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# IN PURSUIT OF SUSTAINABILITY: TOWARDS SUSTAINABLE FUTURE THROUGH EDUCATION

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**ABSTRACT**

Higher Education Institutions increasingly include sustainable development concepts in their programs to teach their students about sustainability. This tendency is encouraged by the Sustainable Development Goals. Today's technological age implies concerns about sustainability including ethical decision-making and responsible behavior of organizations and leaders. Moreover, the Covid-19 pandemic impacted sustainable development and highlighted the need for a more sustainable future. Sustainability can positively change value culture, the environment, and improve the quality of life. Although incorporating sustainability into the curriculum creates challenges for universities, it can also offer opportunities for educational institutions. Universities have an important role to play in the transition towards sustainability. They must not only incorporate the concept into research and teaching but also implement it on campus. This review article provides a brief overview of sustainable development in higher education institutions and discusses how universities adopt and apply sustainability principles. It also explores how sustainability can be integrated into various disciplines and sheds light on students' and academics' attitudes toward Education for Sustainability.

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**Introduction.** Higher Education Institutions (HEIs) increasingly include sustainable development concepts in their programs to teach their students about sustainability. This tendency is encouraged by the United Nation's Sustainable Development Goals. Within the framework of the Decade of Education for Sustainable Development (2005-2014), The UN suggested that HEIs incorporate sustainability into teaching and research courses (Wals, 2014). Universities' attention has been directed to taking a leading role in the transformation towards sustainability, which encompasses not only teaching about the concept but also to participating in the policymaking and its accomplishment (Kohl et al. 2022). As a result, universities have been engaged in sustainable development actions (Kohl et al. 2022; Gigauri et al., 2021). However, the full potential of HEIs is yet to be achieved in this regard.

Evidently, sustainability can positively change value culture, the environment, and eradicate poverty (Farsari, 2021). Especially, this technological age, with robotics, machine thinking, and artificial intelligence, creates more ethical and moral concerns on how businesses ought to make responsible decisions, and hence, requires teaching responsibility and ethics (Gigauri, 2021; Ahmad, 2020; Burton et al., 2017; Burton et al., 2018).

Furthermore, the Covid-19 has impacted sustainable development and highlighted once again the need for more attention to the concept. The pandemic is viewed as a transformative point for businesses to

reevaluate values and for education systems to challenge both curricula and institutional strategies to become more focused on values (Farsari, 2021; Icheva & Vasilev, 2021; Ioannides & Gyimóthy, 2020; Gretzel et al., 2020; Higgins-Desbiolles et al., 2019). Many countries and companies announced zero carbon by 2050. The tendency toward green transition is growing. Green commitments are managed by sustainability managers through sustainability projects. Consequently, universities need to go hand in hand with this trend by offering study programs and courses in sustainability to prepare future leaders.

Although sustainability courses must include all three pillars - economic, social, and ecological, students mostly view sustainability concepts in terms of ecological issues. Thus, HEIs tend to integrate sustainability into a wide range of courses and disciplines. Obstacles to teaching sustainability-related subjects can include insufficient knowledge of sustainable development, lack of educational tools and strategies for teaching or for integrating the concept into course programs, and insufficient understanding of how to make sustainability concepts more comprehensible and practical.

In essence, since universities have an important role to play in the transition towards sustainability, they must not only incorporate the concept into research and teaching but also implement it on campus. Therefore, this article intends to briefly review sustainable development in higher education institutions and discuss how universities adopt and apply sustainability principles. It also explores how sustainability can be integrated into various disciplines and sheds light on students' and academics' attitudes toward Education for Sustainability. Finally, the paper concludes with some considerations.

**1. Sustainable Development in Higher Education Institutions.**

A bibliometric analysis of 1700 papers about sustainability in a university context published in 1987-2019 revealed the growing interest in the concept (Leal Filho et al., 2021a). In fact, universities represent a key driver for innovation and sustainable economic development (Vac & Fitiu, 2017). Sustainable development focuses on minimizing of negative effects on the economy, society, and environment derived from human activities (Batista, & de Francisco, 2018; Lozano, 2008; Hjorth, & Bagheri, 2006; Lozano, 2011).

Current economic systems do not prevent natural resources from depletion and do not stimulate economic development at the same time. Sustainability considers achieving economic, social, and ecological goals simultaneously. Sustainable Development as an important concept of the modern world is focusing on protecting natural resources and wildlife while improving the well-being of society (Sady et al., 2019). As a result, future generations will be able to satisfy their own needs. The World Commission on Environment and Development (WCED) of the United Nations i.e. Brundtland Commission's (1987) defined sustainable development as striving to meet the needs of the present generation without compromising the future generations to meet their own needs, and hence, to protect the environment (WCED, 1987). For this reason, the Triple Bottom Line approach should be adopted to integrate environmental, economic, and social domains (Elkington, 2004). Since every organization, including higher education institutions, is a part of societies as well as environmental systems (Pfeffer, 2017), they need to take into account the different requirements of stakeholders (Lozano, 2018; Ahmad, 2020). Education is a main resource for achieving equitable and fair society and protecting the environment (Schumacher, 1973).

Moreover, Agenda 21 (UNCED, 1992) offered strategies to move towards sustainability through education, awareness, and knowledge of all sectors of society Olaskoaga-Larrauri et al., 2021; Dyment et al., 2015). Since then the concept of Education for Sustainable Development (EDS) has become a significant part of universities. Although there are no strict guidelines for sustainable development for educational institutions, the transformation towards EDS is obviously more than merely integrating the concept into teaching or research (Olaskoaga-Larrauri et al., 2021; Sady et al., 2019).

The 2030 Agenda of the United Nations for Sustainable Development aims at realizing Sustainable Development Goals (UN, 2015) including ending poverty and inequality, as well as dealing with climate change. All 17 SDGs outline the role of education in a better future, on the one hand, and on the other hand, they can be achieved through quality education. SDG 4 is focused especially on education. The sustainable development goals have been implemented by governments, civil and business sectors, which created a demand for professionals trained in sustainability (Sánchez-Carracedo et al., 2021). Integrating SDGs into the curriculum can accelerate advancement in their achievement by developing relevant competencies and promoting social and economic transition (Sady et al., 2019; Tunji-Olayeni et al., 2020; Kohl et al., 2022).

Furthermore, the United Nations Decade of Education for Sustainable Development supported the development of educational programs focusing on sustainability. Based on the UN's Decade (2005–2014),

several countries such as the UK, Australia, Sweden, and New Zealand, elaborated national strategies focusing on Education for Sustainable Development (ESD), which has been portrayed in the curriculum and changed the landscape of higher education institutions (Dyment et al., 2015; Winter & Cotton, 2012).

In addition, Principles for Responsible Management Education (PRME) facilitates embedding of ethics, responsibility, and sustainability into higher education institutions (Stough et al., 2021; Figueiro & Raufflet, 2015). PRME member universities develop competencies in six areas (PRME, n.d.): (1) Social skills, (2) Personal skills (3) intercultural skills, (4) Business responsibility such as stakeholder management, sustainability, entrepreneurship, (5) Academic research, (6) Service, empathy, volunteering, ethics. Thus, this framework implies that education in sustainable development not only teaches about related theories but it is a holistic approach that takes into account the whole system (Sady et al., 2019; Edwards et al., 2020).

Accreditation agencies can also play a pivotal role in promoting sustainability in HEIs (Tunji-Olayeni et al., 2020; Cooper et al., 2014; Barth, 2013).

Recently, Times Higher Education presents world university rankings to assess university performance against the UN's SDGs (THE, 2022). Universities from the United Kingdom, Australia, Canada, Denmark, Ireland, New Zeeland, and the United States are among the top universities in 2021 contributing to the SDGs (Figure 1). All universities are striving to contribute to the achievement of Sustainable Goal 17.

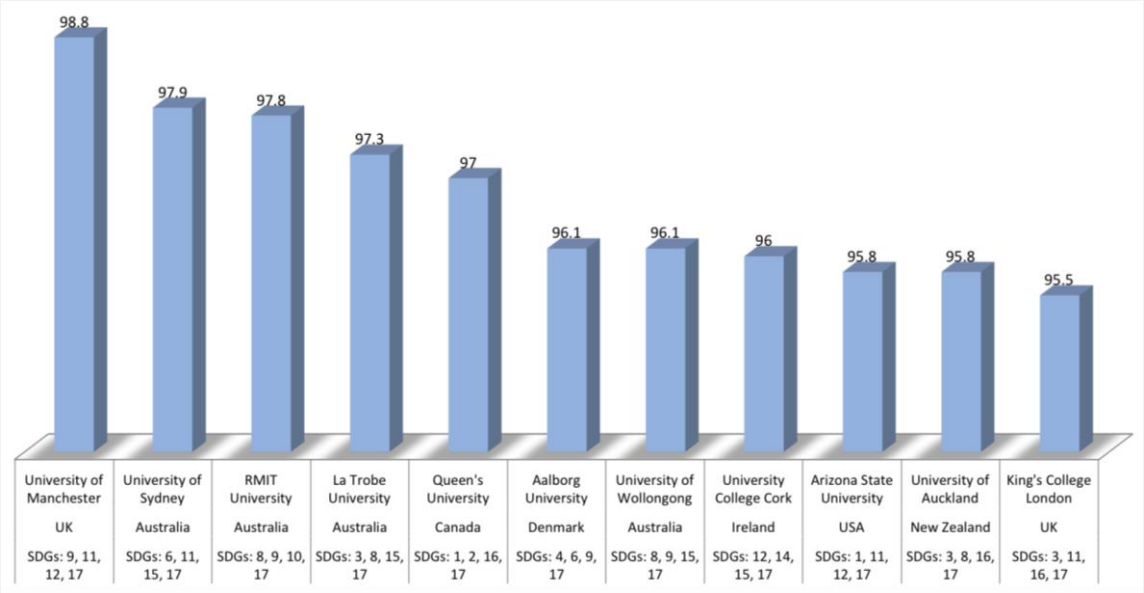


*Fig. 1. University Impact Ranking, 2021. Source: Own elaboration from THE, 2022, https://www.timeshighereducation.com/rankings/impact/2021/overall#!/page/0/length/25/sort_by/scores_overall/sort_order/asc/cols/undefined*

Sustainable Goal 1 focuses on poverty elimination and Goal 2 aims at ending hunger. Sustainable Goal 3 promotes well-being and good health for all, while Goal 4 ensures quality and inclusive education. Goal 6 encompasses sustainable management of water and sanitation, and Goal 8 centers on decent work and sustainable economic growth. Goal 9 includes sustainable infrastructure and innovation to promote inclusive and sustainable industrialization, while Goal 10 aims at reducing income inequalities. The purpose of Goal 11 is Sustainable cities and communities, and Goal 12 considers responsible consumption. Goal 14 aims at sustainable use of oceans and life below water, while Goal 15 addresses ecosystem protection and biodiversity. Goal 16 promotes peace, justice and inclusive societies for sustainable development, and 17 means partnerships for sustainable development (THE, 2022; United Nations, n.d.).

Since HIEs are supposed to contribute to building a sustainable future, they, therefore, should adopt and implement SDGs in both academic areas and throughout the institutional strategy.

**2. HEIs Moving Towards Sustainability.**

HEIs are expected to integrate sustainability-related dimensions into education and research, as well as campus operations and community engagement (Ceulemans, et al., 2015). They have been

called for going beyond teaching about sustainability by carrying out research projects aimed at informing policymakers (ULSF, 1990), modeling sustainable approaches (Galang, 2010), and by influencing decision-makers (Kohl et al. 2022). Consequently, Higher Education networks were established and many regional and global declarations were signed, which defined the role of HEIs in facilitating sustainable development (Kohl et al. 2022).

Currently, HEIs mainly provide training about sustainable development or conduct studies to present scientific evidence (Kohl et al. 2022) regarding sustainable development issues. Universities develop present and future leaders who can support society's sustainable transformation (Mulder, 2010) but they also have an opportunity to transform their organizations by embracing a "whole-institution approach" (Rieckmann, 2018).

Universities have the ability to increase the awareness, skills, knowledge, responsibility, and values of graduates (Cortese, 2003), who will make decisions and become leaders in the dynamic and challenging world, and this is possible through education and research (Lozano, 2018).

Since sustainability is not considered as a core business of HEIs, many universities consider it challenging to integrate it into curriculum while taking into account students' professional perspectives (Ramakrishna, 2021). Furthermore, students may have concerns that there are not many employment opportunities for them (Ramakrishna, 2021). Yet sustainability challenges require trained graduates and educated human capital, which creates a demand for sustainability literacy (Ramakrishna, 2021; Vasilev, 2021). Prior literature shows that contribution to sustainable development in organizations encourages responsible leadership, enhances employee well-being, and increases job satisfaction (Gigauri & Mushkudiani, 2021; Sady et al., 2019; Kudłak & Low, 2015). Sustainability-focused curriculum can enable the shift towards healthier society, economy, and ecology. It is noteworthy that there are vague data about the demand of business companies for value-oriented or sustainability-focused graduates (Olaskoaga-Larrauri et al., 2021).

Recent studies stressed geographical differences regarding the involvement of HEIs in sustainable development. For example, evidence from the United States and European countries is depicted in the international literature, while there are few studies on sustainability in universities from other regions such as Asia or Africa (Leal Filho et al., 2021a). Universities are diverse in terms of resources and geographical locations preventing them for fully incorporating SDGs into their educational programs and strategic approaches. Current studies found that citizens' awareness of sustainability influences the engagement of universities in sustainability practices (Leal Filho et al., 2021b). Under such circumstances, the implementation of Education for Sustainable Development (EDS) varies from country to country and the models that universities may use in this regard must be adjusted to educational systems considering funding structures for higher education (Leal Filho et al., 2021b).

In this context, instructors may inefficiently encourage sustainability at universities or do not include values in teaching (Olaskoaga-Larrauri et al., 2021). Professional development of instructors, curriculum enhancement, and practical activities require financial resources to teach sustainability (Michel, 2020a).

Not only public but private universities are also engaged in sustainability practices, though their dependence on students' payment makes them sensitive to changes in markets (Leal Filho et al., 2021b). Therefore, they try to respond to up-to-date economic and social demands. According to the research, private universities address environmental issues by improving energy efficiency, promoting sustainable water usage and green purchasing, reducing emissions and consumption (Leal Filho et al., 2021b).

Thus, universities tend to move towards sustainability practices as well as embedding SDGs into curricula.

**3. Sustainability Integrated in a Wide Range of Disciplines.**

Research findings elucidate the importance of HEIs to offer sustainability sources "in a wide range of disciplines and departments" (Coleman, & Gould, 2019). Sustainability as a broad idea covers various disciplines and requires expertise in interdisciplinary fields (Ramakrishna, 2021). Therefore, incorporating sustainability into HEIs curriculum and university system requires a strategic approach. Prior studies indicated that HEIs include sustainability concepts in various courses, whereas more courses are offered by natural and physical science departments, followed by social sciences, humanities, health sciences, business, engineering, and teacher education (McIntosh et al., 2008). However, professors of engineering and mathematics incorporate sustainability in their curricula more often (Olaskoaga-Larrauri et al., 2021). These findings resonate with previous studies that most sustainability

courses include social, ecological, and economic pillars integrated across disciplines (Coleman, & Gould, 2019). In addition, researchers emphasize the need for including sustainability in tourism education (Seraphin et al., 2021; Dredge et al., 2012) as well as in construction programs teach students how to deal with social, economic, and ecological problems (Tunji-Olayeni et al., 2020).

Coleman and Gould (2019) found eight options for how the sustainability concept is presented in course proposals (Figure 2). The courses can be focused on Ecological Sustainability, Economic Sustainability, Social Sustainability, Ecological and Economic Sustainability, Ecological and Social Sustainability, Economic and Social Sustainability, Ecological, Economic, and Social Sustainability, or without a clear focus (Coleman & Gould, 2019).

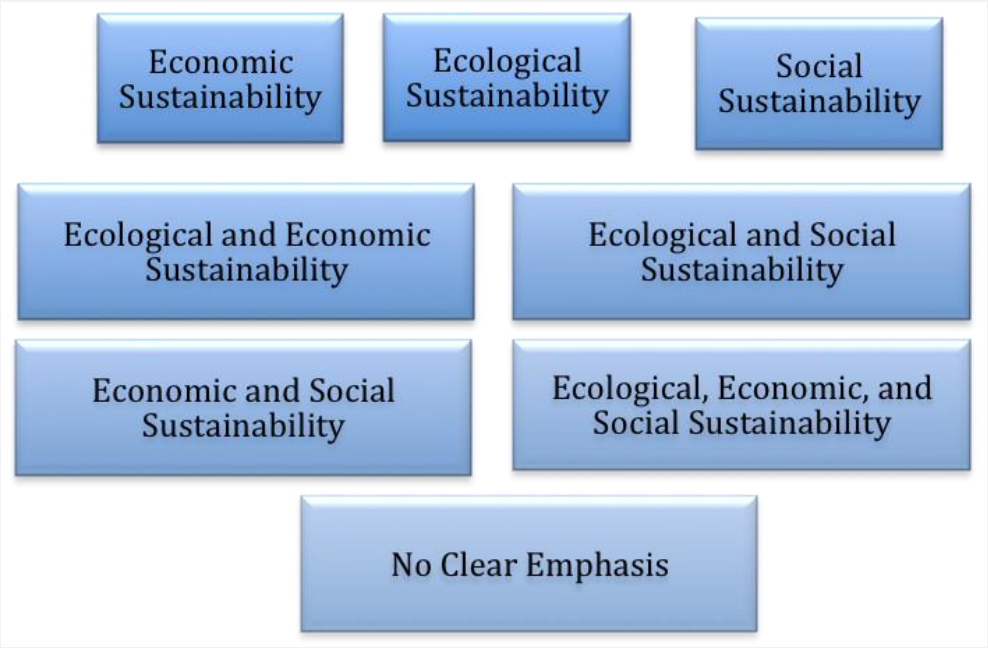


*Fig. 2. Sustainability integrated into educational programs*
*Source: Own elaboration based on Coleman and Gould, 2019.*

Thus, emphasis can be placed on either one or two pillars of sustainability or all three dimensions. It is also possible to deliver a sustainability course without a clear emphasis.

The literature maintains that economic sustainability is portrayed in the different courses such as international trade, finances, production and the content explained social and ecological sustainability (Coleman & Gould, 2019). The study of the Education Degree programs in Spanish universities indicated that sustainability is included in teacher's education, which confirms the significance of sustainable development and the culture of sustainability in universities (Sánchez-Carracedo et al., 2021). However, sustainability is not fully integrated into degree programs but is rather superficial, and hence, it requires more commitment from universities to concentrate on solving social and environmental problems, which can improve the quality of life and well-being of society (Sánchez-Carracedo et al., 2021; Tunji-Olayeni et al., 2020).

Given the complexity of the subject, sustainability education must apply an integrative approach encompassing various disciplines such as social, economic, and natural sciences (Dieleman & Huisingh, 2006). Sustainability learning and teaching can encourage interdisciplinary and cross-curricular initiatives in social, economic, cultural, or political dimensions (Dyment et al., 2015).

Not only study programs but extracurricular activities also train graduates in responsible behavior. The study of Polish universities outlined the importance of non-formal curricular activities for focusing attention on sustainable development and sustainability competencies of students (Sady et al., 2019). Polish universities are engaged in corporate social responsibility (CSR) activities beyond offering study programs in CSR and sustainable development, and thereby, students have the opportunity to engage in extracurricular activities related to CSR such as donations, charity, environmental and social issues, health and safety concerns (Sady et al., 2019). Consequently, non-formal education can shape the sustainability competencies of graduates and educate socially responsible citizens with the awareness of sustainable development (Sady et al., 2019).

Ethics and CSR are noticeably essential for business education to prepare future ethical decision-makers (Ahmad, 2020; Mushkudiani et al., 2020). Businesses need to take into account ethical, moral, and legal concerns (Burton et al., 2017; Burton et al., 2018; Duarte, 2008) in their operations and production process. Society expects responsible behavior of private companies (Larran et al., 2018) to respect environmental and sustainable aspects. In this respect, scholars suggest to including practice in teaching such as group tasks and internships (Hanson & Moore, 2013). Instructors need to choose an appropriate teaching method for their students ranging from case studies to ethical dilemmas or scenarios (Jonson et al., 2015).

Business education tries to integrate ethics, responsibility, and sustainability (ERS) into the curriculum partly due to the increasing pressure for accreditations, rankings, and as the impact assessment criteria (Stough et al., 2021). Therefore, business schools strive to embed sustainability in educational programs to provide conditions for learning about urgent issues the world is facing and train graduates' capabilities to solve the social, ecological, and economic problems (Edwards et al., 2020). Moreover, business schools can enable academics to prioritize sustainability including social and ecological issues in research and curriculum development (Ralph & Stubbs, 2014).

Academic entrepreneurship including establishing companies on the basis of academic research (Qian et al., 2018; Philpott et al., 2011; Perkmann & Walsh, 2007) is another way for students to practice sustainability in business activities. Universities can contribute to society through entrepreneurial activities (Pavlin et al., 2016) in which sustainability is incorporated. In this regard, formal and informal networking helps use opportunities and tackle challenges with available resources (Padilla-Meléndez et al., 2020).

Thus, the sustainability curriculum could be developed through multidisciplinary, interdisciplinary, or transdisciplinary approaches (Edwards et al., 2020).

**4. Students' and Professors' Attitude towards Education for Sustainability.**

The research focusing on studying the opinions of academics about the sustainable practice at public and private universities demonstrated the difficulty of incorporating sustainability into all classes, especially, while there already are plenty of subjects in curriculum (Palomo-Lovinski et al., 2019). In addition, there is a need to develop a conceptual approach for pedagogy for sustainability, as it is a complex subject due to its interdependence of ecological, economic, and socio-cultural aspects in the current dynamic world (Farsari, 2021; Shonia et al., 2022).

The study results of academic staff at Spanish public and private universities revealed that professors' attitudes toward sustainability support the concept to be integrated into the university's curriculum (Olaskoaga-Larrauri et al., 2021). The surveyed academics have knowledge about sustainable development and express their willingness to communicate those values to students (Olaskoaga-Larrauri et al., 2021). These findings rejected the opinion that lecturers are not willing to introduce values in university programs (Christie et al., 2015) because such changes require more work and academics are already overburdened with their teaching, researching, and administrative duties (Ramakrishna, 2021).

Learning about sustainability is insufficient and hence, sustainability literacy must take into consideration students' attitudes and dispositions (Winter & Cotton, 2012). Scholars accentuate the need to involve all students in sustainability courses in order to raise awareness among student groups despite their background and to avoid the associative coupling of sustainability only with ecological concepts (Coleman & Gould, 2019). The previous research confirmed that students worried about environmental and social problems (Ahmad, 2020). This finding echoes with survey results of construction students in a Nigerian university that although they are less informed about the concept of sustainability, they still are interested in it and consider sustainable construction along with renewable energy sources and waste reduction as significant (Tunji-Olayeni et al., 2020).

Education also enables personality development of students through additional activities related to sustainable development, including flexibility, openness, problem-solving, communication, and teamwork skills (Sady et al., 2019). The "hidden campus curriculum" meaning the implicit signals of universities about sustainability values can impact students' sustainable learning and behavior (Winter & Cotton, 2012). The hidden curriculum can develop students' awareness of sustainability, their understanding of challenges and opportunities in this regard, and can change their unsustainable behavior (Winter & Cotton, 2012). Thus, informal learning, extra-curricular activities, and the hidden curriculum of the campus environment are significant drivers of students' perception of sustainability, which enhances structured educational programs and improves students' engagement in sustainability activities in conjunction with formal education for sustainable development (Winter & Cotton, 2012).

The survey shows that every second student in Polish universities is involved in sustainability activities as a part of non-formal education (Sady et al., 2019).

Instructors' attitudes towards sustainability influence students' understanding of the concept as well as of the world to be open to alternative viewpoints. Academics at universities guide students in mastering a subject matter and new concepts (Neumann, 2014) and motivate their creativity. Universities, while applying various tools and methods, empower students to connect their ideas and knowledge with sustainable development challenges (Sady et al., 2019). The knowledge and beliefs of students influence the absorption of information provided in the classrooms as sustainability is politicized and requires "changing views" (Michel, 2020a; Winter & Cotton, 2012). Accordingly, acquired knowledge can lead to sustainable behavior.

Furthermore, it is challenging to teach sustainability to students with success due to the complexity of the subject matter and due to its interdisciplinary characteristic (Michel, 2020a; Michel, 2020b; Buckley & Michel, 2020; Sherman & Burns, 2015). Students need to learn how to deal with sustainability-related problems in the future such as climate crisis, ecological degradation, resource depletion, income inequality, social, and economic problems (Sterling, 2013). Students need to combine knowledge and deal with complex issues under the conditions of limited information, to adapt to uncertainties and solve future problems (Farsari, 2021). Sustainable education involves teaching students how they can interact with the social and ecological systems (Hansmann, 2010). They should be able to take responsibility and consider social and ethical issues (Farsari, 2021).

In a nutshell, students' perspectives, as well as instructors' attitudes, are important in teaching and learning sustainability. Moreover, universities can serve as role models for society in the transition towards sustainable development. The organizational behavior of HEIs is a crucial factor for students' experience as they can learn sustainability-related issues through the campus as well.

**Conclusions.** This paper outlined the tendency of sustainable development in higher education institutions and explored the implementation of sustainability principles by universities. This review article looked into the directions of integrating sustainability into a wide range of disciplines and discussed world university rankings and assessments in terms of achieved sustainability results by HEIs. Impact rankings facilitate encouraging universities to engage in Sustainable Development Goals and promote sustainability in HEIs.

Adequate resources, programs, and infrastructure are needed to implement SDGs at the HEIs. Likewise, interdisciplinary and transdisciplinary programs in the sustainability domain should be elaborated. In addition, sustainability must be introduced into academic and organizational culture.

Universities have the ability to transform education towards sustainable development through innovative teaching and educational methods. Professional development in the teaching tools will provide academics with the necessary guidelines to teach sustainability subjects effectively. Students can become change agents and contribute to sustainable development. Consequently, they need to be informed about the relationship between economic and environmental goals. Therefore, education for sustainability enables universities to educate citizens aware of current challenges the world is facing and be knowledgeable about needed solutions. Future leaders need to see a whole picture of the world, and hence, university programs must train them in a holistic view. A whole-institutional strategic approach should be adopted to raise awareness among university leadership and various stakeholders for a better realization of sustainable goals.

Formal and non-formal education enables students to develop sustainability competencies. Therefore, universities, besides the formal study programs, need to engage themselves in sustainable development activities, arrange workshops and practical projects in cooperation with private, public, and civil sectors, in order to offer students an experience in solving real-life problems.

The sustainability concept can address almost all concerns of society, and hence it is interdisciplinary and must not be seen only from an environmental point of view. Rather we should adopt and communicate it with a broader framework.

Scholars suggest future studies to be conducted on the development of competencies of HEIs in order to address sustainability successfully (Leal Filho et al., 2021a). In addition, prospective research will explore sustainability in HEIs from the perspective of organizational culture and institutional theory.

## REFERENCES


1. Ahmad, T. (2020). Students reflect on the role of ethics in business management", World Journal of Entrepreneurship, Management and Sustainable Development, 16 (2), 71-79. Retrieved from https://doi.org/10.1108/WJEMSD-05-2020-112.
2. Barth, M. (2013). Many roads lead to sustainability: A process-oriented analysis of change in higher education. International Journal of Sustainability in Higher Education, 14(2), 160-175. Retrieved from https://doi.org/10.1108/14676371311312879.
3. Batista, A., & Francisco, A. (2018). Organizational Sustainability Practices: A Study of the Firms Listed by the Corporate Sustainability Index. Sustainability, 10(1), 226. Retrieved from https://doi.org/10.3390/su10010226.
4. Buckley, J. B., & Michel, J. O. (2020). An Examination of Higher Education Institutional Level Learning Outcomes Related to Sustainability. Innovative Higher Education, 45(3), 201-217. Retrieved from https://doi.org/10.1007/s10755-019-09493-7.
5. Burton, E., Goldsmith, J., & Mattei, N. (2018). How to teach computer ethics through science fiction. Communications of the ACM, 61(8), 54-64. Retrieved from https://doi.org/10.1145/3154485.
6. Burton, E., Goldsmith, J., Koenig, S., Kuipers, B., Mattei, N., & Walsh, T. (2017). Ethical Considerations in Artificial Intelligence Courses. AI Magazine, 38(2), 22-34. Retrieved from https://doi.org/10.1609/aimag.v38i2.2731.
7. Ceulemans, K., Molderez, I., & Van Liedekerke, L. (2015). Sustainability reporting in higher education: A comprehensive review of the recent literature and paths for further research. Journal of Cleaner Production, 106, 127-143. Retrieved from https://doi.org/10.1016/j.jclepro.2014.09.052.
8. Christie, B.A., Miller, K.K., Cooke, R., & White, J.G. (2015). Environmental sustainability in higher education: What do academics think? Environmental Education Research, 21(5), 655–686. Retrieved from https://doi.org/10.1080/13504622.2013.879697.
9. Coleman, K., & Gould, R. (2019). Exploring just sustainability across the disciplines at one university. The Journal of Environmental Education, 50(3), 223-237. Retrieved from https://doi.org/10.1080/00958964.2019.1582471.
10. Cooper, S., Parkes, C., & Blewitt, J. (2014). Can accreditation help a leopard change its spots? Accounting, Auditing & Accountability Journal, 27(2), 234-258. Retrieved from https://doi.org/10.1108/aaaj-07-2012-01062.
11. Cortese, A.D. (2003). The critical role of higher education in creating a sustainable future. Planning for Higher Education. 31(3), 15–22. Retrieved from https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.739.3611&rep=rep1&type=pdf.
12. Dieleman, H., & Huisingh, D. (2006). Games by which to learn and teach about sustainable development: Exploring the relevance of games and experiential learning for sustainability. Journal of Cleaner Production, 14(9), 837-847. Retrieved from https://doi.org/10.1016/j.jclepro.2005.11.031.
13. Dredge, D., Benckendor, P., Day, M., Gross, M. J., Walo, M., Weeks, P., & Whitelaw, P. (2012). The philosophic practitioner and the curriculum space. Annals of Tourism Research, 39(4), 2154–2176. Retrieved from https://doi.org/10.1016/j.annals.2012.07.017.
14. Duarte, F. (2008). "What we learn today is how we behave tomorrow": a study on students. Social Responsibility Journal, 4(1), 120-128. Retrieved from https://doi.org/10.1108/17471110810856884.
15. Dyment, J. E., Hill, A., & Emery, S. (2015). Sustainability as a cross-curricular priority in the Australian Curriculum: A Tasmanian investigation. Environmental Education Research, 21(8), 1105-1126. Retrieved from https://doi.org/10.1080/13504622.2014.966657.
16. Edwards, M., Brown, P., Benn, S., Bajada, C., Perey, R., Cotton, D., Jarvis, W., Menzies, G., McGregor, I., & Waite, K. (2020). Developing sustainability learning in business school curricula - productive boundary objects and participatory processes. Environmental Education Research, 26(2), 253-274. Retrieved from https://doi.org/10.1080/13504622.2019.1696948.
17. Elkington, J. (2004). Enter the Triple Bottom Line. In A. Henriques, & J. Richardson (Eds.) The Triple Bottom Line: Does it All Add Up. Routledge.
18. Farsari, I. (2021). Pedagogy for sustainable tourism: Reflections on the curriculum space of a master programme in Sweden. Journal of Teaching in Travel & Tourism, 22(1), 6-35. Retrieved from https://doi.org/10.1080/15313220.2021.1978127.
19. Figueiró, P. S., & Raufflet, E. (2015). Sustainability in higher education: A systematic review with focus on management education. Journal of Cleaner Production, 106, 22-33. Retrieved from https://doi.org/10.1016/j.jclepro.2015.04.118.
20. Galang, A. P. (2010). Environmental education for sustainability in higher education institutions in the Philippines. International Journal of Sustainability in Higher Education, 11(2), 173-183. Retrieved from https://doi.org/10.1108/14676371011031892.
21. Gigauri, I. (2021). Fostering responsible management and organizational ethics through business education. Knowledge - International Journal, 47(1), 65–69.
22. Gigauri, I., & Mushkudiani, Z. (2021). New generation's expectations for 21st century leader and perception by young employees of leadership in organizations. European Journal of Management and Marketing Studies, 6(3). Retrieved from http://dx.doi.org/10.46827/ejmms.v6i3.1054

23. Gigauri, I., Panait, M., & Palazzo, M. (2021). Teaching Corporate Social Responsibility and Business Ethics at Economic Programs. LUMEN Proceedings, 15, 24-37. Retrieved from https://doi.org/10.18662/lumproc/gekos2021/3.
24. Gretzel, U., Fuchs, M., Baggio, R., Hoepken, W., Law, R., Neidhardt, J., Pesonen, J., Zanker, M., & Xiang, Z. (2020). E-Tourism beyond COVID-19: a call for transformative research. Information Technology & Tourism, 22(2), 187-203. Retrieved from https://doi.org/10.1007/s40558-020-00181-3.
25. Hansmann, R. (2010). "Sustainability Learning": An Introduction to the Concept and Its Motivational Aspects. Sustainability, 2(9), 2873-2897. Retrieved from https://doi.org/10.3390/su2092873.
26. Hanson, W.R. & Moore, J.R. (2013). Ethical decision-making by business students: factors of influence. EJBO Electronic Journal of Business Ethics and Organizational Studies, 18 (1), 15-26. Retrieved from http://ejbo.jyu.fi/pdf/ejbo_vol18_no1_pages_15-26.pdf.
27. Higgins-Desbiolles, F., Carnicelli, S., Krolikowski, C., Wijesinghe, G., & Boluk, K. (2019). Degrowing tourism: Rethinking tourism. Journal of Sustainable Tourism, 27(12), 1926–1944. Retrieved from https://doi.org/10.1080/09669582.2019.1601732.
28. Hjorth, P., & Bagheri, A. (2006). Navigating towards sustainable development: A system dynamics approach. Futures, 38(1), 74-92. Retrieved from https://doi.org/10.1016/j.futures.2005.04.005.
29. Icheva, M., & Vasilev, V. (2021). The time for the next steps is here – from classic to modern paradigms in motivation. International Journal of Social Science and Economic Research, 6(3), 913-922. Retrieved from https://doi.org/10.46609/ijsser.2021.v06i03.012.
30. Ioannides, D., & Gyimóthy, S. (2020). The COVID-19 crisis as an opportunity for escaping the unsustainable global tourism path. Tourism Geographies, 22(3), 624-632. Retrieved from https://doi.org/10.1080/14616688.2020.1763445.
31. Jonson, E. P., McGuire, L. M., & O'Neill, D. (2015). Teaching Ethics to Undergraduate Business Students in Australia: Comparison of Integrated and Stand-alone Approaches. Journal of Business Ethics, 132(2), 477-491. Retrieved from https://doi.org/10.1007/s10551-014-2330-5.
32. Kohl, K., Hopkins, C., Barth, M., Michelsen, G., Dlouhá, J., Razak, D.A., Abidin Bin Sanusi, Z. & Toman, I. (2022). A whole-institution approach towards sustainability: a crucial aspect of higher education's individual and collective engagement with the SDGs and beyond. International Journal of Sustainability in Higher Education, 23 (2), 218-236. Retrieved from https://doi.org/10.1108/IJSHE-10-2020-0398.
33. Kudłak, R., & Low, K. Y. (2015). Special Issues Dedicated to CSR and Corporate Sustainability: A Review and Commentary. Long Range Planning, 48(3), 215-227. Retrieved from https://doi.org/10.1016/j.lrp.2015.03.002.
34. Larrán, M., Andrades, J., & Herrera, J. (2018). An examination of attitudes and perceptions of Spanish business and accounting students toward corporate social responsibility and sustainability themes. Revista De Contabilidad, 21(2), 196-205. Retrieved from https://doi.org/10.1016/j.rcsar.2018.02.001.
35. Leal Filho, W., Will, M., Shiel, C., Paço, A., Farinha, C. S., Orlovic Lovren, V., Avila, L. V., Platje, J. (Joost), Sharifi, A., Vasconcelos, C. R., Fritzen Gomes, B. M., Lange Salvia, A., Anholon, R., Rampasso, I., Quelhas, O. L., & Skouloudis, A. (2021a). Towards a common future: Revising the evolution of university-based sustainability research literature. International Journal of Sustainable Development & World Ecology, 28(6), 503-517. Retrieved from https://doi.org/10.1080/13504509.2021.1881651.
36. Leal Filho, W., Kovaleva, M., Fritzen Gomes, B., Fudjumdjum, H., Emblen-Perry, K., (Joost) Platje, J., Tuladhar, L., Vasconcelos, C. R., LeVasseur, T. J., Minhas, A., Farinha, C. S., Buil-Fabregá, M., Novo-Corti, I., Țîrcă, D.-M., & Da Cunha, D. A. (2021b). Sustainability practices at private universities: A state-of-the-art assessment. International Journal of Sustainable Development & World Ecology, 28(5), 402-416. Retrieved from https://doi.org/10.1080/13504509.2020.1848940.
37. Lozano, R. (2008). Envisioning sustainability three-dimensionally. Journal of Cleaner Production, 16(17), 1838-1846. Retrieved from https://doi.org/10.1016/j.jclepro.2008.02.008.
38. Lozano, R. (2018). Proposing a Definition and a Framework of Organisational Sustainability: A Review of Efforts and a Survey of Approaches to Change. Sustainability, 10(4), 1157. Retrieved from https://doi.org/10.3390/su10041157.
39. Lozano, R., & Huisingh, D. (2011). Inter-linking issues and dimensions in sustainability reporting. Journal of Cleaner Production, 19(2), 99-107. Retrieved from https://doi.org/10.1016/j.jclepro.2010.01.004.
40. McIntosh, M., Gaalswyk, K., Keniry, L. J., & Eagan, D. J. (2008). Campus environment 2008: A national report card on sustainability in higher education. Natural Wildlife Federation, Campus Ecology. Retrieved from https://www.nwf.org/-/media/PDFs/Global-Warming/CampusReportFinal.ashx.
41. Michel, J. O. (2020). Toward Conceptualizing Education for Sustainability in Higher Education. New Directions for Teaching and Learning, 2020(161), 23-33. Retrieved from https://doi.org/10.1002/tl.20371.
42. Michel, J. O. (2020a). Charting students' exposure to promising practices of teaching about sustainability across the higher education curriculum. Teaching in Higher Education, 1-27. Retrieved from https://doi.org/10.1080/13562517.2020.1747422.
43. Mulder, K. F. (2010). Don't preach. Practice! Value laden statements in academic sustainability education. International Journal of Sustainability in Higher Education, 11(1), 74-85. https://doi.org/10.1108/14676371011010066.

44. Mushkudiani, Z., Gechbaia, B., Gigauri, I., & Gulua, E. (2020). Global, economic and technological trends in human resource management development. Access Journal, 1 (1), 53-60. Retrieved from https://doi.org/10.46656/access.2020.1.1(4).
45. Neumann, A. (2014). Staking a Claim on Learning: What We Should Know about Learning in Higher Education and Why. The Review of Higher Education, 37(2), 249-267. Retrieved from https://doi.org/10.1353/rhe.2014.0003.
46. Olaskoaga-Larrauri, J., Guerenabarrena-Cortazar, L., & Cilleruelo-Carrasco, E. (2021). Academic staff attitudes and barriers to integrating sustainability in the curriculum at Spanish universities (Actitudes del profesorado y barreras a la sostenibilización curricular en la universidad española). Culture and Education, 33(2), 373-396. Retrieved from https://doi.org/10.1080/11356405.2021.1905957.
47. Padilla-Meléndez, A., Del Aguila-Obra, A. R., Lockett, N., & Fuster, E. (2020). Entrepreneurial Universities and Sustainable Development. The Network Bricolage Process of Academic Entrepreneurs. Sustainability, 12(4), 1403. Retrieved from https://doi.org/10.3390/su12041403.
48. Palomo-Lovinski, N., Copeland, L., & Kim, J. (2019). Perceptions of sustainability curriculum in US fashion academia. International Journal of Fashion Design, Technology and Education, 12(3), 364-373. Retrieved from https://doi.org/10.1080/17543266.2019.1657968.
49. Pavlin, S., Kesting, T., & Baaken, T. (2016). An Integrative View on Higher Education and University-Business Cooperation in the Light of Academic Entrepreneurship. European Journal of Education, 51(1), 3-9. Retrieved from https://doi.org/10.1111/ejed.12168.
50. Perkmann, M., & Walsh, K. (2007). University–industry relationships and open innovation: Towards a research agenda. International Journal of Management Reviews, 9(4), 259-280. Retrieved from https://doi.org/10.1111/j.1468-2370.2007.00225.x.
51. Pfeffer, J. (2017). Building Sustainable Organizations: The Human Factor. Academy of Management Perspectives. 24 (1). Retrieved from https://doi.org/10.5465/amp.24.1.34.
52. Philpott, K., Dooley, L., O'Reilly, C., & Lupton, G. (2011). The entrepreneurial university: Examining the underlying academic tensions. Technovation, 31(4), 161-170. Retrieved from https://doi.org/10.1016/j.technovation.2010.12.003.
53. PRME (n.d.). Principles for Responsible Management Education. Retrieved from https://www.unprme.org/
54. Qian, X.-D., Xia, J., Liu, W., & Tsai, S.-B. (2018). An Empirical Study on Sustainable Innovation Academic Entrepreneurship Process Model. Sustainability, 10(6), 1974. Retrieved from https://doi.org/10.3390/su10061974.
55. Ralph, M., & Stubbs, W. (2013). Integrating environmental sustainability into universities. Higher Education, 67(1), 71-90. Retrieved from https://doi.org/10.1007/s10734-013-9641-9.
56. Ramakrishna, S. (2021). Incorporating sustainability into the university curriculum. Drying Technology, 39 (8), 985-988. Retrieved from https://doi.org/10.1080/07373937.2021.1908806.
57. Rieckmann, M. (2018). Learning to transform the world: Key competencies in education for sustainable development, In Leicht, A., Heiss, J. & Jung Byun, W. (Eds), Issues and Trends in Education for Sustainable Development. UNESCO, Paris, Retrieved from https://europa.eu/capacity4dev/file/69206/download?token=r_65VVK_.
58. Sady, M., Żak, A., & Rzepka, K. (2019). The Role of Universities in Sustainability-Oriented Competencies Development: Insights from an Empirical Study on Polish Universities. Administrative Sciences, 9(3), 62. Retrieved from https://doi.org/10.3390/admsci9030062.
59. Sánchez-Carracedo, F., Ruiz-Morales, J., Valderrama-Hernández, R., Muñoz-Rodríguez, J. M., & Gomera, A. (2021). Analysis of the presence of sustainability in Higher Education Degrees of the Spanish university system. Studies in Higher Education, 46(2), 300-317. Retrieved from https://doi.org/10.1080/03075079.2019.1630811.
60. Schumacher, E. F. (1973). Small is Beautiful: Economics as if People Mattered. London: Blonde and Briggs.
61. Seraphin, H., Bah, M., Fyall, A., & Gowreesunkar, V. G. B. (2021). Tourism education in France and sustainable development goal 4 (quality education). Worldwide Hospitality and Tourism Themes, 13(1), 139–147. Retrieved from https://doi.org/10.1108/WHATT-08-2020-0083.
62. Sherman, J. D., & Burns, H. L. (2015). 'Radically different learning': implementing sustainability pedagogy in a university peer mentor program. Teaching in Higher Education, 20(3), 231-243. Retrieved from https://doi.org/10.1080/13562517.2014.993962.
63. Shonia, N., Mushkudiani, Z., Siradze, M. (2022). Pandemic era and its impact on the investment and business environment - Georgian case. Access to science, business, innovation in digital economy, ACCESS Press, 3(1): 7-15. Retrieved from https://doi.org/10.46656/access.2022.3.1(1).
64. Sterling, S. (2013). The Future Fit Framework: An Introductory Guide to Teaching and Learning for Sustainability in HE (Guide). Journal of Education for Sustainable Development, 7(1), 134-135. Retrieved from https://doi.org/10.1177/0973408213495614b.
65. Stough, T., Ceulemans, K., & Cappuyns, V. (2021). Unlocking the potential of broad, horizontal curricular assessments for ethics, responsibility and sustainability in business and economics higher education. Assessment & Evaluation in Higher Education, 46(2), 297-311. Retrieved from https://doi.org/10.1080/02602938.2020.1772718.

66. THE (2022). World University Rankings, Impact Ranking. Times Higher Education. Retrieved from https://www.timeshighereducation.com/world-university-rankings.
67. Tunji-Olayeni, P. F., Kajimo-Shakantu, K., Ayodele, T. O., & Philips, B. I. (2020). Students' perception of sustainable construction: Accelerating progress towards construction education for sustainable development. International Journal of Construction Management, 1-21. Retrieved from https://doi.org/10.1080/15623599.2020.1861500.
68. ULSF (1990). The Talloires declaration 10 point action plan. Association of University Leaders for a Sustainable Future (ULSF). Retrieved from http://ulsf.org/wp-content/uploads/2015/06/TD.pdf.
69. UN (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. United Nations. Retrieved from https://sustainabledevelopment.un.org/post2015/transformingourworld/publication.
70. United Nations (n.d.). The 17 Goals. Sustainable Development Goals. Retrieved from https://sdgs.un.org/goals.
71. UNCED (1992). Agenda 21. United Nations. Retrieved from https://sustainabledevelopment.un.org/outcomedocuments/agenda21.
72. Vac, C. S., & Fitiu, A. (2017). Building Sustainable Development through Technology Transfer in a Romanian University. Sustainability, 9(11), 2042. Retrieved from https://doi.org/10.3390/su9112042.
73. Vasilev, V. (2021). Crises as a factor in increasing the effectiveness of the management and development of human capital in the organisation. Politics & Security, 5(2), 52-63. Retrieved from https://doi.org/10.5281/zenodo.6378765.
74. Wals, A. E. (2014). Sustainability in higher education in the context of the UN DESD: A review of learning and institutionalization processes. Journal of Cleaner Production, 62, 8–15.
75. WCED (1987). Our Common Future: The World Commission on Environment and Development. Oxford University Press: Oxford.
76. Winter, J., & Cotton, D. (2012). Making the hidden curriculum visible: Sustainability literacy in higher education. Environmental Education Research, 18(6), 783-796. Retrieved from https://doi.org/10.1080/13504622.2012.670207.