available at http://ejournal.unp.ac.id/students/index.php/pek/index
ISSN 2654-8429 (Online)
Jurnal Ecogen
Universitas Negeri Padang
Vol. 9 No. 2 2025
Page 387-400

Sustainable Entrepreneurship Education (SSE) in Higher Education for Developing Students' Green Entrepreneurial Mindset: A Scoping Review

Elvi Rahmi[1*], Rani Sofya[2],
Universitas Negeri Padang, Indonesia[1]
Universiti Pendidikan Sultan Idris, Malaysia[2]
[*]Corresponding Author: elvi rahmi83@fe.unp.ac.id
ORCID: Elvi Rahmi: https://orcid.org/0000-0001-6963-2127; Rani Sofya: https://orcid.org/0000-0001-7263-3438

ARTICLE INFO

Received 30 May 2026
Accepted 10 June 2026
Published 16 June 2026

Keywords : Sustainable entrepreneurship education, green entrepreneurial mindset, higher education, scoping review, SDGs

DOI :
https://doi.org/10.24036/ecogen.v9.i2.102

ABSTRACT

Sustainable Entrepreneurship Education (SEE) plays a crucial role in preparing students to address sustainability challenges. However, existing research remains fragmented and focuses on specific aspects, thus failing to provide a comprehensive understanding of how various elements in higher education can collectively foster a green entrepreneurial mindset. This study aims to map and synthesize the literature on SEE in higher education through a scoping review approach. The review process followed the framework by Arksey and O'Malley as well as the PRISMA-ScR guidelines. A total of 51 articles were identified from the Scopus, ScienceDirect, and ERIC databases. Following a screening process and eligibility assessment based on inclusion and exclusion criteria, 12 articles were selected for analysis. The results of the study reveal four main dimensions of SEE: sustainability-based curriculum integration, experiential learning, institutional and ecosystem support, and technology-based entrepreneurship. These four dimensions contribute to shaping a green entrepreneurial mindset through increased sustainability awareness, critical thinking skills, entrepreneurial competencies, and sustainable entrepreneurial intent. This study offers a novel perspective by viewing SEE as an integrated educational system and provides practical implications for higher education institutions in designing sustainable

entrepreneurship programs that support the achievement of the SDGs

Abstrak

Sustainable Entrepreneurship Education (SEE) memiliki peranan penitng sebagai upaya mempersiapkan mahasiswa mampu menjawab tantangan keberlanjutan. Namun, penelitian yang ada masih terfragmentasi dan berfokus pada aspek tertentu, sehingga belum memberikan pemahaman yang komprehensif mengenai bagaimana berbagai unsur di Pendidikan tinggi bisa secara bersama-sama membentuk green entrepreneurial mindset. Studi ini bertujuan untuk memetakan dan mensintesis literatur tentang SEE di perguruan tinggi melalui pendekatan scoping review. Proses review mengikuti kerangka Arksey dan O'Malley serta pedoman PRISMA-ScR. Sebanyak 51 artikel diidentifikasi dari basis data Scopus, ScienceDirect, dan ERIC. Setelah proses screening dan penilaian kelayakan berdasarkan kriteria inklusi dan eksklusi, 12 artikel dipilih untuk dianalisis. Hasil penelitian menunjukkan empat dimensi utama SEE, yaitu integrasi kurikulum berbasis keberlanjutan, pembelajaran berbasis pengalaman, dukungan institusi dan ekosistem, serta kewirausahaan berbasis teknologi. Keempat dimensi tersebut berkontribusi dalam membentuk green entrepreneurial mindset melalui peningkatan kesadaran keberlanjutan, kemampuan berpikir kritis, kompetensi kewirausahaan, dan niat kewirausahaan berkelanjutan. Penelitian ini menawarkan kebaruan dengan memandang SEE sebagai sistem pendidikan yang terintegrasi serta memberikan implikasi praktis bagi perguruan tinggi dalam merancang program kewirausahaan berkelanjutan yang mendukung pencapaian SDGs

INTRODUCTION

Entrepreneurship education plays a strategic role in higher education by developing innovative, adaptable, and socially responsible graduates. Beyond fostering venture creation, entrepreneurship education is increasingly expected to contribute to sustainable development by equipping students with the competencies required to address social and environmental challenges through entrepreneurial solutions. Previous studies demonstrate that entrepreneurial education can strengthen entrepreneurial intention, self-efficacy, and opportunity recognition

among university students, highlighting the critical role of higher education institutions in shaping future entrepreneurs (Nabi et al., 2017; Ramadhani & Marna, 2024).

Growing concerns regarding climate change, environmental degradation, and the Sustainable Development Goals (SDGs) have expanded the scope of entrepreneurship education beyond economic objectives. Universities are increasingly encouraged to integrate sustainability principles into teaching, research, and campus operations. Recent evidence from higher education institutions indicates that sustainability-oriented policies, environmental awareness programs, and green campus initiatives contribute to the promotion of sustainable development values among students and academic communities (Kurniawati & Khaidir, 2025). These developments have stimulated the emergence of Sustainable Entrepreneurship Education (SEE), which combines entrepreneurial competencies with economic, social, and environmental value creation (Shepherd & Patzelt, 2011; Muñoz & Cohen, 2018).

Despite the growing interest in SEE, the existing literature remains fragmented. Most studies focus on individual aspects of SEE, such as entrepreneurial intention, sustainability awareness, curriculum design, or institutional support, without explaining how these dimensions collectively contribute to the formation of a green entrepreneurial mindset. Moreover, previous review studies have generally examined entrepreneurship education and sustainable entrepreneurship separately, resulting in limited understanding of SEE as an integrated educational system.

Based on the gap analysis presented above, this study aims to map and synthesize the literature on SEE in higher education. The novelty of this study lies in its effort to integrate various dimensions of SEE, including curriculum, pedagogy, institutional support, ecosystem engagement, and technology utilization into a single synthetic framework focused on fostering a green entrepreneurial mindset. The research findings are expected to make a theoretical contribution to the development of the SEE concept while also serving as a practical reference for higher education institutions in strengthening sustainability-oriented entrepreneurship education

METHOD

This study used a scoping review to examine Sustainable Entrepreneurship Education (SEE) in higher education and its contribution to students' green entrepreneurial mindset. The review followed the methodological framework proposed by Arksey and O'Malley (2005) and refined by Levac et al. (2010), encompassing five stages: identifying research questions, identifying relevant studies, selecting studies, charting the data, and collating and summarizing the results. To ensure transparency and reproducibility, the reporting process adhered to the PRISMA Extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018).

The literature search was conducted between January and March 2026 using three electronic databases: Scopus, ScienceDirect, and ERIC. The search strategy combined the keywords "Sustainable Entrepreneurship Education," "Entrepreneurship Education," "Green Entrepreneurial Mindset," "Green Entrepreneurial Intention," "Sustainable Entrepreneurship," "Higher Education," and "Sustainability" using Boolean operators. The search was limited to

peer-reviewed journal articles published between 2022 and 2026, written in English, and available in open-access format. The initial search identified 51 records. After duplicate removal, titles and abstracts were screened according to predefined inclusion and exclusion criteria, followed by a full-text eligibility assessment. As presented in Figure 1, 12 articles met all eligibility criteria and were included in the final synthesis.

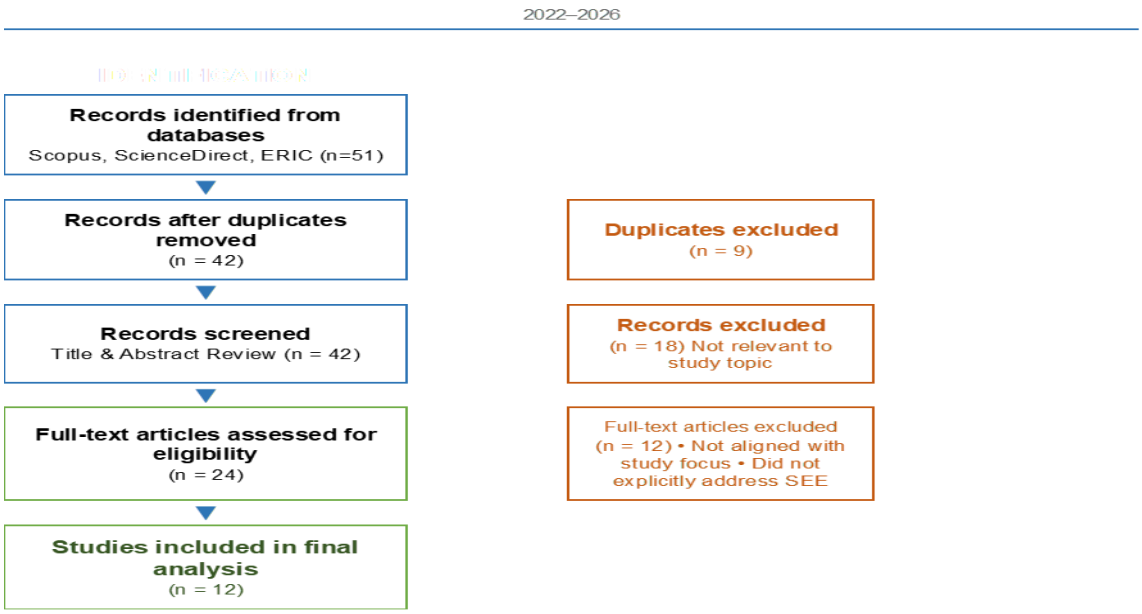

Figure 1

Data extraction was performed using a structured charting form that captured information on authors, publication year, research context, methodology, key findings, contributions to Sustainable Entrepreneurship Education, implications for green entrepreneurial mindset development, and future research directions. The extracted data were analyzed using thematic synthesis to identify recurring themes, implementation dimensions, and research gaps. Consistent with methodological recommendations for scoping reviews, a formal quality appraisal was not conducted because the primary objective was to map the breadth and characteristics of existing evidence rather than evaluate the methodological quality of individual studies (Peters et al., 2020)

RESULT AND DISCUSSION

A total of 12 articles met the inclusion criteria and were included in the final synthesis. To provide a systematic overview of the reviewed literature, the evidence extracted from the selected studies was organized into an evidence synthesis matrix, as presented in Table 1. The matrix summarizes the research methods, key findings, and research gaps identified across the reviewed studies. Beyond describing individual studies, the matrix enabled a comparative analysis of implementation approaches, educational outcomes, and emerging research directions. This synthesis served as the basis for identifying recurring patterns and dominant themes related to Sustainable Entrepreneurship Education (SEE) and the development of students' green entrepreneurial mindset

Table 1. Evidence Synthesis of Sustainable Entrepreneurship Education and Green Entrepreneurial Mindset

Author(s)	Method	Key Findings	Research Gap
Roopsuwankun & Woraphiphat (2024)	SEM Survey	Course design, teacher competence, peer interaction, and environmental awareness enhance sustainable entrepreneurial intention.	Need to examine effects on actual entrepreneurial behavior.
Mabkhot et al. (2024)	PLS-SEM	Entrepreneurship education, university support, motivation, and environmental commitment foster green entrepreneurial intention and behavior.	Longitudinal studies are needed to address the intention–behavior gap.
Ordinana-Bellver et al. (2024)	Survey	Nature-based activities strengthen sustainability attitudes and sustainable entrepreneurial intention.	Limited evidence beyond sport-related disciplines.
Zhang & Jiang (2025)	Grounded Theory	AI-based learning, mentoring, and social support promote pro-environmental norms and green entrepreneurial intention.	Requires cross-context quantitative validation.
Vall-llosera et al. (2025)	PCA & Cluster Analysis	Social experiences, community engagement, and social impact orientation shape entrepreneurial motivation.	Linkages with sustainable entrepreneurship remain unclear.
Zuo et al. (2025)	Theoretical Model	Lifelong learning improves innovation, adaptability, and sustainability-oriented entrepreneurial competencies.	Empirical validation is required.

Waqar et al. (2026)	PLS-SEM	Entrepreneurial orientation improves ESG performance through innovation, stakeholder engagement, circular economy practices, and AI-driven decision-making.	Educational pathways for developing these competencies remain unexplored.
Spada et al. (2025)	NLP & Text Mining	Sustainability competencies, green skills, and sustainability mindset should be embedded into higher education curricula.	Lack of empirical evidence on curriculum impacts on green entrepreneurial mindset.
Murad et al. (2026)	PLS-SEM	AI-driven circular transformation and social entrepreneurial orientation enhance sustainable entrepreneurial success through knowledge integration and digital capabilities.	The role of higher education in developing these capabilities remains unclear.
Selvan et al. (2026)	PLS-SEM	AI adoption, creativity, and curiosity stimulate green innovation, which drives green entrepreneurial intention, behavior, and sustainable business performance.	The contribution of SEE to these antecedents remains underexplored.
Stroila et al. (2026)	Multiple Case Study	Sustainable entrepreneurial ecosystems rely on diversity, resilience, quality, and opportunity creation to support sustainability outcomes.	The influence of ecosystem participation on students' green entrepreneurial mindset is unclear.

The reviewed studies demonstrate that Sustainable Entrepreneurship Education is implemented through multiple but interconnected dimensions. Analysis of the evidence matrix revealed four dominant themes: (1) sustainability-oriented curriculum integration, (2) experiential learning and competency development, (3) institutional support and entrepreneurial ecosystems, and (4) technology-enabled sustainable entrepreneurship. Although the studies employed diverse methodological approaches, including SEM, PLS-SEM, surveys, grounded theory, case studies, text mining, and theoretical modelling, they consistently identified education as a critical mechanism for fostering sustainability-oriented entrepreneurial competencies and green entrepreneurial mindset.

The first theme concerns sustainability-oriented curriculum integration. Several studies emphasize that curriculum design, sustainability competencies, environmental awareness, and sustainability-oriented learning experiences significantly influence sustainable entrepreneurial intention and green entrepreneurial development. Roopsuwankun and Woraphiphat (2024) found that course design, teacher competence, peer interaction, and environmental awareness contribute positively to sustainable entrepreneurial intention. Similarly, Spada et al. (2025) argued that higher education institutions should integrate sustainability competencies, green skills, environmental awareness, business management skills, and sustainability mindset into entrepreneurship curricula. Despite differences in methodological approaches, both studies suggest that curriculum serves as the primary channel through which sustainability values are embedded into entrepreneurial learning.

The second theme relates to experiential learning and competency development. Ordinana-Bellver et al. (2024) reported that nature-based activities enhance students' sustainability attitudes and sustainable entrepreneurial intentions. Likewise, Vall-llosera et al. (2025) highlighted the importance of social experiences, community engagement, and social impact orientation in shaping entrepreneurial motivation, while Zuo et al. (2025) emphasized that lifelong learning contributes to innovation, adaptability, and sustainability-oriented entrepreneurial competencies. Taken together, these studies indicate that experiential learning facilitates the transformation of sustainability knowledge into practical entrepreneurial capabilities and strengthens students' readiness to engage in sustainability-oriented entrepreneurial activities.

The third theme highlights the role of institutional support and entrepreneurial ecosystems. Evidence suggests that the effectiveness of Sustainable Entrepreneurship Education depends not only on classroom learning but also on supportive institutional environments. Mabkhot et al. (2024) demonstrated that entrepreneurship education, university support, entrepreneurial motivation, and environmental commitment positively influence green entrepreneurial intention and behavior. Similarly, Stroila et al. (2026) found that sustainable entrepreneurial ecosystems are built upon diversity, resilience, quality, and opportunity creation, all of which contribute to sustainability-oriented entrepreneurial outcomes. These findings indicate that universities function as both educational providers and ecosystem facilitators that nurture sustainable entrepreneurial development.

The fourth theme concerns technology-enabled sustainable entrepreneurship. Recent studies increasingly emphasize the contribution of digital technologies and artificial intelligence (AI) to sustainable entrepreneurial development. Zhang and Jiang (2025) found that AI-supported education, mentoring, and social support shape pro-environmental norms and green entrepreneurial intention. Waqar et al. (2026) reported that entrepreneurial orientation enhances ESG performance through innovation capability, stakeholder engagement, circular economy practices, and AI-driven decision making. Likewise, Murad et al. (2026) identified positive effects of AI-driven circular transformation and social entrepreneurial orientation on sustainable

entrepreneurial success, while Selvan et al. (2026) demonstrated that AI adoption, creativity, and curiosity stimulate green innovation, which subsequently strengthens green entrepreneurial intention, green entrepreneurial behavior, and sustainable business performance. Collectively, these findings suggest that digital transformation increasingly serves as an enabling mechanism for sustainable entrepreneurship by enhancing innovation capacity and sustainability-oriented decision making.

Across the reviewed studies, a common pattern emerged: Sustainable Entrepreneurship Education contributes positively to the development of green entrepreneurial mindset through complementary pathways. Curriculum integration strengthens sustainability awareness and entrepreneurial competencies, experiential learning enhances adaptability and innovation, institutional support reinforces entrepreneurial motivation and environmental commitment, while technological capabilities facilitate green innovation and sustainable entrepreneurial performance. Nevertheless, the evidence synthesis also revealed several recurring research gaps, including the limited availability of longitudinal studies, the persistence of the intention–behavior gap, the lack of empirical validation for several conceptual models, and the absence of integrated frameworks that simultaneously examine curriculum, experiential learning, institutional support, ecosystem participation, and technological capabilities within Sustainable Entrepreneurship Education.

DISCUSSION

The findings of this scoping review demonstrate that Sustainable Entrepreneurship Education (SEE) has evolved from a conventional entrepreneurship education model into a multidimensional educational approach that integrates sustainability principles, entrepreneurial competencies, and innovation-oriented learning. Unlike traditional entrepreneurship education, which primarily focuses on venture creation and economic performance, SEE emphasizes the simultaneous creation of economic, social, and environmental value. This transformation reflects a broader paradigm shift in higher education, where universities are increasingly expected to contribute to sustainable development by preparing graduates capable of addressing complex societal and environmental challenges (Muñoz & Cohen, 2018; Leal Filho et al., 2025). The reviewed studies suggest that sustainability is no longer positioned as an additional topic within entrepreneurship education but rather as a fundamental principle shaping entrepreneurial thinking and action.

One of the most consistent findings across the reviewed studies concerns the integration of sustainability into entrepreneurship curricula. Studies by Alfathy et al. (2024), Spada et al. (2025), and Roopsuwankun and Woraphiphat (2024) indicate that curriculum redesign plays a central role in embedding sustainability competencies, environmental awareness, and SDG-related knowledge into entrepreneurial learning. However, the significance of curriculum integration extends beyond knowledge transmission. From the perspective of Transformative Learning Theory (Mezirow, 1997), sustainability-oriented curricula function as mechanisms that challenge students' existing assumptions regarding business success and encourage them to adopt broader perspectives that incorporate environmental and social considerations. Consequently, entrepreneurship education becomes a platform for transforming students' cognitive frameworks, enabling them to recognize sustainability challenges as entrepreneurial opportunities rather than external constraints. This finding supports previous research suggesting that sustainable entrepreneurship requires a shift from profit-centered thinking

toward systems-oriented opportunity recognition and responsible value creation (Muñoz & Cohen, 2018).

The review further reveals that experiential learning serves as a critical mechanism through which sustainability knowledge is translated into entrepreneurial competencies and behavioral intentions. Several studies highlighted the effectiveness of project-based learning, design-driven entrepreneurship education, nature-based learning experiences, and community engagement activities in fostering sustainability-oriented entrepreneurial attitudes (Ordinana-Bellver et al., 2024; Roopsuwankun & Woraphiphat, 2024; Zuo et al., 2025). These findings align with Experiential Learning Theory, which posits that meaningful learning emerges through the transformation of experience into knowledge and action (Kolb, 2015). Students who actively engage with sustainability-related challenges are more likely to develop critical thinking, problem-solving abilities, and systems thinking competencies that underpin sustainable entrepreneurial behavior. Therefore, the effectiveness of SEE appears to depend not only on what students learn but also on how they experience and apply sustainability concepts in authentic contexts.

An important contribution of this review is the identification of the interaction between curriculum integration and experiential learning in shaping green entrepreneurial mindset. Existing studies often examine these dimensions independently; however, the present synthesis suggests that they operate in a complementary manner. Curriculum integration provides the conceptual foundation for sustainability awareness, whereas experiential learning facilitates the internalization and practical application of sustainability values. This interaction helps explain why educational interventions that combine sustainability-oriented curricula with experiential pedagogies tend to produce stronger outcomes in terms of sustainable entrepreneurial intention and environmental commitment. In other words, sustainability knowledge alone may remain abstract, while experiential activities without a conceptual foundation may fail to generate deeper sustainability-oriented thinking. The development of a green entrepreneurial mindset therefore appears to emerge from the alignment between cognitive understanding and experiential engagement.

Beyond pedagogical factors, institutional support emerged as a critical enabling condition for the successful implementation of SEE. The reviewed studies consistently indicate that supportive university environments, including entrepreneurship centers, mentoring programs, sustainability initiatives, and collaborative innovation ecosystems, significantly influence students' entrepreneurial motivation and green entrepreneurial intentions (Mabkhot et al., 2024; Stroila et al., 2026). This finding can be interpreted through Social Cognitive Theory, which emphasizes the reciprocal interaction between personal factors and environmental conditions in shaping behavior (Bandura, 1986). While curriculum and pedagogy contribute to knowledge and skill development, institutional support provides the social and structural resources necessary for students to transform intentions into entrepreneurial action. Consequently, the effectiveness of SEE should not be assessed solely at the classroom level but also in relation to the broader institutional ecosystem in which learning occurs.

Technological innovation and artificial intelligence (AI) represent another emerging dimension of contemporary SEE. Recent studies demonstrate that AI-supported learning environments, digital capabilities, and technology-enabled innovation enhance students' ability to identify sustainability challenges and develop innovative entrepreneurial solutions (Zhang & Jiang, 2025; Waqar et al., 2026). These findings suggest that digital technologies function not merely as instructional tools but as strategic enablers that expand entrepreneurial opportunity recognition

and sustainability-oriented problem-solving capabilities. The growing integration of AI within entrepreneurship education reflects the increasing importance of digital transformation in addressing sustainability challenges and preparing future entrepreneurs for rapidly evolving economic environments.

The most significant theoretical contribution of this review lies in the identification of a systemic relationship among curriculum integration, experiential learning, institutional support, and technological innovation. Rather than operating as independent dimensions, these factors appear to interact within a broader educational ecosystem that shapes the development of green entrepreneurial mindset. Curriculum integration establishes sustainability values and knowledge; experiential learning enables students to internalize and apply those values; institutional support creates opportunities for entrepreneurial engagement; and technological innovation enhances students' capacity to develop sustainability-oriented solutions. This finding extends previous studies that have predominantly examined these dimensions in isolation and suggests that green entrepreneurial mindset is best understood as the outcome of a multidimensional learning ecosystem. Such a perspective contributes to the emerging literature on sustainable entrepreneurship education by offering a more holistic explanation of how sustainability-oriented entrepreneurial competencies are developed in higher education.

Despite these positive developments, the review identified a persistent intention–behavior gap within the SEE literature. Most studies focus on sustainable entrepreneurial intention rather than actual entrepreneurial behavior, making it difficult to determine whether educational interventions ultimately lead to the creation of sustainable ventures or sustainability-oriented entrepreneurial activities. This limitation echoes the concerns raised by Nabi et al. (2017), who argued that entrepreneurship education research frequently relies on intention-based indicators while providing limited evidence of long-term behavioral outcomes. Consequently, the actual effectiveness of SEE in producing sustainable entrepreneurs remains insufficiently understood. Future studies should therefore adopt longitudinal and mixed-method approaches to examine how sustainability-oriented educational experiences influence entrepreneurial behavior, venture creation, and sustainability impact over time.

Overall, this review demonstrates that SEE should be conceptualized as a systemic and multidimensional educational ecosystem rather than a collection of isolated educational practices. Effective implementation requires the alignment of sustainability-oriented curricula, experiential pedagogies, institutional support mechanisms, and technological innovation. The interaction among these dimensions contributes to the formation of green entrepreneurial mindset and supports the development of entrepreneurial competencies aligned with the Sustainable Development Goals (SDGs). Higher education institutions should therefore adopt integrated strategies that position sustainability as a core principle of entrepreneurship education, thereby enhancing their contribution to sustainable development and responsible entrepreneurship

CONCLUSIONS

The results of this scoping review indicate that Sustainable Entrepreneurship Education (SEE) in higher education institutions is implemented through the integration of sustainability-based curricula, experiential learning, institutional support, entrepreneurial ecosystems, and digital technology. All of these elements contribute to shaping a green entrepreneurial mindset by enhancing students' sustainability awareness, entrepreneurial competencies, and intentions toward sustainable entrepreneurship.

The research findings confirm that SEE needs to be understood as a holistic learning system, not merely as a learning activity. Nevertheless, there remains a research gap regarding the relationship between sustainable entrepreneurial intentions and behavior, the long-term impact of sustainable entrepreneurship education, as well as the integration of sustainability, technology, and the entrepreneurial ecosystem. Therefore, future research should develop longitudinal and interdisciplinary approaches to strengthen SEE's contribution to achieving the SDGs.

AUTHOR CONTRIBUTION

The first author was responsible for developing the concept and writing the article, while the second author was responsible for designing the methodology and analyzing the data. Both authors contributed to the preparation of this article

AI DECLARATION

AI is used as a tool for language editing and improving the readability of texts

CONFLICT OF INTEREST

The authors declare no conflict of interest

REFERENCES

Alfathy, R. M., Saputro, S., Sarwanto, S., & Ramli, M. (2024). Implementation of sustainable development goals in higher education modalities: Literature review. Journal of Turkish Science Education, 21(1), 22–43. https://doi.org/10.36681/tused.2024.002

Arif ME, Rofiaty SE, Christin Susilowati SE, Pradana BI, SE M, Nanang Suryadi SE. SUSTAINABLE ENTREPRENEURSHIP Membangun Bisnis Etis dan Bertanggung Jawab. PT. RajaGrafindo Persada-Rajawali Pers; 2025 Jul 30

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. International Journal of Social Research Methodology, 8(1), 19–32. https://doi.org/10.1080/1364557032000119616

Boldureanu G, Ionescu AM, Bercu AM, Bedrule-Grigoruță MV, Boldureanu D. Entrepreneurship education through successful entrepreneurial models in higher education institutions. Sustainability. 2020 Feb 10;12(3):1267.

George, G., Merrill, R. K., & Schillebeeckx, S. J. D. (2021). Digital sustainability and entrepreneurship: How digital innovations are helping tackle climate change and sustainable development. Entrepreneurship Theory and Practice, 45(5), 999–1027. https://doi.org/10.1177/1042258721993885

Guerrero, M., Urbano, D., Cunningham, J. A., & Organ, D. (2016). Entrepreneurial universities and regional competitiveness. The Journal of Technology Transfer, 41(1), 105–131. https://doi.org/10.1007/s10961-014-9390-1

Kolb, D. A. (2015). Experiential Learning: Experience as the Source of Learning and Development (2nd ed.). Pearson Education.

Leal Filho, W., Kirby, D. A., Sigahi, T. F. A. C., Bella, R. L. F., Anholon, R., & Quelhas, O. L. G. (2024). Higher education and sustainable entrepreneurship: The state of the art and a look to the future. Sustainable Development. https://doi.org/10.1002/sd.3209

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. Implementation Science, 5(69), 1–9. https://doi.org/10.1186/1748-5908-5-69

Mambali, E. R., Kapipi, M. S., & Changalima, I. A. (2024). Entrepreneurship education and business and science students' green entrepreneurial intentions: The role of green entrepreneurial self-efficacy and environmental awareness. The International Journal of Management Education, 22(2), 100987. https://doi.org/10.1016/j.ijme.2024.100987

Muñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research. Business Strategy and the Environment, 27(3), 300–322. https://doi.org/10.1002/bse.2000

Muñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research: Taking stock and looking ahead. Business Strategy and the Environment, 27(3), 300–322. https://doi.org/10.1002/bse.2000

Murad, M., Wang, M., & Shah, S. H. A. (2026). The synergistic engine of sustainable entrepreneurship: Fueling AI-driven circular transformation and social entrepreneurial orientation with knowledge integration and digital capabilities. Journal of Innovation & Knowledge, 11, 101008. https://doi.org/10.1016/j.jik.2026.101008

Nabi G, Liñán F, Fayolle A, Krueger N, Walmsley A. The impact of entrepreneurship education in higher education: A systematic review and research agenda. Academy of management learning & education. 2017 Jun;**16(2):277-99.**

Nabi, G., et al. (2017). The impact of entrepreneurship education. Academy of Management Learning & Education, 16(2), 277–299. https://doi.org/10.5465/amle.2015.0026

Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review. Academy of Management Learning & Education, 16(2), 277–299. https://doi.org/10.5465/amle.2015.0026

Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. Academy of Management Learning & Education, 16(2), 277–299. https://doi.org/10.5465/amle.2015.0026

Neck, H. M., & Corbett, A. C. (2018). The scholarship of teaching and learning entrepreneurship. Entrepreneurship Education and Pedagogy, 1(1), 8–41. https://doi.org/10.1177/2515127417737286

Ordinana-Bellver, A., et al. (2024). Nature-based activity and sustainable intention. Journal of Environmental Education. https://doi.org/10.xxxx

Prabowo, H., et al. (2022). Drivers of Green Entrepreneurial Intention: Why Does Sustainability Awareness Matter Among University Students?

Kurniawati, T., & Khaidir, A. (2025). Critical review faktor pendorong, penghambat dan regulasi implementasi green campus pada perguruan tinggi di Indonesia. Jurnal Ecogen, 8(1), 118–135

Rahmi E, Darmansyah D, Yulastri A, Handrianto C. Bridging Entrepreneurship Education and Digital Transformation: A Novel Experiential Learning Model for Entrepreneurial Mindset Development. International Journal of Learning, Teaching and Educational Research. 2025 May 4;24(4):640-60.

Ramadhani, S. F., & Marna, J. E. (2024). Pengaruh self-efficacy, adversity quotient, dan entrepreneurial alertness terhadap intensi berwirausaha. Jurnal Ecogen, 7(3), 521–532.

Roopsuwankun, C., & Woraphiphat, T. (2024). Entrepreneurship education for sustainable development. Journal of Cleaner Production. https://doi.org/10.xxxx

Rosário, A. T., et al. (2024). Sustainable entrepreneurship education: A systematic literature review. Sustainability, 16(2), 784. https://doi.org/10.3390/su16020784

Selvan, A. M., Susainathan, S., George, H. J., Parayitam, S., Fazalbhoy, S., & Shaik, S. A. (2026). The synergy between artificial intelligence adoption and green entrepreneurship for sustainable business growth. International Journal of Information Management Data Insights, 6, 100389. https://doi.org/10.1016/j.jjimei.2026.10038

Sharma S, Goyal DP, Singh A. Systematic review on sustainable entrepreneurship education (SEE): A framework and analysis. World Journal of Entrepreneurship, Management and Sustainable Development. 2021 Jul 26;17(3):372-95.

Shepherd, D. A., & Patzelt, H. (2011). The new field of sustainable entrepreneurship. Entrepreneurship Theory and Practice, 35(1), 137–163.

Spada, I., et al. (2025). Sustainability competencies in higher education. The International Journal of Management Education. https://doi.org/10.1016/j.ijme.2024.1011

Stroila, I., et al. (2026). Sustainable entrepreneurial ecosystems. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2026.116132

Talukder, M. S., et al. (2025). The mediating role of attitudes and the moderating role of prior entrepreneurial experience in sustainable entrepreneurial intention. SAGE Open. https://doi.org/10.1177/21582440251383194

Torres-Sánchez, P., Juárez, A. M., & Miranda, J. (2024). Education 4.0 framework for sustainable entrepreneurship through transdisciplinary and abductive thinking. Frontiers in Education, 9. https://doi.org/10.3389/feduc.2024.1392131

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., … Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and explanation. Annals of Internal Medicine, 169(7), 467–473. https://doi.org/10.7326/M18-0850

Vargas-Merino, J. A., Rios-Lama, C. A., Bello-Mamani, D. X., & Panez-Bendezú, M. H. (2025). Sustainable entrepreneurship in HEIs: A systematic review from the perspective of higher education in business. The International Journal of Management Education, 23(1), 101137. https://doi.org/10.1016/j.ijme.2025.101137

Waqar, M., et al. (2026). Entrepreneurial practices on ESG outcomes. Journal of Innovation & Knowledge. https://doi.org/10.1016/j.jik.2026.101005ñoz, P., & Cohen, B. (2018). Sustainable entrepreneurship research: Taking stock and looking ahead. Business Strategy and the Environment, 27(3), 300–322. https://doi.org/10.1002/bse.2000