

Guest editorial: Transformative education for sustainable futures: leadership, curriculum development and pedagogical approaches in higher education and the UN agenda 2030

International
Journal of
Sustainability in
Higher Education

1521

1. Introduction

From the agreement on the Millennium Development Goals (MDGs) in 2000 and the adoption of the 2030 Agenda for Sustainable Development in 2015, education plays a vital role in transforming society towards sustainable development (Avelar *et al.*, 2023). The UN Sustainable Development Goals (SDGs) call for the simultaneous pursuit of economic, environmental and social goals and educating society about them is necessary to develop the knowledge, values, mindsets and skills needed to address social challenges (Tomasella *et al.*, 2024). Transformative education for sustainability is increasingly becoming a key driver for the SDGs. The Sustainable Development Goal 4 (Quality Education) states specifically in SDG 4.7 that the global community should adopt Education for Sustainable Development (EfSD) by 2030. The SDG 4 serves as an enabler for all the other Goals (UNESCO, 2019).

The full utilisation of technical, organisational and pedagogical drivers in education facilitates, supports and reforms the transformation of instructional and pedagogical processes (Zhao *et al.*, 2002). It is believed that inclusive pedagogy must be reflected in higher education pedagogy so that students may relate what they learn in class to their varied experiences and realities. As the focal point of teaching and learning in the higher education sector, pedagogy entails analysing various pedagogical strategies and assisting teachers/educators in enhancing and innovating the art of teaching. Therefore, adopting multidisciplinary education as a novel strategy enables students to study and investigate courses or curricula from multiple fields. Participatory pedagogy is essential in higher education for developing graduates into active, engaged and empowered individuals (Opaluwah, 2016). It equips graduates with the knowledge, abilities and mindset needed for both academic achievement and future employment (Andersen and Ponti, 2014).

According to Wiek *et al.* (2011), critical competencies in sustainability include anticipatory, normative, strategic, systems-thinking and interpersonal abilities. The Quality Assurance Agency for Higher Education (QAA) and the Higher Education Academy (HEA) collaborated to produce practical guidance notes for higher education providers on how to improve students' knowledge, understanding and skills in sustainable development, given the significance of EfSD (QAA, 2014). It is believed that sustainability literacy education can play a significant role by fostering awareness and developing graduates with an attitude, skills and behaviours towards a sustainable future (Cotgrave and Kokkarinen, 2010). EfSD should develop knowledge and skills that embrace the social, environmental and economic aspects of sustainable development (Dyer and Selby, 2004; Lim, 2024). For example, Higher Education Institutions (HEIs) can be key contributors to society's progress towards gender equality (SDG 5) and can directly impact local communities, housing, transportation and infrastructure to support sustainable cities and communities (SDG 11) (Sanchez-Carrillo *et al.*, 2021). To achieve the SDGs, the global community should possess the capacity and



International Journal of
Sustainability in Higher Education
Vol. 27 No. 7, 2026
pp. 1521-1531
© Emerald Publishing Limited
1467-6370
DOI 10.1108/IJSHE-08-2026-992

capability to produce, adapt and apply sustainability knowledge to the global challenges. It is crucial that higher education institutions explore how to embed sustainability principles into their curricula (Leal Filho *et al.*, 2020). The SDGs framework allows Higher Educational Institutions to incorporate broad, holistic and flexible approaches into curriculum planning and design.

2. Literature review

2.1 Leadership for sustainable education

Effective leadership creates a community where empowerment, education and inspiration among students, staff and external stakeholders foster a shared sustainability vision (Yusup *et al.*, 2024; Singh, 2023; Leal Filho *et al.*, 2020). Participatory and transformational leadership appears repeatedly in the literature as the most effective leadership style for advancing EfSD (Sedkaoui *et al.*, 2026; Mogren *et al.*, 2024). Through these leadership styles, sustainable leadership supports long-term commitments to sustainable education (Sedkaoui *et al.*, 2026).

Sustainable leadership in higher education fosters inclusivity, systems thinking, long-term orientation and management of complexities (Hua *et al.*, 2025). Leadership in Higher Education Institutions (HEIs) supports sustainable education by integrating sustainability into curricula and the design of innovative pedagogical approaches, including experiential and interdisciplinary teaching (Sedkaoui *et al.*, 2026). Through the whole institution approach, effective leaders embed sustainability across all spheres of university activities (Latha *et al.*, 2025). The effects of leadership on sustainable education only actualise when the institutional context supports them; that is, when institutional policies, governance systems and resources do so. Against the backdrop of resource constraints, HEIs face priority conflicts in implementing sustainability initiatives due to budget constraints (Opoku *et al.*, 2024).

2.2 Curriculum development for transformative education

Sustainability integration into the university curriculum involves creating opportunities for students to develop sustainability competencies (Opoku *et al.*, 2024) through interdisciplinary, transdisciplinary and systems-thinking frameworks (Sedkaoui *et al.*, 2026). Curricula that are student-centred and co-designed by students create a sense of community, avenues for risk-taking and enjoyment, which have been shown to be very transformational for students (Ellison *et al.*, 2021; Van Schalkwyk *et al.*, 2019). Effective curriculum design factors in project-based and experiential learning should prioritise critical thinking, creativity, collaboration and communication among students (Lubis *et al.*, 2022; O'Grady, 2025). Transformative curricula prioritise the 4Cs, namely critical thinking, collaboration, creativity and communication competencies, through Science, Technology, Engineering, Arts and Mathematics (STEAM) approaches, which involve hands-on, inquiry-based projects (Widiana *et al.*, 2025). Curriculum de-encapsulation has also gained some traction as an effective way for transformative education. It enables interdisciplinary learning that connects academic learning with real-world social, political and cultural issues, creating pedagogies that are inclusive and socially responsive (Liberali, 2025).

2.3 Pedagogical approaches and UN agenda 2030

The creation of curricula and pedagogical approaches that integrate sustainability education has become an imperative for the attainment of the UN 2030 agenda (Opoku *et al.*, 2024). Pedagogies linked to the UN 2030 Agenda and the SDGs focus on active, interdisciplinary and value-based education rather than content-only teaching. Innovative pedagogies,

including experiential (project/problem-based learning), participatory and interdisciplinary approaches, have been found to be instrumental in driving the UN 2030 agenda (Fuertes-Camacho *et al.*, 2019; Alm *et al.*, 2021; Opaluwah, 2016; Sedkaoui *et al.*, 2026; Nguyen *et al.*, 2024). For instance, Fuertes-Camacho *et al.* (2019) and Singh-Pillay (2020) showed that project-based learning approaches improved students' and teachers' sustainability competencies and civic conscience. Interdisciplinary pedagogies also stimulate students' problem-solving skills in understanding and implementing the SDG goals (Alm *et al.*, 2021). Howlett *et al.* (2016) also argued for a substantive change in curricula and pedagogies towards an interdisciplinary approach, as it helps students engage in critical and reflective thinking.

3. The scope of this special issue

This special issue presents the first set of 18 accepted papers received in response to the call for papers. The call for papers received overwhelming interest from over 40 countries, resulting in well over 260 full paper submissions on the themes of leadership for sustainable education, curriculum development and pedagogical approaches in higher education. Table 1 presents a summary of the published papers featured in this special issue under the relevant themes:

- Theme 1: Leadership, Curriculum Development and Pedagogy.
- Theme 2: Leadership and Sustainability Competencies.
- Theme 3: Curriculum Development and Pedagogical Approaches.

3.1 Theme 1: leadership, curriculum development and pedagogical approaches in higher education

This cross-theme presents 6 papers covering the broad spectrum of leadership, curriculum development and pedagogical approaches in higher education. The first paper by Sedkaoui *et al.* (2026) is a systematic review of 50 studies (published between 1996 and 2025) that assess existing knowledge on leadership paradigms that foster sustainable development and identify innovative pedagogical approaches that incorporate sustainability into curricula. The paper offers a more nuanced model for understanding and overcoming the persistent gap between institutional sustainability goals and classroom reality. Similarly, Ncube *et al.* (2026) present a systematic literature review of publications from 2015 to 2025 that investigates the key enablers, barriers and quality implications of EfSD integration, aiming to clarify how these aspects interconnect to promote the SDGs. The findings from the study provide an evidence-based pathway for leaders, policymakers and educators in higher education institutions, offering effective recommendations for institutionalising EfSD and ensuring quality, effective sustainability education while preparing students to address global challenges.

Embedding sustainability in the higher education sector requires a practical, innovative implementation framework. The third paper by Ransome (2026) introduces the Sustainability Integration Framework (SIF), which categorises HEIs by their sustainability initiatives to provide a roadmap for advancing sustainability practices across all areas of the institution. The SIF provides a practical tool that enables HEIs to assess their current level of sustainability integration and to devise targeted initiatives to drive cultural change and support transformation. Strategically, higher education institutions must be resilient in pursuing sustainable education. Addison *et al.* (2026) present a case study exploring how a Caribbean higher education institution has demonstrated strategic resilience while advancing

Table 1. Summary of published papers in this first part of the special issue

#	Paper title	Author(s)	Theme
1	Leadership, curriculum and pedagogy for sustainability: a Systematic Review	Sedkaoui <i>et al.</i> (2026)	Leadership, curriculum development and pedagogy
2	Education for sustainable development in higher education: a Systematic Review of Leadership, Pedagogy and Curriculum Design	Ncube <i>et al.</i> (2026)	Leadership, curriculum development and pedagogy
3	The sustainability integration framework: a New Model for Embedding Sustainability in UK Universities	Ransome (2026)	Leadership, curriculum development and pedagogy
4	Strategic resilience for sustainability in a caribbean higher education institution: a Qualitative Case Study	Addison <i>et al.</i> (2026)	Leadership, curriculum development and pedagogy
5	Learning to lead green: How education shapes sustainable business futures?	Walia and Singh (2026)	Leadership, curriculum development and pedagogy
6	Green taxation and the SDGs: the Influence of Higher Education on Sustainability - A Systematic Review	Coutinho Santos <i>et al.</i> (2026)	Leadership, curriculum development and pedagogy
7	Sustainability competence mindser: Building capacity with students	Annelin (2026)	Leadership, curriculum development and pedagogy
8	Mapping ESD competencies in civil engineering: a Scoping Review	Ahmad Kamal and Che Ibrahim (2026)	Leadership and sustainability competencies
9	Building construction workforce sustainability competencies for promoting circular economy: Guidelines for higher education institutions	Baah <i>et al.</i> (2026)	Leadership and sustainability competencies
10	Efficacy of action competence training as a professional development strategy for equipping teachers with ESD readiness	Chu <i>et al.</i> (2026)	Leadership and sustainability competencies
11	Assessing Sustainability Competencies in Latin American MBA Programs: Alignment with SDGs 4 and 17	Vega Chica and Valle Lituma (2026)	Leadership and sustainability competencies
12	Towards transformative education: a Framework of Sustainability Competences for Latin American Higher Education	Martelletti <i>et al.</i> (2026)	Leadership and sustainability competencies
13	Exploring circular design competencies in undergraduate education: the Case of an Interdisciplinary Course and Industry Engagement	Bayraktaroglu and Soyulu (2026)	Leadership and sustainability competencies
14	Assessing curriculum alignment with SDGs in construction management courses through natural language processing	Sadick and Hasan (2026)	Curriculum development and pedagogical approaches
15	Design thinking as an approach to teaching sustainability in higher education: Fostering interdisciplinary dialogue and co-creation	Amundrud and Omland (2026)	Curriculum development and pedagogical approaches
16	Art academic quality evaluation based on core literacy: Tool development and level measurement for sustainability literacy	Yu <i>et al.</i> (2026)	Curriculum development and pedagogical approaches
17	The role of artificial intelligence in promoting sustainable development: the Views of University students in Ghana	Tabiri <i>et al.</i> (2026)	Curriculum development and pedagogical approaches
18	EDuBot: a Sustainable and Integrated AI-driven chatbot for advising in Higher Education	Mahfoud <i>et al.</i> (2026)	Curriculum development and pedagogical approaches

its sustainability agenda amid economic, health and technological disruptions. The study shows that leadership actions included rapid digital transformation, diversification of revenue streams and strategic collaborations at the national and regional levels. The paper provides practical guidance for academic leaders, planners and policymakers aiming to integrate resilience and sustainability into higher education governance and institutional transformation strategies.

The higher education sector has a critical role to play in advancing sustainability by preparing graduates with the sustainability knowledge and skills necessary to transform businesses. The fifth paper by [Walia and Singh \(2026\)](#) explores how sustainability education influences business students' career aspirations to adopt sustainable practices in their professional lives. The results of the study show that sustainability education significantly shapes business students' career aspirations by enhancing faculty expertise, student engagement and experiential learning opportunities. This study offers a unique perspective by linking sustainability education to business students' career aspirations towards sustainable practices, providing insights for academicians and policymakers to shape future-ready business professionals. The final paper under this cross-theme analyses the influence of environmental fiscal policies and the integration of green taxation in higher education towards achieving the SDGs ([Coutinho Santos et al., 2026](#)). The study shows that incorporating green taxation in higher education promotes pro-environmental behaviour.

3.2 *Them 2: leadership and sustainability competencies for sustainable futures*

The first of the seven papers under this theme, Leadership and Sustainability Competencies for Sustainable Futures, introduces the Sustainability Competence Mindset Map (SCMM), a formative questionnaire designed by [Annelin \(2026\)](#) to assess key sustainability competencies (KSCs). The impact of the study is the Sustainability Competence Mindset Map, which fosters staff development, peer learning and provides measurable data for institutional monitoring, policy development and accreditation aligned with global goals, such as SDG 4.7.

In the second paper by [Ahmad Kamal and Che Ibrahim \(2026\)](#), the study develops an EfSD competency framework tailored to civil engineering. It shows how eight competencies are embedded across five reinforcing elements of practice: curriculum, pedagogy, assessment, technology use and institutional support. The paper argues that EfSD competency in civil engineering requires an integrated blend of tacit and explicit knowledge, technical and interpersonal skills and practice-based experience. It contributes to the body of knowledge by developing a civil engineering-specific competency framework.

[Baah et al. \(2026\)](#) present a paper aimed at developing guidelines for HEIs to build construction workforce sustainability competencies that explicitly support the promotion of the circular economy (CE) principles. This study found that systems thinking, life-cycle assessment, whole-life carbon accounting, design for disassembly, stakeholder engagement and value engineering are the top six significant sustainability competencies required by the construction workforce to promote CE practices. Sustainability competence training is key to professional development, equipping teachers and students for EfSD. This study by [Chu et al. \(2026\)](#) designed an action-competency-based professional development programme to deliver EfSD and investigated teachers' perceptions of competency-based professional development for teaching education for the SDGs. This study claims to be the first to report teachers' opinions on the role of action competence readiness through professional development in teaching education for sustainability in higher education.

[Vega Chica and Valle Lituma \(2026\)](#) examine how Latin American business schools formally integrate sustainability competencies into their postgraduate business programmes.

The study's results indicate uneven and selective integration of sustainability competencies across institutions. Strategic, interpersonal and systems-thinking competencies are more consistently articulated within curricular documents, whereas anticipatory and normative competencies are less explicitly integrated. The study is impactful, offering a replicable documentary-based framework for assessing the curricular integration of sustainability competencies.

The sixth paper by [Martelletti et al. \(2026\)](#) aims to contribute to refining sustainability competence frameworks for university educators from a Latin American perspective. This research explores the competences deemed essential for educators involved in EfSD in Latin America, as identified by regional experts. The study defines five competence areas central to sustainability education, including: SDGs and sustainability challenges; educator identity and professional development; teaching and learning; inter- and trans-disciplinarity; and adaptability and relationship to the environment.

Finally, [Bayraktaroğlu and Soylu \(2026\)](#) discuss an experimental furniture design studio course that aims to integrate awareness of the circular economy, interdisciplinary student participation and multi-stakeholder analysis. The research findings suggest that students are comfortable proposing site-specific circular solutions for product design and material recycling. This paper contributes to the discourse on EfSD, offering insights for universities seeking to incorporate circular design, interdisciplinary collaboration and industry engagement into their curricula. The paper proposes an assessment model for circular design competencies.

3.3 Theme 3: curriculum development and pedagogical approaches for UN agenda 2030

EfSD is a catalyst for achieving the SDGs by aligning the educational curriculum with them and developing innovative pedagogical approaches.

Firstly, [Sadick and Hasan \(2026\)](#) investigate the extent to which undergraduate construction management curricula in Australian higher education align with the SDGs. The study develops a scalable methodology for curriculum analysis and establishes baseline measurements for sustainability integration, informing both theoretical understanding and practical curriculum development strategies across the higher education sector.

The second paper by [Amundrud and Omland \(2026\)](#) explores how design thinking (DT) can foster interdisciplinary dialogue and co-creation towards EfSD. This study examined the incorporation of DT into a sustainability-focused course at a Norwegian university, where students collaborated across disciplines and with external stakeholders regarding real-world challenges. This study contributes to sustainability education by demonstrating how DT can be used as a pedagogical approach to foster co-creation and support the development of key EfSD competencies. Grounded in the concept of core art competencies, [Yu et al. \(2026\)](#) address SDG 4 (quality education), SDG 12.8 (knowledge and awareness for sustainable development) and SDG 13.3 (climate change education). This study provides a curriculum-based, empirically validated assessment tool to support evidence-based improvement in school art education and to advance sustainable educational development aligned with SDG 4, SDG 12.8 and SDG 13.3.

[Tabiri et al. \(2026\)](#) investigate the role of artificial intelligence (AI) in fostering sustainable development in Ghana by assessing its applications in various industries and evaluating its influence on academic and economic development based on the views of selected university students in Ghana. The study revealed that challenges such as inadequate infrastructure, high costs of AI technologies, shortage of skilled professionals, ethical concerns, data privacy issues and resistance to change remain barriers to AI adoption. It also highlights the barriers that must be addressed to ensure successful AI adoption.

The final paper by [Mahfoud et al. \(2026\)](#) examines the transformative impact of EDuBot (“education” and “bot”), an AI-driven chatbot integrated into a collaboration and communication platform (CCP), by assessing its role in pedagogical support and curriculum advising. This study provides one of the first empirical evaluations of a Retrieval-Augmented Generation (RAG)-based academic advising chatbot embedded in an institutional CCP, linking information systems theory with operational validation and proxy-based sustainability assessment.

4. Conclusion and future direction

This special issue brings together both review and empirical research papers that address all aspects of EfSD, with an emphasis on exploring the interconnections between sustainability leadership, curriculum development and pedagogical approaches in higher education towards the attainment of the SDGs. Topics for this special include, but are not limited to, curriculum development and the SDGs, sustainable leadership in higher education, sustainability competencies and SDDs, higher education curriculum design, pedagogical approaches in higher education. The overwhelming interest in this special issue from the academic community clearly demonstrates the importance of higher education in contributing to the UN 2030 Sustainable Agenda. Future research should focus on in-depth studies exploring a transformative approach to sustainable education that goes beyond mere knowledge acquisition. The focus should be on pedagogical approaches that promote skills and knowledge in sustainability, systems thinking, ethical leadership and global citizenship. Future research should examine how curricula and teaching methods can effectively prepare learners with the knowledge, skills, values and behaviours required to tackle complex sustainability challenges.

Alex Opoku

*Research Institute of Sciences and Engineering, College of Engineering,
University of Sharjah, Sharjah, United Arab Emirates*

Chioma Okoro

*College of Business and Economics, University of Johannesburg,
Johannesburg, South Africa, and*

Yaning Qiao

*School of Mechanics and Civil Engineering,
China University of Mining and Technology, Xuzhou, China*

Acknowledgements

The Guest Editors wish to thank all the contributing authors and the anonymous reviewers for their time and hard work in making this special issue a reality.

References

- Addison, L., Samlal, K.C. and Mckenzie, G. (2026), “Strategic resilience for sustainability in a Caribbean higher education institution: a qualitative case study”, *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1625-1643, doi: [10.1108/IJSHE-08-2025-0977](https://doi.org/10.1108/IJSHE-08-2025-0977).

- Ahmad Kamal, N. and Che Ibrahim, C.K.I. (2026), "Mapping ESD competencies in civil engineering: a scoping review", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1739-1767, doi: [10.1108/IJSHE-08-2025-0976](https://doi.org/10.1108/IJSHE-08-2025-0976).
- Alm, K., Melén, M. and Aggestam-Pontoppidan, C. (2021), "Advancing SDG competencies in higher education: exploring an interdisciplinary pedagogical approach", *International Journal of Sustainability in Higher Education*, Vol. 22 No. 6, pp. 1450-1466, doi: [10.1108/ijshe-10-2020-0417](https://doi.org/10.1108/ijshe-10-2020-0417).
- Amundrud, A. and Omland, M. (2026), "Design thinking as an approach to teaching sustainability in higher education: fostering interdisciplinary dialogue and co-creation", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1873-1892, doi: [10.1108/IJSHE-07-2025-0751](https://doi.org/10.1108/IJSHE-07-2025-0751).
- Andersen, R. and Ponti, M. (2014), "Participatory pedagogy in an open educational course: Challenges and opportunities", *Distance Education*, Vol. 35 No. 2, pp. 234-249, doi: [10.1080/01587919.2014.917703](https://doi.org/10.1080/01587919.2014.917703).
- Annelin, A. (2026), "Sustainability competence mindset: building capacity with students", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1716-1738, doi: [10.1108/IJSHE-04-2025-0369](https://doi.org/10.1108/IJSHE-04-2025-0369).
- Avelar, A.B.A., da Silva Oliveira, K.D. and Farina, M.C. (2023), "The integration of the sustainable development goals into curricula, research and partnerships in higher education", *International Review of Education*, Vol. 69 No. 3, pp. 299-325, doi: [10.1007/s11159-023-10013-1](https://doi.org/10.1007/s11159-023-10013-1).
- Baah, B., Osei-Asibey, D., Ayarkwa, J., Sosu, J., Atanga, R.A., Ennin, A.A. and Ampomah, R. (2026), "Building construction workforce sustainability competencies for promoting circular economy: guidelines for higher education institutions", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1768-1787, doi: [10.1108/IJSHE-08-2025-1001](https://doi.org/10.1108/IJSHE-08-2025-1001).
- Bayraktaroğlu, S. and Soylu, Y. (2026), "Exploring circular design competencies in undergraduate education: the case of an interdisciplinary course and industry engagement", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1829-1845, doi: [10.1108/IJSHE-08-2025-0956](https://doi.org/10.1108/IJSHE-08-2025-0956).
- Chu, Y., Ironsi, C.S., Bensen Bostanci, H., Ironsi, S.S. and Yi, F. (2026), "Efficacy of action competence training as a professional development strategy for equipping teachers with ESD readiness", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1788-1808, doi: [10.1108/IJSHE-07-2025-0748](https://doi.org/10.1108/IJSHE-07-2025-0748).
- Cotgrave, A.J. and Kokkarinen, N. (2010), "Developing a model promoting sustainability literacy through construction curriculum design", *Structural Survey*, Vol. 28 No. 4, pp. 266-280.
- Coutinho Santos, S., Dinis, A.A., Pereira, L. and O'Sullivan, S. (2026), "Green taxation and the SDGs: the influence of higher education on sustainability – a systematic review", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1677-1691, doi: [10.1108/IJSHE-08-2025-1002](https://doi.org/10.1108/IJSHE-08-2025-1002).
- Dyer, A. and Selby, D. (2004), *Centre of Excellence for Teaching and Learning, Education for Sustainable Development*, Stage 2 Bid, University of Plymouth.
- Fuertes-Camacho, M., Graell-Martín, M., Fuentes-Loss, M. and Balaguer-Fàbregas, M.C. (2019), "Integrating sustainability into higher education curricula through the project method, a global learning strategy", *Sustainability*, Vol. 11 No. 3, p. 767, doi: [10.3390/su11030767](https://doi.org/10.3390/su11030767).
- Howlett, C., Ferreira, J. and Blomfield, J. (2016), "Teaching sustainable development in higher education: building critical, reflective thinkers through an interdisciplinary approach", *International Journal of Sustainability in Higher Education*, Vol. 17 No. 3, pp. 305-321, doi: [10.1108/ijshe-07-2014-0102](https://doi.org/10.1108/ijshe-07-2014-0102).
- Hua, H.H., Le, T.-T., Phuong, H. and Pham, T.-T. (2025), "Sustainable leadership in higher education: a case study exploring the emergent strategies of four Vietnamese leaders' strategies", *Cogent Social Sciences*, Vol. 11 No. 1, p. 2516076, doi: [10.1080/23311886.2025.2516076](https://doi.org/10.1080/23311886.2025.2516076).

- Latha, D.K.P., S, P., Yujie, Z., Tee, M., Nivethikha, R. and Kaur, M. (2025), "Leadership and governance In higher education: Steering institutions toward SDG alignment", *International Journal of Environmental Sciences*, doi: [10.64252/1nz4xw18](https://doi.org/10.64252/1nz4xw18).
- Leal Filho, W., Eustachio, J.H.P.P., Caldana, A.C.F., Will, M., Lange Salvia, A., Rampasso, I.S., Anholon, R., Platje, J. and Kovaleva, M. (2020), "Sustainability leadership in higher education institutions: an overview of challenges", *Sustainability*, Vol. 12 No. 9, p. 3761, doi: [10.3390/su12093761](https://doi.org/10.3390/su12093761).
- Liberali, F. (2025), "Transformative education through social activities and curriculum de-encapsulation", *Entretextos*, Vol. 25 No. 1, pp. 106-127, doi: [10.5433/1519-5392.2025v25n1p106-127](https://doi.org/10.5433/1519-5392.2025v25n1p106-127).
- Lim, M.A. (2024), "Internationalisation and the sustainable development goals (SDGs) in higher education: the promise of internationalism and the danger of positionalism", *Journal of Higher Education Policy And Leadership Studies*, Vol. 5 No. 2, pp. 22-34, doi: [10.61186/johepal.5.2.22](https://doi.org/10.61186/johepal.5.2.22).
- Lubis, M.A.S., Fatmawati, E., Pratiwi, E.Y.R., Sabtohadhi, J. and Damayanto, A. (2022), "Understanding curriculum transformation towards educational innovation in the era of All-Digital technology", *Nazhruna: Jurnal Pendidikan Islam*, doi: [10.31538/nzh.v5i2.2110](https://doi.org/10.31538/nzh.v5i2.2110).
- Mahfoud, H., Masmoudi, M., Talmani, O., El Bakkouri, Y. and El Abdari, Z. (2026), "EDuBot:: a sustainable and integrated AI-driven chatbot for advising in higher education", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1937-1958, doi: [10.1108/IJSHE-08-2025-1007](https://doi.org/10.1108/IJSHE-08-2025-1007).
- Martelletti, D.M., Álvarez-Vanegas, A., Zavalía, M. and Sabbatini, C.A. (2026), "Towards transformative education: a framework of sustainability competences for Latin American higher education", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1809-1828, doi: [10.1108/IJSHE-08-2025-0988](https://doi.org/10.1108/IJSHE-08-2025-0988).
- Mogren, A., Seiser, A.F., Gericke, N., Berglund, T. and Olsson, D. (2024), "Leadership actions that enable or constrain accommodation of education for sustainable development", *International Journal of Leadership in Education*, doi: [10.1080/13603124.2024.2418623](https://doi.org/10.1080/13603124.2024.2418623).
- Ncube, B., Yeboah, G. and Pandey, P. (2026), "Education for sustainable development in higher education: a systematic review of leadership, pedagogy and curriculum design", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1555-1586, doi: [10.1108/IJSHE-08-2025-0945](https://doi.org/10.1108/IJSHE-08-2025-0945).
- Nguyen, L., Cleveland, D., Nguyen, C.T.M. and Joyce, C. (2024), "Problem-based learning and the integration of sustainable development goals", *Journal of Work-Applied Management*, Vol. 16 No. 2, pp. 218-234, doi: [10.1108/jwam-12-2023-0142](https://doi.org/10.1108/jwam-12-2023-0142).
- O'Grady, M. (2025), "Transformative education for sustainable development: a faculty perspective", *Environment, Development and Sustainability*, Vol. 27 No. 9, pp. 20745-20761.
- Opaluwah, A.O. (2016), "Participatory development: a tool of pedagogy", *Exchanges: The Warwick Research Journal*, Vol. 4 No. 1, pp. 120-139, doi: [10.31273/eirj.v4i1.151](https://doi.org/10.31273/eirj.v4i1.151).
- Opoku, A., Ekung, S., Kugblenu, G. and Mushtaha, E.S. (2024), "Education for sustainable development, the built environment, and the sustainable development goals", in *The Elgar Companion to the Built Environment and the Sustainable Development Goals*, Edward Elgar Publishing, pp. 178-194.
- QAA (2014), *Education for Sustainable Development: Guidance for UK Higher Education Providers*, Quality Assurance Agency for Higher Education (QAA), Gloucester.
- Ransome, E. (2026), "The sustainability integration framework: a new model for embedding sustainability in UK universities", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1587-1624, doi: [10.1108/IJSHE-07-2025-0628](https://doi.org/10.1108/IJSHE-07-2025-0628).
- Sadick, A. and Hasan, A. (2026), "Assessing curriculum alignment with SDGs in construction management courses through natural language processing", *International Journal of*

- Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1846-1872, doi: [10.1108/IJSHE-08-2025-1006](https://doi.org/10.1108/IJSHE-08-2025-1006).
- Sanchez-Carrillo, J.C., Cadarso, M.A. and Tobarra, T.M. (2021), "Embracing higher education leadership in sustainability: a systematic review", *Journal of Cleaner Production*, Vol. 298, p. 126675, doi: [10.1016/j.jclepro.2021.126675](https://doi.org/10.1016/j.jclepro.2021.126675).
- Sedkaoui, S., Benaichouba, R. and Mohammed-Belkebir, K. (2026), "Leadership, curriculum and pedagogy for sustainability: a systematic review", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1532-1554, doi: [10.1108/IJSHE-08-2025-0838](https://doi.org/10.1108/IJSHE-08-2025-0838).
- Singh, B. (2023), "Role of educational leadership for sustainable development", *Education and Self Development*, doi: [10.26907/esd.18.4.04](https://doi.org/10.26907/esd.18.4.04).
- Singh-Pillay, A. (2020), "Pre-service technology teachers' experiences of project based learning as pedagogy for education for sustainable development", *Universal Journal of Educational Research*, Vol. 8 No. 5, pp. 1935-1943, doi: [10.13189/ujer.2020.080530](https://doi.org/10.13189/ujer.2020.080530).
- Tabiri, M.O., Gyabaah, O. and Brenya, B. (2026), "The role of artificial intelligence in promoting sustainable development: the views of university students in Ghana", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1916-1936, doi: [10.1108/IJSHE-05-2025-0416](https://doi.org/10.1108/IJSHE-05-2025-0416).
- Tomasella, B., Akbar, B., Lawson, A., Howarth, R. and Bedford, R. (2024), "Embedding the sustainable development goals into higher education institutions' marketing curriculum", *Journal of Marketing Education*, Vol. 46 No. 2, pp. 155-174, doi: [10.1177/02734753241231182](https://doi.org/10.1177/02734753241231182).
- Vega Chica, M.L. and Valle Lituma, L.A. (2026), "Assessing sustainability competencies in Latin American MBA programs: alignment with SDGs 4 and 17", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1692-1715, doi: [10.1108/IJSHE-08-2025-0957](https://doi.org/10.1108/IJSHE-08-2025-0957).
- UNESCO (2019), "Sustainable development and global citizenship – target 4.7", 8 November 2018, available at: <https://gem-report-2019.unesco.org/chapter/monitoring-progress-in-sdg-4/sustainable-development-and-global-citizenship-target-4-7/> (accessed 29 September 2024).
- Van Schalkwyk, S.V., Hafler, J., Brewer, T., Maley, M.A., Margolis, C., McNamee, L., Meyer, I., Peluso, M., Schmutz, A.M., Spak, J.M. and Davies, D. (2019), "Transformative learning as pedagogy for the health professions: a scoping review", *Medical Education*, Vol. 53 No. 6, pp. 547-558, doi: [10.1111/medu.13804](https://doi.org/10.1111/medu.13804).
- Walia, J.S. and Singh, G. (2026), "Learning to lead green: how education shapes sustainable business futures?", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1644-1676, doi: [10.1108/IJSHE-05-2025-0409](https://doi.org/10.1108/IJSHE-05-2025-0409).
- Wiek, A., Withycombe, L. and Redman, C.L. (2011), "Key competencies in sustainability: a reference framework for academic program development", *Sustainability Science*, Vol. 6 No. 2, pp. 203-218.
- Yu, J., Mei, H., Tang, S. and Li, J. (2026), "Art academic quality evaluation based on core literacy: tool development and level measurement for sustainability literacy", *International Journal of Sustainability in Higher Education*, Vol. 27 No. 7, pp. 1893-1915, doi: [10.1108/IJSHE-06-2025-0541](https://doi.org/10.1108/IJSHE-06-2025-0541).
- Yusup, M., Dirga, M. and Sholeh, R.H. (2024), "Leadership effectiveness: education for sustainable development", *Development: Studies in Educational Management and Leadership*, Vol. 3 No. 2, doi: [10.47766/development.v3i2.4845](https://doi.org/10.47766/development.v3i2.4845).
- Zhao, Y., Pugh, K.J., Sheldon, S.H. and Byers, J.L. (2002), "Conditions for classroom technology innovations", *Teachers College Record: The Voice of Scholarship in Education*, Vol. 104 No. 3, pp. 482-515, doi: [10.1111/1467-9620.00170](https://doi.org/10.1111/1467-9620.00170).

Further reading

- Bassachs, M., Cañabate, D., Serra, T. and Colomer, J. (2020), "Interdisciplinary cooperative educational approaches to foster knowledge and competences for sustainable development", *Sustainability*, Vol. 12 No. 20, p. 8624, doi: [10.3390/su12208624](https://doi.org/10.3390/su12208624).
- Edwin, E., Widiāna, I.W., Lasmawan, I.W. and Suharta, I.G.P. (2025), "Curriculum transformation towards future education", *Prima Magistra: Jurnal Ilmiah Kependidikan*, Vol. 6 No. 2, pp. 122-132.
- Ellison, D.W. and Sato, T. (2023), "Curriculum negotiation in an undergraduate fitness education course for transformative learning", *International Journal of Kinesiology in Higher Education*, Vol. 7 No. 1, pp. 61-75.