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## Strengthening Sustainable Development in Academic Activities: Focus on Teacher Training and Professional Development

### Abstract

In alignment with the theme of the conference *Towards the Next Epoch of Education*, this paper brings attention to the need to strengthen focus on sustainable development in academic activities. As evident in scholarly literature, universities worldwide began to embrace Sustainable Development Goals initiated by the United Nations 2030 Agenda. Regardless their commitment, it is evident that many countries, especially developing ones struggle to effectively implement sustainable principles and practices in academia. This qualitative study brings attention to challenges associated with implementation of Education for Sustainable Development as well as suggestions how to promote ESD within teacher training and professional development of educators. The study is grounded in international literature review; however, findings come from the developing world where the authors are located. The results indicate the need to transfer sustainability-related pedagogical knowledge and competencies to educators and prospective teachers. In addition, in order to strengthen sustainable development, higher education institutions need to adapt a holistic approach and implement sustainability principles, knowledge, and practices within all academic activities.

Keywords: education for sustainable development, sustainable development, teacher training, sustainable development goals, professional development

### Introduction

Countries globally are facing unprecedented challenges and as a response have committed to the UN 2030 Agenda for Sustainable Development. The 2030 Agenda covers a spectrum of interconnected goals, including poverty eradication, economic progress, social inclusion, and environmental protection. Higher education institutions (HEIs) have shown considerable commitment and progress towards the 2030 Agenda for sustainable development through international dialogue, technology, conferences, teaching and learning, research, strategic planning and signing of declarations (Mula et al., 2017). However, the reality is that HEIs, especially in the developing world grapple with challenges associated with implementing and strengthening sustainable development (SD) in academic activities. Two of the biggest challenges hindering effective implementation and ultimately the attainment of the 17 UN sustainable development goals (SDGs) are a lack of support from top management as well as a lack of financial resources (Rampasso et al., 2020; Avila et al., 2017; Farinha et al., 2020). The effective implementation of education for sustainable development (ESD) has proved to have a positive impact on the sustainability consciousness of students (Novo-Corti et al., 2018). Thus, it is no surprise that scholarly literature has identified ESD as the method with the most potential to change the mentality of citizens, nurture

sustainability-related competencies and achieve the long-term goal of sustainability (Novo-Corti et al., 2018). However, the reality is that in developing countries, including South Africa, ESD is only starting to gain momentum (Solera & Laya, 2017, p. 279). ESD is a type of education that develops knowledge, skills, behaviours and values that enables citizens to take action towards SD and enable students to live and work in a sustainable manner (Lu & Zhang, 2013, p. 49). Meanwhile, UNESCO (2019) conceptualized SD as preparation for the future, where environmental, social, cultural and economic matters are balanced in the attempt to attain an improved quality of life. SD is viewed as a process aimed at achieving the long-term goal of sustainability.

The researchers initiated this qualitative research by conducting a literature review, which facilitated identifying gaps in the body of knowledge on the topic. Subsequently, a document analysis method was employed to address the existing gaps. The following section illustrates main challenges pertaining to implementation of ESD in various academic activities. Then, attention is brought specifically on how to foster sustainability-related competencies in teacher training and classroom practice. The paper concludes with recommendations made for professional development and potential future research.

### **Challenges with ESD implementation**

Based on the reviewed scholarly literature, it is evident that the strengthening of SD in academic activities, through the implementation of ESD comes with challenges. The successful implementation of ESD will depend on the extent to which the challenges towards ESD are identified and addressed by educational leaders, academics and educators. Each of the analysed documents revealed different yet pressing challenges HEIs face when implementing ESD. In addition to the challenges, scholars provided recommendations for management and academics to consider when addressing challenges towards the implementation of ESD. The following text presents collective 10 challenges identified along with recommendations.

The first challenge is the lack of holistic vision and integrated approaches towards innovation and sustainability (Avila et al., 2017, p. 1270). UNESCO recommended the use of a whole-institution approach which includes declaring ESD a priority within policy, providing training to staff, promoting sustainability-related research and collaborative work between stakeholders, faculties and institutions (Farinha et al., 2020, p. 466).

Absence of a holistic vision leads to the second challenge, namely, poor trans-disciplinary co-operation within HEIs, which leaves academics to work in isolation within their faculties and areas of specialization (Avila et al., 2017, p. 1271). Consequently, most initiatives involve campus environmental sustainability (saving electricity) instead of ESD (Takala & Korhonen-Yrjanheikki, 2019, p. 173).

The third and arguably the biggest challenge hindering the effective implementation of ESD is the lack of support towards sustainable initiatives from senior management of HEIs (Rampasso et al., 2020). Reporting about Portugal, Farinha et al. (2020, p. 472) stated that top management within HEIs lack communication about sustainability related strategies, opportunities and actions. Consequently, most sustainable innovations are limited to the campus of HEIs

(Avila et al., 2017). To that end, Mula et al. (2017, p. 805) noted that sustainability-related initiatives in HEIs often rely on the attention and conviction of individual academics. Lu and Zhang (2013, p. 53) noted that when there is a lack of support from top management in HEIs, ESD is viewed as an optional addition into the curriculum and at times is implemented spontaneously by informed academic staff (Avila et al., 2017, p. 1270).

The fourth challenge is grounded in the limited amount of multidisciplinary working groups, committees and offices allocated towards sustainability in HEIs which stems from a lack of guidance and support from top management (Avila et al., 2017, p. 1271; Farinha et al., 2020, p. 466). Having an individual (sustainability co-ordinator) and an office space to address concerns about sustainability provides decision making power, hierarchical leadership and guidance (Avila et al., 2017). The lack of office space, sustainability co-ordinators and committees gives rise to the fifth challenge of poor record keeping, reporting, assessing and accountability, which make it difficult for HEIs to track their in-house successes and shortcomings (Farinha et al., 2020, p. 481).

The lack of sustainability-related leadership from top management in HEIs leads also to the sixth challenge, specifically, poor implementation of sustainability-related commitments and policies (Farinha et al., 2020, p. 486). Sustainability related policy and declarations are important towards the goal of ESD. However, Farinha et al. (2020) pointed out that although the signing of declarations and charters is an important driver for SD, it does not always lead to the implementation of their commitments.

The poor implementation of ESD related policies may negatively impact the curricula and research outputs of HEIs, which is the seventh challenge. As evident, HEIs curriculum does not fully include and in some cases, totally disregards information about sustainability (Avila et al., 2017). It is critical for HEIs to include sustainability-related skills, knowledge, attitudes and values into their curriculums and research (Farinha et al., 2020, p. 467). In addition, ESD should not be taught once off, but should receive adequate attention by being taught throughout the curriculum (Tierney et al., 2016, p. 508).

The eighth challenge is grounded in the nature of research into sustainability, which tends to utilize similar methods of data collection and analysis, preventing ground-breaking innovation towards SD (Avila et al., 2017). Farinha et al. (2020) recommended that HEIs advance sustainability-related research by including sustainability goals within their strategic planning as this has proven to generate better research, academic compliance and improved performance.

The ninth challenge is that academics and educators who contribute to ESD by infusing their research and teaching with innovative methods are not being commended for their efforts. Instead of being rewarded for sustainable initiatives they receive extra workloads and are expected to complete SD tasks in addition to their normal duties (Avila et al., 2017). Farinha et al. (2020, p. 490) reported that a lack of incentives is the main factor contributing to poor support from students and local collaboration for sustainability-related events and projects.

The last challenge refers to lack of financial resources (Avila et al., 2017; Farinha et al., 2020). Due to that fact, sustainable initiatives are developed with low funds and almost full reliance on the work of volunteers (Avila et al., 2017).

## **Implementation of ESD in teacher training and classroom practice**

Developing countries such as South Africa are vulnerable to social, economic and environmental challenges which makes strengthening SD in academic activities such as teacher training programs essential (Kieu et al., 2016). Several steps have been taken towards the implementation of ESD in HEIs; however, the complexity of this task calls for a professional guidance and competency development for staff nurturing prospective teachers (Mula et al., 2017). Thomas (2020, p. 896) pointed out that it is essential for educators to infuse their teaching with ESD. However, educators do not always have the ability to include ESD into their teaching and other academic activities for two reasons. First, educators in their own training are often not exposed to SD principles and practices (Mula et al., 2017; Thomas, 2020). Second, employed educators do not receive sustainability-related training in the form of professional development. Consequently, the sustainability-related competencies of educators and prospective teachers are deficient which may negatively impact their capacity to lead towards ESD (Mula et al., 2017). This is problematic since graduates take up leadership positions in society without fully understanding their responsibilities and opportunities for action towards SD. As a result, their cultural assumptions and professional practices perpetuate the exploitation of people and the planet (Mula et al., 2017, p. 799).

According to Lu and Zhang (2013), not enough attention is being paid to the development of students' sustainability-related competencies in HEIs for three reasons. First, the main focus in HEIs has been on research excellence not sustainability principles (Mula et al., 2017, p. 804). Second, both educators and students are not accustomed to transformative teaching methods and feel comfortable with traditional approaches (Lu & Zhang, 2013; Thomas, 2020). Third, educators are not always comfortable with relinquishing their positions of power in the classroom to facilitate student-centred learning.

Brandt et al. (2019) urged HEIs to prioritize sustainability-related teacher training programs as the successful implementation of ESD is greatly dependant on the commitment and competencies of educators within the institution. The focus of ESD is on the transformation of pedagogical approaches and competencies as traditional pedagogical practices are not adequate to address the complexity of SD (Thomas, 2020). Zooming on pedagogical change, Mula et al. (2017) recommended that it occurs at three levels. The first level is within the classroom where new, transformative classroom practices should be implemented. The second level is grounded in the curriculum of teacher training programs, which should be redesigned. To that end, Thomas (2020, p. 896) advised educators to embrace and be a part of the change by taking responsibility in becoming the architects of the curriculum, instead of the distributors of the curriculum developed by others. The third level referred to the strategic planning of educational leaders, who should ensure that educational priorities of HEIs at all levels are geared towards sustainability (Mula et al., 2017).

Thomas (2020) made three recommendations that educators can consider when nurturing sustainability-related competencies. First, the author argued that classroom learning about sustainability is essential to develop ethics and a sense of responsibility amongst students. Second, learning cannot be limited to the classroom. In fact, outdoor learning experiences are as valuable and necessary to be

interlinked with methods to improve environmental, social and economic conditions of society. It is however important to note that the curriculum within education systems may not prioritize opportunities for learning to occur outdoors, thus educators should create opportunities for outdoor learning (Thomas, 2020). Outdoor learning creates a link between the classroom and the local environment in a multi-disciplinary manner. In short, exposing students to the outdoors increases the potential of HEIs to nurture sustainability-literate graduates (Thomas, 2020). Third, Thomas (2020) recommended that educators strive to develop a comparative perspective when teaching towards ESD. Exposing students to local and global environments promotes better understanding of their local environment and the role they play in the global ecosystem (Thomas, 2020).

### **Implementation of ESD in professional development courses**

Brandt et al. (2019) pointed out that strengthening SD in academic activities should be prioritized (through policy and practice) not only in teacher training programs, but also during employment, in the form of professional development. Effective professional development entails equipping educators with the ability to not only include sustainable elements into the existing system, but also to influence sustainability-related changes within the institution (Mula et al., 2017).

It is also important to note that professional development is time consuming and calls for resources. Mula et al. (2017) are of the belief that staff development should be continuous and promote sustainable thinking along with competencies that can catalyse change within the classroom and the institution. The abovementioned can be achieved by providing opportunities for mentoring, collaborating, and sharing pedagogical inquiry. It is essential for teacher training programs and professional development programs to train educators to incorporate transformative learning methods into their teaching (Mula et al., 2017). Lu and Zhang (2013) noted that learning can be described as transformative when it occurs holistically, explores multiple realities and their interconnections, enables critical thinking and actively involves students in the learning process. Similarly, transformative learning can occur by creating opportunities to learn from real-life environments with real-world problems (Brandt et al., 2019, p. 632), which should initially be grounded in the local environment of educators and subsequently be expanded to the global environment (Thomas, 2020).

### **The key towards sustainability: classroom practices**

Professional development courses should also address a concern expressed by Jodoin (2020) that teaching approaches with the potential to develop sustainability-related competencies are not being utilized in the classroom because it conflicts with traditional teaching approaches. Active learning, participatory learning and interdisciplinary thinking are competencies that educators should strive to develop within themselves and their students. Furthermore, Brodowski (2017) recommended that educators be trained to utilize two methods to nurture the abovementioned sustainability-related competencies within their classrooms. First, student-centred approaches should be utilized within each lesson infused with real life, sustainability-related critical thinking and problem solving. Second, it is imperative

for educators to possess knowledge about sustainability and have the capacity to transfer sustainability-related knowledge in a meaningful way.

## Conclusion

As evident in the reviewed literature, HEIs can respond to existing challenges by giving the precedence to nurturing sustainability-oriented citizens. Developing sustainability-related competencies of educators, educational leaders and students through professional development and teacher training courses holds high potential to (a) strengthen SD in academic activities and (b) effectively respond to current challenges.

HEIs should be proactive in implementing ESD and taking a lead role in contributing to SD thus realization of the SDGs. The institutions need to embrace their changing roles and their unique position to nurture sustainability literate graduates. HEIs also have a responsibility to ensure that the needs of the present and future are well understood by future leaders and professionals. This responsibility is delegated to HEIs because they are tasked with educating professionals who will take up leadership positions within society and ideally who will have the potential to incorporate sustainability into their organisations' operations (Novo-Corti et al., 2018, p. 820). In addition, the commitment of HEIs towards sustainability is expected to serve as an example to other citizens and institutions (Novo-Corti et al., 2018, p. 821). There is a consensus that in developing countries considerable progress is being made to strengthen SD in academic activities, however, for improved implementation, ESD needs to be better incorporated into the curricula and teaching practices. An obvious starting point would be to equip educators and prospective teachers with training on sustainability-related pedagogical knowledge and competencies. The strengthening of SD in academic activities will also require a holistic approach meaning that sustainability principles, knowledge, and actions are present in all academic activities and practices. Support from HEI leaders to accomplish these goals is imperative.

In terms of future research, academics could investigate ESD at their own institutions to identify the status and areas that require improvement. HEIs and other educational institutions could also be examined, through a comparative method, to identify and share best practices to strengthen SD in academic activities.

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