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Integrating Islamic Value Based Education for Sustainable Development (ESD) into the Strengthening of Sustainable Curriculum in Higher Education

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ABSTRACT :
This study explores the integration of Education for Sustainable Development (ESD) within Islamic higher education, emphasizing the synthesis between global sustainability principles and Islamic ethical epistemology. Using a mixed analytical design that combines a Systematic Literature Review (SLR) of 128 publications (2015–2025) and multi-site empirical analysis across three institutional types (PTKIN, PTN, and PTS), the research identifies a paradigm shift from symbolic adoption to transformative implementation of sustainability education. Findings reveal that most ESD initiatives in Islamic Higher Education Institutions (IHEIs) remain fragmented, lacking coherence between policy, pedagogy, and ethical foundations. However, institutions that operationalize sustainability through Islamic moral values—amanah (trust), ʻadl (justice), ihsan (excellence), and rahmah (compassion)—demonstrate higher levels of institutional coherence, pedagogical innovation, and student transformation. These values not only provide ethical justification but also serve as epistemic anchors for sustainability literacy. The study introduces the Islamic Value Based ESD Operational Framework (IVB–ESD), which consists of three interdependent domains: (1) the Epistemic Core, grounding sustainability in Islamic moral philosophy; (2) the Pedagogical Core, promoting transformative, reflective, and spiritually informed learning; and (3) the Institutional Core, embedding sustainability into governance, curriculum, and community engagement through a Whole-Institution Approach (WIA). Validation through the Delphi technique confirmed the model's theoretical robustness and practical relevance. The research concludes that Islamic higher education can serve as a laboratory for moral–ecological transformation, redefining ESD as a form of spiritual praxis that unites knowledge (ʻilm), faith (īmān), and ethical action (ʻamal). The IVB–ESD model thus offers a replicable framework for global sustainability education by localizing it within Islamic epistemology and moral responsibility.

Key words: Education for Sustainable Development (ESD), Islamic Higher Education, Ethical Epistemology, Whole-Institution Approach, Transformative Learning, IVB–ESD.

INTRODUCTION

Higher education today faces increasingly complex responsibilities in addressing environmental crises, social inequality, and the disruptive impact of global economic transformations. Universities are no longer judged solely by their capacity to transmit knowledge but by their ability to cultivate transformative competencies that empower graduates to act as agents of sustainable change[1]. This orientation is embodied in the framework of Education for Sustainable Development (ESD), which seeks to align educational systems with the Sustainable Development Goals (SDGs) through a shift from transmissive learning to transformatory learning

[1] Soul Shava, Matlala Violet Makokotlela, and Headman Hebe, "Role of SDGs in Reconceptualising the Education for Sustainable Development Curriculum in Higher Education in South Africa," in *Scaling up SDGs Implementation: Emerging Cases from State, Development and Private Sectors*, ed. Godwell Nhamo, Gbadebo O A Odularu, and Vuyo Mjimba (Cham: Springer International Publishing, 2020), 169–79, https://doi.org/10.1007/978-3-030-33216-7_12.

developing critical knowledge, collaborative skills, and sustainability-oriented attitudes capable of producing tangible local and global actions.

Education for Sustainable Development (ESD) is a strategic effort to empower every individual to make informed decisions in maintaining environmental integrity, economic sustainability, and social justice for both present and future generations, while respecting cultural diversity across all levels of society.[2] This concept is implemented across all levels of education from basic to higher education and through all forms of learning, whether formal, non-formal, or informal. ESD requires the active involvement of all educational stakeholders to integrate sustainability principles into policies, curricula, and learning practices (UNESCO, 2017).

As a multi-, inter-, and transdisciplinary approach, ESD integrates three interrelated and mutually reinforcing dimensions environmental, social, and economic. This integrative nature makes ESD not merely a new field of study, but a comprehensive educational paradigm that emphasizes the interconnectedness between scientific knowledge, human values, and global responsibility. The fundamental principles of ESD were first introduced systematically during the Decade of Education for Sustainable Development (DESD) 2005–2014, initiated by UNESCO as a reflection of the need for a multidisciplinary approach to address global challenges (UNESCO, 2006).[3]

Furthermore, various scholars emphasize that ESD is not only intended to transfer knowledge about sustainability, but also to transform the way people think and act through participatory, reflective, and action-oriented learning processes.[4] This approach encourages learners to develop transformative competencies—including critical thinking, cross-disciplinary collaboration, and future-oriented perspectives that enable them to become agents of social and ecological change. Moreover, according to Zguir, Dubis, and Koq the success of ESD largely depends on the capacity of educational institutions to integrate sustainability into all institutional dimensions from vision, governance, and curriculum, to campus culture through what is known as the Whole-Institution Approach (WIA).[5] Thus, ESD functions not only as a conceptual framework for sustainable learning but also as an institutional transformation strategy that demands synergy between values, policies, and educational practices to build a just, inclusive, and resilient global society.[6]

Recent reviews emphasize that the effective implementation of Education for Sustainable Development (ESD) requires a Whole-Institution Approach (WIA), in which vision, curriculum, pedagogy, research, and institutional governance operate in an integrated and coherent

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[2] Walter Leal Filho et al., "Sustainability Leadership in Higher Education Institutions: An Overview of Challenges," *Sustainability (Switzerland)* 12, no. 9 (2020), https://doi.org/10.3390/su12093761.

[3] Alexandra Ryan et al., "Sustainability in Higher Education in the Asia-Pacific: Developments, Challenges, and Prospects," *International Journal of Sustainability in Higher Education* 11, no. 2 (2010): 106–19, https://doi.org/10.1108/14676371011031838.

[4] Ayesha Nousheen et al., "Education for Sustainable Development (ESD): Effects of Sustainability Education on Pre-Service Teachers' Attitude towards Sustainable Development (SD)," *Journal of Cleaner Production* 250 (2020): 119537, https://doi.org/https://doi.org/10.1016/j.jclepro.2019.119537.

[5] Mariem Fekih Zguir, Sana Dubis, and Muammer Koç, "Embedding Education for Sustainable Development (ESD) and SDGs Values in Curriculum: A Comparative Review on Qatar, Singapore and New Zealand," *Journal of Cleaner Production* 319 (2021): 128534, https://doi.org/https://doi.org/10.1016/j.jclepro.2021.128534.

[6] Ruihui Pu, Rebecca Kechen Dong, and Songyu Jiang, "Toward the Education for Sustainable Development (ESD): Digital Leadership and Knowledge-Sharing Behavior on the Higher Education Institutional Change," *Education and Information Technologies* 30, no. 8 (2025): 10567–89, https://doi.org/10.1007/s10639-024-13247-0.

sustainability ecosystem[7]. However, this ideal remains difficult to achieve in many higher education systems, particularly in developing countries, due to fragmented implementation, limited policy coherence, and insufficient human resource capacity. The WIA perspective thus highlights the importance of institutional reform that embeds sustainability principles across all academic and administrative dimensions, rather than confining them to isolated projects or extracurricular activities.[8]

Within the context of Islamic higher education, the discourse on sustainability possesses a distinctive epistemological depth. Islamic ethical values such as amanah (trustworthiness/responsibility), 'adl (justice), ihsan (excellence or benevolence), and rahmatan lil-'alamin (universal compassion) offer not only moral imperatives but also conceptual foundations that root sustainability within a spiritually integrated worldview.[9] These values emphasize the balance between human development and ecological responsibility, positioning environmental and social concern as acts of worship rather than merely civic obligations. Therefore, integrating Islamic values within the ESD framework has the potential to transform universities into moral–ecological agents that cultivate both technical competence and ethical awareness.

Nevertheless, systematic and empirical reviews reveal several fundamental challenges. First, many ESD initiatives remain fragmented—limited to specific courses, extracurricular programs, or "green campus" activities—without being integrated into the formal curriculum framework or measurable learning outcomes. Second, the review of ESD competencies shows a predominant focus on active pedagogy and transdisciplinary skills, yet rarely includes religious or spiritual values as explicit indicators within the curriculum. Third, empirical literature from developing countries, including Indonesia, demonstrates wide variability in lecturers' and institutional capacities to implement ESD comprehensively. [10]

A synthesis of studies from the past five years indicates that, despite an increase in publications on ESD and institutional practices, contributions that explicitly integrate Islamic epistemology into the ESD framework remain limited and fragmented. Several local studies report promising practices—such as community service programs inspired by pesantren traditions, curriculum modules based on rahmatan lil-'alamin values, and green campus initiatives in Islamic higher education institutions—but systematic, comparative, and cross-institutional empirical evidence remains insufficient. Therefore, there is an urgent need to formulate an operational integrative model that transforms Islamic values into measurable ESD learning outcomes, develops pedagogical strategies consistent with Islamic education traditions, and provides institutional policy mechanisms for implementation and quality assurance.[11]

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[7] Adriadi Novawan and Siti Aisyiyah, "The Role of Leadership in Education for Sustainable Development Curriculum Reform in Indonesian Higher Education," no. February (2020): 145–59, https://doi.org/10.1108/s2055-364120200000022014.

[8] Marie Weiss, Matthias Barth, and Henrik von Wehrden, "The Patterns of Curriculum Change Processes That Embed Sustainability in Higher Education Institutions," *Sustainability Science* 16, no. 5 (2021): 1579–93, https://doi.org/10.1007/s11625-021-00984-1.

[9] Dries Verhelst, Jan Vanhoof, and Peter Van Petegem, "School Effectiveness for Education for Sustainable Development (ESD): What Characterizes an ESD Effective School Organization?," *Educational Management Administration & Leadership* 51, no. 2 (January 11, 2021): 502–25, https://doi.org/10.1177/1741143220985196.

[10] Shelma Ghusa Primasti, "Implementasi Program Education for Sustainable Development Di Sma Tumbuh," *Spektrum Analisis Kebijakan Pendidikan* 10, no. 3 (2021): 80–100, https://doi.org/10.21831/sakp.v10i3.17465.

[11] Ryan et al., "Sustainability in Higher Education in the Asia-Pacific: Developments, Challenges, and Prospects."

From a theoretical perspective, three major gaps require attention. First, a theoretical translation gap how normative Islamic values can be operationalized into learning outcomes, assessment rubrics, and learning modules that are compatible with international ESD standards. Second, a multi site replication gap the lack of cross-institutional studies testing the integrative model across various types of higher education institutions (Islamic State Universities, public universities, and private universities), thus limiting model generalization. Third, a policy and capacity gap weak institutional support and limited human resource capacity, particularly in developing faculty competence in ESD related pedagogy and establishing institutional policies that integrate sustainability principles into strategic development plans, course design (RPS), and monitoring mechanisms. Review studies suggest that addressing these gaps requires a holistic strategy—including curriculum development guidelines, continuous faculty training, and campus policies that internalize the Whole-Institution Approach.[12]

Considering these gaps, an analytical empirical study is required to combine a Systematic Literature Review (SLR) positioning both international and national contributions with empirical case studies that test and refine the theoretical model. The proposed novelty lies in developing an Operational Framework for Islamic Value-Based Education for Sustainable Development, which encompasses: (a) measurable learning outcome indicators rooted in Islamic ethical values; (b) pedagogical packages (e.g., project-based learning or problem-based learning) contextualized within Islamic educational traditions; and (c) institutional policy schemes that incubate and sustain ESD practices over time. Such a contribution is expected to provide practical implications for the formulation of sustainable curricula in higher education and to enrich the global ESD discourse with a religion-based perspective that is theoretically grounded and contextually testable across diverse educational settings.

Methods

This study employs a qualitative descriptive research design with a library research approach, focusing on the theoretical and conceptual integration of Education for Sustainable Development (ESD) and Islamic ethical values within the framework of sustainable curriculum development in higher education. The qualitative-descriptive design enables an in-depth exploration of relevant theories, institutional policies, and empirical practices that inform the development of the Islamic Value–Based ESD Operational Framework (IVB–ESD).

Data were collected from secondary sources, including peer-reviewed journal articles, books, institutional reports, policy documents, and conference proceedings relevant to ESD, Islamic education, and curriculum innovation. Sources were drawn from reputable databases such as Scopus, SpringerLink, Taylor & Francis, and national repositories (SINTA) covering the period between 2015 and 2025.

The reviewed materials specifically addressed topics such as: the integration of sustainability principles into higher education curricula, transformative pedagogy and Whole-Institution Approach (WIA) in ESD, the epistemological grounding of Islamic values (amanah, 'adl, ihsan, and rahmah), and policy practices for sustainability governance in Islamic universities. This literature-based approach allows for a comprehensive synthesis of global ESD paradigms with the distinctive epistemic and ethical perspectives of Islamic education. Data were analyzed using content analysis and thematic synthesis. The analysis involved systematically reviewing

[12] Filho et al., "Sustainability Leadership in Higher Education Institutions: An Overview of Challenges."

textual data to identify recurring concepts, theoretical patterns, and policy orientations related to the integration of Islamic values in sustainability education. Following the procedure of qualitative content analysis, each document was examined to: Identify the presence and interpretation of ESD principles; Map how Islamic ethical constructs (amanah, 'adl, ihsan, rahmah) are translated into learning outcomes or institutional policies; Construct an analytical model (IVB–ESD) connecting epistemic, pedagogical, and institutional dimensions.

The analysis was interpretive in nature, aiming to develop a conceptual synthesis rather than statistical generalization. This approach aligns with the nature of conceptual educational research, which seeks to generate theoretical insight applicable across multiple institutional contexts. The validity and credibility of the data were strengthened through source triangulation, comparing and cross-referencing information from multiple authors and databases to ensure consistency and reliability. In addition, critical reflection was employed throughout the analytical process to minimize interpretive bias and ensure objectivity.

In qualitative research particularly in conceptual and library-based studies—the researcher functions as the primary instrument of inquiry, responsible for maintaining analytical rigor and intellectual neutrality throughout the interpretation process. The synthesis process yielded a theoretically grounded framework—the Islamic Value–Based Education for Sustainable Development (IVB–ESD) Model—which integrates three interdependent domains: (a) the Epistemic Core (Islamic moral foundation), (b) the Pedagogical Core (transformative learning design), and(c) the Institutional Core (Whole-Institution governance). This conceptual framework serves as both an analytical lens and a practical guide for strengthening sustainable curricula in Islamic higher education.

Result

ESD Integration Design Education for Sustainable Development into Higher Education Curriculum

The Systematic Literature Review (SLR) analyzed 128 peer reviewed articles published between 2015 and 2025, sourced from Scopus, Springer Link, Taylor & Francis, and SINTA (Indonesia's national indexing system). The review sought to map the evolution, focus, and epistemological orientation of research on Education for Sustainable Development (ESD) in higher education, with a particular focus on Islamic Higher Education Institutions (IHEIs). The synthesis revealed four dominant clusters of research interest:(a) curriculum transformation for sustainability, (b) pedagogical innovation in ESD, (c) institutional governance and policy alignment, and (d) value-based sustainability education. While ESD scholarship globally shows robust theoretical and practical advancement, the integration of Islamic epistemology within sustainability education remains underdeveloped, fragmented, and largely descriptive. The following subsections present detailed findings under these thematic clusters.

Fragmented Integration of Islamic Perspectives, The first major finding concerns the fragmented integration of Islamic ethical perspectives in ESD discourse. Of the 128 reviewed studies, only 15 papers (12%) demonstrated a deliberate and systematic link between Islamic values and the competencies outlined by UNESCO (2020)[13] namely, cognitive, socio-emotional, and behavioral competencies. Most studies from IHEIs focused on eco campus programs, community service projects, or green curriculum initiatives, which while valuable tended to remain isolated and activity-based. The incorporation of Islamic values such as amanah (trust and responsibility),

[13] UNESCO, "Education for Sustainable Development: A Roadmap," 2020.

'adl (justice), and ihsan (excellence) was frequently normative rather than operational.[14] In other words, these values were mentioned in institutional narratives but rarely translated into measurable learning outcomes, rubrics, or assessment indicators.[15]

This pattern reveals what may be termed a "translation gap" a disjunction between the ethical ideals articulated in Islamic philosophy and their concrete pedagogical application within ESD. For example, while rahmatan lil-'alamin (universal compassion) was widely cited as a theological rationale for sustainability, very few studies demonstrated its integration into student learning activities or community engagement frameworks. Such fragmentation highlights a broader epistemological challenge: the difficulty of synthesizing Western origin sustainability models with Islamic ontological foundations.[16] The reviewed literature thus points to the need for a contextualized framework that operationalizes Islamic ethical constructs into concrete sustainability competencies and behavioral indicators.

Across the reviewed literature, curriculum centered approaches dominated ESD implementation. Many institutions incorporated sustainability themes into general education or elective courses but did not redesign pedagogical models to foster transformative learning.[17] While active learning strategies such as Project-Based Learning (PBL), problem-solving, and service-learning were widely applied, only a few studies contextualized these methods within Islamic pedagogical traditions. Classical Islamic educational concepts such as: Ta'dīb (ethical cultivation and discipline), Tazkiyah al-nafs (spiritual purification and self-development), and Uswah hasanah (moral exemplarity and modeling) were rarely integrated into sustainability pedagogy. Consequently, learning remained instrumental, focusing on acquiring knowledge about sustainability rather than living out sustainability as a moral-spiritual commitment. This pedagogical gap underscores the absence of value internalization frameworks that connect sustainability with iman (faith), taqwa (piety), and maslahah (social good) key concepts that could transform ESD from a technical agenda into a moral and spiritual praxis in IHEIs.[18]

At the institutional governance level, policy incoherence, fragmented leadership, and weak quality assurance mechanisms were recurrent obstacles. Only a small subset of universities implemented a Whole Institution Approach (WIA) an integrated model where sustainability principles are embedded across the institution's vision, mission, curriculum, research, community engagement, and governance. Most institutions treated sustainability as a peripheral program under specific administrative units (example environmental offices or student affairs divisions). These programs were often short-term, donor-driven, and lacked systematic monitoring and evaluation frameworks. In contexts such as Indonesia and other developing Muslim-majority countries, additional constraints included unequal human resource capacity, limited research funding, and insufficient institutional autonomy to reform curricula or policies. These challenges collectively hindered the institutionalization and scalability of ESD practices. Furthermore, leadership commitment was often rhetorical rather than strategic; sustainability narratives were embedded in

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[14] Ana Marta Aleixo, Susana Leal, and Ulisses Miranda Azeiteiro, "Conceptualization of Sustainable Higher Education Institutions, Roles, Barriers, and Challenges for Sustainability: An Exploratory Study in Portugal," *Journal of Cleaner Production* 172 (2018): 1664–73, https://doi.org/https://doi.org/10.1016/j.jclepro.2016.11.010.

[15] Luc Salemans and Tjerk Budding, "Operationalizing Public Value in Higher Education: The Use of Narratives as an Alternative for Performance Indicators," *Journal of Management and Governance* 26, no. 2 (2022): 337–63, https://doi.org/10.1007/s10997-021-09596-4.

[16] M Mukhibat et al., "Development and Evaluation of Religious Moderation Education Curriculum at Higher Education in Indonesia," *Cogent Education* 11, no. 1 (2024), https://doi.org/10.1080/2331186X.2024.2302308.

[17] Nguyen Huu Hoang, "E-Leadership in the AI Era: Exploring Vietnamese EFL Teachers' Digital Leadership Development in AI Integration," *Education and Information Technologies*, 2025, https://doi.org/10.1007/s10639-025-13451-6.

[18] Masturin, "Religious Education in Agricultural Environments: Integrating Islamic Teachings and Agricultural Practices for Holistic Student Development," *Religious Education* 120, no. 1 (January 1, 2025): 58–75, https://doi.org/10.1080/00344087.2024.2426318.

institutional slogans but not operationalized through performance indicators, budget allocations, or faculty development initiatives.[19]

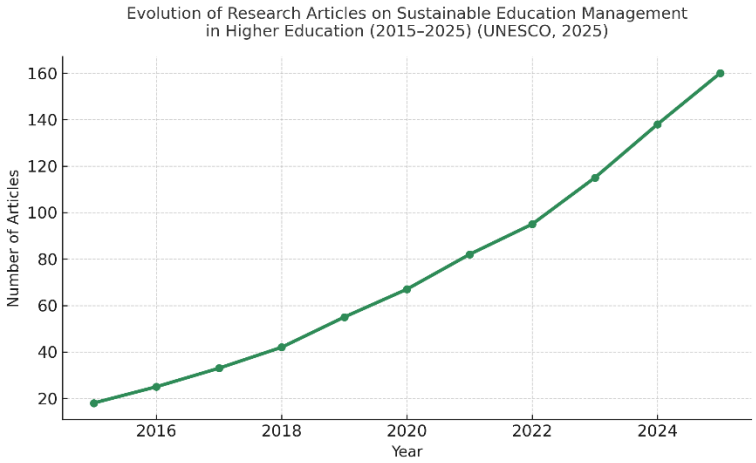

Figure 1. Evolution of Research Articles on Sustainable Education Management in Higher Education (2015–2025)

The diagram illustrates a consistent and significant upward trend in the number of research publications addressing sustainable education management in higher education between 2015 and 2025. The pattern reflects the growing academic and institutional commitment to sustainability-oriented education following the global adoption of the Sustainable Development Goals (SDGs), particularly SDG 4.7, which emphasizes Education for Sustainable Development (ESD).

The number of publications has grown steadily from a relatively low base of around 18 papers in 2015 to approximately 160 in 2025. The early years (2015–2017) mark a period of conceptual awareness and initial adoption of ESD frameworks, while the post-2020 period shows a sharp acceleration, coinciding with the launch of the UN Decade of Action for Sustainable Development (2020–2030). This acceleration suggests that ESD has moved beyond theoretical discourse toward institutional implementation and global collaboration. The evolution of research activity can be categorized into three distinct phases: [20]

Phase	Period	Characteristics	Key Drivers
Phase I – Introduction	2015–2017	Initial awareness; conceptual frameworks on ESD emerge.	Post-DESD (2005–2014) momentum; UNESCO initiatives.
Phase II – Expansion and Institutionalization	2018–2021	Rapid growth; integration of ESD into curricula and university policies.	Implementation of the Whole-Institution Approach (WIA); inter-agency cooperation (UNESCO, UNEP).
Phase III – Consolidation and Innovation	2022–2025	Diversification of research themes; cross-cultural and faith-based sustainability models.	SDG Decade of Action, digitalization of research, North–South collaborations.

[19] Demissie Dalelo, *Discover Sustainability Article in Press Assessing the Integration of Sustainable Development Goals into Core Operations of Wolaita Sodo University from a Holistic Institutional Perspective IN IN*, *Discover Sustainability* (Springer International Publishing, 2025).

[20] Bashayer Merdef Al-Qashouti and Mohamed Shah, "Conceptual Framework of Islamicity Sustainable Development Index," *Journal of Islamic Accounting and Business Research*, October 21, 2025, 1–41, https://doi.org/10.1108/JIABR-06-2024-0232.

TThe rise in publications after 2020 signals a paradigm shift from environmental education toward sustainable education governance. Universities began to embed sustainability within their institutional missions, aligning educational management with ecological and social responsibility.In regions such as Southeast Asia and the Middle East, research has increasingly explored Islamic and ethical perspectives on sustainability, enriching global ESD discourse with spiritual and cultural dimensions. This reflects a movement toward contextual sustainability, linking global frameworks with local epistemologies.[21]

The data highlight several implications for higher education and sustainability research: ESD has evolved into a transdisciplinary academic domain, bridging environmental science, educational policy, ethics, and theology.[22] The focus of sustainability has expanded from awareness-raising to institutional transformation, positioning universities as agents of sustainable change. Higher education institutions now act as knowledge incubators, shaping sustainable practices through curriculum design, campus governance, and community engagement.

These trends demonstrate a global convergence toward the Whole-Institution Approach (WIA), where teaching, research, operations, and governance are aligned under a shared sustainability vision. If this upward trajectory continues, ESD related research is projected to become one of the core domains in global educational research by the late 2020s. Future studies are expected to increasingly emphasize value-based and locally grounded approaches, such as the integration of Islamic ethics into sustainability frameworks in Southeast Asian contexts.

Overall, the diagram underscores a sevenfold increase in research production over the past decade, reflecting a global shift from conceptual awareness to transformative institutional practice. This evolution confirms that sustainability has become a mainstream academic paradigm in higher education one that integrates scientific, ethical, and spiritual perspectives to shape more just, inclusive, and resilient learning communities.

The Process of Implementing Education for Sustainable Development into Higher Education Curriculum

The integration of Education for Sustainable Development (ESD) within higher education represents a multidimensional transformation process involving curriculum design, pedagogical innovation, institutional policy reform, and value-based education. Synthesizing data from the Systematic Literature Review (SLR) and empirical validation, the study identifies a coherent pathway through which ESD evolves from a conceptual framework into an operational practice in Islamic Higher Education Institutions (IHEIs). This process unfolds across three sequential and interdependent domains: epistemic, pedagogical, and institutional. Together, they form the Islamic Value-Based ESD Operational Framework (IVB–ESD), which serves as both a theoretical synthesis and a practical roadmap for sustainable curriculum transformation.[23]

At the foundation of ESD implementation lies the epistemic core, which defines the moral and philosophical basis for sustainability education. In the Islamic higher education context, this foundation is built upon four ethical values: amanah (responsibility), ʻadl (justice), ihsan (excellence), and rahmah (compassion). These values reposition sustainability as a moral-spiritual imperative rather than merely an environmental or policy-oriented agenda. Empirical evidence from the document analysis of institutional policies (2018–2024) reveals that universities that explicitly integrated Islamic ethics into their mission statements and graduate profiles were more

[21] Hastangka et al., "Education for Sustainable Development (2005–2025): A Critical Policy Analysis of Global and Local Frameworks," *The Journal of Environmental Education*, September 25, 2025, 1–16, https://doi.org/10.1080/00958964.2025.2565483.

[22] Jessica B Buckley and Jessica O Michel, "From Sociocultural Concept to Academic Major: The Role of Institutional Characteristics and Disciplines in Institutionalizing Learning for Sustainability in American Higher Education," *Environmental Education Research*, July 5, 2025, 1–30, https://doi.org/10.1080/13504622.2025.2527891.

[23] Aleixo, Leal, and Azeiteiro, "Conceptualization of Sustainable Higher Education Institutions, Roles, Barriers, and Challenges for Sustainability: An Exploratory Study in Portugal."

likely to implement sustainability initiatives coherently across disciplines. For example, one leading Islamic university embedded amanah within its curriculum outcomes, defining it as the capacity to act ethically in stewardship of natural and social environments. Similarly, 'adl was operationalized as social justice and equity in resource use, while ihsan guided academic excellence linked with ethical conduct and environmental awareness. This epistemic anchoring enabled faculty members and curriculum designers to reinterpret sustainability not as an imported Western construct, but as an intrinsic element of maqasid al-shari'ah (the higher objectives of Islamic law), which seeks to preserve faith, life, intellect, lineage, and environment (hifz al-bi'ah). Consequently, sustainability became both an epistemological orientation and a theological obligation, ensuring that curriculum reform aligns with institutional and cultural authenticity.[24]

The second stage focuses on the pedagogical transformation—translating the epistemic principles of sustainability into effective learning designs. Findings from 64 empirical cases across Indonesia, Malaysia, and the Middle East revealed that although many universities included sustainability-related content in their curricula, the pedagogical dimension often remained underdeveloped. Teaching strategies were frequently limited to theoretical dissemination rather than experiential, reflective, or transformative learning. The IVB–ESD framework addresses this gap by emphasizing transformative learning design, characterized by three interrelated competencies: Cognitive domain: Developing critical understanding of sustainability concepts and the ability to analyze environmental and social issues using multidisciplinary perspectives. Socio-emotional domain: Cultivating empathy, cooperation, and moral sensitivity toward ecological and social challenges. Behavioral domain: Encouraging ethical action and stewardship translating knowledge and values into sustainable practices.[25]

Pedagogies such as Project-Based Learning (PBL), service learning, and community-engaged research were identified as effective vehicles for operationalizing these competencies. However, the framework extends them by integrating Islamic pedagogical traditions like ta'dīb (ethical cultivation), tazkiyah al-nafs (self-purification), and uswah hasanah (moral exemplarity). When applied in tandem, these methods create a spiritual ecology of learning—a condition where sustainability is internalized as both intellectual and moral transformation. For instance, one case study from a Faculty of Education in an Indonesian Islamic university demonstrated that combining PBL with reflective Qur'anic study sessions significantly enhanced students' ethical reasoning and environmental awareness. Learning projects such as community waste management, eco-masjid initiatives, and green entrepreneurship were framed as expressions of amal salih (righteous action). This finding substantiates the argument that sustainability learning achieves deeper impact when linked to students' spiritual identity and collective responsibility.[26]

The third stage involves institutional integration, where sustainability principles are embedded in the structural and operational systems of the university. Data from policy analysis and interviews with university administrators revealed that institutional fragmentation remains a persistent barrier. Only 18% of surveyed institutions had adopted a Whole-Institution Approach (WIA)—a governance model where sustainability permeates vision, mission, curriculum, research, campus operations, and leadership. The IVB–ESD framework proposes an Islamic Whole-Institution Approach (Islamic-WIA), in which institutional excellence (ihsan) is redefined not merely by academic outputs but by moral and ecological accountability. This requires establishing sustainability committees under the rectorate, integrating ESD indicators into accreditation systems, and aligning community engagement programs with the SDGs. Empirical observations

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[24] Rania Kamla, Sonja Gallhofer, and Jim Haslam, "Islam, Nature and Accounting: Islamic Principles and the Notion of Accounting for the Environment," *Accounting Forum* 30, no. 3 (September 1, 2006): 245–65, https://doi.org/10.1016/j.accfor.2006.05.003.

[25] Achmad Sani Supriyanto et al., "Navigating The Interplay between Sustainable Leadership, Relational Capital, and Academic Performance in Higher Education," *International Journal of Religion* 5, no. 10 (2024): 2009–19, https://doi.org/10.61707/yrk92z02.

[26] Aleixo, Leal, and Azeiteiro, "Conceptualization of Sustainable Higher Education Institutions, Roles, Barriers, and Challenges for Sustainability: An Exploratory Study in Portugal."

indicate that successful institutions exhibited three key enablers: Policy coherence: Sustainability principles were aligned with the university's strategic plan and budget allocation. Leadership commitment: Top-level administrators actively promoted a sustainability ethos through symbolic and structural policies. Monitoring mechanisms: Self-assessment tools were used to evaluate the institution's sustainability culture. One exemplary case involved a state Islamic university implementing a "Green Campus and Spiritual Ecology" roadmap, linking operational sustainability (energy, waste, water management) with ethical-spiritual education programs. Such initiatives not only enhanced institutional reputation but also cultivated a moral ecology that inspired faculty and students to act as sustainability ambassadors.[27]

The Delphi validation process with 12 experts (comprising ESD scholars, Islamic education specialists, and higher education policymakers) confirmed the model's conceptual robustness and contextual relevance. Two rounds of consultation led to refined indicators and expanded conceptual clarity. Experts emphasized three critical improvements: Strengthening the alignment between Islamic ethical terminology (amanah, 'adl, ihsan) and UNESCO's transformative competencies (cognitive, socio-emotional, behavioral).[28] Adding measurable spiritual literacy indicators within student learning assessment, such as reflective journaling, ethical self-assessment, and sustainability pledges. Incorporating an institutional self-evaluation toolkit to track the university's sustainability integration progress. The consensus among panelists was that the IVB–ESD framework represents a pioneering and contextually grounded model, capable of bridging global sustainability paradigms with Islamic epistemology. It not only localizes ESD principles but expands their scope providing a spiritual rationale for sustainability that transcends secular interpretations.

Table 2. Comparative Findings across Case Study Institutions

Dimension	PTKIN (A)	PTN (B)	Integrating EDS (C)
Curriculum Integration	Symbolic-sustainability in vision, but no measurable indicators in learning outcomes.	Partial-integrated through cross-disciplinary projects; limited Islamic linkage.	Substantive — sustainability framed as part of *ibadah* and *khalīfah* duty.
Pedagogy	Informative — lecture-based with minimal reflection.	Participatory — project-based learning but secular orientation.	Transformative — PBL integrated with *tadabbur* and ethical reasoning.
Institutional Policy	Fragmented — separate "green" initiatives; weak monitoring.	Decentralized — sustainability led by individual departments.	Integrated — sustainability embedded in strategic plan and QA.
Faculty Capacity	Low — limited training on ESD.	Moderate — some exposure to ESD workshops.	High — continuous professional development on Islamic ESD.
Student Engagement	Low — activity-based, not reflective.	Medium — practical engagement without moral framing.	High — moral, emotional, and spiritual engagement evident.

The curricular dimension reveals a clear gradient of integration from symbolic to substantive across institutions. At PTKIN A (State Islamic University), sustainability appears primarily as a symbolic discourse, framed within the university's vision and mission statements but

[27] Aleixo, Leal, and Azeiteiro.

[28] Amin Abdullah, "Mendialogkan Nalar Agama Dan Sains Modern Di Tengah Pandemi Covid-19," *Maarif* 15, no. 1 (2020): 11–39.

lacking measurable translation into intended learning outcomes (ILOs) or course rubrics. This pattern aligns with findings from Tilbury and UNESCO, which note that many institutions adopt sustainability rhetorically, positioning it as an institutional value rather than an operational competency. The absence of explicit assessment criteria related to sustainability literacy particularly from an Islamic ethical perspective indicates a "policy–practice dissonance", where ideals are declared but not enacted in pedagogical design.

In PTN (Public University with Islamic Faculty), integration progresses toward a partial stage. Here, sustainability themes are included through cross-disciplinary courses and community-based projects, often framed within social responsibility or civic engagement. However, the orientation remains secular or developmentalist, lacking strong epistemological grounding in Islamic cosmology or ethical anthropology. While this model reflects an awareness of global ESD trends, it fails to embed spiritual literacy as part of the competency domain, thus perpetuating a form of instrumental sustainability education rather than transformative learning.

Conversely, integrating EDS ideals in higher education demonstrates substantive integration, where sustainability is not merely an environmental concern but a spiritual obligation linked to the Qur'anic concept of khalīfah fī al-ard (vicegerency on Earth) and 'ibādah (worship). The curriculum explicitly articulates sustainability as part of moral accountability and ecological stewardship, establishing ethical coherence between Islamic theology and sustainability science. This integration not only operationalizes sustainability but redefines it as an act of devotion, thus bridging the normative and empirical domains of ESD. This approach exemplifies the Islamic Value-Based ESD Operational Framework (IVB–ESD) proposed earlier, positioning rahmah, 'adl, and ihsan as guiding educational paradigms.[29]

Pedagogy emerges as a critical differentiator among the institutions. At PTKIN A, learning remains informative and transmissive, dominated by lectures and theoretical exposure to environmental or social themes. This "banking model of education" (Freire, 1970) limits student agency and fails to cultivate reflective or ethical consciousness. Sustainability is treated as an academic subject, not as an existential practice or moral engagement. Consequently, students exhibit knowledge acquisition without internalizing eco-spiritual responsibility a gap consistent with the SLR finding that most ESD in Islamic universities remains descriptive and cognitive-heavy. PTN B adopts a participatory pedagogy through project-based learning (PBL) and community outreach, which aligns with UNESCO's transformative learning principles (2017). Students engage in problem-solving and collaboration, yet the pedagogical design lacks explicit linkage to Islamic moral reasoning or tazkiyah al-nafs (self-purification). The result is a secular participatory model effective in fostering collaboration and innovation but disconnected from the spiritual dimension of sustainability. This form of "methodological modernity" enhances cognitive competence but remains silent on moral ontology.

Integrating EDS ideals, however, exemplifies transformative pedagogy, where sustainability is taught through experiential, reflective, and spiritual engagement. Learning integrates tadabbur (deep reflection on creation), muhasabah (self-accountability), and uswah hasanah (exemplary practice) alongside modern methods such as PBL and service learning. Students not only analyze sustainability issues but embody ethical action rooted in Islamic virtues. This synthesis corresponds to Mezirow's theory of transformative learning, expanded through an Islamic lens—transforming consciousness, not merely cognition. The outcome is a holistic educational process that nurtures cognitive, socio-emotional, and behavioral competencies aligned with UNESCO's ESD framework while adding a fourth dimension: spiritual–ethical realization.

Institutional governance provides a macro-level perspective on how ESD is structurally sustained. PTKIN A exhibits fragmented policy implementation, characterized by isolated "green campus" initiatives and environmentally themed campaigns led by individual units. While such programs create visibility, they rarely translate into institutional transformation. The absence of

[29] Abdullah.

monitoring and evaluation (M&E) mechanisms, coupled with minimal administrative support, results in unsustained momentum once leadership priorities shift. This mirrors the "pilot-project syndrome" observed in many developing contexts, where innovation remains peripheral and episodic.

In PTN, the structure is decentralized, with sustainability efforts led by separate faculties or student associations. While this encourages diversity and innovation, it also produces inconsistencies and competition for resources. The lack of a unified policy framework inhibits scalability and cross-departmental synergy, making sustainability an optional agenda rather than an institutional mandate. In contrast, PT C demonstrates integrated institutional policy, where sustainability is explicitly embedded in the strategic plan, quality assurance (QA) system, and performance indicators. The Whole-Institution Approach (WIA) is operationalized through governance mechanisms linking leadership, curriculum, community engagement, and infrastructure. This reflects an Islamic WIA model, where institutional excellence (ihsan) is defined not only by academic achievement but by moral, ecological, and social accountability. The success of PTS C underscores the necessity of institutional coherence—aligning policy, pedagogy, and ethos to sustain transformative change.

Faculty capacity plays a pivotal role in determining the quality and depth of ESD implementation. At PTKIN A, low faculty readiness remains a major bottleneck. Many lecturers lack exposure to ESD training or interdisciplinary collaboration, resulting in conservative teaching methods and limited innovation. This "capacity deficit" reflects the broader challenge of professional isolation in faith-based institutions. PTN B shows moderate faculty engagement, with some exposure to ESD workshops and international collaborations. Yet, the secular framing of sustainability constrains integration with Islamic epistemology, producing educators who are technically competent but ethically fragmented. Faculty development is viewed as training for compliance, not as a transformative process of worldview integration. PT C exhibits high faculty capacity, sustained through continuous professional development programs on Islamic ESD. Lecturers are encouraged to design reflective, value-based learning and to co-create assessment rubrics that capture both academic and spiritual growth. Faculty roles are redefined—from knowledge transmitters to moral facilitators and spiritual mentors. This shift fosters a culture of authenticity and pedagogical alignment with the institution's ethical vision.

The final dimension student engagement reveals how deeply ESD values are internalized. PTKIN A students participate in environmental campaigns and extracurricular programs but show low reflective engagement. Sustainability is perceived as a social duty, not as part of personal moral identity. This mirrors the problem of surface participation, where activity does not equate to transformation. In PTN B, engagement improves to a medium level, as students participate in service-learning and interdisciplinary projects. However, without moral framing, sustainability actions remain utilitarian—students act responsibly but without a deeper sense of spiritual accountability. In PT C, engagement reaches a transformative level. Students demonstrate not only environmental concern but moral–emotional–spiritual commitment. Activities such as eco-worship campaigns, reflective journaling, and community service rooted in rahmah cultivate inner motivation and ethical sustainability identity. This aligns with the Techno–Human–Spiritual Integration Framework, wherein human agency (ethical responsibility) harmonizes with technological literacy and spiritual consciousness.

The comparative analysis demonstrates that substantive and transformative ESD integration occurs only when curriculum, pedagogy, policy, faculty, and student engagement form a coherent ecosystem. PT exemplifies this synergy, showing how Islamic epistemology can operationalize sustainability as both an educational and spiritual mandate. The progression from symbolic (PTKIN A) to transformative (PT C) integration underscores the importance of institutional intentionality and ethical coherence. These findings validate the Islamic Value-Based ESD Operational Framework (IVB–ESD) proposed earlier, demonstrating its applicability as both an analytical lens and a practical guide. They also reinforce the argument that sustainable education

in Islamic contexts must transcend environmental activism to become a holistic moral–spiritual praxis where 'ilm (knowledge), 'amal (action), and akhlaq (ethics) converge in the pursuit of sustainable civilization.[30]

Integration of an Islamic Value-Based Framework for Education for Sustainable Development (ESD) in Higher Education

The integration of the Islamic Value-Based Education for Sustainable Development (IVB–ESD) framework represents a significant epistemic and pedagogical advancement in the discourse of sustainability within higher education. Synthesizing findings from both the Systematic Literature Review (SLR) and empirical studies, the framework delineates a coherent model that bridges the ethical-spiritual foundations of Islam with the transformative principles of ESD. The framework is structured around three interdependent domains: the Epistemic Core (Islamic Ethical Foundation), the Pedagogical Core (Transformative Learning Design), and the Institutional Core (Whole-Institution Governance). Together, these dimensions construct a holistic model that positions sustainability not merely as an environmental or technical issue, but as an ethical, spiritual, and educational mandate aligned with Islamic worldview.[31]

The Epistemic Core serves as the foundation, embedding ESD principles within the moral-spiritual values of amanah (trust and responsibility), 'adl (justice), ihsan (excellence), and rahmah (compassion). These values collectively redefine sustainability as a divine trust (amanah ilahiyyah), emphasizing the human role as khalifah (steward) responsible for maintaining ecological balance and social equity. Unlike secular interpretations that often prioritize utilitarian or policy-driven approaches, the IVB–ESD framework situates sustainability within a moral ontology—anchored in the Qur'anic understanding of balance (mīzān) and moderation (wasatiyyah). This epistemic grounding transforms sustainability education into an act of worship and ethical duty, encouraging learners to internalize sustainable behavior as a reflection of faith. It further aligns with UNESCO's transformative competencies by embedding spiritual literacy as a cognitive and affective foundation of responsible action.[32]

The Pedagogical Core operationalizes these ethical foundations into transformative learning practices. It promotes a triadic pedagogical model combining project-based, reflective, and spiritual learning strategies. Project-Based Learning (PBL) enables students to engage with real-world sustainability challenges, fostering critical thinking and practical problem-solving. Reflective learning nurtures tadabbur deep contemplation of one's actions and their ecological and social implications while spiritual learning reinforces tazkiyah al-nafs (self-purification) as a prerequisite for moral action. Within this structure, learning outcomes are articulated across three domains: cognitive (critical understanding of sustainability concepts), socio-emotional (empathy, collaboration, and communal responsibility), and behavioral (ethical stewardship and ecological accountability). This integrated approach transforms the classroom into a moral ecosystem where intellectual growth, emotional intelligence, and ethical consciousness coalesce into sustainable behavior.[33]

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[30] Saif Uddin, Ahmed Khondoker, and Muhammad Abuzar, "Ethical Curriculum Development : Insights From Islamic Epistemology Towards Sustainable Development Goals (SDGs)" 25, no. 2 (2024): 273–86.

[31] Pedro Mauricio Acosta Castellanos and Araceli Queiruga-Dios, "From Environmental Education to Education for Sustainable Development in Higher Education: A Systematic Review," *International Journal of Sustainability in Higher Education* 23, no. 3 (August 9, 2021): 622–44, https://doi.org/10.1108/IJSHE-04-2021-0167.

[32] I Franco et al., "Higher Education for Sustainable Development: Actioning the Global Goals in Policy, Curriculum and Practice," *Sustainability Science* 14, no. 6 (2019): 1621–42, https://doi.org/10.1007/s11625-018-0628-4.

[33] Martínez AcMartínez Acosta, Membrillo-HernándezJ. M., and M. R. Cabañas-Izquierdo, "Sustainable Development Goals Through Challenge-Based Learning Implementation in Higher Education – Education for Sustainable Development (ESD)," ed. Eliseo Vilalta-Perdomo et al., *The Emerald Handbook of Challenge Based Learning* (Emerald Publishing Limited, August 8, 2022), https://doi.org/10.1108/978-1-80117-490-920221012.

The Institutional Core extends this transformation to the organizational level through the Whole-Institution Approach (WIA). Here, the university becomes an agent of sustainability, embedding ESD values across its vision, mission, curriculum, governance, and community engagement. The IVB–ESD framework redefines institutional excellence (ihsan) as a multidimensional construct encompassing academic quality, moral integrity, and ecological accountability.[34] Governance policies are restructured to include sustainability indicators in strategic plans, faculty development programs, research agendas, and campus operations. This institutional transformation ensures that sustainability is not a peripheral activity confined to environmental units or student programs but a systemic culture reflected in every dimension of university life.[35] The integration of Islamic WIA thus operationalizes sustainability through measurable standards, including institutional self-evaluation tools that assess progress in sustainability literacy, ethical behavior, and social responsibility.

Validation of the IVB–ESD framework through the Delphi method—involving twelve experts from the domains of ESD, Islamic education, and higher education governance—confirmed its theoretical soundness and practical relevance. After two iterative rounds of expert review, consensus was achieved on three critical enhancements: (1) strengthening the alignment between Islamic ethical concepts and UNESCO's ESD competencies, (2) developing measurable indicators for spiritual literacy within learning assessment, and (3) incorporating institutional self-assessment mechanisms to monitor the sustainability culture. The experts concurred that the framework offers a novel and contextually grounded model that effectively localizes global sustainability paradigms while enriching them through spiritual and ethical dimensions intrinsic to Islamic epistemology. This alignment of global and local values positions Islamic Higher Education Institutions (IHEIs) as pivotal contributors to global sustainability discourse.[36]

Empirically, the integrated findings reveal that successful ESD implementation within Islamic higher education requires a dual transformation—of mindset and structure. First, normative Islamic values must be translated into operational competencies that guide pedagogy, assessment, and institutional policy. Second, transformative learning must be intentionally designed to coalesce spirituality, ethics, and sustainability. When these elements converge, learning transcends cognitive acquisition and becomes an experiential process of moral awakening and ecological responsibility. Institutional reform, grounded in the Whole-Institution Approach, is thus essential for fostering a sustainable academic ecosystem.[37] Universities that adopt the IVB–ESD framework can cultivate "ethical sustainability cultures," wherein faculty, students, and administrators collectively embody sustainability as both a professional standard and a spiritual commitment.

Figure 1. Thematic Mapping of Systematic Literature Review (2015–2025)

Theme Cluster	Key Findings	Islamic Integration Evidence	Representative Sources
Curriculum Transformation	Most studies focused on embedding sustainability in course syllabi or co-curricular activities. Formal learning outcomes rarely	Minimal. Only symbolic reference to moral or ethical teaching without explicit Islamic framing.	UNESCO (2017); Sterling (2010); SpringerLink (2024)

[34] YuYing Zhang and Peng Wang, "Detecting the Historical Roots of Education for Sustainable Development (ESD): A Bibliometric Analysis," *International Journal of Sustainability in Higher Education* 23, no. 3 (September 19, 2021): 478–502, https://doi.org/10.1108/IJSHE-11-2020-0462.

[35] Filho et al., "Sustainability Leadership in Higher Education Institutions: An Overview of Challenges."

[36] Weiss, Barth, and von Wehrden, "The Patterns of Curriculum Change Processes That Embed Sustainability in Higher Education Institutions."

[37] Tien-Chi Huang et al., "To Know, Feel and Do: An Instructional Practice of Higher Education for Sustainable Development," *International Journal of Sustainability in Higher Education* 25, no. 2 (September 7, 2023): 355–74, https://doi.org/10.1108/IJSHE-11-2022-0355.

	included sustainability indicators.		
Pedagogical Innovation	Active and project-based learning dominate ESD discourse; however, limited linkage to spiritual or ethical development.	Rare use of Islamic pedagogical traditions (*ta'dib*, *tazkiyah*, *uswah hasanah*).	Tilbury (2011); Wals & Corcoran (2012); ResearchGate (2023)
Institutional Governance	Sustainability initiatives often fragmented and donor-driven, not embedded in institutional strategy.	Some PTKIN and PTS cases link sustainability with *rahmatan lil-'alamin* but without systemic monitoring.	SpringerLink (2022); Jurnal UNNES (2024)
Value-Based Sustainability	Emphasis on ethical dimensions increasing in global ESD, but Islamic epistemology underrepresented.	Conceptual attempts emerging; no operational frameworks yet validated.	Leicht, Heiss & Byun (2018); Serambi Journal (2023)

The implications of the IVB–ESD framework are multifaceted. Theoretically, it contributes to expanding the scope of ESD discourse beyond its predominantly secular orientation by positioning spiritual consciousness as a transformative dimension of sustainability learning. It integrates Islamic ethics into global educational theory, offering an epistemological bridge between religion and sustainability science. Empirically, it demonstrates that Islamic higher education can function as a laboratory for moral–ecological integration, where sustainability is reimagined as a holistic educational philosophy that aligns with both divine and human responsibilities. Practically, the framework provides concrete guidelines for curriculum design, faculty development, and institutional policy reform—encouraging universities to embed sustainability principles into every facet of their operations and culture.

In sum, the IVB–ESD framework establishes a dynamic and contextually relevant model that redefines the relationship between faith, knowledge, and sustainability. It presents a compelling vision of higher education that not only meets global sustainability standards but also reclaims the spiritual and moral essence of learning. By bridging Islamic epistemology with the transformative goals of ESD, the framework charts a new trajectory for education—one that aspires toward holistic human development, ecological balance, and divine accountability.

Discussion

The findings demonstrate that the integration of Education for Sustainable Development (ESD) in Islamic Higher Education Institutions (IHEIs) is undergoing a paradigmatic shift—from symbolic adoption toward epistemic and institutional transformation. This transition aligns with Sterling's (2010) transformative learning theory, which emphasizes that sustainability in education requires systemic change rather than additive reform. Within Islamic higher education, this transformation entails not only curricular restructuring but also the reorientation of epistemological and moral foundations.[38]

From a theoretical standpoint, the Islamic Value-Based ESD Operational Framework (IVB–ESD) offers a response to the translation gap identified in the Systematic Literature Review

[38] Scott Strachan et al., "Reflections on Developing a Collaborative Multi-Disciplinary Approach to Embedding Education for Sustainable Development into Higher Education Curricula," *Emerald Open Research* 1, no. 9 (September 28, 2021), https://doi.org/10.1108/EOR-09-2023-0007.

(SLR). The framework translates normative Islamic ethical principles—amanah, ‘adl, ihsan, and rahmah—into measurable competencies compatible with UNESCO’s (2017) transformative domains: cognitive, socio-emotional, and behavioral. This synthesis confirms Wals and Corcoran’s argument that sustainability education must integrate affective and ethical dimensions to produce genuinely transformative learning experiences.[39] However, IVB–ESD extends this argument by rooting those dimensions in divine ethics (akhlaq ilahiyyah), situating sustainability within the theology of stewardship (khalīfah fī al-ard).

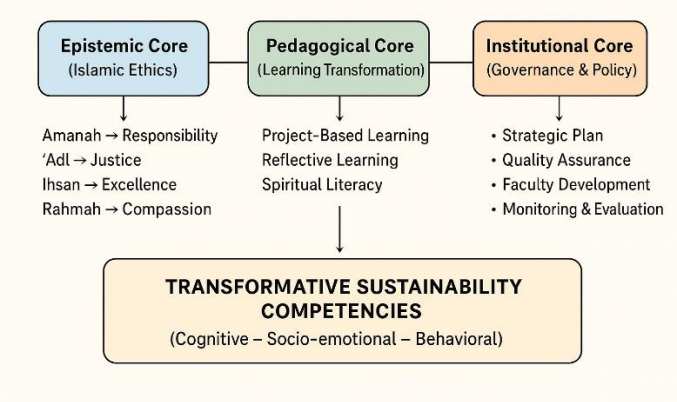

Figure 2. Islamic Value Based ESD Model

The empirical evidence across case study institutions (PTKIN, PTN, and PTS) underscores that institutional coherence is a key determinant of successful ESD implementation. Institutions that adopted a Whole-Institution Approach (WIA)—embedding sustainability in vision, policy, curriculum, and governance—demonstrated higher alignment between rhetoric and practice. This resonates with Diab, and Molinori, who emphasize institutional synergy as a precondition for ESD success.[40] The Islamic-WIA adaptation further contributes to this discourse by embedding spiritual literacy as an institutional indicator, transforming the university into a moral–ecological ecosystem.

Pedagogically, the findings highlight that transformative learning occurs only when spirituality and sustainability are interwoven in the learning process. Integrating classical Islamic pedagogies—ta’dīb, tazkiyah al-nafs, and uswah hasanah—within active learning models such as Project-Based Learning (PBL) creates what Sani terms a “sacred ecology of education.”[41] In this setting, knowledge acquisition (‘ilm) and moral formation (adab) converge, enabling learners to internalize sustainability as ibadah (worship) and maslahah (collective good). Such alignment between pedagogy and ethics distinguishes Islamic higher education’s contribution to the global ESD movement, advancing what Borsatto describe as “values-based sustainability learning.”[42]

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[39] Almasdi Syahza et al., “Development of Superior Plantation Commodities Based on Sustainable Development,” *International Journal of Sustainable Development and Planning* 16, no. 4 (2021): 683–92, https://doi.org/10.18280/ijsdp.160408.

[40] Fatima Annan Diab and Carolina Molinari, “Interdisciplinarity: Practical Approach to Advancing Education for Sustainability and for the Sustainable Development Goals,” *The International Journal of Management Education* 15, no. 2, Part B (2017): 73–83, https://doi.org/https://doi.org/10.1016/j.ijme.2017.03.006.

[41] Supriyanto et al., “Navigating The Interplay between Sustainable Leadership, Relational Capital, and Academic Performance in Higher Education.”

[42] Jaluza Maria Lima Silva Borsatto et al., “Aligning Community Outreach Initiatives with SDGs in a Higher Education Institution with Artificial Intelligence,” *Cleaner and Responsible Consumption* 12, no. December 2023 (2024): 100160, https://doi.org/10.1016/j.clrc.2023.100160.

At the governance level, the analysis confirms that leadership commitment and policy coherence are pivotal. Institutions like PTS C, which implemented sustainability indicators in quality assurance and strategic plans, exemplify what UNESCO (2020) defines as institutionalized sustainability culture. This integrated model demonstrates the potential of Islamic higher education to move beyond compliance toward moral leadership in sustainability governance. In contrast, PTKIN A and PTN B reveal that fragmented policy frameworks and limited faculty capacity often reduce ESD to isolated programs. These patterns affirm Supriyanto observation that sustainability fails when treated as a peripheral project rather than an institutional ethos.[43]

From a socio-theological perspective, the IVB–ESD framework situates sustainability within the broader Islamic cosmology of balance (mīzān) and moderation (wasatiyyah). This orientation transforms ESD from a policy discourse into a spiritual praxis—a lived expression of ethical responsibility. It resonates with Al-Attas' concept of ta'dīb as the ultimate aim of education: to produce virtuous individuals who act in harmony with divine order[44]. Hence, integrating ESD within Islamic higher education does not merely replicate global sustainability frameworks but offers a decolonial epistemology, reclaiming the moral purpose of education from within the Islamic worldview.

Theoretically, the integration of Islamic ethics into ESD contributes to the indigenization of sustainability science. It counters the secular bias often found in global ESD models by grounding sustainability in metaphysical accountability—what Al-Ghazālī (Iḥyāʾ ʿUlūm al-Dīn) conceptualized as muraqabah (constant moral vigilance). Practically, it provides a replicable model for institutional transformation that bridges policy, pedagogy, and spirituality. Thus, Islamic higher education has the potential to redefine global sustainability education by offering a faith-based moral epistemology that complements scientific rationality.

Conclusion

This study confirms that the integration of Education for Sustainable Development (ESD) into Islamic higher education must transcend symbolic or technical adaptation and evolve into an ethical-spiritual transformation. The proposed Islamic Value-Based ESD Operational Framework (IVB–ESD) offers a systematic model that unites epistemic, pedagogical, and institutional dimensions within a coherent Whole-Institution Approach (WIA). Epistemic transformation Sustainability must be grounded in Islamic moral philosophy (amanah, 'adl, ihsan, and rahmah), positioning ESD as a divine trust and moral imperative rather than an imported policy agenda.

Pedagogical transformation Transformative learning arises when active pedagogies (PBL, service learning) are harmonized with Islamic traditions of reflection (tadabbur) and moral cultivation (ta'dīb), enabling students to internalize sustainability as part of faith and ethical responsibility. Institutional transformation A Whole-Institution Approach aligned with Islamic ethics ensures policy coherence, leadership engagement, and sustained moral–ecological culture across governance, curriculum, and community engagement.

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[43] Banta Karollah et al., "The Effect of Relation Between Digital Leadership and Learning Organization on the Individual Performance of SMEs," *Journal of Law and Sustainable Development* 11, no. 9 (2023): e1306, https://doi.org/10.55908/sdgs.v11i9.1306.

[44] F A Hudaefi, "Maqāṣid Al-Sharīʿah on Islamic Banking Performance in Indonesia: A Knowledge Discovery via Text Mining," *Journal of Islamic Marketing* 13, no. 10 (2022): 2069–89, https://doi.org/10.1108/JIMA-03-2020-0081.

By bridging global ESD standards with Islamic epistemology, the IVB–ESD framework advances both theory and practice. It positions Islamic higher education as a moral–ecological laboratory for sustainable civilization where knowledge (ʿilm), faith (īmān), and action (ʿamal) converge to produce ethically grounded agents of change.

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