

Education for Sustainable Development and Role of Educational Institutes

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Abstract: Education is a crucial instrument that young people and future generations can utilise to address the social issues that the current generation has caused. Through problem-solving, education alters people's behaviour and consciousness, enabling them to pursue their own well-being as well as the sustainable well-being of the Earth and communities. Both Education for Sustainable Development (ESD) and Education for Sustainable Development Goals (ESDG) were formed, building on the Millennium Development Goals and SDGs. A more effective alternative to the ESDGs currently in vogue for universal education is one that emphasises non-anthropocentric ethics and, more practically, regrowth as two major measures for tackling unsustainability. One of the most important guiding concepts in education is sustainable development, which is a duty and a problem for higher education in particular. Higher Education for Sustainable Development (HESD) seeks to impart knowledge and foster competencies, values, and attitudes that enable and inspire students to actively contribute to sustainable development. Education must be linked to larger structural transformation processes taking place in each of these three areas of the economy, culture, and polity if it is to have a really transformative impact

1 INTRODUCTION

Classic development models are contrasted with sustainable development. Sustainable development is integrated into the 2030 Agenda (Sánchez-Carracedo, Moreno-Pino, Romero-Portillo, & Sureda, 2021). The SDGs and sustainable development are frequently seen in policy agendas as being transformed through education (Tikly, 2019). To advance sustainable living, democracy, and the welfare of people, education at all levels and in all fields must be fundamentally reoriented (Cebrián, Junyent, & Mulà, 2021). University and college business schools have responded with new pedagogical approaches as businesses and other organisations increasingly acknowledge society's need for better social and environmental sustainability (Hoveskog, Halila, Mattsson, Upward, & Karlsson, 2018). (Hoveskog et al., 2018) outlines and assesses a pedagogical approach to developing and innovating business models with the goal of enhancing students' understanding of sustainability, as well as their capacity to apply what they have learned to actual business modelling for growth. The addition of Education for Flourishing

to Education for Sustainable Development is beneficial. In the majority of business administration courses, (Hoveskog et al., 2018) advocate the use of this methodology to educate the issues and solutions relating to sustainability. Development education, education for sustainable development, and global citizenship education are all purposeful educational interventions that deal with global justice and sustainability challenges. The engineering field's most practical exercises, instruments, and skills that support SD in the curriculum and are a part of ESD (Acosta Castellanos, Queiruga-Dios, & Alvarez, 2021). ESD encourages a perspective on quality education that is more concerned with promoting lifelong learning and developing the skills, values, and competencies of learners to become agents of change rather than only emphasising quantitative learning outcomes and national standards. Active learning techniques that encourage group problem-solving, democratic dialogue, and experiential education are used in ESD. All students should have the information and skills necessary to promote sustainable development, according to the Sustainable Development Goals outlined by the United Nations. The importance of integrating education for sustainable development

(ESD) ideas into all educational levels is reflected in the 2030 Agenda for Sustainable Development. ESD is viewed as a crucial component of high-quality education, and all educational settings, from early childhood to higher education as well as informal and non-formal education, may and should support the growth of sustainability competencies (Cebrián et al., 2021). Understanding problems that need to be solved and essential steps among varied viewpoints can lead to social change, and ESD has been researched as a way to encourage such change.

2 WHAT IS EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)?

The United Nations published its 10-year "ESD for 2030" policy in 2019. The Sustainable Development Goals (SDGs) of the United Nations have been included into Education for Sustainable Development (ESD) at numerous schools all around the world. Education for Sustainable Development (ESD) has its origins in the history of two unique fields that have attracted the attention of many stakeholders, including the United Nations. These fields include education and sustainable development. The main goal of education for sustainable development is to provide students with the capacities and competencies to apply newly acquired knowledge, skills, and values towards addressing and overcoming issues in the actual world. ESD is not simply about incorporating SD knowledge into the curriculum's contents; it is also heavily focused on educational practise, or the E in ESD (Cebrián et al., 2021). Learning for change is the goal of education for sustainable development, which is geared towards whole system perspectives. This involves concentrating on interdisciplinary and cross-curricular teaching strategies and making more of an effort to connect classroom learning to real-world application. ESD must be viewed as an essential component of high-quality education, ingrained in the idea of lifelong learning: all educational settings, from early childhood to higher education, in formal, non-formal, and informal education, have the power and responsibility to promote the development of sustainability competencies (Cebrián et al., 2021).

Since they will be the teachers who train the future professionals, it is crucial to enhance the Education for Sustainable Development that university students receive (Sánchez-Carracedo et al., 2021).

ESD aims to promote skills that enable people to reflect on their own behaviour, taking into account the social, cultural, economic, and environmental effects of those activities from both a local and global viewpoint (Cebrián, Junyent, & Mulà, 2020). Researchers and decision-makers have long been interested in education for sustainable development (ESD) (Badea, Șerban-Oprescu, Dedu, & Piroșcă, 2020). Education for sustainable development (EfSD), which prepares the next generation to act as change agents, is required to address the "wicked problems" of sustainability (Bach Q. Ho, 2021).

The teaching of engineering must emphasise sustainability. Engineering students need to develop their ability to think strategically and comprehend the need to put their future professional endeavours in the context of sustainable solutions in order to create a better society (Sánchez-Carracedo & López, 2020). Engineering education for sustainable development (ESD) is crucial for the development of change agents and transformative leaders who can advance the laws, plans, and techniques that make it possible to create a more sustainable future (Sánchez-Carracedo & López, 2020). Engineering education for sustainable development (ESD) is crucial for preparing future engineers to act as agents of change and transformation and to advance the strategies, methods, and policies that make it possible to create a more sustainable future. All 17 Sustainable Development Goals (SDGs) outlined in the 2030 UN Framework for Sustainable Development must be accomplished through engineering (Sánchez-Carracedo & López, 2020). Multi-stakeholder solutions are necessary to address significant societal issues and advance sustainable development. Education for sustainable development (EfSD), which prepares the next generation to be change agents, is required to overcome the difficult issues of sustainability (Bach Q. Ho, 2021). ESD has the potential to be successful; yet, they also demonstrate that there isn't a single answer that can solve all problems and that educational practises must be tailored specifically to the audiences they are intended for. The goal of sustainable development (SD) is to integrate social and economic advancement with environmental protection. The report *Our Common Future*, often known as the 1987 Brundtland report, introduced the idea to the general public in the 1980s. Up until that point, environmental protection had been the main concern due to important environmental issues including pollution. It was emphasised with the SD notion that environmental issues should be addressed in relation to social and economic problems. The SDGs and afterwards the ESDGs, with their unreflective encouragement for growth, condone ongoing environmental plunder,

depriving millions of species of their right to flourish and impoverishing future generations (Kopnina, 2020). ESD must be all-encompassing, taking into account the intellectual, emotional, social, physical, and other facets of the human experience while fostering harmonious interactions between individuals and their surroundings. In comparison to the conventional learning environment, it places a significantly more emphasis on democratic learning, emotional wellbeing, and the development of relationships.

3 EDUCATIONAL INSTITUTES AND EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)

A significant number of the world's future leaders are influenced by universities. Business schools are starting to provide courses in business models and business model innovation that not only emphasise profit-normative aims but also emphasise social and environmental goals (Hoveskog et al., 2018). The primary goal of universities is to improve levels of SD and high-quality education by educating students and the future workforce in all areas of research and in innovative environmentally friendly technological ideas (Acosta Castellanos et al., 2021). The global sustainability agenda has a major influence on higher education for sustainable development (HEfSD). The sustainable development goals (SDGs) are actively being implemented in HEfSD policy, curriculum, and practise by many higher education institutions, which are charged with preparing the next generation of sustainability leaders with knowledge and essential skills. The potential for adaptive ability to be used as a shared learning target to deepen and functionalize the connections between high-quality education, education for sustainable development (ESD), and education for disaster risk reduction (DRR). In order to improve sustainable learning and improve pedagogical design, five pedagogical characteristics of learning for adaptable capability are introduced. Learning for adaptive capacity supports pedagogical design, strengthens learning processes for competency development, and may be in line with the main objectives for achieving high-quality education for sustainable development. This is done by implementing a well-developed curriculum, improving the standard of teaching practises, creating a secure and productive

learning environment, and encouraging cooperative and transformative learning.

Universities serve as the primary drivers of the SDGs since they encourage a shift in societal behaviour through technical and economic advancement while also being environmentally conscious (Acosta Castellanos et al., 2021). Academic standards are raised by incorporating ESD into the curricula (Acosta Castellanos et al., 2021). Several governmental and academic voices in the field of education for sustainable development have emphasised the significance of taking a holistic approach to the idea of sustainable development. To ensure progress in the development of values, skills, and behaviour connected with sustainability, it is important to promote relevant teaching methodologies and evaluation tools as well as the personal dimension of sustainability competencies in higher education (Cebrián et al., 2020). The promptness has so far been insufficient to modify institutional and cultural norms in the case of higher education, despite the fact that many international organisations and institutions show a visible commitment to promoting sustainable development (Badea et al., 2020). Through the eyes of critical theory and eco-pedagogy, (Kopnina, 2020a) challenges the Education for Sustainable Development Goals (ESDG). Internationally, education for sustainable development (ESD) is regarded as a crucial component of children's and young people's entire education (Samuelsson & Lindström, 2022).

4 ISSUES WITH EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)

The demand from critical pedagogy and eco-pedagogy to change education so that it is both critical and emancipated may provide far more than the SDGs' optimistic denial or the uncritical pursuit of economic development (Kopnina, 2020). Business students that are engaged in promoting environmental sustainability have developed some important concepts as a result of the crucial subject Politics, Business, and Environment (Kopnina, 2020). The assessed textbooks lack ESD alignment, and thus do not promote understanding of or engagement with the various SDGs' immediate contexts, as specified by UNESCO. To close the gaps in social sustainability that now exist in HEfSD, there has to be stronger connections between social and environmental issues. In order to implement a balanced vision in favour of the environment, technology, and economy within the field of engineering, it is required

to conduct more study and publish more literature on a national and global scale.

5 EDUCATION FOR SUSTAINABLE DEVELOPMENT AND ITS STRATEGIES

In order to support human life while preserving the environment, the economic realm is envisioned as a system of relationships, institutions, and processes concerned with the production, consumption, distribution, and circulation of products and services (Tikly, 2019). In order to expand their knowledge of sustainability challenges, students must be autonomous learners who draw upon their own experiences and social situations. This is required by ESD, which requires a learner-centered approach (Hogan & O'Flaherty, 2021). (Kopnina, 2020) offers new perspectives on how "ecological justice" might serve as the overarching principle that underpins both society and the economy. Important sustainable development topics and concepts must be systematically included into all formats and levels of teaching and learning as part of ESD. Climate change, food security, disaster risk reduction and management, biodiversity, poverty reduction, sustainably produced goods and services, water quality, health, extinction of plant and animal species, waste management, and resource efficiency are a few of these challenges. Education policy needs to be radically reoriented and linked to larger processes of economic, cultural, and political transformation in the interests of social and environmental justice if it is to play a transformational role in connection to sustainable development.

(Bach Quang Ho & Inoue, 2020) clarified the factors that encourage students' knowledge diffusion from the perspective of network externalities and concentrated on education for sustainable development (ESD) on a field trip. They came to the conclusion that ESD on a field trip can help solve social issues and achieve sustainable development by encouraging driving network externalities and expanding networks. Education aims to equip students with the action competence they need to engage with such important agents of change (Pauw et al., 2015). Field visits that introduce students to different stakeholders in the real world are effective, but since sustainable problems lack obvious solutions, cooperative

learning (CL), in which students share knowledge, is also helpful (Bach Q. Ho, 2021). In the real-world EfSD, teaching accurate, pertinent, and usable knowledge is crucial, and knowledge acquisition is primarily accomplished through implicit learning. Implicit learning lessons are challenging to create, though. Despite the fact that explicit learning does not directly advance information acquisition, implicit learning must be integrated with it. Since it results in knowledge gain, self-efficacy should be the targeted learning outcome. It's crucial to focus on knowledge acquisition through implicit learning and self-efficacy enhancement through explicit learning if you want to help students grow their civic engagement through real-world EfSD utilising Cooperative Learning (Bach Q. Ho, 2021).

ESD is distinguished by its focus on a democratic and participatory educational process with Designing teaching and learning in an interactive, learner-centered style that promotes exploratory, action-oriented, and transformative learning (Samuelsson & Lindström, 2022). An important result of ESD is action competence for sustainability. The findings of this study provide credence to the claim that ESD is an effective teaching strategy for helping students enhance their action competence for sustainability (Olsson, Gericke, & Boeve-de Pauw, 2022). The holistic aspect of ESD teaching can be improved over time through teacher professional development programmes, which will also help students develop their action competence for sustainability (Olsson et al., 2022). Regular school teachers can have an impact on students through their participation in a long-term ESD teacher professional development programme (Olsson et al., 2022). A more effective alternative to the currently popular ESG for universal education is one that emphasises non-anthropocentric ethics and, more practically, declines as two major measures for tackling unsustainability (Kopnina, 2020). Living in a society that is more sustainable has been highlighted by policymakers. Developing future citizens who are capable of acting to address Sustainable Development concerns is the goal of education for sustainable development. ESD encourages concrete, regionally pertinent, and culturally appropriate lifelong learning opportunities for everybody. It addresses content while taking into account context, local concerns, and global issues, accommodating the concept of sustainability's dynamic nature. In order to encourage students to continuously investigate, ESD must be achieved by effectively adjusting the instructional materials, methods, and tactics using information technology.

Active learning, teamwork, and perseverance are important facets of transformational education. Active

classrooms may call for group or team projects. When students leave the classroom, they will be working in a setting that typically calls for teamwork or a team leader. The idea of struggle is a crucial component of transformational teaching. Research on Education for Sustainable Development (ESD) has seen a significant increase in interest in recent years. In order to better comprehend the variety of ESD approaches and the issues they provide, a full re-evaluation of this discipline is necessary. In spite of the scientific agreement on climate change and global warming, and in defiance of the EU parliament's declaration on the climate crisis, many powerful politicians and financially sound businesses that sell non-renewables continue to deny the irreversible changes. Stakeholder awareness is a significant barrier to real-world implementation of the key issues on ESD.

6 CONCLUSION

Education is essential for ensuring that all students have the knowledge and abilities required to support sustainable development. By 2030, the Sustainable Development Goals (SDG) of the United Nations goals to protect the environment, eradicate poverty, and improve the opportunities for all people. A long-term ESD teacher professional development programme can benefit students by utilising the efforts of ordinary school teachers who participate in it. Therefore, ESD encourages skills like critical thinking, creating better future possibilities, and working together to reach decisions. It also calls for significant adjustments to the way that education is provided. There is a need to work strategically and simultaneously on a programme that helps people such as academics, non-academics, schools, teachers, institutions, and the government that consider various ways to incorporate environmental and sustainability concerns into practise at different levels, such as in the educational system through local, institutional, national, or international ESD professional training and learning. It suggests a variety of strategies to accomplish these goals, including utilizing domestic resources to improve livelihoods and reduce poverty, modernizing the agricultural sector while diversifying the economy by growing the service industry, and promoting industrialization based on science, technology, and innovation. In this regard, education is implied to have a significant role which has contradicting consequences.

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