Check for updates

Editorial: Education for sustainable development: How can changes in local practices help address global challenges

Irina Safitri Zen[1]*, Maria Barreiro-Gen[2], Bankole Awuzie[3] and Kim Ceulemans[4]

[1]Department of Urban and Regional Planning, Kulliyyah of Architecture and Environmental Design, International Islamic University Malaysia, Selayang, Malaysia, [2]Faculty of Engineering and Sustainable Development, University of Gävle, Gävle, Sweden, [3]Department of Built Environment, Faculty of Engineering, Built Environment and Information Technology, Central University of Technology, Bloemfontein, South Africa, [4]Department of Management Control, Accounting and Auditing, TBS Business School, Toulouse, France

Editorial on the Research Topic
Education for sustainable development: How can changes in local practices help address global challenges

Through both formal and informal channels, Education for Sustainable Development (ESD) helps participants develop the knowledge, skills, understanding, values, and actions required to create a sustainable world (Agbedahin, 2019). This entails environmental protection and conservation, the promotion of social equity, and the encouragement of economic sustainability. ESD emphasizes action-oriented practices that call for inter- and transdisciplinary collaboration between various academic disciplines and for co-creating solutions that better contribute to the Sustainable Development Goals (SDGs) (Holm et al., 2016; Ceulemans et al., 2022). Conceptual frameworks, models, tools, and platforms are needed to address such practices and solutions (Laasch et al., 2020). Recently, higher education institutions (HEIs) have made greater efforts to contribute to more sustainable societies (Blanco-Portela et al., 2017), a context in which collaboration with stakeholders such as civil society, governments, the private sector, non-governmental organizations, and the general public is paramount (Gray and Dewulf, 2021). This Research Topic presents, through seven articles, local transdisciplinary and transformational practices aimed at addressing global problems. The articles offer real-world innovative approaches to ESD (e.g., games, poetry, challenge framing) and elucidate how actors at different levels can use ESD mechanisms to better contribute to sustainability.

The first article of this Research Topic, by Molderez et al., presents poetry as an unconventional and innovative approach to teaching sustainability in a management education context. Students enrolled in a Corporate Social Responsibility course took

part in a research project with a strong focus on reflecting upon and working with their emotions in relation to sustainability. The findings show the important role that poetry or other forms of art may play in encouraging future managers to develop a frame of mind that incorporates a deeper engagement with (business) sustainability topics.

Continuing with the idea of inspiring students to change their mindsets, Roba et al.'s paper develops a serious game (EcoCEO) that integrates the circular economy concept within upper secondary education. The game's objective is to familiarize students with resource scarcity, circular product creation, sustainable entrepreneurship, and circular business structures, and to encourage them to reflect on the roles and responsibilities of a sustainable entrepreneur. The paper explains how game-based learning can help students make long-term strategic decisions in real-life business situations when confronted with sustainability challenges.

Using a systems thinking and challenge framing approach, McCrory et al.'s research highlights the importance of framing when solving complex sustainability challenges, so that solutions that fall short or even exacerbate problems can be avoided. This qualitative study explores how students experience a challenge-driven educational curriculum, highlighting the complex interactions between intention, enaction, and experience in educational design. By presenting and analyzing a transdisciplinary "Challenge Lab" curriculum, the authors identify dilemmas and opportunities that may emerge more generally in complex (sustainability) learning contexts.

The paper by Sinxadi et al. discusses the role of Fourth Industrial Revolution (4IR) technologies in increasing the performance of the circular economy (CE). The paper presents a case study of the South African University of Technology, identifying the main opportunities and challenges the university faces in accelerating CE through the use of 4IR technologies. It also proposes a dynamic capabilities-driven framework to improve the strategic management of efforts to make the university more sustainable.

Zen and Shibakawa address the whole-city approach of ESD promoted by the local government. Specifically, they describe an ESD project implemented in Okayama, Japan, and its impact, both locally as well as more broadly. The paper illustrates the interdisciplinary nature of transformations, particularly those centred on social education activities. It also indicates the importance of stakeholder interaction and involvement in achieving a more sustainable society through the lens of the quintuple helix model of social innovation.

Craps and Brugnach's article also highlights the importance of collaboration in ESD by focusing on how actors experience the emerging tensions between collaboration and power. A behavioral simulation exercise with experts and students inspired by a real case in the Southern Andes of Ecuador was used to increase individual and group reflection on local and global sustainability challenges. The authors found that the participants' involvement with real issues through experiential learning fostered the use of self-directed learning to tackle complex problems.

Gianni presents a review of the textbook *Foundations of Sustainable Business: Theory, Function, and Strategy* (2019), by Sanders and Wood. Gianni shows that the book adequately addresses the intricacies of teaching corporate sustainability from a transdisciplinary perspective, using, for instance, case studies, definitions, and digital media resources. She presents the strengths and potential improvements of the textbook in a balanced way and helps readers, particularly those interested in teaching sustainable business topics, assess why and how to use this material in the classroom.

The papers in this Research Topic can serve as transformative instruments for accelerating the transition to sustainable societies and can help overcome complex global challenges.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Agbedahin, A.V. (2019). Sustainable development, education for sustainable development, and the 2030 agenda for sustainable development: emergence, efficacy, eminence, and future. *Sustain. Dev.* 27, 669–680. doi: 10.1002/sd.1931

Blanco-Portela, N., Benayas, J., Pertierra, L. R. L. R., and Lozano, R. (2017). Towards the integration of sustainability in Higher Education Institutions: a review of drivers of and barriers to organisational change and comparison against those found of companies. *J. Clean. Prod.* 166, 563–578. doi: 10.1016/j.jclepro.2017.07.252

Ceulemans, K., Finstad-Milion, K., and Avetisyan, E. (2022). Facilitating collaboration for responsible management education: voluntary brokerage in the PRME network. *J. Appl. Behav. Sci.* 58, 646–681. doi: 10.1177/00218863221112109

Gray, B., and Dewulf, A. (2021). "Partnerships to save the planet? Motivations, types and impacts of sustainability partnerships," in *Research Handbook of Sustainability Agency*, eds S. Teerikangas, T. Onkila, K. Koistinen, and M. Mäkelä (Cheltenham: Edward Elgar Publishing Limited), 230–247.

Holm, T., Sammalisto, K., Caeiro, S., Rieckmann, M., Dlouhá, J., Wright, T., et al. (2016). Developing sustainability into a golden thread throughout all levels of education. *J. Clean. Prod.* 117, 1–3. doi: 10.1016/j.jclepro.2016.01.016

Laasch, O., Moosmayer, D., Antonacopoulou, E., and Schaltegger, S. (2020). Constellations of transdisciplinary practices: a map and research agenda for the responsible management learning field. *J. Bus. Ethics* 162, 735–757. doi: 10.1007/s10551-020-04440-5