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Promotion of Sustainable Development Strategies: A Systematic Implementation Analysis in Organizations and Higher Education Institutions

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ABSTRACT

Introduction: Interest in sustainable development has increased significantly in recent decades, prompting organizations and educational institutions to reassess their management and training models. However, in sectors such as industry, a partial vision persists that prioritizes financial indicators over environmental ones.

Objectives: The objective of this study is to identify the strategies that have been used to promote sustainable development in organizations and which ones have been used in the teaching and learning process to foster the understanding and application of sustainable development in the university training context.

Methods: This study analyzes, based on a systematic literature review conducted in the Scopus database, a set of 30 recent publications that document strategies for implementing sustainable development in organizations and higher education institutions (HEIs).

Results: The findings reveal that, at the organizational level, practices such as circular economy, digital leadership, and technological innovation are particularly notable. In HEIs, on the other hand, active methodologies, curricular mainstreaming, and the design of governance structures oriented to sustainability gain relevance.

Conclusions: Although progress is evident, significant challenges remain in impact assessment, interdisciplinary collaboration, and the institutionalization of sustainable policies. The study suggests the need to strengthen research lines in sustainability and to consolidate theoretical and methodological frameworks that guide concrete actions in these environments.

Keywords: Education for sustainability, Higher education institutions, Sustainable Development Goals, Systematic literature review, Organizational sustainability.

INTRODUCTION

The discussion facing the economic growth of nations and the way in which wealth is generated from the responsible exploitation of resources places sustainable development as a new paradigm of growth and economic development; nowadays, these concepts cannot be separated and, therefore, from educational environments, especially at the professional level, it is necessary to work on this topic as an object of study of vital importance (De La Peña Consuegra and Vinces 2019; Ramos Torres 2020). Considering the above, the Sustainable Development Goals (SDGs) serve as a guide to track the path of economic development processes, seeking to promote societal welfare while caring for the planet (Blašková, Dlouhý, and Blaško 2022; Husin et al. 2023).

In Colombia, it is evident that studies related to sustainability, as far as the industrial sector is concerned, have been mainly oriented to financial sustainability, with a marked tendency towards econometric indicators, leaving aside environmental indicators, essentially related to the achievement of the SDGs (Bossa-Benavidez et al. 2023;

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Jacqueline et al. 2020). Given this limited perspective, it is convenient to analyze the role of other social actors that can contribute to a more comprehensive vision of sustainability.

Higher Education Institutions (HEIs) play a crucial role in the education, culture, and participation of various stakeholders, with the goal of promoting a development model that fosters a safe environment, biodiversity, ecological balance, and intergenerational equity (Fahmy et al. 2023). In recent decades, the need to integrate sustainable development into HEIs training has become increasingly relevant for society and policymakers. Thus, several studies have highlighted the need to incorporate sustainability principles into curricula and academic activities in a cross-cutting manner. However, the understanding and evaluation of sustainability-related information within HEIs still presents challenges to be addressed and requires greater clarity (Khan and Henderson 2020; Larrán Jorge et al. 2016).

Considering the above, the objective of this study is to identify the strategies that have been used to promote sustainable development in organizations and which ones have been used in the teaching and learning process to foster the understanding and application of sustainable development in the university training context.

To give coverage to the proposed objective, a systematic literature review (SLR) was conducted, following the guidelines of Pérez Rave (2015, 2019). This approach was implemented in two phases: 1) selection of articles and 2) content analysis (Cerchione and Esposito 2017a). The study was conducted in February 2025, based on the scientific information retrieved from the Scopus database, and applied inclusion and exclusion criteria. Of the 1350 studies that were captured, 30 relevant articles were selected. The content analysis consisted of a detailed reading and summary of these articles to answer the research questions.

The results of this research suggest that organizations are implementing strategies primarily focused on integrating the SDGs into their operational processes and adopting circular economy models, particularly impacting goals 8, 12, and 13. For their part, HEIs employ methodologies such as game-based learning, simulations, and real projects, mainly promoting SDG 4. This study demonstrates progress in both sectors, although some challenges persist, including the consolidation of genuinely sustainable corporate cultures and disciplinary fragmentation, as well as specialized teacher training. Although there is a growing commitment to sustainability, it is essential to strengthen intersectoral articulation mechanisms and develop evaluation systems to accurately measure the real impact of the implemented strategies.

The rest of the document is structured as follows. Section 2 defines the theoretical concepts that support this research. Section 3 describes the steps involved in an SLR. Section 4 presents the results which are discussed in Section 5. Finally, Section 6 describes the conclusions and future work.

BACKGROUND

This section provides the theoretical basis for this research, indicating the definitions and components necessary to describe trends in sustainable development.

Sustainable Development

The United Nations (UN) defined sustainable development in 2015 as development that ensures a balance between economic growth, environmental preservation, and social well-being (García-Rojas 2015). However, since the Stockholm Declaration in 1972, the concept of sustainability has existed to mitigate environmental destruction and the effects of climate change (Ragazzi and Ghidini 2017).

Sustainable development from an integral approach can be visualized as one that seeks to balance economic, social, and environmental progress to ensure a sustainable future both locally and globally (Chalmette & Ferrer Estevez, 2023). It is a broad concept that focuses on the correct use of resources to meet current needs without compromising the ability of future generations to meet theirs (Husin et al. 2023; Mendoza Bernache 2023). This holistic vision materialized through a structured framework that identifies the fundamental dimensions on which sustainability is built.

The three dimensions on which sustainable development is based are: 1) the social dimension, which seeks to promote justice and equity; 2) the environmental dimension, which focuses on the protection and preservation of the

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environment; and 3) the economic dimension, which seeks to foster sustainable and inclusive economic growth. These three dimensions are interrelated and must be addressed in an integrated manner to achieve truly sustainable development (Blašková et al. 2022; Zambrano Gonzalez 2023). Thus, the international community established a global agenda with the aim of operationalizing this conceptual framework and translating it into concrete actions.

Thus, under the premise of having a working guide, the UN defined 17 specific goals and targets to be achieved by 2030. These goals, known as the SDGs, encompass a range of topics, including the eradication of poverty and hunger, as well as climate action, peace, and justice. All sectors of society, including government, industry, civil society, and academia, must collaborate to achieve these goals and build a more just, equitable, and sustainable world. Thus, it is a multidimensional concept that seeks to promote economic, social, and environmental progress in a balanced and responsible manner (Blašková et al. 2022; Husin et al. 2023).

In this sense, sustainable development is an inherent right that highlights the need to adopt means of economic, social, and environmental growth, which promotes the necessary changes for the conservation of ecosystems (Zambrano Gonzalez 2023). However, although the concept of sustainable development encompasses a variety of aspects, all its definitions share a common goal: to ensure a prosperous future for all. This global vision of sustainable development needs to be implemented at all levels of society, and its application is particularly relevant in organizations where strategic and operational decisions affect the three dimensions of sustainability.

Sustainable development in organizations

Sustainability in organizations can be understood as the ability to harmoniously integrate economic, social, and environmental factors in their strategy and operation, focusing on the long term through responsible practices that contribute to social welfare and the preservation of natural resources without compromising profitability. This approach requires comprehensive management that includes circular economy models, a solid organizational culture aligned with environmental, social, and corporate governance principles, and an effective relationship with stakeholders. Thus, organizational sustainability becomes not only a means to respond to global challenges but also a strategic element that enhances competitiveness and fosters long-term value creation (Blinova, Ponomarenko, and Knysh 2022; Oriade et al. 2021; Parizi 2016).

In addition to adopting a systemic vision of sustainable development, organizations must translate this vision into concrete practices within their corporate culture, leadership, and decision-making. This involves promoting an organizational environment that fosters environmental awareness, social responsibility, and economic efficiency through internal policies, training, innovation, and cross-sector collaboration. According to Blinova et al. (2022), corporate sustainability also entails the adoption of circular economy principles that minimize the environmental impact of productive operations, particularly in resource-intensive sectors such as mining. For his part, Parizi (2016) emphasizes that a sustainability-oriented organizational culture is crucial for mobilizing employees towards responsible behaviors, thereby generating a competitive advantage based on shared values. This approach, which unites internal conviction with strategic action, enables organizations not only to adapt to regulatory and market changes but also to lead transformation processes toward a more equitable and sustainable future.

Organizational sustainability also requires strategic alignment with global frameworks, such as the SDGs, which provide a comprehensive guide for companies to contribute effectively to global development from their local context. In this regard, Oriade et al. (2021) argue that organizations should adopt a nexus approach, which enables them to identify synergies and effectively manage commitments across different SDGs. This strategic integration facilitates more coherent decision-making, strengthens organizational resilience, and improves accountability to stakeholders. It also allows companies to more clearly measure and communicate the impact of their actions, which is key to institutional legitimacy and attracting socially responsible investment. Therefore, sustainability should not be considered an isolated or secondary action but rather a transversal axis in business management that connects organizational purposes with the demands of an increasingly conscious and demanding society.

Despite the widely recognized benefits of incorporating sustainability into organizations, several barriers hinder its effective implementation. One of the main challenges is the lack of financial, technological, and human resources, especially in developing country contexts, where priorities are often focused on immediate profitability (Oriade et al. 2021). In addition, many organizations face cultural resistance to change, both at managerial and operational levels,

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which limits the adoption of sustainable practices as part of the business model. According to Blinova et al. (2022), another barrier identified is the absence of clear regulatory frameworks or sufficient incentives from governments to promote responsible practices, which leaves many companies without a defined direction. Organizational sustainability can also be hampered by the difficulty of measuring its impact in a tangible way, which limits its integration into the evaluation of corporate performance. These challenges require not only institutional will but also technical capabilities, transformational leadership, and strategic alliances that drive structural changes toward more sustainable management.

Overcoming barriers to organizational sustainability is not only an ethical or environmental achievement but also an important source of strategic, economic, and reputational opportunities. Organizations that successfully integrate sustainable principles manage to improve their operational efficiency, reduce long-term costs through the responsible use of resources, and increase their resilience in the face of economic or environmental crises (Parizi 2016). Likewise, these companies strengthen their corporate reputation, which allows them to attract more conscious consumers, qualified talent, and access to international markets where environmental, social, and governance practices are highly valued (Oriade et al. 2021). They also highlight that an organizational culture oriented towards sustainability drives innovation and continuous learning, generating competitive advantages that are difficult to replicate. In the social sphere, sustainable organizations also contribute to the development of their communities and the reduction of inequalities, reinforcing their legitimacy and social license to operate. In this sense, sustainability becomes a catalyst for organizational transformation and responsible leadership in the 21st century.

Within this ecosystem of organizations committed to sustainability, HEIs are not only entities that must adopt sustainable practices but are also trainers of future generations that will drive sustainable transformation in all sectors.

Sustainable Development in HEIs

The concept of sustainability in the education sector was formally adopted by the Talloires Declaration in 1990. A sustainable university is defined as "a higher education institution as part of a whole or as one that informs, encompasses and supports, regionally or globally, the minimization of negative environmental, economic, social and health impacts generated in the use of its resources to fulfill its teaching, research, outreach and partnership, and stewardship functions in ways that help society make the shift to sustainable lifestyles" (Fahmy et al. 2023).

Education has been identified as a key strategy to improve the widespread adoption and practice of sustainability in organizations and society (Hunter et al. 2017). Sustainability education is particularly important for people to understand the Earth's limits, specifically the safe operating space for humanity to maintain a delicate balance with the natural environment (Srivastava, Venkatesh, and Yadav 2019). Likewise, sustainability education is necessary to empower people to understand that planetary boundaries should not be transgressed and that revolutionary environmental innovations are important (Huckle and Wals 2015). Sustainability education also has the added function of situating the concept of sustainability in such a way that it is not perceived as an antithesis to economic growth (Muposhi and Shamhuyenhanzva 2024).

Promoting sustainability through curriculum design is not an easy task, as the student learning factor must be considered. When designing these courses, a consistent system and framework for assessing the learning experience and outcomes must always be considered. The curriculum, learning modules, and assessment protocols are vehicles through which sustainability is communicated and instilled in learners.

When designing a curriculum with sustainability modules, faculty must consider the trends that influence learner success. The instructor's knowledge and passion for the topic will significantly influence the instructor-student relationship and the overall outcome of the module delivery. This relationship often transcends content-specific competencies and translates into sustainability in action, as observed by instructors, who have noted learner enthusiasm for applying sustainability in everyday life (Sengupta, Blessinger, and Yamin 2020).

The main lines of action evident from the sustainability statements of HEIs are related to strengthening ecological literacy and mainstreaming sustainability education in all academic disciplines. Likewise, they aim to promote

research in this field, orient university operations towards sustainability, facilitate dissemination and community engagement, and establish rigorous evaluation processes (Khan and Henderson 2020).

There is a close relationship between the components involved in sustainable development within HEIs. Such is the case of values and competencies. These elements must be addressed together to achieve an ideal implementation (Blašková et al. 2022). Ultimately, to become a sustainable Higher Education Institution (HEI), the institution must be prepared for change and, most importantly, understand the sustainability curriculum (Khan and Henderson 2020).

In addition to institutional definitions, several recent studies have identified critical factors that must be considered to achieve effective sustainability in HEIs from an organizational, pedagogical, and social perspective. One of the most relevant contemporary approaches is the integration of sustainability into university management, not only as a philosophical principle but also as an operational structure that spans the strategic and pedagogical levels of the institution.

CoskSun-Setirek and Tanrikulu (2021) propose a sustainability model for universities that incorporate mobile learning (m-learning), stressing the importance of factors such as organizational support, teacher training, technological infrastructure, equity, and psychosocial support. These elements are essential to ensure that technology not only modernizes the educational process but does so inclusively and sustainably. The authors caution that the success of these strategies lies not only in technological innovation but in the coherent integration of sustainability into the institutional culture and students' learning experience.

On the other hand, Jääskä et al. (2021) demonstrate that game-based learning applied to sustainability management in projects enables students to develop skills in decision-making, planning, and evaluating environmental, economic, and social impacts. Such pedagogical strategies, in addition to fostering student engagement, provide a safe and dynamic environment for exploring the complexities of sustainability in real, multidimensional contexts.

Complementarily, Szczepankiewicz et al. (2021) argue that climate education should be an integral part of the structural systems of educational management beyond the curricular level. To this end, they propose a conceptual model that articulates climate education from basic education to higher education, promoting coordinated planning between national, regional, and institutional policies. In this way, HEIs can act as agents of change, not only educating informed students but also establishing governance models oriented toward sustainable development.

From a more reflective and emotional dimension, Yang et al. (2021) propose the use of contemplative photography as a pedagogical tool in sustainability education. By integrating art and introspection into the classroom, a deeper connection between the student and their natural and social environment is promoted, developing not only technical skills but also ethical awareness and a sense of ecological belonging. This approach was implemented in management programs at universities in the United States, Germany, and Russia, demonstrating its effectiveness in cultivating a critical, sensitive, and transformative mindset in response to socio-environmental challenges.

Furthermore, from an institutional perspective, Moreno-Carmona et al. (2022) demonstrate that university management teams (UMTs) play a crucial role in the strategic implementation of sustainability. According to their study, the professional profiles of managers, their ability to respond to crises, long-term planning, and continuous training are decisive factors for the success of sustainable policies within universities. The absence of specific training in strategic thinking limits the capacity of HEIs to respond to the demands of sustainable development and international frameworks such as the 2030 Agenda.

All these approaches agree that sustainable development in HEIs cannot be understood as a set of isolated good intentions but as a comprehensive, interdisciplinary, and cross-cutting project that involves all institutional actors: students, faculty, administrative staff, strategic leaders, and external communities. Sustainability must become a lens through which the university is observed, decided, and transformed.

METHODS

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With the purpose of identifying the strategies that both organizations and HEIs have used to promote sustainable development, an SLR was made based on the guidelines proposed by Pérez Rave (2013, 2019), through which primary studies are summarized using explicit and reproducible methods (Greenhalgh 2016).

Pérez Rave's (2019) methodology is adequately aligned with the rigor and particularities of research in engineering, organizational management, and education. Its flexibility facilitates the integration of studies with varied methodological designs, including qualitative research and conceptual analysis. This is achieved through the application of inductive, categorical, and comparative processes. This adaptability is essential for addressing complex issues, such as sustainable development, which, by nature, require cross-cutting, interdisciplinary frameworks of analysis that often combine different methodological approaches.

This methodology consists of two main phases: Phase 1, the selection of articles, and Phase 2, content analysis (Cerchione & Esposito, 2017). In the first phase, the research questions are formulated, the keywords with which the search equation is constructed are identified, the databases to be used are selected, the definition of the inclusion and exclusion criteria is established, the validity analysis is conducted, and the article selection process is defined. In the second phase, the articles are reviewed and analyzed to extract information and answer the research questions formulated in the first phase.

RESULTS

Phase 1 - Selection of articles

This study was conducted during February 2025 and aims to answer the following research questions:

Q1. What strategies have currently been used to promote sustainable development in organizations?

Q2. What strategies have been used in the teaching and learning process to promote the understanding and application of sustainable development in students in HEIs?

The search string used to answer the research questions was the following: ("Sustainable Development*" OR "Sustainability) AND (HEI* OR "Higher Education Institutions"). The search terms are searched throughout the document to address the largest number of results.

The databases used in the search process were Scopus. Scopus is the largest database of abstracts and citations of peer-reviewed literature: scientific journals, books, and conference proceedings. It provides a comprehensive overview of worldwide scholarly publishing in science, technology, medicine, the social sciences, and the arts and humanities. It has intelligent tools for tracking, analyzing, and visualizing research (Elsevier B.V. 2020). The results of the search in this database yielded a total of 1350 primary studies.

The following inclusion and exclusion criteria were defined for the selection of studies:

Inclusion criteria: i) publications written in English; ii) publications from the last five years (2021-2024); iii) papers presenting specific strategies; and iv) research papers and conferences.

Exclusion criteria: i) review and philosophical papers such as literature reviews and reflective studies; ii) duplicate studies; iii) studies that are not related to the topic of interest; iv) archives that are not available for full reading.

When the exclusion criteria were applied to the selected database, the total number of studies was reduced to 479. Those documents that could not be accessed were discarded (155). Subsequently, an analysis of the titles, keywords, and abstracts of the 324 resulting articles was performed to verify their relationship with each of the research questions.

Due to the volume of studies identified for the first research question, a Pareto diagram was used to delimit the relevant literary space. To do so, the 304 articles were ordered from highest to lowest citation according to the criteria defined by Pérez Rave (2015), with the top 20% being selected. As a result of this process, 30 relevant papers were identified: 11 to answer the first question and 19 to answer the second question.

The number of publications per year related to the topic addressed in this literature review shows growth between 2021 and 2025, suggesting that this is a topic of recent research interest (Figure 1).

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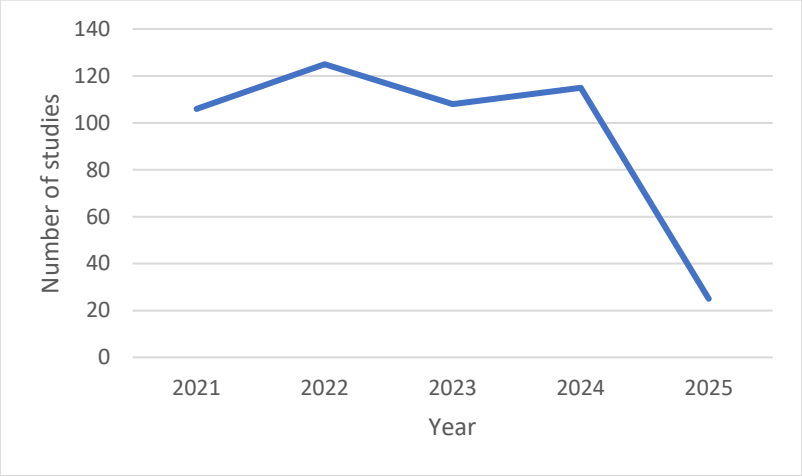

Figure 1. Number of articles published per year

Figure 1 shows the annual distribution of the articles selected for this systematic review between 2021 and 2025. It is observed that the highest number of publications corresponds to the year 2022, with a total of 125 studies, followed by 115 in 2024, 108 in 2023, and 106 in 2021. This behavior reflects a sustained trend in academic production related to sustainable development in recent years. Given the time limitation in the search process (until February 13, 2025), only 25 articles are registered for that year. However, suppose the monthly average of publications is taken into consideration. In that case, nine articles per month are identified in 2021 and 2023, and 10 articles per month in 2022 and 2024, allowing us to infer that, if the trend continues, the year 2025 could reach similar figures at the end of the annual period.

Phase 2 - Content analysis

To ensure the traceability of the process, the information extracted from each selected article was recorded in a structured manner in a Google Sheets spreadsheet and shared among the team's researchers. This template included predetermined fields for each dimension of analysis: author, year, country, type of publication, sustainability pillar addressed (environmental, social, or economic), sustainable development objectives involved, related organizational or educational function, strategy identified, and key findings.

The reading process was conducted by two researchers, who performed a comprehensive reading and textual synthesis of each article. Subsequently, two co-researchers cross-checked the syntheses and coding to ensure semantic coherence and avoid interpretation biases. In cases where there were doubts or ambiguities in the categorization, they were discussed in consensus until an agreement was reached.

The analysis was performed manually, given the interpretative nature and manageable number of documents. The strategies were classified according to organizational functions (planning, organizing, leading, and controlling in the case of organizations) and substantive university functions (teaching, research, administration, and management). This coding was crucial in answering the research questions and facilitating the synthesis of the findings. Finally, a comprehensive reading of each of the selected articles was conducted, and after reviewing them, a summary was compiled, identifying the information that enabled us to answer the research questions.

Each of the studies was classified according to the management function to which the strategy was oriented, the process or procedure that it sought to improve, the business sector to which it could be applied, the sustainable pillar it impacted, and the sustainable development objectives it covered. The strategies analyzed for each of the components mentioned above are described in

Table 1.

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Table 1. Strategies to promote sustainable development in organizations

Management function	Strategy title	Description	SDG
Control	"Organizational Culture and Management Practices: Strategies for Sustainability in the Hotel Industry" (Oriade et al., 2021).	Investigates the relationship between organizational culture, sustainability practices, and environmental awareness in hotels in developing countries.	8,12,13,17
Leading	"Digital Leadership and Organizational Culture: Strategies for Business Sustainability" (Shin et al., 2023).	Studies the role of digital leadership and organizational culture in the sustainability and performance of South Korean companies.	4,8,9,12
Organize	"Towards a Circular Textile Industry: Strategies for Sustainable Development" (Saha et al., 2021).	Discusses circular economic strategies in the textile industry to promote sustainable development and reduce environmental impact.	8,9,12,13
Plan	"Smart Cities and Sustainable Development: Strategies for Resilient Urban Management" (Benites & Simões, 2021).	Examine how multinational companies lead ecosystems of innovation to meet the SDGs through responsible research and development (R&D).	9,11,13,16
	"Innovation Ecosystems for Sustainability: The Role of Multinationals in the SDGs" (Nylund et al., 2021).	Proposes a framework for assessing how smart city technology solutions contribute to urban sustainability.	9,12,17
	"The Nexus Approach to Corporate Sustainability: Strategies for Maximizing Impact on the SDGs" (van Zanten & van Tulder, 2021a).	Proposes a nexus approach to align corporate actions with multiple SDGs through interdependent resource management.	8,9,12,13,17
	"Risk Management and Organizational Resilience: Strategies for Sustainable Business Development" (Settembre-Blundo et al., 2021).	Explores how the circular economy improves organizational resilience and sustainability in the face of crises such as COVID-19.	8,9,12,13
	"Local Management for Sustainable Development: Strategies for SDG	Analyzes how local governments integrate the	11,16,17

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Management function	Strategy title	Description	SDG
	Implementation in Cities" (Guarini et al., 2022).	SDGs into urban strategic planning in Italian cities.	
	"Corporate Sustainability in Mining: Integrating the Circular Economy for Responsible Business Development" (Blinova et al., 2022).	Studies show that the circular economy is being incorporated into corporate sustainability in the Russian mining sector.	8,9,12,13
	"Financial Sustainability and Risk Management: Keys to Resilient Business Development" (Gleißner et al., 2022).	Propose indicators to measure financial sustainability in companies and demonstrate its positive impact on market performance.	8,9,12,17
	"Digital Transformation for the Circular Economy: Strategies for Sustainability in the Manufacturing Sector" (Schöggl et al., 2023a).	Studies have shown how digital technologies, such as IoT, AI, and blockchain, can facilitate sustainability in the manufacturing sector.	8,9,12,13

TTable 2 describes the strategies employed by HEIs in their processes to provide education services with an emphasis on sustainable development to their students. These items were classified into the substantive functions of HEIs to achieve institutional objectives: teaching, research, administration, and management (Amaya Corredor, Hernández Contreras, and Tavera Castillo 2020; García-Arce, Pérez- Ramírez, and Gutiérrez Barba 2021).

Table 2. Strategies to foster the teaching and learning process of sustainable development in HEIs.

Substantive function	Strategy	Description	SDG
Teaching	"Game-based learning in sustainability management in projects: an innovative approach" (Jääskä et al., 2021b).	Demonstrates how game-based learning improves sustainable project management.	4,8,12,13
	"Experiential and interdisciplinary learning in teaching sustainability: A role-play and case study approach" (Zeitler & Schwarzkopf, 2024a).	Explores how to develop critical thinking and multiple perspectives in students of sustainable management.	4,12,13
	"Cognition and sustainability: redefining management education in Latin America" (Murcia & Acosta, 2023a).	Advocates incorporating multiple approaches to sustainability education in university settings.	4,8,12
	"Teaching strategies for integrating sustainability and equity in higher education: A case study of Universitat Jaume I" (Bayhantopcu & Aymerich Ojea, 2024a).	Explores how sustainability can increase university competitiveness.	4,5,10,16
	"Contemplative Photography and Transformative Learning: An Innovative Approach to	Apply contemplative photography to promote	4,12,13

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Substantive function	Strategy	Description	SDG
	Sustainability Education" (Yang et al., 2021b).	sustainability and critical reflection in students.	
	"Pedagogical innovation in sustainability education: Simulation games and project-based learning in the flipped classroom" (Hsu & Wu, 2023a).	Evaluates the impact of business simulations in inverted classrooms to promote sustainable skills.	4,8,9
	"Integration of sustainability in engineering education: 25 years of experiences at the Universidade da Coruña" (de la Cruz López et al., 2022).	Suggests on how to incorporate sustainability competencies in educational improvement processes.	4,7,9,11,12
	"Integration of sustainability in project management: An approach based on PMBOK® and fuzzy AHP" (Villena et al., 2021).	Proposes a project framework for implementing sustainability and CSR in educational institutions.	4,8,9,12
	"Intersectoral cooperation networks: a prospective approach for the management of sustainable professional practices" (Marín-González et al., 2023a).	Proposes future scenarios to improve the articulation between university, business, and government in professional practices.	4,8,17
	"Transformation of student perception for greater environmental sustainability in universities" (Komatsu et al., 2022).	Studies the evolution of environmental self-concept in university students.	4,13
Management	"Climate education and sustainable management: a conceptual model for structural integration" (Szczepankiewicz et al., 2021b).	Proposes a conceptual model for incorporating climate education into the sustainability system.	4,13,16
	"Environmental management in universities: assessment and strategies for sustainability at UFCA" (dos Santos et al., 2024a).	Evaluates environmental management in a Brazilian university from the UI GreenMetric model.	4,11,12,13
	"Governance and sustainability in higher education: A model based on culture, leadership, and change management" (Sacchi et al., 2023a).	Examines whether university management teams are prepared to implement strategic sustainability.	4,16,17
	"Sustainable management model for Ecuadorian universities: integrating SDGs in higher education" (Espinoza et al., 2022).	Analyzes how African MBA programs incorporate sustainability in their education.	4,11,12,13
Educational Management	"Ecolabeling and sustainability in higher education: strategies to increase university competitiveness" (Okanović et al., 2021).	Suggests on how to incorporate sustainability competencies in educational improvement processes.	4,12,13,17
	"Critical factors for the sustainability of mobile learning in universities: A multidimensional approach"	Identifies critical factors for ensuring sustainability in university mobile learning.	4,8,9,16

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Substantive function	Strategy	Description	SDG
	(Coskun-Setirek & Tanrikulu, 2021b).		
	"Strategic management in higher education: The key role of university management teams" (Moreno-Carmona et al., 2022).	Studies on whether university management teams act as strategic agents of sustainability.	4,8,16
	"Interdisciplinarity in management education: a framework for sustainability in business schools" (Martins et al., 2022).	Highlights the importance of an interdisciplinary approach to sustainability education.	4,12,16
	"Sustainability in human resource management in universities: a holistic approach to higher education" (Mohiuddin et al., 2022).	Proposes strategies for sustainable human resource management in universities.	4,8,10,16

DISCUSSION

This section examines the results obtained, interpreting the strategies identified for promoting sustainable development in organizations and HEIs. The discussion is structured around the research questions posed, reflecting on the practical implications and challenges that remain in the effective implementation of these strategies in both contexts.

Q1. What strategies have currently been used to promote sustainable development in organizations?

The studies reviewed demonstrate that organizations have adopted various strategies to integrate sustainable development into their management models. Among the most prominent is the integration of the SDGs into their strategic and operational plans, enabling the articulation of global goals within local contexts (Murcia and Acosta 2023). In addition, indicator systems have been implemented to assess sustainable performance from a three-pronged approach: environmental, social, and economic (van Zanten & van Tulder, 2021).

Other key strategies include strengthening organizational culture around sustainability, developing digital capabilities for more efficient management (Schöggl et al., 2023), transitioning to circular economy models (dos Santos et al. 2024), and implementing cross-sectoral cooperation networks as mechanisms to manage sustainable professional practices (Marín-González et al., 2023). Sustainable governance and institutional communication also emerge as transversal axes that allow the articulation of interdepartmental and inter-organizational efforts (Bayhantopcu & Aymerich Ojea, 2024).

Approaches such as the use of gap analysis with respect to the SDGs, the creation of structures for monitoring and control of sustainable performance, and the adoption of multi-criteria evaluation tools and frameworks such as the "SDG Nexus," which allows visualizing interactions between goals and minimizing adverse effects between them, are also identified (van Zanten & van Tulder, 2021). Sustainability is also promoted through organizational innovation, including digital transformation, inclusive leadership, and dynamic capabilities, which enable organizations to face contexts of accelerated change (Schöggl et al., 2023).

SDG 12 (Responsible production and consumption) and SDG 13 (Climate action), which guide the transition to circular economy models and reduction of the ecological footprint, stand out (dos Santos et al. 2024). There is also a strong presence of SDG 9 (Industry, innovation, and infrastructure), which promotes digital ecosystems and sustainable innovation networks, as well as SDG 17 (Partnerships to achieve the goals), given the need for interagency and intersectoral collaboration (Marín-González et al., 2023).

Although organizations have made progress in incorporating frameworks and monitoring indicators, they still face difficulties in consolidating a truly sustainable corporate culture (van Zanten & van Tulder, 2021). The

institutionalization of sustainability beyond isolated actions, the strengthening of transformational leadership, and the creation of evaluation frameworks to follow up on established goals are still pending challenges. Additionally, managing diversity, equity, and inclusion poses a challenge in the social dimension (Murcia & Acosta, 2023b).

The adoption of the SDGs is not only an ethical or institutional commitment but also a strategic condition for the survival and competitiveness of organizations in the medium and long term. Several studies concur that integrating the SDGs into organizational culture and decision-making processes enables organizations to anticipate risk scenarios, respond to new regulatory requirements, and generate shared value with their stakeholders (Bayhantopcu and Aymerich Ojea 2024b; van Zanten and van Tulder 2021b). Ignoring this global agenda could result in a loss of social legitimacy, difficulties in accessing sustainable financing, and a low adaptive capacity in the face of profound environmental or social transformations. In particular, the fulfillment of SDG 12 (responsible production and consumption) and SDG 13 (climate action) is fundamental because they are directly related to mitigating the ecological impact of business activities (dos Santos et al. 2024). If organizations do not align their management models with these goals before 2030, their viability could be compromised due to factors such as the tightening of environmental regulation, the rejection of conscious consumers, or the collapse of unsustainable production chains (Marín-González et al. 2023b; Schöggl et al. 2023b). Therefore, focusing efforts on the prioritized SDGs is not only a corporate social responsibility goal but also a strategic necessity to ensure institutional resilience and sustainability.

In this context, it is crucial to foster a robust line of research on sustainable development within organizations. This line allows systematizing learning, identifying good practices, establishing comparative models between sectors and regions, and generating recommendations aimed at continuous improvement. It also contributes to the construction of theoretical and epistemological frameworks that account for the complexity of sustainability in organizational environments, facilitating a holistic view that integrates the environmental, social, and economic pillars and promotes structural transformation towards regenerative and equitable models.

Q2. What strategies have been used in the teaching and learning process to promote the understanding and application of sustainable development in students?

The second research question in this study aims to identify the educational strategies employed in HEIs to promote the understanding and application of sustainable development among students. This approach is fundamental, as universities play a key role as generators of knowledge, trainers of professionals, and agents of social change. The integration of sustainability in the educational sphere not only implies the transmission of content but also the transformation of structures, methodologies, and institutional cultures that enable the preparation of future leaders to face complex challenges from a systemic and intergenerational perspective (Moreno-Carmona et al., 2022; Szczepankiewicz et al., 2021).

In HEIs, strategies have focused on integrating sustainability into the curriculum, fostering project-based learning, and utilizing active methodologies such as flipped classrooms, simulation-based learning, and serious play (Hsu and Wu 2023). Additionally, critical thinking and reflection from multiple perspectives have been promoted through interdisciplinary case studies and decision-making simulations (Zeitler and Schwarzkopf 2024).

The implementation of cooperation networks between universities, government, and businesses has been a relevant strategy to link learning with socioeconomic and environmental realities, contributing to the integral formation of students (Marín-González et al., 2023). Ultimately, the institutionalization of governance structures for sustainability has enabled universities to adopt more coherent and articulated management approaches (Sacchi et al., 2023).

The SDGs most frequently mentioned in the reviewed studies are SDG 4 (Quality Education), SDG 12 (Responsible Production and Consumption), SDG 13 (Climate Action), and SDG 17 (Partnerships to Achieve the Goals). In HEIs, SDG 4 is fundamental, as educational strategies aim to form critical citizens committed to sustainability (dos Santos et al. 2024). The strong presence of SDG 4 (quality education) in all the articles analyzed that address educational strategies in HEIs is not accidental; it responds to the structural role of education as a cross-cutting tool for achieving all the other Sustainable Development Goals.

In the university setting, this SDG becomes the starting point for curricular, methodological, and axiological transformation that enables students to develop competencies for climate action (SDG 13), responsible consumption

(SDG 12), or institutional cooperation (SDG 17) (Bayhantopcu and Aymerich Ojea 2024b; Sacchi et al. 2023b). Thus, although studies focus on SDG 4, it is not addressed in isolation but as an enabler of other SDGs. However, the predominance of this educational approach may also limit the effective implementation of the more operational or structural SDGs, such as SDG 9 (innovation), SDG 6 (clean water), or SDG 11 (sustainable cities), which require deeper integration with applied research, institutional management and the university-territory relationship (dos Santos et al. 2024). Therefore, although the emphasis on SDG 4 evidences a commitment to education, it also reflects a pending opportunity to diversify strategies towards objectives with a broader systemic impact.

The HEIs demonstrate progress towards fulfilling the SDGs but also reveal evidence gaps. For example, many universities have incorporated courses on sustainability but lack integrated structures for implementation at all levels (Bayhantopcu & Aymerich Ojea, 2024). Among the main opportunities for improvement is the need to strengthen the mainstreaming of sustainable development in HEIs, overcoming fragmented or disciplinary approaches. In addition, more teacher training and pedagogical strategies are required that integrate the environmental, social, and economic pillars in an articulated manner (Sacchi et al., 2023).

In light of this scenario, the need to consolidate a line of institutional research on sustainable development in HEIs is evident. This line would enable the systematization of experiences, the production of situated knowledge, the articulation of interdisciplinary efforts, and the provision of feedback on academic and administrative policies from a critical and transformative perspective. Thus, universities could not only fulfill their educational function but also exercise socially responsible leadership oriented toward the construction of sustainable and equitable futures.

REFRENCES

[1] Amaya Corredor, Carlos Alberto, Carolina Hernández Contreras, and Nancy Tavera Castillo. 2020. “Ecologización Institucional, Estrategia Para La Implementación de Los Objetivos de Desarrollo Sostenible En Una Institución de Educación Superior En Colombia.” Revista Educación Superior y Sociedad (ESS) 32(2). doi:10.54674/ess.v32i2.278.
[2] Bayhantopcu, Esra, and Ignacio Aymerich Ojea. 2024a. “Integrated Sustainability Management and Equality Practices in Universities: A Case Study of Jaume I University.” International Journal of Sustainability in Higher Education 25(3):631–48. doi:10.1108/IJSHE-02-2023-0054.
[3] Bayhantopcu, Esra, and Ignacio Aymerich Ojea. 2024b. “Integrated Sustainability Management and Equality Practices in Universities: A Case Study of Jaume I University.” International Journal of Sustainability in Higher Education 25(3). doi:10.1108/IJSHE-02-2023-0054.
[4] Blašková, Martina, David Dlouhý, and Rudolf Blaško. 2022. “Values, Competences and Sustainability in Public Security and IT Higher Education.” Sustainability (Switzerland) 14(19). doi:10.3390/su141912434.
[5] Blinova, Ekaterina, Tatyana Ponomarenko, and Valentin Knysh. 2022. “Analyzing the Concept of Corporate Sustainability in the Context of Sustainable Business Development in the Mining Sector with Elements of Circular Economy.” Sustainability (Switzerland) 14(13).
[6] Bossa-Benavidez, Jarol, Jesús David Meza, Darwin Ramos-Franco, and Harold Cohen-Padilla. 2023. “Sostenibilidad En Colombia Frente al Desarrollo Sostenible En El Mundo. Una Revisión Bibliométrica Para El Análisis Del Entorno.” Revista Universidad y Empresa 25(44). doi:10.12804/revistas.urosario.edu.co/empresa/a.12770.
[7] Cerchione, Roberto, and Emilio Esposito. 2017a. “Using Knowledge Management Systems: A Taxonomy of SME Strategies.” International Journal of Information Management 37(1):1551–62. doi:10.1016/j.ijinfomgt.2016.10.007.
[8] Cerchione, Roberto, and Emilio Esposito. 2017b. “Using Knowledge Management Systems: A Taxonomy of SME Strategies.” International Journal of Information Management 37(1):1551–62. doi:10.1016/j.ijinfomgt.2016.10.007.
[9] Chalmeta, Ricardo, and Maria Ferrer Estevez. 2023. “Developing a Business Intelligence Tool for Sustainability Management.” Business Process Management Journal 29(8):188–209. doi:10.1108/BPMJ-03-2023-0232.
[10] Coskun-Setirek, Abide, and Zuhal Tanrikulu. 2021. “M-Universities: Critical Sustainability Factors.” SAGE Open 11(1). doi:10.1177/2158244021999388.
[11] Elsevier B.V. 2020. “Scopus Preview - Scopus - Welcome to Scopus.” Scopus Preview.
[12] Fahmy, Sohair, Mohamed N. Abd El-Ghany, Hanan Amer, Mohamed S. Abdelsadek, Manar W. Abdelazeem, Roaa S. Abdel Sabour, Youmna M. Nasr, and Amira K. Nasrallah. 2023. “Developing a Sustainable University Campus in Egypt: Cairo University as a Case Study.” in IOP Conference Series: Earth and Environmental Science. Vol. 1194. Institute of Physics.

[13] García-Arce, Julia Guadalupe, Carlos Alberto Pérez- Ramírez, and Blanca Estela Gutiérrez Barba. 2021. "Objetivos de Desarrollo Sustentable y Funciones Sustantivas En Las Instituciones de Educación Superior." Actualidades Investigativas En Educación 21(3). doi:10.15517/aie.v21i3.48160.
[14] García-Rojas, Jeniffer Paola. 2015. Desarrollo Sostenible: Origen, Evolución y Enfoques. doi:10.16925/greylit.1074.
[15] Greenhalgh, Trisha. 2016. "BMJ: British Medical Journal." 315(7109):672–75.
[16] Hsu, Ching Yun, and Ting Ting Wu. 2023. "Application of Business Simulation Games in Flipped Classrooms to Facilitate Student Engagement and Higher-Order Thinking Skills for Sustainable Learning Practices." Sustainability (Switzerland) 15(24). doi:10.3390/su152416867.
[17] Huckle, John, and Arjen E. J. Wals. 2015. "The UN Decade of Education for Sustainable Development: Business as Usual in the End." Environmental Education Research 21(3). doi:10.1080/13504622.2015.1011084.
[18] Hunter, Mitchell C., Richard G. Smith, Meagan E. Schipanski, Lesley W. Atwood, and David A. Mortensen. 2017. "Agriculture in 2050: Recalibrating Targets for Sustainable Intensification." BioScience 67(4).
[19] Husin, Azizah, Siti Dewi Maharani, Makmun Raharjo, Yosef, Sri Sumarni, and Ciptro Handrianto. 2023. "PROSPECTS FOR IMPLEMENTATION OF GREEN CAMPUS IN EDUCATION AND RESEARCH PILLARS AT EDUPARK FKIP UNSRI BECOME EDUTOURISM." International Journal of Professional Business Review 8(4). doi:10.26668/businessreview/2023.v8i4.1597.
[20] Jääskä, Elina, Kirsi Aaltonen, and Jaakko Kujala. 2021. "Game-Based Learning in Project Sustainability Management Education." Sustainability (Switzerland) 13(15). doi:10.3390/su13158204.
[21] Jacqueline, Guillén de Romero, Calle García Jorge, Gavidia Pacheco, Angélica María, Vélez Santana, and Ana Gabriela. 2020. "Desarrollo Sostenible: Desde La Mirada De Preservación Del Medio Ambiente Colombiano." Revista de Ciencias Sociales 26(4). doi:10.31876/rcs.v26i4.34664.
[22] Khan, Saman, and Charles Henderson. 2020. "How Western Michigan University Is Approaching Its Commitment to Sustainability through Sustainability-Focused Courses." Journal of Cleaner Production 253. doi:10.1016/j.jclepro.2019.119741.
[23] De La Peña Consuegra, Geilert, and Marcos Vinces. 2019. "Acercamiento a La Conceptualización de La Educación Ambiental Para El Desarrollo Sostenible." Revista Cubana de Educación Superior 39.
[24] Larrán Jorge, Manuel, Jesús Herrera Madueño, Yolanda Calzado, and Javier Andrades. 2016. "A Proposal for Measuring Sustainability in Universities: A Case Study of Spain." International Journal of Sustainability in Higher Education 17(5). doi:10.1108/IJSHE-03-2015-0055.
[25] Marín-González, Freddy, Judith Pérez-González, Alexa Senior-Naveda, Mercy Narváez-Castro, Sharmila Rani Moganadas, and Eduardo Garcés-Rosendo. 2023a. "Betting Scenario for the Management of University Professional Practices from the Conformation of Intersectoral Cooperation Networks." Sustainability (Switzerland) 15(7). doi:10.3390/su15076215.
[26] Marín-González, Freddy, Judith Pérez-González, Alexa Senior-Naveda, Mercy Narváez-Castro, Sharmila Rani Moganadas, and Eduardo Garcés-Rosendo. 2023b. "Betting Scenario for the Management of University Professional Practices from the Conformation of Intersectoral Cooperation Networks." Sustainability (Switzerland) 15(7). doi:10.3390/su15076215.
[27] Mendoza Bernache, Yesenia Illian. 2023. "Prototipo de Gestión Ambiental Que Minimice Los Impactos Negativos En La Institución Educativa El Gran Maestro." UNIVERSIDAD NACIONAL HERMILIO VALDIZÁN, HUÁNUCO.
[28] Moreno-Carmona, Cristina, José Manuel Feria-Domínguez, and Rafael Merinero-Rodríguez. n.d. "Moreno-Carmona et al. ARE UNIVERSITY MANAGEMENT TEAMS STRATEGIC STAKEHOLDERS WITHIN HIGHER EDUCATION INSTITUTIONS? A CLINICAL STUDY." INTERDISCIPLINARY APPROACH TO ECONOMICS AND SOCIOLOGY Economics & Sociology 15(1):2022. doi:10.14254/2071.
[29] Muposhi, Asphat, and Roy Shamhuyenhanzva. 2024. "Status of Sustainability Management Education in African MBA Programmes: A Web-Based Research Approach." Australian Journal of Environmental Education. doi:10.1017/aee.2024.5.
[30] Murcia, Maria Jose, and Pilar Acosta. 2023. "Accounting for Plural Cognitive Framings of Growth and Sustainability: Rethinking Management Education in Latin America." Journal of Business Ethics 185(2):299–313. doi:10.1007/s10551-022-05180-4.
[31] Oriade, Ade, Adesola Osinaike, Ken Aduhene, and Yong Wang. 2021. "Sustainability Awareness, Management Practices and Organisational Culture in Hotels: Evidence from Developing Countries." International Journal of Hospitality Management 92. doi:10.1016/j.ijhm.2020.102699.
[32] Parizi, Reza Meimandi. 2016. "On the Gamification of Human-Centric Traceability Tasks in Software Testing and Coding." 2016 IEEE/ACIS 14th International Conference on Software Engineering Research, Management and Applications, SERA 2016 193–200. doi:10.1109/SERA.2016.7516146.

[33] Pérez Rave, Jorge Ivan. 2013. "Revisión Sistemática de Literatura En Ingeniería Como Apoyo a La Consultoría Basada En Investigación." Universidad, Ciencia y Tecnología 17(66).
[34] Pérez Rave, Jorge Iván. 2015. "Artículo de Revisión Sistemática Como Vehículo de Escritura, Investigación y Publicación En Ingeniería." Investigación y Ciencia de La Universidad Autónoma de Aguascalientes (64). doi:10.33064/iycuaa2015643598.
[35] Pérez Rave, Jorge Iván. 2019. "Revisión Sistemática de Literatura En Ingeniería Ampliada y Actualizada." Segunda Edición (April):0–183.
[36] Ragazzi, Marco, and Francesca Ghidini. 2017. "Environmental Sustainability of Universities: Critical Analysis of a Green Ranking." in Energy Procedia. Vol. 119.
[37] Ramos Torres, Débora Isabel. 2020. "Contribución de La Educación Superior a Los Objetivos de Desarrollo Sostenible Desde La Docencia." Revista Española de Educación Comparada (37). doi:10.5944/reec.37.2021.27763.
[38] Sacchi, Alessandra, Monica Molino, Egidio Dansero, Alessia Antonella Rossi, and Chiara Ghislieri. 2023a. "How Sustainable Is the Governance for Sustainability in Higher Education? Insights from an Italian Case Study." International Journal of Sustainability in Higher Education 24(8):1971–91. doi:10.1108/IJSHE-08-2022-0254.
[39] Sacchi, Alessandra, Monica Molino, Egidio Dansero, Alessia Antonella Rossi, and Chiara Ghislieri. 2023b. "How Sustainable Is the Governance for Sustainability in Higher Education? Insights from an Italian Case Study." International Journal of Sustainability in Higher Education 24(8). doi:10.1108/IJSHE-08-2022-0254.
[40] dos Santos, Arnaldo Nogueira, Marcus Vinicius de Oliveira Brasil, Lilia Asuca Sumiya, and Gabriela de Brelaz. 2024. "Sustainable Environmental Management in a Federal Public University from the Perspective of the UI GreenMetric." Revista de Gestao Ambiental e Sustentabilidade 13(1). doi:10.5585/2024.23013.
[41] Schöggl, Josef Peter, Magdalena Rusch, Lukas Stumpf, and Rupert J. Baumgartner. 2023a. "Implementation of Digital Technologies for a Circular Economy and Sustainability Management in the Manufacturing Sector." Sustainable Production and Consumption 35:401–20. doi:10.1016/j.spc.2022.11.012.
[42] Schöggl, Josef Peter, Magdalena Rusch, Lukas Stumpf, and Rupert J. Baumgartner. 2023b. "Implementation of Digital Technologies for a Circular Economy and Sustainability Management in the Manufacturing Sector." Sustainable Production and Consumption 35. doi:10.1016/j.spc.2022.11.012.
[43] Sengupta, Enakshi, Patrick Blessinger, and Taisir Subhi Yamin. 2020. "Introduction to Integrating Sustainability into Curriculum."
[44] Srivastava, Anugamini Priya, Mani Venkatesh, and Mohit Yadav. 2019. "Evaluating the Implications of STAKEHOLDER'S Role towards Sustainability of Higher Education." Journal of Cleaner Production 240. doi:10.1016/j.jclepro.2019.118270.
[45] Szczepankiewicz, Elżbieta Izabela, Jan Fazlagić, and Windham Loopesko. 2021. "A Conceptual Model for Developing Climate Education in Sustainability Management Education System." Sustainability (Switzerland) 13(3):1–26. doi:10.3390/su13031241.
[46] Yang, Charlie, Ekaterina Ivanova, and Julia Hufnagel. 2021. "Using Contemplative Photography in Transformative Sustainability Management Education: Pedagogical Applications in the United States, Russia, and Germany." International Journal of Management Education 19(3). doi:10.1016/j.ijme.2021.100568.
[47] Zambrano Gonzalez, Karla. 2023. "El Informe Brundland Como Precursor Del Concepto Del Desarrollo Sostenible."
[48] van Zanten, Jan Anton, and Rob van Tulder. 2021a. "Improving Companies' Impacts on Sustainable Development: A Nexus Approach to the SDGS." Business Strategy and the Environment 30(8):3703–20. doi:10.1002/bse.2835.
[49] van Zanten, Jan Anton, and Rob van Tulder. 2021b. "Improving Companies' Impacts on Sustainable Development: A Nexus Approach to the SDGS." Business Strategy and the Environment 30(8). doi:10.1002/bse.2835.
[50] Zeitler, Marlene, and Julia Schwarzkopf. 2024. "Fostering Critical Thinking and Different Perspective Taking in Sustainability Management Education through Role-Play and a Cross-Semester Case Study." Pp. 399–406 in International Conference on Higher Education Advances. Universidad Politecnica de Valencia.