members and students. This would be linking students within or between local institutions or between local and international institutions.

RESEARCH METHODS

This is a predominantly qualitative paper based on rich data generated through documents analysis drawn from the SADC Regional Environmental Education Centre. The reports were accumulated since 1998 on various research projects by lecturers. For the purposes of this paper only projects that were based on higher education were selected for analysis. Specific projects on environmental education and education for sustainable development were analysed to establish the status of education for sustainable development in higher education institutions in southern Africa. The research data were specifically on both pedagogical and epistemological practices relevant to education for sustainable development by lecturers who attended the SADC REEC attachment, international certificate and international training programme courses for ten years (1998 – 2008). A total of fifty projects from twenty-three institutions of higher education were used to generate data for this paper (See table 1). This report from institutions of higher education in Southern Africa were supported by various research based literature and ESD oriented literature to strengthen the argument that ESD is gaining currency in environmental and educational global discourses and therefore Southern Africa should be seen to be contextually responding.

Data were analyzed through both inductive and deductive approaches. A collaborative approach with the SADC REEC Programme Manager and Materials Development and Training Manager who assisted in identifying the projects reports and read the findings validated data and the analytical approach was used.

Table 1: Projects related to ESD in Higher Education institutions

Country	Number of Institutions	Number of Projects
Angola	0	0
Botswana	0	0
Lesotho	1	2
Namibia	2	2
Democratic Republic of Congo	1	1
Malawi	3	12
Mauritius	2	2
Mozambique	1	2
South Africa	3	3
Swaziland	2	2
Zambia	3	8
Zimbabwe	5	14
Totals	23	50

DISCUSSIONS

The implementation of the UNDESD and ESD discourse are claiming a centre-stage and requires the setting of new directions in education systems to effectively respond to unsustainable development patterns. Institutions of higher education are generally regarded as facilitators and sources of innovations and new knowledge. It is therefore right to expect them to be drivers of ESD related curriculum innovations and key implementers of the UN Decade of Education for Sustainable Development. The current and future graduates from higher education institutions in Southern Africa are to be resources that should uphold the principle of sustainable development. Education for Sustainable Development in higher education institutions should emphasize on multidisciplinary and interdisciplinary approaches to curriculum development and delivery. Its pedagogy should emphasize on shared and group learning for problem solving (Wade and Parker, 2008).

A review of projects reports from higher education institutions in Southern Africa has demonstrated that the introduction of ESD is at different stages and may be compounded by environmental education discourses that are still

dominant. As ESD seem to be requiring multidisciplinary or interdisciplinary approaches, some institutions are finding it difficult to house it at a particular discipline or put structures in place that would be a coordinating point for its implementation. As a result different practitioners from across higher education compartmentalized subjects are trying to place it within their subjects without indicating how they would cooperatively link with other discipline. It is vital that its implementation is properly coordinated to promote both interdisciplinary and multi-sectoral approaches for sustainable development through an informed curriculum change.

The focus for epistemological practices is on socio-ecological, economic, political issues and risks. The emphasis is to equip the beneficiaries of the oriented educational system with skills that would enable them to reflectively and reflexively cope with varied situations. ESD is a liberating type of education that needs to be contextually oriented to be relevant to its recipients and society. ESD issues could be incorporated into existing curriculum models and frameworks through infusion and integration approaches. Each or both approaches should be contextual implemented for effective curriculum innovation in higher education institutions. Both Sub-Saharan Africa ESD Strategy (2006) and the SADC Regional Indicative Strategic Development Plan (RISDP) (2003) espouse environmental awareness and sustainable development. Multidisciplinary and interdisciplinary approaches would be ideal for both curriculum approaches to restructure subjects' content to include ESD issues. It is important that the implementation of ESD is situated within key international policy initiatives such as the United Nations' Millennium Development Goals (MDGs), the Dakar Framework for Action aimed at achieving Education for All goals, the United Nations Literacy Decade (UNLD) and the African Union 2nd Decade of Education in Africa (Ketlhoilwe, 2008). These initiatives would strengthen higher education institutions curriculum innovations for sustainable development.

Of great importance would be teaching and learning methods that are compatible with sustainability principles and resources utilization. It is important to keep students in higher education institutions actively involved in their learning exercise. The use of information technology would also emphasize acquisition of skills that would not only facilitate learning but also minimize waste of resources that would otherwise be used in the traditional conventional type of learning. A variety of teaching and learning approaches should promote learner-centered education as indicated by reports from different colleges of education in Southern Africa. In particular, research skills should be regarded as prime in methodological choice decisions. This is likely to promote independent learning and critical analysis of issues. Research topics should be contextually relevant and be ment to generate new knowledge and suggest solutions to issues affecting humanity, economy, governance and ecological systems. Higher education institutions are expected to lead research on complex interaction of human and the environment. They could investigate strategies, environmentally sound technologies, policies, the establishment of new ethos to stabilize population and efficient use of natural resources to avoid future threats. It is important to create an open flow of information among communities, and higher education institutions themselves. This is crucial to development of new knowledge, technology, instruments and skills for a sustainable future.

Assessment of ESD curricular should be treated as a learning process. It should be skill-based, evidence-based or/and result oriented to equip students for future challenges and sustainable development.

CONCLUSIONS

The Southern Africa states are currently making efforts to define their role and activities to make a contribution to the UNDESD. They are responding differently in different contexts. Some institutions of higher education prefer subject-based introduction of ESD, while others are for institution-wide approach and others prefer open-ended approach through teaching, research and community engagement. New efforts are linked to existing educational policies and the global, national, regional and local contexts. Education for sustainable development has come at a time when countries were grappling with environmental education discourses. The UN Decade of Education for Sustainable Development should be perceived as bringing new knowledge and opportunities that extend and strengthen education quality. With this understanding, concentration of curriculum content should cover issues that are a threat to sustainability of human life, the economy and the development. Higher education institutions' education for sustainable development curriculum contents should strengthen political, socio-economic, and bio-physical environments. Pedagogical discourses should promote reflexivity among graduates to enable them to cope with a variety of challenges and to promote sustainable development. Research and teaching these issues should not be compartmentalised to an extent that students associate them only with academic subjects but a multi model approach should be practiced. For instance, Southern Africa states have identified infusion, integrated and re-orientation approaches. These should be practiced within contexts to effect social change that would not only benefit humanity but even the natural environment and its natural resources.

Finally, as microcosm of the larger community, higher education institutions could demonstrate ways of achieving environmentally responsible living by practicing what they preaches as well as by producing personnel who would be able to turn challenges into opportunities. ESD promote transformative learning, introduces new ways of thinking, and non-prescriptive approaches to varied situations. It could enable the incorporation of new ways of shaping important issues in the education system in Southern Africa.

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