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Editorial: Policies and practices for sustainability transformation in higher education institutions

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Editorial on the Research Topic

Policies and practices for sustainability transformation in higher education institutions

Education that supports sustainable development based on the UN Sustainable Development Goals (SDGs) is a necessity for Higher Education Institutions (HEIs). This research topic sought to provide an overview of Higher Education (HE) policies and educational practices that highlight how Education for Sustainable Development (ESD) and the SDGs can be integrated in HE, to assess their impact and consider future avenues. Among the contributions received, two literature reviews highlighted gaps and suggested ways to implement sustainability as an Whole-Institution-Approach. First is a bibliometric review on ESD by [Umar et al.](#) which highlighted a concentration of research from Europe and the United States, with limited representation from Asia. The majority of studies focus on curricula, campus operations, and educational practices, but few conceptualize HEIs as entities with measurable sustainability performance. Limited attention is given to leadership, change management and green human resource management. Additionally, much of the literature focuses on reported practices and intentions rather than evaluating outcomes or long-term impacts.

The second study by [Sanchez et al.](#) is a systematic literature review that was conducted to clarify the terms environmental literacy (EL) and sustainability literacy (SL) and their links with ESD and Environmental Education. The authors found that SL is a more complex concept compared to EL, encompassing social, environmental and economic dimensions, and that it is less well integrated into HE. In addition, SL is strongly associated with positive ESD outcomes, and the conclusions of this study suggest that it can be used as a framework for curriculum design, learning outcome selection and ESD impact evaluation.

Another group of contributions focused on the two-way link between values and higher education policies and practices. The study by [Wei and Chen](#) showed the effect of higher education policies on value systems such as policy goals, policy instruments and their effectiveness. Policy objectives in China were observed to be categorized based on ideology, education, research and technology, and culture. Proper education policies enhance ESD through the promotion of green and low-carbon education and prioritizing nature, while

integrating science and innovation. Through a goal-tool-effect qualitative approach, the concept of sustainable development among students and their value system based on creative thinking and problem solving for innovation and adaptation was investigated.

Sacher et al. investigated six HEIs in Pakistan and found that faculty members' environmental consciousness and biospheric values significantly influence pro-environmental attitudes. Social influence increases the link between biospheric values and pro-environmental attitudes. These findings have implications for policy and practice in HE in that HEIs should cultivate a culture of biospheric values and establish dedicated "green teams" to promote these values across the academic community. This will then enable academics to integrate these values into curriculum design and educational practice, influencing the formation of pro-environmental behaviors institution-wide.

Similarly, Bravo et al. explored the factors that influence environmental sustainability in a Peruvian HEI. Their Structural Equation Modelling revealed that a pro-environmental culture is the most significant driver of sustainability, while document management and service satisfaction play supporting roles. The study highlights the need for HEIs to foster environmental values, invest in digital infrastructure and commit to sustainability to lead in advancing the SDGs.

Two studies focused on the perceptions of educators and students of ESD integration in HE. Annelin and Boström emphasized educators' need for cross-disciplinary collaboration to address complex sustainability challenges. A student-centered, transdisciplinary approach is seen as essential for meaningful learning. The authors also highlighted the importance of values-based education and intrapersonal reflection that supports personal growth. They offered a sustainability competence support framework that can help HE educators integrate ESD into their teaching and help increase the impact of their educational programs.

The study by Abdullahi et al. sought to explore how ESD influences university students in Somalia for integration. Their questionnaire revealed that students had a positive perception of sustainable development and were aware of the effects of environmental challenges such as the loss of biodiversity and its impact on the planet. The study also reported the use of eco-friendly options for ethical consumption and businesses supporting environmental stewardship in Somalia.

Finally, three contributions reported on specific approaches for ESD implementation pedagogies and student behaviors related to air travel.

López-Santiago et al. explored the impact of Service-Learning Projects (SLPs) on engineering students' self-perceived development of soft skills relevant to sustainability. While causality cannot be confirmed, their results show significant positive associations between SLP participation and improvements in competencies such as creativity, confidence, and collaboration. Rooted in experiential learning theory, SLPs enable students to apply their academic knowledge to real-world environmental challenges in rural communities.

Similarly, Shen et al. examined the incorporation of biodiverse edible school practices into educational curricula at Universities in Taiwan and Malaysia. Their cross-institutional research highlights how experiential and place-based learning can promote student engagement with biodiversity, food systems, and sustainability. The study provides a scalable approach to embedding the SDGs into HE through interdisciplinary pedagogy and campus-based initiatives.

Prandner and Hasengruber investigated the climate awareness and travel behaviors of international students in Austria. Their analysis revealed that student attitudes are influenced by conflicting behaviors, self-assessed ability to act, and the prevailing institutional culture. The study highlights a significant policy gap; while universities actively promote internationalization, they often lack comprehensive strategies to address the environmental impacts of academic mobility. The authors propose systemic reforms, including the integration of climate literacy into international programs and the realignment of institutional strategic planning to support low-carbon travel.

The academic contributions to this Research Topic emphasize the importance of further aligning strategy, policy and practice in HEIs with sustainability frameworks and values that promote an Whole-Institution-Approach. Priority should be given to a pro-environmental culture, enabling academics and students to develop relevant competencies and pro-environmental attitudes through experiential and place-based approaches that take into account and address the environmental and climate impacts of complex behaviors.

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