



| RESEARCH ARTICLE

Harnessing Local Wisdom for Transdisciplinary Collaborative Learning: A Pathway to Achieving Sustainable Development Goals

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| ABSTRACT

This study explores how local wisdom is incorporated into the collaborative learning model and transdisciplinary innovation as a tool for achieving the Sustainable Development Goals (SDGs). Local wisdom as a kind of indigenous knowledge enhances social capital and community resilience. The research seeks to understand how local wisdom may be used within the collaborative models to engage the stakeholders and deal with sustainability challenges. In a genealogical manner, inspired by Michel Foucault, the study focuses on evolution of Ali Moallemi's treatment of transdisciplinary approaches with a focus on collaborative learning. The experiences suggest that local wisdom has several components that when integrated into governance and policy development strengthen accountability, transparency, and public participation, critical for the enhancement of sustainable development. At the same time, within the elaboration of Moallemi's construct, the study seeks new avenues for theoretical development to provide new angles to the issues of localization and transdisciplinary education and policy making. This research will be helpful to the educators, policymakers, and the leaders of the communities in using local wisdom and collaborative approaches in the attainment of the SDGs.

| KEYWORDS

collaborative learning; local wisdom; stakeholder engagement; sustainable development goals; transdisciplinary approach

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I. INTRODUCTION

As societies grow more complex and diverse, building sustainable development has become a key global concern, calling for innovative solutions that integrate different knowledge bases. Above all, it highlights the importance of local wisdom – knowledge and understanding that has allowed communities to live in harmony with their surroundings for thousands of years. This local knowledge should be not confined to traditional ecological knowledge (TEK); it should cover all forms of socially and culturally sustainable practices. Transdisciplinary collaborative learning frameworks are required to utilize local wisdom for reaching the Sustainable Development Goals (SDGs), and that is something that this study intends to unearth. As such, there is a need for local knowledge to be embedded within education and governance systems to increase resilience, social equity, and environmental sustainability.

Local wisdom is a crucial form of traditional knowledge that can contribute to sustainable development. Over millennia, it has evolved into a living repository of survival strategies, offering guidance on pressing issues such as climate change, resource management, and social cohesion. Local communities often possess deep knowledge of their regional ecosystems, providing rich, practical applications for conservation. For example, traditional agricultural practices for water conservation and locally integrated resource management have been promoted. However, many other valuable practices remain known only at the local level. Despite their significance, such wisdom is often disregarded in mainstream education and governance, where scientific knowledge is prioritized over community-based practices.

There is considerable potential for strengthening local wisdom and fostering transdisciplinary synergy in sustainability research and practice. While more researchers now recognize the importance of cross-disciplinary, team-based learning, few programs actively incorporate the perspectives of local communities. Excluding local stakeholders limits the effectiveness of scientific expertise in achieving meaningful sustainability outcomes and reinforces existing power imbalances. Additionally, current educational systems tend to emphasize technical knowledge over experiential learning, leaving students with limited

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opportunities to engage in real-world problem-solving and benefit from local wisdom. Therefore, it is essential to develop frameworks that facilitate meaningful, partnership-based knowledge co-creation between academic institutions and local communities to democratize sustainable education. This study seeks to: (a) explore the function of local wisdom in transdisciplinary collaborative learning; (b) examine the key success factors required to incorporate such knowledge-based practices into educational and governance frameworks; and (c) suggest a model for enhancing partnerships between academic institutions and communities. The research questions guiding this study were as follows: How can local wisdom inform sustainable development practices? Creating transdisciplinary collaborative learning frameworks that can successfully integrate local knowledge, where, and for whom? Barriers to academic-practitioner collaboration in sustainable development. Multiple discussions have been held on local wisdom and its relevance to sustainable development.

This paper is structured as follows: The first section is aimed at a full-length review of related literature. The second section will begin with the identification of existing knowledge gaps, and then review lessons learned to underscore difficulties and opportunities for integrating local knowledge into transdisciplinary frameworks. The third section describes the research methodology used in this study. Finally, we conclude with findings related to epistemic cultures and their advice on educational and governance practices. The paper concludes with recommendations for future research and practice regarding ways to create collaborative learning environments that are sensitive to and capable of capitalizing on local knowledge bases. This approach relies on transdisciplinary collaborative learning of knowledge from local wisdom to achieve the 2030 agenda for Sustainable Development Goals. Educational institutions and governance frameworks need to be more effective in addressing complex sustainability challenges by recognizing and valuing the local knowledge of communities. This study attempts to contribute to the discourse on sustainable development by offering a perspective on the incorporation of local wisdom with collaborative learning processes which potentially results in a transformative sustainability paradigm pushing for more inclusive and robust.

Local wisdom, typically the body of knowledge possessed by communities and passed down through generations, plays a fundamental role in building social capital and supporting community resilience. This knowledge is particularly important in the context of sustainable development, as it reflects local adaptations to environmental conditions and socio-cultural contexts inherited by indigenous populations. Local wisdom has been acknowledged as a valuable resource that, when integrated into education, enhances both scientific learning and real-life experiences within communities. For example, the integration of local wisdom in social studies not only helps preserve cultural heritage but also enables Indonesian learners to internalize and embody these values in their daily lives as individuals [6]. This perspective aligns with global discussions on the value of localized learning, which emphasizes the importance of using local ways of knowing in education.

Local wisdom has been well-documented in educational settings, with studies highlighting its advantages in improving student engagement and academic outcomes. A biology learning model based on local wisdom has been shown to significantly strengthen students' understanding of scientific concepts [7], demonstrating that contextualized approaches to learning can lead to better educational practices. Additionally, a local wisdom-based learning model has been found to enhance pre-service teachers' problem-solving and communication skills [8]. These findings further support the educational benefits of integrating indigenous knowledge into curricula. However, despite these advantages, there remains a gap between local wisdom and the operational framework of mainstream education governance. Many educational systems continue to prioritize formal scientific knowledge over locally specific indigenous practices, leading to a disconnect that weakens community resilience and social cohesion. Addressing this gap presents an opportunity for researchers to develop more innovative and inclusive educational models that leverage local knowledge for sustainable development.

As an important aspect of the legal mandate, collaborative learning models are emerging as critical frameworks for active stakeholder engagement and overall integrated development, such as the incorporation of traditional knowledge systems in the village. Such models can engender community-based knowledge production and shared ownership of sustainability, engaging a diverse set of stakeholders, including community members, educators, and policymakers, which points to stakeholder attitudes and values as key to successful transdisciplinary collaboration, suggesting that open-mindedness and respect for alternative viewpoints are fundamental in facilitating productive interaction.[9] This brings out the aspects of co-learning and an informal atmosphere or acknowledgement of indigenous knowledge. More recently, case studies in collaborative learning have shown promise for the kind of community development and stakeholder engagement that can create impact. An example of one such case study is a creation of online tools for use by rural farmers. The researchers, for instance, investigated knowledge-action systems in lake management and demonstrated with their analysis that collaboration can lead to more pro- environmental behavior among the stakeholders involved.[10] It was clear, concluded the researchers, that one-size-fits-all stakeholder engagement strategies will not work. This stronger idea they think will strike a chord with license fee payers in the wider realization that distinctiveness and regional difference can be said to have some level of flexibility (response) within cooperative learning, become associated ideas etc.

Furthermore, research on transdisciplinary learning through experiential courses corroborates the call for students to take active roles in solving real-world environmental problems [11]. Studies suggest that such experiences help students understand complex issues while fostering a sense of obligation toward their communities. This highlights the potential of collective learning to nurture future leaders who can integrate local wisdom and collaborate with communities to address sustainability challenges. However, challenges remain in implementing these promising collaborative learning models. Barriers such as institutional

gatekeeping, differing power structures, and conflicting stakeholder interests can hinder effective collaboration. Therefore, further inquiry is needed to identify the most effective ways to ensure meaningful stakeholder participation in developing local wisdom-oriented environmental education.

Although transdisciplinary approaches are gaining traction in sustainability research, they typically emphasize the need for greater campus integration of diverse knowledge systems and active stakeholder involvement throughout all research phases. Such integration is essential to achieving the Sustainable Development Goals (SDGs), as it enables stakeholders to co-produce knowledge and engage in problem-solving. Scholars argue that transdisciplinary research is distinctive due to its collaboration between scientists and non-academic stakeholders, which is crucial for addressing complex sustainability challenges [3]. This perspective underscores the necessity of new governance models that incorporate stakeholder participation and local knowledge. The theoretical foundation of transdisciplinary approaches recognizes that sustainability problems are inherently complex and multidimensional, requiring diverse perspectives to develop practical solutions. For example, a study on the Maine Tidal Power Initiative demonstrated that transdisciplinary sustainability science can mitigate the risk of inappropriate development by incorporating knowledge and feedback from local stakeholders [12]. These findings highlight the importance of fostering strong relationships between researchers and communities to ensure that sustainability efforts are both contextually relevant and socially acceptable.

Furthermore, there is a general idea that integrating local wisdom into governance and public policy supports community development and resilience, stressed the importance of socially relevant research by engaging stakeholders in this process.[13] This not only ensures the credibility of the research results but also contributes to community ownership over sustainability efforts. Incorporating local knowledge into decision making enables policymakers to develop approaches that are resonant with both the values and needs of the people they serve. However, although there have been important theoretical developments that can enhance transdisciplinarity as a form of research, practice presents challenges. Common challenges faced are power asymmetries, conflicting values among stakeholders, and the need for capacity enhancement, each of which can disrupt collaborative action. Consequently, more studies are required to investigate the challenges of adopting transdisciplinary approaches and their facilitators in different settings. By understanding these, researchers can help facilitate more successful stakeholder engagement and the incorporation of local wisdom within sustainable initiatives. In total, using local wisdom in sustainable development from collaborative learning and transdisciplinary approaches for stronger community resilience and stakeholder participation has a lot of potential. Place-based evidence is already compelling across schools and governance frameworks, yet the accompanying implementation shortfall looms. Future research should concentrate on establishing the success of embedding indigenous knowledge within curricula, thus enabling a supportive community learning environment to co-participate and address transdisciplinary engagement issues. In this way, researchers could help to inform more inclusive and effective solutions for sustainable development.

II. METHODOLOGY

Drawing on Michel Foucault's genealogical method, this study chronicles the history and evolution in the intellectual realm of how Ali Moallemi started to conceive his transdisciplinary and collaborative learning ideas. Genealogy is an approach to tracing the nuances of historical events, discourse, and power that are mutually constitutive of the present knowledge and practices. The research takes a genealogical approach, which is inspired by the work of Moallemi; this allows for an exploration into how his ideas evolved anthropogenetically and have been influenced and reoriented within multiple socio-political contexts and intellectual traditions.[14][15] This finding, in turn, underpins the ways genealogical research can be used to critically investigate what can and cannot be known historically and administratively regarding transdisciplinary, interdisciplinary, and collaborative learning. This research examines how the forces of power dynamics, institutional practices, and cultural contexts affect the historical emergence of Moallemi's ideas by shedding light on the process through which they were made. This is in line with Foucault, as genealogy is not a mere historical story, but a critical approach to understanding the present – what conditions have seen in its making.[16][17]

Data Sources

The analysis of this genealogy will synthesize various types of data: primary texts, secondary literature, and policy documents. Primary Texts: On Ali Moallemi Published articles, books and conference papers articulating his views on transdisciplinary approaches and collaborative learning. These texts will directly reveal Moallemi's thought over his career and how he refined his ideas. Secondary Literature: This part of the chapter will introduce secondary literature related to the research experiment, in this case surrounding transdisciplinary and collaborative learning in an academic context, to situate Moallemi work. This includes academic papers, reviews, and analyses within the field in conversation with Moallemi as well as key works of other important thinkers. This secondary literature will assist in pinpointing the main themes, discussions, and the influences on Moallemi.[18][19] Policy Documents: Finally, we will also review policy documents produced by educational institutions, government organizations and international bodies, to ascertain the institutional and policy contexts in which Moallemi's work has been situated. For instance, documents on educational frameworks, sustainability policies and reports highlighting collaborative learning initiatives are

invaluable in providing a more critical perspective of how new thoughts Moallemi has shared have been put into practice or influenced by pragmatic realities.[14]

Analytical Framework and Analysis Steps

We will use a genealogical approach to examine the analysis of this genealogy, guided in part by Foucault's genealogical principles and the role that knowledge and power have played throughout history. The analysis included the following steps: the first step will require identification of key themes and ideas, according to Moallemi's texts. This will involve an analysis of his definitions: transdisciplinary practices, collaborative learning, and implications for sustainable development. Turning to questions that address the evolution of these themes and interrogate the causes of their evolution, the analysis orients itself to such concerns. Second, we contextualize some of Moallemi's ideas within the larger academic and policy world. This will involve a comprehensive scrutiny of secondary literature to identify central debates, criticisms, and alternative viewpoints on his work. We also address the socio-political contexts in which Moallemi has operated and disseminated his ideas. A third step is to trace the historical development of Moallemi's thoughts by considering how his work reflects a complex combination of discourses and power relations. How have educators, policymakers, and researchers received—challenged— designs based on his ideas? The final stage will incorporate a critical reflection on the implications of the findings for a modern understanding of transdisciplinarity and collaborative learning. This will involve evaluating Moallemi's ideas in the context of ongoing conversations in the field, as well as providing suggestions for future research and practice.

Ethical considerations and limitations

As in all studies that analyze a single subject, ethical issues must be addressed. This article benefits from that extent and ensures that proper primary sources and secondary literature are referenced and that Moallemi's expectations have been interpreted sincerely and provided correctly. The research was also performed in consideration of the intellectual property rights of the participants. The limitations of our study include potential bias in the selection of primary texts and secondary literature, and inevitable restrictions on the availability of primary texts. The genealogical methodology must account for the reflexive position of the researchers and recognize that their own perspectives may shape how analysis is performed. To address this, the research will attempt to be transparent in terms of source selection and interpretation, striving for a multiperspectiveness throughout the analysis. To summarize, this methodology provides a systematic approach that can be used to conduct genealogical research on Ali Moallemi's views on transdisciplinary practices and collaborative learning. Using Foucaultian genealogical methods, this study seeks to reveal Moallemi's historical and intellectual roots, locating his ideas on Ahl al-Bayt within a perspective amenable to the contemporary scene of sustainability education and practice.

III. RESULTS AND DISCUSSION

Understanding Collaborative learning and Local wisdom Preservation in Ali Moallemi Literary Heritage

Learning model evolution that promotes collaboration

Bigger Ideas Ali Moallemi has penned — not new per se, but history giving them fresh, heightened, contemporary urgency as elements of pedagogical paradigms responding to societal change. His conception of collaborative learning initially adhered to the old familiar arc of history with respect to education, where a teacher passed information on to students and that was that. However, his comprehension evolved as a result of the transdisciplinary work he was also doing and showed that active contribution among stakeholders is required that represent various ethnic, professional and social backgrounds to develop knowledge in a reciprocal manner. An early work like Moallemi suggests that both instructors and students have a part to play in emphasizing the importance of dialogue as a keystone for generating understanding and commitment. He said I should not build closed collaborative work spaces, but invite all who wanted to in with their voice. This perspective is compatible with the principles of constructivist learning theory where learners need to actively engage in the process of learning.[7] In a short time, Moallemi realized how important it was for stakeholders outside the university — community members, and policymakers — to be involved in the collaborative learning. This change can be seen as part of a broader tendency to acknowledge the link between educational provision and social problems, especially in sustainability studies. In its latest iteration, Moallemi has developed an evolved notion of the theory of collaborative learning that makes the local player an essential crux. He suggested that local knowledge systems integrate shared learning models with unique perspectives and practices about sustainability issues. This development in his thinking, politically is crystal clear of explanations of case studies from around the world with bottom up local wisdom information that have been recognized and mainstreamed into educational programs or events to ensure more stakeholder engagement and effective problem solving.[20][21] His paper uses examples such as one of local communities (e.g., Indonesia sustainable fishery management program) bridge the gap between their traditional ecological knowledge and contemporary practices where they co-develop environmental sustainability, which will further develop community resilience.

In this context, engrain of local wisdom into collaborative learning models were mandatory to response the challenges posed by Sustainable Development Goals (SDGs) as an enrooted structure in addressing social wellbeing. The array of local wisdom which has been successfully mapped into the educational model to further expand wraparound and stakeholder support in Moallemi's work also underscores how there is nothing but benefits to a strategic, sustainable income generated from local and traditional knowledge systems. As an example of exercise of local wisdom in rural areas Moallemi described a local-based destruction resource management and conservation in South Borneo island, Indonesia. This method is not only useful to improve scientific understanding but also useful to increase interest in preserving local ecosystems.[7] And in making the theoretical educational content more relevant and meaningful to students by relating it to what they already know about their lived experiences and immediate cultural practices in these localities. Moallemi also highlights the value of existing local knowledge in shaping a collaborative governance architecture. He makes a case for the inclusion of more local knowledge in policy processes, as it often provides better and typically socially appropriate answers to issues concerning sustainability.

In the development of tourism, local wisdom can be related to natural resource management for sustainability or arts and culture renewal, as well as economic value creation in the relations with distribution of benefit between tourism stakeholders.[21][22] Using a case study of community-based tourism initiatives, Moallemi identified ways in which local knowledge can increase aspects of mediator involvement, allowing greater mobility on outcomes that are more paramount and sustainable. Although such examples are promising, considerable progress remains to be made in incorporating local wisdom into collaborative learning models. There are no systematic systems to formally document local knowledge through formal education and governance frameworks, as stated by Moallemi. He also explains that when it comes to collaborative work, effectiveness is often so difficult because of the power dynamics that some local voices are not fully in the decision-making process.[23] We believe that this opens the path for future research and innovation in transdisciplinary education and sustainable development.

New Insights and Gaps

Several neglected niche areas exist in the genealogy of Moallemi, which may provide new directions for both theorizing and working. One major finding is that the study details the requirement for gathering much stronger evidence of power dynamics in collaborative learning and stakeholder engagement (learning). Further investigation is needed on the power dynamics in co-constructed knowledge and the use of collaborative learning models, especially with respect to locally generated knowledge. From a more philosophical approach, the potential of local wisdom in existing collaborative spaces that blends with technology. With the growth of digital tools and platforms in education, there may be an opportunity to use technology for sharing and utilizing indigenous knowledge. Seeing the University of Illinois at Chicago as a faculty member in action opens up the horizon on how technology might be used to record, preserve, and make visible the same local wisdom as it serves educational scenes.[24] A study on how technology can function as a bridge between local knowledge and mainstream education is imperative to inform practice and research across fields. Moallemi's projects to deprivilege the idea and theory of co-production demonstrate the necessity for a more locally oriented education for sustainable development, and recognize that he is bucking decades of tradition — most education systems use a one-size-fits-all approach; however, educators need to focus on tailoring educational content and practices to the culture and environment of the communities they operate in. In doing so, this aligns with the tenants of culturally responsive pedagogy who prioritize the need to acknowledge and uplift cultural relevance with their students' learning.[25] Further empirical evidence is needed with regionally tailored educational interventions to enhance participants' commitment to sustainability and the community.

In summary, with Ali Moallemi's genealogy in relation to collaborative learning and local knowledge, there is a story that evolves in time and space which I think generally reflects some generic trends from an individualistic towards a more inclusive way, except for both narrative paradigm facilities influenced by social moves toward sustainability. His research reminds us of the value of entrusting diverse stakeholders in a mutual process of understanding and illustrates that local wisdom may define qualities within educational and governance paradigms. This analysis helps to fill gaps in the academic literature and provides a guide for further theoretical innovation and practical application as part of ongoing conversations regarding the practice of transdisciplinary education in sustainable development.

Inclusion of Local Wisdom in Transdisciplinary Collaborative Learning Model

Results from the genealogical analysis of Ali Moallemi's opinions concerning published collaborative informal learning and the use of local knowledge have a meaningful effect on both theory and practice in sustainable development. In this paper, we integrate our findings from the literature, highlight their implications for educators, policymakers and community leaders and wider contributions to the Sustainable Development Goals (SDGs) discourse, as well as propose a roadmap for research.

Discussion of Results Compared with Literature

This movement points to a broader shift in educational paradigms away from traditional modes of instruction, and toward more democratic, participatory modes, as traced by the evolution of thought represented here by Moallemi. For example, he has a strong focus on collaborative learning, fitting with contemporary constructivist learning theories where knowledge is seen to be co-

constructed through engaged participation.[26] This is in accordance with Asrial et al., that the destination of public orientation may be well-intentioned and can serve a necessary academic or administrative function in learning activities, but public orientation may not lead to effective practice if it is integrated in an environment where pedagogical resources are made accessible accordingly respected local cultural standards fit into the equation for student engagement as well. Emphasizing local expertise in learning allows educators to create relevant, meaningful educational experiences that equip students with tools to solve problems at scale. Further the integration of local wisdom with a collaborative learning framework provides an effective solution, contributed to speed up stakeholder involvement and adoption of sustainable practices. In providing case studies of Moallemi, they offer an example that local knowledge can be practically integrated with the existing governance frames to more effectively face sustainability challenges.[21] Idrus et al. agreed to this, also emphasized that the use of local wisdom in sustainable tourism development can lead to an economy because one of the potential traditional values held by Aceh people. The results of our study underscore the importance of integrating local traditional knowledge as central to collective learning and sustainable development initiatives. Still, the analysis demonstrates that there exist critical gaps in how local wisdom has been systematically integrated into educational and governance framework to date. Models are doing good, but it is not being captured and documented due to the absence of systemic approaches to capture and disseminate local knowledge.[26] Yet the gap indicates there is still conceptual work to be done to develop tools for combining local wisdom with transdisciplinarity in collaborative learning.

The Impacts on Educators, Policy Makers, and Serving the Community

Given that we found alarms starting in elementary school, the results also tie into concerns and discussions around student discipline nationwide, as well as ongoing efforts to challenge and change those practices. Local wisdom can help educators to develop pathways through the curriculum for greater context-specific and engaging enactments of learning. Finally, through integrating local wisdom in modules and instructional practices, educators spread deeper insights on sustainability problems for students.[26][27] In this connected way, we do our sentient to educate students not only about what they learn, but with whom in the environment and within its various social relationship us. The next step for policy-makers is to respect local wisdom as a source of policy options for sustainable development. Decision-makers have the opportunity to sidestep disconnected and culturally inappropriate policies at their conception by centering local communities in a collaborative process to result in decisions that are met with the hyper-local needs, values of their own community.[21] An approach of this kind can boost the credibility and efficiency of sustainability programmes to achieve SDGs, regardless of nature. Community leaders lead the effort to build relational learning by adding local knowledge. Putting in place arenas for mutual knowledge sharing and co-creation requires community leaders, institutions of education (e.g. universities), local communities and governmental organizations to establish partnerships among themselves.[28] The study findings, and experience from other countries suggests that such partnerships could allow communities to harness locally-produced knowledge for addressing sustainability challenges and increasing community resilience and social cohesion.

The desirability of Constitutional strength — in SDGs discussions (& Innovations therein)

Integrating local wisdom—local knowledge of social actors about changes and transformation with empathy to the weak, justice, equity fairness and just behavior towards job environment for sustainability—in TDCL model can occur because they may give narratives of what happen on different scenario that provide foundation empowerment to contribute in dialogue on SDGs. Sustainable development is not the one-size-fits- all endowment role just be a better understanding of various cultural, social, and environmental realms. [29] This is in line with the fact that SDGs are universal and should target all, not some. The study also highlights options to address sustainability challenges through local wisdom. When local knowledge systems are recognized and respected, stakeholders can generate better strategies for solving issues related to climate change, resource management, and social equity.[30] This is particularly important in the current global meta-narrative of sustainability, which acknowledges and accepts diversity.

IV. CONCLUSION LOCAL WISDOM INTEGRATION FRAMEWORK MAKING SUSTAINABLE DEVELOPMENT

Further reflections on the evolution of Ali Moallemi's thoughts on collaborative learning models and stakeholder engagement are as follows: This study explored the integration of local wisdom into transdisciplinary collaborative learning models. The purpose of this study was to explore what local wisdom could be done as a home practice, how it implements their sustainable development, the implication of constructions in forming collaborative learning models, and recognition gaps suggestions for future research. The results provide important insights into the contribution of indigenous knowledge to better educational practices and governance systems, contributing to global goals, such as the SDGs.

Summary of Research Objectives and Key Findings

This study aimed to track the historical and intellectual background of Moallemis viewpoints, review how local wisdom was entered into collaborative learning models, and realize less explored fields for further research. The results suggest that Moallemi's understanding of collaborative learning has moved from a transmissive type to something close to constructive and with the presence of all actors, which is indicative of larger trends in education questioning how to include more and embody a relevant context. Additionally, the research presents some examples of how local wisdom has been integrated into a mutual learning model

to overcome sustainability problems. Based on these examples, local knowledge can improve stakeholder engagement, governance frameworks, and sustainability. However, the analysis suggests important areas for improvement in pragmatic application and global policy frameworks from such wisdom, suggesting a space for open portals where there clearly remains scope for further methodological research.

Implications of the Study's Findings

This study presents several contributions. It contributes to the sustainability development world's vast discussion on local wisdom, both through educational practices and governance frameworks, with an exquisite degree of systematic holistic analysis. Thus, this study serves as a case-in-point example of the value of local knowledge and experiences in translating regional outcomes into grounded models of collaboration for sustainability, adding weight to the argument that both science and development ought to proceed with context-sensitive form fields which account for inherently unique cultural–ecological conditions across otherwise differentiated landscape communities. The results also highlight the importance of stakeholder engagement in attaining the SDGs. This study adds to the ongoing conversation around participatory governance and co-producing knowledge with communities by calling for more representation of local voices in decision making. They reflect this attitude because of the spirit of inclusiveness, leaving no one behind that runs through the SDGs.

Future Research Directions

We believe that these areas should be integrated into future research incorporating local wisdom into transdisciplinary collaborative learning models. The first step was to create wide-ranging methods for documenting and disseminating local knowledge. This will involve the examination of new ways in which the benefits of learning are shared, using technology and digitalization as tools for sharing local learning. It is important to conduct a further in-depth exploration of the power relations involved and the ways in which collaboration and stakeholder engagement occur within learning. Moreover, by understanding that power relations shape the knowledge co-creation process, we developed theoretical and practical knowledge which improves mechanisms for sustaining equality-oriented collaborative learning environments. Another requirement is to design longitudinal studies to test whether integrating local wisdom into educational and governance institutions works. We could do with more in-depth studies on whether these methods work as well as whether they have been imagined to function in forwarding sustainability and resilience. Third, studies should investigate the differences and similarities between good practices and what can be learned from other cultural experiences with local wisdom integration. Such a comparative analysis could aid in building local and context-specific frameworks for incorporating local knowledge into models of collaborative learning.

Policy Recommendations

This study suggests several practical policy recommendations derived from the research findings to support the integration of local wisdom into frameworks for sustainable development. Enhance collaborative partnerships: encourage partnerships between education organizations and local communities and governmental agencies to share knowledge and co-create. These can provide a platform for communities to utilize their traditional knowledge to contribute towards solutions to the challenges related to sustainability. Integrating local wisdom into policy-making: including the local community in pilot initiatives can ensure policies are grounded within the culture and value of the population they serve. Hence, participatory approaches are expected to increase the credibility and efficiency of sustainable projects. Policymakers know that it is a good idea to document and share local wisdom, and initiatives should be supported by policymakers so that knowledge becomes accessible, such as being integrated into educational curricula and governance frameworks. Promote context-specific approaches: identifying the unique historic and cultural circumstances of communities is necessary to help craft sustainable strategies. Policymakers should support the development of tailored or context-specific strategies that engage local knowledge and expertise in solving sustainability problems. Promote research and innovation: encouraging research to include indigenous knowledge in collaborative learning models can generate innovative solutions to sustainability problems. One useful step for policymakers is funding research to investigate how well these approaches work in various settings. This study showed the importance of local wisdom in developing a transdisciplinary-collaborative-learning model and sustainable development. This move to respect and embrace local knowledge systems will assist educators, policymakers and community leaders in implementing better sustainable development strategies for everyone. Future research and policy recommendations highlight the need for ongoing exploration and innovative activity in this space, which might help shape a more sustainable and equitable future.

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