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Embedding Indigenous Knowledge and Perspective in Higher Education for Sustainable Development

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ABSTRACT

Indigenous Knowledge Systems (IKS) in higher education have gained increased attention as a new channel for facilitating sustainable development. In some African contexts, such as South Africa, Indigenous Knowledge embodies internalised Knowledge about the environment, communal health, resource distribution, and education, passed down across generations. However, in most situations, Western epistemologies dominate the curriculum of higher education institutions, which suppresses the intellectual repositories and perceptions of Indigenous people. The study aims to discuss opportunities to integrate Indigenous Knowledge and worldviews into the higher education system to promote sustainable development through culturally relevant education, ecological citizenship, and social solidarity. The study adopted a qualitative desktop methodology to analyse the literature on the value, challenges, and opportunities of incorporating IKS into university teaching and learning. The findings pave the way for the integration of Indigenous Knowledge to enhance curriculum relevance and decolonisation, and to enable students to view sustainability issues as contextual rather than as abstract problem-solving, both locally and globally. However, institutional opposition, resource constraints, and the underestimation of the role of Indigenous epistemologies remain impediments to implementation. The research recommends that the meaningful incorporation of IKS requires collaboration, institutional commitment, and inclusive pedagogical practices. Incorporating Indigenous perspectives in higher education is a significant opportunity to pursue sustainable development and respect cultural heritage and epistemic justice.

Keywords: Curriculum Transformation, Indigenous Knowledge Systems (IKS), Higher Education, Sustainable Development, Sustainability Education.

INTRODUCTION

The 21st century has been marked by growing recognition of the significance of Indigenous Knowledge Systems (IKS) in addressing complex global issues, including climate change, diversity, sustainable development, and cultural conservation.[1] Indigenous peoples worldwide have developed a rich body of Knowledge based on centuries of experience, observation, and intergenerational transmission that plays

[1] L. Jan Slikkerveer, "The Indigenous Knowledge Systems' Perspective on Sustainable Development," in *Integrated Community-Managed Development: Strategizing Indigenous Knowledge and Institutions for Poverty Reduction and Sustainable Community Development in Indonesia* (Springer, 2019), 33–66.

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an important role in ensuring that human societies are in harmony with nature.[2] However, despite this inherent worth, institutions of higher learning have long overlooked Indigenous Knowledge in favour of the Western scientific paradigm and epistemology. With the traction of the call for epistemic justice in the scholarly community and other international policy systems, such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the call to reconsider educational models and adopt pluralistic knowledge systems is becoming increasingly urgent. Such transformation is vital both to inclusivity and to the co-creation of contextually based, culture- and sustainability-responsive knowledge.[3]

Equity and sustainability in education are promising grounds for introducing IKS into the school curriculum. Sustainable education is a concept that designates education programmes that are culturally applicable, locally relevant and environmentally sustainable.[4] Nevertheless, recent sources reveal few signs of IKS's role in general Knowledge and epistemologies, especially in indigenous Asian, African, and American societies. Even though it is belittled and marginalised, one cannot deny the unmistakable abundance of IKS that has persisted and proliferated among community members, including indigenous music, architecture, mural decorations, indigenous games, beadwork, weaving, and social activities.[5] This knowledge is multidisciplinary, interdisciplinary, and intradisciplinary and is key to filling the gap in understanding how education relates to students' daily lives. Evidence indicates that efforts to incorporate IKS into higher education have faced several conceptual, pedagogical, and content-related limitations.[6] Lack of Knowledge about IKS, its application in formal education, and the insufficient representation of IKS in education thereby perpetuate its exclusion from teaching and learning, particularly in scientific disciplines.[7]

The exclusion of Indigenous Knowledge in knowledge-production settings has been perpetuated by its misunderstanding. It is often referred to as primitive, backward, savage, rural, and unscientific.[8] As a result, the distinct Knowledge and visions of reality created by indigenous communities through a complex process of cultural construction become invisible, marginalised, and seen as an inferior social experience, in contrast to a hegemonic epistemological model that creates and imposes an actual monoculture of Knowledge.[9] It is a loss beyond the reach of companies seeking to understand human experience on the planet, and one that cannot be learnt through disjointed methods, as Morin puts forward.[10]

IKS is a notion as manifold as the voices that say it. In the context of its various interpretations, there is a consensus that IKS is an alternative to mainstream Western-style or modern understanding of Knowledge. Onyancha views Indigenous Knowledge (IK) as a special and shared body of knowledge of a people or community that arises from interactions between people in a geographical locality and the environment.[11] It encompasses any area of human activity, including, but not limited to, agriculture, the environment, pharmacology, health, trade, economics, and political systems. The above viewpoints

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[2] P. L. Mafongoya and O C Ajayi, "Indigenous Knowledge Systems: Their History, Development over Time and Role in Sustainable Development and Climate Change Management,"*Indigenous Knowledge Systems and Climate Change Management in Africa*, 2017,29.

[3] Zinette Bergman et al., "The Contribution of UNESCO Chairs toward Achieving the UN Sustainable Development Goals," *Sustainability* 10, no. 12 (2018): 4471.

[4] Adesuwa Vanessa Agbedahin, "Sustainable Development, Education for Sustainable Development, and the 2030 Agenda for Sustainable Development: Emergence, Efficacy, Eminence, and Future," *Sustainable Development* 27, no. 4 (2019): 669–80.

[5] Nadaraj Govender and Edson Mudzamiri, "Incorporating Indigenous Artefacts in Developing an Integrated Indigenous-Pedagogical Model in High School Physics Curriculum: Views of Elders, Teachers and Learners," *Cultural Studies of Science Education* 17, no. 3 (2022): 827–50.

[6] Fanuel Matindike and Virendra Ramdhany, "Incorporating Indigenous Knowledge Perspectives in Integrated STEM Education: A Systematic Review," *Research in Science & Technological Education* 43, no. 3 (2025): 1022–42.

[7] Ronicka Mudaly, "Towards Decolonising a Module in the Pre-Service Science Teacher Education Curriculum: The Role of Indigenous Knowledge Systems in Creating Spaces for Transforming the Curriculum," *Journal of Education (University of KwaZulu-Natal)*, no. 74 (2018): 47–66.

[8] Chika Ezeanya-Esiobu, *Indigenous Knowledge and Education in Africa* (Springer Nature, 2019).

[9] Boaventura de Sousa Santos, *Epistemologies of the South: Justice against Epistemicide* (Routledge, 2015).

[10] Stefan Gröschl and Patricia Gabaldon, "Business Schools and the Development of Responsible Leaders: A Proposition of Edgar Morin's Transdisciplinarity," *Journal of Business Ethics* 153, no. 1 (2018): 185–95.

[11] Omwoyo Bosire Onyancha, "Indigenous Knowledge, Traditional Knowledge and Local Knowledge: What Is the Difference? An Informetrics Perspective," *Global Knowledge, Memory and Communication* 73, no. 3 (2024): 237–57.

give rise to the following aspects of IK: i) it is a product of human interactions with the environment, iii) by the nature of the fields that it deals with, IK is holistic, iii) IK is applied to ensure the survival of people, iv) IK is environment-specific (local), v) IK is found in the culture of a people.

The following research objectives guide the study to achieve its aim.

Objective 1: To examine existing literature on the integration of Indigenous Knowledge and perspectives in higher education for sustainable development.

Objective 2: To critically analyse the opportunities, challenges, and best practices associated with embedding Indigenous Knowledge in higher education curricula for sustainable development.

Objective 3: To propose evidence-informed recommendations for strengthening the integration of Indigenous Knowledge and perspectives in higher education to advance sustainable development.

LITERATURE REVIEW

The importance of recognising IKS in African Higher Education

The Eurocentric viewpoint has significantly affected higher education in Africa. IKS is evidenced by the fact that the work of Western researchers remains the main provider of the development of social thinking.[12] This is because European knowledge and ways of learning were dogmatized, while African means of inquiry and histories were discarded.[13] As a result, African institutions of higher learning have adopted the ideas and approaches of Western scientists, along with their theories and methods for selecting the most significant research issues.[14] This has led to African indigenous knowledge systems being mostly viewed as archaic and unscientific; they receive little attention and thus should not be relied on to build social theory and research. In association with this is the inability of African scholars to generate original definitions, theories, concepts, and research methodologies to guide the intellectual development of their respective fields of study and research. Ultimately, this led to a lack of sound curriculum transformation, necessitating the decolonisation of higher education.

Bhuda and Marumo believe that higher education needs to be decolonised to recover the dignity of African people and to enable the introduction of indigenous ways of being, doing, and knowing into curricula.[15] According to Bhuda and Marumo, these arguments are not new, as mentioned above regarding African Indigenous Knowledge Systems (AIKS) in South African higher education. In that context, because AIKS have historically been undervalued, their inclusion in higher education enables African learners and educators to reconsider the inherent hierarchy in knowledge systems.[16] As such, they need to appreciate that there are varying forms of Knowledge, not just one standard benchmark system, to include in formal education systems, particularly at the higher level.

Currently, there is interest among higher education institutions in Africa, including South Africa, in incorporating IKS.[17] Institutions of higher learning are moving towards adopting IKS in their teaching, research, and curriculum transformation. In South Africa, this acknowledgement is evident in policy amendments in different spheres and in the existence of the IKS Act 6 of 2019, which provides for the protection, promotion, development, and management of indigenous knowledge systems.[18] As a result, there seems to be a move towards promoting IKS scholarship to address sustainable development goals.

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[12] Santishree Dhulipudi Pandit, "Reviving Indian Knowledge Systems (IKS): Bridging Tradition with Modernity," *International Studies* 62, no. 1 (2025): 11–29.

[13] Logan Govender and Devika Naidoo, "Decolonial Insights for Transforming the Higher Education Curriculum in South Africa," *Curriculum Perspectives* 43, no. S1 (October 17, 2023): 59–71, https://doi.org/10.1007/s41297-023-00200-3.

[14] Mothusiotsile Edwin Maditsi and Monicca Thulisile Bhuda, "Decolonising and Humanising Pedagogies in South African Postgraduate Education: Lessons From Indigenous Knowledge Systems," in *Digital Preservation and Documentation of Global Indigenous Knowledge Systems* (IGI Global Scientific Publishing, 2023), 282–302.

[15] Monicca Thulisile Bhuda and Phemelo Marumo, "Ubuntu Philosophy and African Indigenous Knowledge Systems: Insights from Decolonization and Indigenization of Research," *Gender and Behaviour* 20, no. 1 (2022): 19133–51.

[16] Bhuda and Marumo, "Ubuntu Philosophy and African Indigenous Knowledge Systems: Insights from Decolonization and Indigenization of Research."

[17] Emnet Tadesse Woldegiorgis and Irina Turner, " Editorial to the Special Issue "Narrowing the Gap beyond Tokenism: Transdisciplinary Search for Innovative Approaches in the Integration of Indigenous Knowledge Systems and Epistemologies in Higher Education," *Curriculum Perspectives* 43, no. 1 (2023): 1–2.

[18] Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019 (English / Tshivenḓa)

Indigenous Knowledge Systems (IKS) in Curriculum Design and Delivery in Higher Education

The incorporation of Indigenous Knowledge Systems into curriculum design is becoming a recognised key to the decolonisation of education and its greater contextualisation.[19] The IKS comprises a body of Knowledge grounded in the cultural beliefs, languages, social structures, and religious ideas of local communities.[20] In African Rural Universities, curriculum development is grounded in local wisdom, emphasising ecological sustainability, community health, and visionary leadership, and recognising that learning is directly related to students' lived realities and those of their communities.[21]

The world has been moving towards curriculum changes that accommodate Indigenous perspectives. New Zealand, in particular, has seen the incorporation of Māori knowledge into its national curriculum.[22] Some of the institutions are following suit in Africa. For instance, the University of South Africa has developed IKS-based modules recognised across its different faculties for their pedagogical and epistemological worth.[23] Moreover, the Northwest University and the University of Venda offer qualifications in Indigenous Knowledge Systems.

Additionally, incorporating IKS into the curriculum encourages a more holistic way of knowing. According to Chilisa, Indigenous epistemologies promote learning grounded in observation, storytelling, and oral tradition, which best suit participatory, community-focused learning.[24] ARU implements this through experiential learning, such as community internships and mentorship by experts in Knowledge, including traditional herbalists and spiritual leaders. A recent study by Lungile indicates that successful IKS incorporation requires more than mere content incorporation. It requires changes in pedagogical practices, faculty development, and philosophy.[25] This aligns with the view that African universities should treat Indigenous Knowledge as fundamental rather than an add-on to academic teaching.

Indigenous Knowledge as a tool to Decolonise African Higher Education

Decolonisation of higher education must be perceived as a journey to restore the identity, language, and experiences of indigenous people against the impact of colonialism.[26] The indigenous communities can, therefore, emancipate themselves from the oppressive control of the colonising state government through policy and decolonised action. Decolonisation aims to make the African continent central in the curriculum, both in teaching and learning, and is informative.[27] It must be about Africans discovering ways to establish their own identities beyond the realm of whiteness and to redefine themselves in relation to others and the wider world. Thus, researchers are obliged to take advantage of opportunities to decolonise higher education and to amplify the voices of Africans whose knowledge was suppressed in academic institutions.[28] An example of how indigenous Knowledge can be decolonised in higher learning institutions is to develop a special programme that trains academics in indigenous epistemology and pedagogy. This is necessary to reorientate them towards Afrocentric views, since they are the same individuals who are products of Western epistemologies and pedagogies. The other viable solution is for institutions of higher education to intentionally engage the indigenous

[19] Catherine Odora Hoppers, "Beyond Critique to Academic Transformation: Reconceptualising Rurality in the Global South," 2017.

[20] Pandit, "Reviving Indian Knowledge Systems (IKS): Bridging Tradition with Modernity."

[21] Margaret Tumusiime, Festo Ndayisenga, and Pie Ntampaka, "Prevalence of Gastrointestinal Nematodes, Cestodes, and Protozoans of Goats in Nyagatare District, Rwanda," *Veterinary Medicine: Research and Reports*, 2022, 339–49.

[22] Fiona Cram, "Designing Indigenous Qualitative Research for Policy Implementation," *The SAGE Handbook of Qualitative Research Design. 17th Ed. SAGE Publications*, 2022, 1215–32.

[23] Luxon Nhamo et al., "Optimal Production Areas of Underutilized Indigenous Crops and Their Role under Climate Change: Focus on Bambara Groundnut," *Frontiers in Sustainable Food Systems* 6 (2022): 990213.

[24] Bagele Chilisa, "Decolonising Transdisciplinary Research Approaches: An African Perspective for Enhancing Knowledge Integration in Sustainability Science," *Sustainability Science* 12, no. 5 (September 29, 2017):813–27, https://doi.org/10.1007/s11625-017-0461-1.

[25] Lungile Cindi, "Incorporating African Indigenous Knowledge Systems into the Basic Education Curriculum: Experiences from Two Schools in the Gauteng and KwaZulu-Natal Provinces, South Africa," 2021.

[26] Ranjan Datta, "Decolonizing Both Researcher and Research and Its Effectiveness in Indigenous Research," *Research Ethics* 14, no. 2 (2018): 1–24.

[27] K J Maluleka, "Strategies to Realise the Decoloniality of the Comparative and International Education Curriculum in South African Higher Education," *South African Journal of Higher Education* 37, no. 3 (2023): 125–39.

[28] Mmaphuti Mamaleka, "African Indigenous Knowledge Systems and Theories in Teaching Social Work," in *Routledge Handbook of African Social Work Education* (Routledge, 2024), 49–61.

community in knowledge production and incorporate that knowledge into the higher education system.[29] Moreover, the colleges could establish and maintain a fund to assist students in researching indigenous knowledge for dissertations, as well as a robust institutional support system, including policies.[30]

A colonised curriculum has worrying implications, as institutions of learning have had a challenging burden of neoliberal performativity in the production of Knowledge and are torn between the two hands of colonialism. Since Leibowitz recognised this challenge, he stated that the concept of a decolonised curriculum was not to be a fragmented process but a university-wide initiative in which everyone participates, including managers, academics, students, and leaders, who must collaborate to transform the epistemological underpinnings of academic disciplines.[31] Nonetheless, the problem of the inability of scholars and Higher education institutions to decolonise curricula is marked by deep-rooted white supremacy, an African inferiority complex, and the subjectivity of Africans that continues to thrive.[32]

Higher education studies indicate that the authors of the articles used Chilisa's five steps of the decolonisation process to examine what decolonising the higher education curriculum might entail.[33] Some of them include rediscovery and recovery, mourning, dreaming, and commitment and action. Le Grange focuses most on rediscovery and recovery, the process according to which the colonised peoples rediscover and recover their history, culture, language, and identity by relying on indigenous Knowledge as a decolonising curriculum tool.[34] A decolonised curriculum must consider the African reality and context, as well as the contributions of Africans across all academic disciplines, including philosophy and language. It involves incorporating African silenced/unheard voices into higher education.

THEORETICAL FRAMEWORK

Afrocentric theory

This study is grounded in Afrocentricity, which focuses on African epistemologies, cultural values and lived experiences in the creation and reception of Knowledge. The repositioning of African people as agents, rather than subjects of intellectual discussion, is the defining feature of Afrocentric theory, most commonly attributed to Molefi Kete Asante.[35] It questions Eurocentric control over knowledge regimes and demands the inclusion and accommodation of indigenous African worldviews, philosophies, and cultural practices in education, research, and development. Within the university's educational framework, the Afrocentric theory supports the need to legitimise Indigenous Knowledge Systems (IKS) and appreciates their applicability in addressing modern social, environmental, and developmental issues.

The Afrocentric theory is especially applicable to the subject of Higher Education in Sustainable Development, as it anticipates local knowledge systems and practices rooted in the community that have been ever-present in African societies and have promoted sustainable livelihoods in the past.[36] African cultural traditions on indigenous Knowledge tend to emphasise profound Knowledge in

[29] Shen Lin, "Social Work Indigenization in Mainland China: Towards a State-Led Decolonizing Framework," *Journal of Social Work* 22, no. 1 (2022): 188–210.

[30] Tlou Maggie Masenya, "Decolonization of Indigenous Knowledge Systems in South Africa: Impact of Policy and Protocols," *International Journal of Knowledge Management (IJKM)* 18, no. 1 (2022): 1–22; T Muyambo, M T Bhuda, and P M Sithole, "Researching Indigenous Knowledge (Ik) in Higher Education in Zimbabwe: Prospects and Challenges," *South African Journal of Higher Education* 39, no. 5 (2025): 229–53.

[31] Brenda Leibowitz, "Cognitive Justice and the Higher Education Curriculum," *Journal of Education (University of KwaZulu-Natal)*, no. 68 (2017): 93–112.

[32] Bhuda and Marumo, "Ubuntu Philosophy and African Indigenous Knowledge Systems: Insights from Decolonization and Indigenization of Research."

[33] Chilisa, "Decolonising Transdisciplinary Research Approaches: An African Perspective for Enhancing Knowledge Integration in Sustainability Science."

[34] Lesley Le Grange, "Decolonising, Africanising, Indigenising, and Internationalising Curriculum Studies: Opportunities to (Re) Imagine the Field," *Journal of Education (University of KwaZulu-Natal)*, no. 74 (2018): 4–18.

[35] Molefi Kete Asante, "Afrocentricity," in *Routledge Handbook of Pan-Africanism* (Routledge, 2020), 147–58.

[36] Jimmy Kirby, *A Critical Afrocentric Reading of the Artist's Responsibility in the Creative Process* (Temple University, 2020).

environmental conservation, community, and intergenerational knowledge transfer. These principles are consistent with international sustainability policies, such as UNESCO's Education for Sustainable Development program. The Afrocentric theory, on the other hand, criticises the mainstream education system, which tends to marginalise indigenous epistemologies to advance Western scientific paradigms.[37]

In research on embedding the Knowledge and views of Indigenous people in higher education to advance sustainable development, Afrocentric theory offers a critical perspective through which the integration of African Indigenous Knowledge can be interpreted and justified. It is an impetus for universities to go beyond mere tokenistic inclusion of indigenous voices and to embrace epistemic pluralism, in which African knowledge systems are acknowledged as legitimate, authoritative, and capable of offering sustainable solutions.[38] From an Afrocentric perspective, integrating indigenous Knowledge into the curricula of higher education institutions enhances culture, epistemic justice, and local sustainability. Therefore, the theory assists in contextualising the study by showing how institutions of higher learning can decolonise the production of Knowledge in a manner that encourages sustainable development that is responsive to cultural diversity and socially pertinent.

METHODOLOGY

The research employed a thorough desktop research method to analyse how incorporating Indigenous Knowledge and perspectives in higher education can be applied to sustainable development. Desktop research, or secondary data analysis, is a method of research that consists of a systematic search and analysis of existing literature, policy reports, scholarly publications, and institutional reports related to a given research topic.[39] This methodology suited the research because it provided the opportunity to deepen the study of the theoretical, conceptual, and empirical literature on Indigenous Knowledge Systems (IKS), sustainability education, and the implementation of Afrocentricity in post-secondary education. Without the need to gather primary data, the study synthesised a broad range of perspectives and identified patterns, debates, and gaps in the body of Knowledge.

The desktop research procedure entailed a methodical search and review of academic and policy literature of various scholarly databases and institutional repositories. The academic databases used to retrieve relevant literature included Google Scholar, Scopus, and Web of Science, as well as official documents from international organisations such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), which has been at the forefront of promoting Education for Sustainable Development worldwide.

[37] Munyaradzi Felix Murove, "Indigenous Knowledge Systems Discourse and Inclusionality: An Afro-Centric Quest for Recognition in a Globalised World," *Journal for the Study of Religion* 31, no. 1 (2018): 159–76.

[38] James Ojochenemi David, "Beyond the Extractive Paradigm: Appraising Indigenous Knowledge in South African Environmental Governance," *Environment and Ecology Research* 13, no. 4 (2025): 459–71.

[39] Christian Helms et al., "Desktop Research: National Literature Reviews and Analyses of Educational Resources," *NEWBIE: Deliverable* 2 (2018).

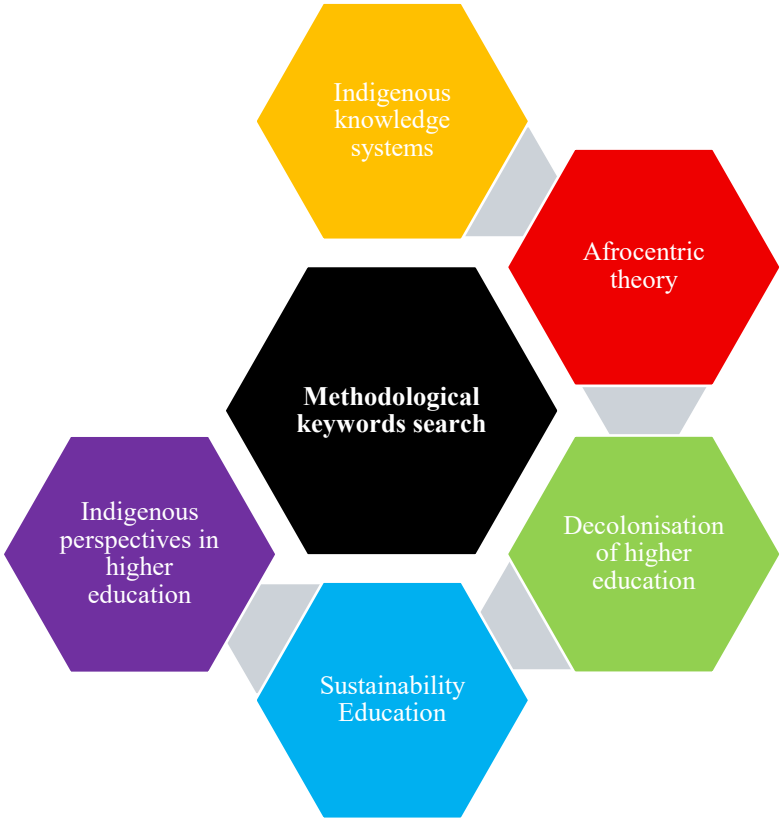


Figure 1: Methodological keywords (Author, 2026)

These keywords were searched separately and together to ensure the search encompassed a broad range of relevant academic discourses and policy deliberations.

Inclusion and Exclusion

Inclusion and exclusion criteria were used during the screening process to ensure rigour and relevance in selecting sources.

The inclusion criteria were that a source had to be directly connected to Indigenous Knowledge, Afrocentric or decolonial education, and higher education in relation to sustainable development. The peer-reviewed journal articles, academic books, scholarly book chapters, and policy documents were prioritised by publication date to identify current debates and developments in the field (within the past 10 years). Nevertheless, seminal works considered central to Afrocentric theory or Indigenous knowledge scholarship were also enlisted, despite their publication dates, because of their theoretical relevance. Also, research on African settings or a Global South perspective was given high priority to ensure relevance to the research's purpose of centring Indigenous and African knowledge systems.

The exclusion criteria were used to narrow down to sources that were not directly relevant to the study. Articles that focused primarily on sustainability or higher education but did not mention Indigenous Knowledge or cultural epistemologies were excluded. In the same manner, there was no consideration of non-scholarly material, such as opinion blogs, unverified internet content, or publications not of academic fame. Sources and publications that did not offer substantial discussion of Indigenous perspectives on education were also not analysed. These criteria helped ensure that the reviewed literature was scholarly and aligned with the conceptual framework that informed the study.

Data analysis

The identified and screened literature was then analysed using thematic analysis. The analysis entailed identifying recurring themes, conceptual arguments, and patterns across the literature on integrating Indigenous Knowledge in higher education, the role of Afrocentric epistemologies, and the role of Indigenous views in sustainable development. The major themes that emerged from this analytical

procedure were epistemic decolonisation, curriculum change, community-based knowledge systems, and culturally grounded sustainability practices. The themes were used to interpret the findings and to generate a systematic understanding of how Indigenous Knowledge can be effectively incorporated into higher education systems to enhance sustainable development.

Literature Synthesis

The literature review generated five major themes that help us understand how Indigenous Knowledge and its perspectives can be integrated into higher education to enhance sustainable development. The themes highlight important concerns related to epistemic change, curriculum change, environmental conservation, community participation, and cultural conservation.



Figure 2: Key study themes

Theme 1: Decolonisation of higher education in Epistemology

The literature has consistently argued that epistemic change is required in institutions of higher learning to address the historical marginalisation of Indigenous knowledge systems. Western epistemologies have long been seen in universities as the prevailing model of knowledge production, which, in most cases, shuts out other knowledge systems produced by Indigenous communities.[40] The production of knowledge in higher education cannot be separated from human interactions and social processes.[41] This means that the current state of higher education should not reproduce epistemic injustices that challenge learning and transformation. According to Khoo et al., the need for epistemic transformation

[40] Savo Heleta, "Decolonisation of Higher Education: Dismantling Epistemic Violence and Eurocentrism in South Africa," *Transformation in Higher Education* 1, no. 1 (2016): 1–8.

[41] Su-ming Khoo et al., "Epistemic (in) Justice and Decolonisation in Higher Education: Experiences of a Crosssite Teaching Project," *Acta Academica* 52, no. 1 (2020): 54–75.

concerns a change in the means by which knowledge is produced, validated, educated, and valued within institutions of higher education. [42]

In Afrocentricity, scholars contend that this imbalance reinforces epistemic injustice by making Western Knowledge the universal and Indigenous Knowledge the peripheral or informal one. The reinforcement of epistemic injustice is evident in the production of hierarchies, which result in other forms of knowing being considered less credible and unscholarly.[43] This results in a misaligned curriculum, particularly in areas where local realities require an indigenous context to support learning.[44] According to Wheeldon and Sahay, this prohibits diversity, which is important in learning and centring scholarship to solve societal challenges.[45]

The findings suggest that, to overcome the above-mentioned imbalance, a careful process of epistemic decolonisation should be employed that acknowledges the validity, relevance, and legitimacy of Indigenous epistemologies in academic discourse. The balance suggested is not expected to reject Western knowledge, but to place it in a dialogue with other knowledge systems, particularly IK, on equal terms.[46] The path towards social justice, fairness, and the relevance of decolonisation should embrace multiple approaches to teaching and learning. This means that the epistemic balance would help students expand their thinking without limitations, thereby responding to societal needs for sustainable development.

The literature also reveals that decolonising knowledge systems entails reconsidering the production, validation, and propagation of Knowledge in universities.[47] Instead of seeing Indigenous Knowledge as an addition to Western scientific Knowledge, scholars promote epistemic pluralism, which holds that several systems of Knowledge are mutually influential. The strategy has prompted universities to question their intellectual histories critically and to recognise the role of Indigenous scholars, as well as communities and knowledge holders, in knowledge production.[48]

Notably, the findings indicate that epistemic decolonisation is not merely a theoretical exercise but also an institutional practice. Epistemic decolonisation is a university practice that transforms the university curriculum and pedagogies. As such, universities are even being actively urged to implement policies and academic structures that support the inclusion of Indigenous epistemologies in research and education. It is important to note that a university can engage in conversations about decolonisation while upholding the existing knowledge hierarchy, thus resulting in invisible transformation. These efforts are considered necessary to build more inclusive and socially responsive higher education systems that address modern development challenges.

It is important to realise that higher education directly contributes to sustainable development through transforming knowledge, its value, and its ability to solve societal problems. In this regard, decolonised epistemologies are centred on sustainable development, where not only facts about the environment are acknowledged, but also critical ethical principles towards addressing complex challenges. Universities should embrace this transformation by empowering students to question knowledge gaps, appreciate lived experiences, and connect learning to societal improvements.

Theme 2: Transformation and Indigenisation of Curriculum

A second key theme arising from the study is the revision of university curricula to include Indigenous knowledge systems. Scholars have pointed out that the only way to achieve meaningful integration of

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[42] Khoo et al., "Epistemic (in) Justice and Decolonisation in Higher Education: Experiences of a Crosssite Teaching Project."

[43] Vanessa R. Sperduti, "Internationalization as Westernization in Higher Education," *Journal of Comparative & International Higher Education* 9, no. 1 (2017): 4.

[44] Mpumelelo Ennocent Ncube, "Towards a Decolonial Higher Education: Praxis and Theoretical Foundations," *African Journal of Inter/Multidisciplinary Studies* 7, no. 1 (March 1, 2025): 1–15, https://doi.org/10.51415/ajims.v7i1.1278.

[45] Anita Louise Wheeldon and Darshna Sahay, "Examining Decolonisation in Global Higher Education: Addressing Another Social Contract Breach in the Absence of Enduring Institutional Redress," *Globalisation, Societies and Education*, May 28, 2025, 1–14, https://doi.org/10.1080/14767724.2025.2510593.

[46] Wheeldon and Sahay, "Examining Decolonisation in Global Higher Education: Addressing Another Social Contract Breach in the Absence of Enduring Institutional Redress."

[47] M Sibanda et al., "The Contemporary Politics of Knowledge Systems: A Critical Reflection Through the Decolonisation Lens," in *The Focus Conference (TFC 2024)* (Atlantis Press, 2024), 452–67.

[48] Oscar Koopman and Karen J Koopman, *Decolonising the South African University* (Springer, 2023).

Indigenous perspectives is to ensure more than just the superficial integration of cultural material into academic programmes. A structural reconfiguration of the academic programmes must be undertaken to ensure that indigenous Knowledge becomes part of the intellectual basis of the curriculum.[49] According to the study findings, curriculum reform must encourage interdisciplinary learning that fosters environmental sustainability, social justice, and Indigenous worldviews.

Interdisciplinary learning is key to sustainability by expanding the lenses through which issues can be addressed. The inclusion of environmental sustainability, social justice, and indigenous perspectives allows students to embed ecological subjects with culture, ethics, equity, and community-based realities. This way of learning should allow students to explore these connections rather than treat them as separate entities. When diverse knowledge systems are embraced, students are empowered to intervene in culturally and contextually relevant approaches.[50]

The findings show that the transformation of the curriculum can be realised through a variety of strategies, such as Indigenous case studies, culturally oriented teaching resources, and collaborative teaching models that engage Indigenous knowledge holders. Not only do such approaches allow for diversity in the sources of Knowledge available to students, but they also encourage a critical approach to local contexts and cultural realities.[51] Universities can also create culturally diverse learning environments by incorporating Indigenous Knowledge into academic programmes.

Moreover, the findings indicate that curriculum change is part of the wider aims of Education for Sustainable Development, which emphasise that education systems must provide students with the Knowledge and values required to confront complex sustainability issues.[52] Indigenous thinking offers valuable insights into holistic approaches to sustainability, especially as they pertain to community-based environmental custodianship and shared accountability. It makes education holistic, inclusive, contextual, and efficient by linking learning to the realities of the communities.

The North-West University (NWU), the University of KwaZulu-Natal (UKZN), the University of the Free State (UFS), the University of Venda (UNIVEN), the University of Limpopo (UL), the University of Johannesburg (UJ) and the University of South Africa (UNISA), which partner with the Department of Higher Education and the Department of Science and Innovation, have had successful experiences in trying to integrate Indigenous Knowledge into the curriculum.[53] The North-West University, as well as the University of Venda, have introduced academic degrees in indigenous knowledge systems as evidence of integration. As indigenous knowledge systems are interdisciplinary, graduates of such academic programmes have been produced, and scholars from various disciplines have served as lecturers.[54] It is evident that South Africa is a leader among African countries in the inculcation of indigenous knowledge in higher education, and its successful efforts provide evidence of how education can be continually decolonised. Thus, this study argues that the above examples from South Africa can serve as a model for South African universities to integrate indigenous Knowledge Systems into their higher education systems and operate sustainably.

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[49] Mmaphuti Mamaleka, "Developing Guidelines for Indigenous Practices: A Case Study of Makhuduthamaga Municipality at Sekhukhune District, Limpopo Province, South Africa," 2020.

[50] Jing Lin et al., "Environmental Justice Must Include the Rights of All Species to Life and Respect: Integrating Indigenous Knowledge into Education," *International Studies in Sociology of Education* 30, no. 1–2 (April 3, 2021): 93–112, https://doi.org/10.1080/09620214.2020.1854827.

[51] Cong Lin, "Understanding Cultural Diversity and Diverse Identities," in *Quality Education* (Springer, 2020), 929–38.

[52] 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," *Scaling up SDGs Implementation: Emerging Cases from State, Development and Private Sectors*, 2020, 169–79.

[53] Siviwe Bangani and Luyanda Dube, "South African Academic Libraries as Contributors to Social Justice and Ubuntu through Community Engagement," *IFLA Journal* 49, no. 3 (October 27, 2023): 541–53, https://doi.org/10.1177/03400352231166751.

[54] Hassan O Kaya and Yonah N Seleti, "African Indigenous Knowledge Systems and Relevance of Higher Education in South Africa," *International Education Journal: Comparative Perspectives* 12, no. 1 (2013).

Theme 3: Indigenous Environmental Knowledge and Sustainable Practices

The literature highlights that Indigenous environmental Knowledge is highly relevant to promoting sustainable development.[55] Indigenous communities have traditionally created complex structures of environmental control based on ancient relationships with nature. These knowledge systems focus on creating ecological balance, appreciating natural resources, and shared responsibility for caring about the environment. The findings show that Indigenous ecological practices can offer meaningful lessons for modern sustainability debates. Traditional agricultural practices, biodiversity conservation policies, and resource management systems developed by Indigenous communities demonstrate an integrated understanding of environmental sustainability.[56] These practices emphasise the need to maintain balance between human activities and ecological systems, which closely aligns with the concept of sustainability advocated by global organisations such as the United Nations Educational, Scientific and Cultural Organisation.

Notably, the findings also show that integrating Indigenous environmental knowledge into higher education can improve students' sustainability knowledge by exposing them to alternative ecological perspectives.[57] This combination gives students a chance to critically examine the weaknesses of such a technocratic method of environmental management and to appreciate the importance of culturally entrenched sustainability patterns.

Theme 4: Community Engagement and Knowledge Co-production

Another important theme that has emerged during the analysis concerns the significance of the partnership between universities and Indigenous communities in the generation of Knowledge. The study emphasises that Indigenous Knowledge is primarily grounded in lived experiences, cultural practices, and community traditions, and that it can never be fully comprehended without substantial interaction with communities that possess it.[58] Consequently, researchers and educators promote the relevance of participatory and collaborative research methods and learning.

The findings show that community involvement can help universities shift from extractive research approaches to knowledge co-production models. In this regard, Indigenous people are no longer research participants but are participants in the creation and sharing of Knowledge.[59] Mechanisms such as collaborative research projects, community-based learning programmes, and collaboration with traditional knowledge holders are discussed as successful ways to introduce Indigenous perspectives into academic activities. Also, the findings suggest that such partnerships can make scholarship socially responsible by ensuring that academic research is responsive to community needs. Through respectful and ethical interactions with Indigenous communities, universities can build mutually beneficial relationships that help preserve Knowledge and achieve sustainable development.

Theme 5: Intergenerational Learning, Cultural Identity and the Preservation of Knowledge

The last theme is the contribution of institutions of higher learning to the maintenance of Indigenous cultural heritage and the continuation of intergenerational Knowledge. The literature indicates that universities can play a significant role in safeguarding and supporting Indigenous languages, traditions, and cultural practices, which constitute a significant part of Indigenous knowledge systems.[60]

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[55] Monicca Thulisile Bhuda and Tlou Maggie Masenya, "South African Universities and Their Responsibility Towards Introducing the Indigenous Knowledge Systems Accredited Programmes: Where to From Here?," in *Resurgence and Revalorization of Indigenous Knowledge Systems in the Contemporary Society* (IGI Global Scientific Publishing, 2025), 495–522.

[56] R VijayKumar, "Integrating Indigenous Knowledge and Traditional Practices for Biodiversity Conservation in a Modern World," *Environmental Reports* 1, no. 2 (2019).

[57] Yulia Nesterova, "Rethinking Environmental Education with the Help of Indigenous Ways of Knowing and Traditional Ecological Knowledge," *Journal of Philosophy of Education* 54, no. 4 (2020): 1047–52.

[58] Nancy J Turner, Alain Cuerrier, and Leigh Joseph, "Well Grounded: Indigenous Peoples' Knowledge, Ethnobiology and Sustainability," *People and Nature* 4, no. 3 (2022): 627–51.

[59] Moyra Keane, Constance Khupe, and Maren Seehawer, "Decolonising Methodology: Who Benefits from Indigenous Knowledge Research?," *Educational Research for Social Change* 6, no. 1 (2017): 12–24.

[60] Giorgia Magni, "Indigenous Knowledge and Implications for the Sustainable Development Agenda," *European Journal of Education* 52, no. 4 (2017): 437–47.

Incorporating such views into higher education programs is not only a way to enhance academic Knowledge but also helps preserve culture.

The findings also demonstrate that integrating Indigenous voices into tertiary education can empower students from Indigenous and marginalised communities by acknowledging their cultural heritage and experiences. By respecting Indigenous Knowledge as an authentic mode of scholarship, universities can foster learning environments that encourage cultural pride, identity development, and intellectual empowerment. The findings highlight that intergenerational learning is crucial for maintaining Indigenous knowledge systems. Traditional Knowledge may be passed through oral traditions, community practices, and cultural rituals that elders use to pass it on to the younger generation.[61] Through these practices of knowledge transmission in academic settings, institutions of higher learning can help ensure that Indigenous Knowledge remains intact and revitalised by preserving it on the one hand and promoting sustainable development on the other.

Table 1: Summary table of the findings in comparison.

Theme	Focus of the Theme	Key findings from the literature	Implications for Higher Education
Decolonisation of higher education in epistemology	Reconstruction of hegemonic knowledge systems and acceptance of Indigenous epistemologies	The literature indicates that in the past, universities gave preference to Western epistemologies and excluded Indigenous knowledge systems. According to scholars basing their arguments on Afrocentricity, epistemic justice would involve acknowledging Indigenous knowledge as a valid and useful asset in academia.	Colleges and universities ought to facilitate epistemic pluralism, incorporate Indigenous epistemology into their research and practice, and oppose Eurocentric hegemony in knowledge creation.
Transformation and Indigenisation of Curriculum	Academic curriculum reform to include Indigenous views.	Research shows that implementing Indigenous knowledge entails structural changes to the curriculum, rather than symbolic inclusion. This can be achieved through culturally based teaching resources, case studies, and interdisciplinary approaches.	Universities are supposed to restructure their curricula to incorporate Indigenous views of sustainability education and to enhance the education of knowledge that is contextually relevant and reflects the realities of localities.
Indigenous Environmental Knowledge and Sustainable Practices	Ecological and environmental care practices of native people.	The literature demonstrates that Indigenous peoples possess ancient ecological knowledge and sustainable methods for managing resources, with a focus on harmonious living with nature. These practices align with the global sustainability frameworks propagated by the United Nations Educational,	Indigenisation of environmental knowledge could enhance sustainability education and offer alternative ecological thinking in addressing environmental problems.

[61] Jelina Haines, "Researching the Knowledge Journey Practices of Indigenous Elders Relevant to the Younger Generation: A Community-based Participatory Study," *Proceedings of the Association for Information Science and Technology* 59, no. 1 (2022): 426–30.

		Scientific and Cultural Organisation.	
Community Engagement and Knowledge Co-production	University partnerships with Indigenous people.	The key to this research is its emphasis on participatory methods in which Indigenous communities engage in the co-creation of knowledge rather than being research subjects. Research and community involvement can help strengthen the authenticity and moral standing of academia.	Universities are supposed to establish collaborations with indigenous communities and promote participatory research paradigms that underpin knowledge co-production and socially responsive scholarship.
The Intergenerational Learning, Cultural Identity and the Preservation of Knowledge	Conservation of Indigenous culture, language and knowledge systems	According to the literature, incorporating Indigenous views in higher education promotes cultural identity and the continuation of Indigenous knowledge by passing it on across generations.	Institutions of higher learning must promote programmes that preserve Indigenous cultural heritage and encourage the use of Indigenous languages, as well as provide adequate means for sharing Indigenous cultural knowledge across generations.

Source: Authors, 2026

Discussion Summary

The findings of this study show that the inclusion of indigenous knowledge and perspectives in higher education for sustainable development demands transformation. Decolonisation is important for transformation, not merely as a nominal factor, but as a means of intentionally restructuring epistemic hierarchies to accommodate indigenous ontologies and pedagogies on equal terms with Western scholarly paradigms. This transformation requires the recognition of indigenous and other systems of knowing. Without transformation, efforts towards education for sustainable development remain a tokenistic, non-impactful reproduction.

The study reveals the need for curriculum reform through indigenisation throughout different disciplines. Indigenisation is understood to be contextual. This is an approach to preparing students to engage with their communities and address the challenges they face. In this case, honest engagement with communities is key to improving curricula, research and pedagogy. In this case, knowledge co-creation would strengthen universities' responsibility in knowledge production and in facilitating legitimate scholarship that is responsive to sustainable development.

Overall, these unified approaches signal that superficial or detached works are unlikely to lead to lasting change. Authentic integration relies on systemic changes in management, pedagogy, research ethics, and resourcing. Interdisciplinary and transdisciplinary approaches are exceptionally effective in addressing complex socio-environmental issues by fostering collaboration across multiple epistemological frameworks. Similarly critical are well-defined ethical frameworks and institutional policies that protect community rights, promote benefit-sharing, and prevent the misuse of knowledge

CONCLUSION

Embedding indigenous knowledge and perspectives in higher education for sustainable education requires transformation within institutions, curriculum, ethics, and relationships. When institutions of higher education challenge dogmatised epistemic hierarchies and reconstruct curricula to accommodate indigenous knowledge, communities, and their environments, they strengthen their role in advancing

culturally, contextually, and ecologically just development. Achieving this objective requires systematic changes to recognise indigenous knowledge systems in scholarship officially.

Future Research Direction

The need to transform higher education for sustainable development through embedding indigenous knowledge cannot be overemphasised. Future studies need to analyse the relationships between institutions of higher learning and their surrounding communities through effective co-creation in contexts where IKS remains dominant in daily lives. This is important for understanding how community engagement, research, and teaching move beyond extractive approaches towards partnerships that are epistemically sound, in which community members are considered educators. There is also a need for studies on decolonisation and transformation in former apartheid universities in South Africa, to interrogate their appreciation of IK in curricula, governance, and research, and to ensure inclusivity. These study directions are envisaged to encourage institutions of higher learning to contribute meaningfully to sustainable development through a hybrid form of operation that recognises IKS.

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