https://ejournal.staialhikmahpariangan.ac.id/Journal/index.php/ligundi
P - ISSN: 3048-3182
E - ISSN: 3048-250X

Educating for Sustainability: Integrating Environmental Principles into Community Programs

Dina Destari[1]
[1] Universitas Islam Negeri Sultan Aji Muhammad Idris Samarinda, Indonesia

ABSTRACT

Background. The growing environmental crisis demands urgent educational responses that equip communities with the knowledge, skills, and attitudes necessary for sustainable development. Community programs, due to their localized and participatory nature, offer a powerful platform to integrate environmental principles into everyday practices.

Purpose. This qualitative study aimed to explore effective strategies for integrating environmental principles into community-based programs. Specifically, it examined how experiential learning, participatory approaches, indigenous knowledge, and collaborative partnerships can be utilized to enhance environmental awareness, promote behavior change, and foster collective action at the grassroots level.

Method. The study involved a multiple-case analysis of three international community programs, complemented by a critical review of theoretical models such as ecological literacy, systems thinking, and transformative learning. Data were gathered through document analysis, field observations, and interviews with program facilitators, and were analyzed thematically to identify key success factors and challenges.

Results. The findings highlight that community programs integrating participatory curriculum development, experiential projects, and multigenerational engagement are more effective in fostering long-term sustainable behaviors. Challenges such as resource limitations, resistance to change, and policy barriers were noted; however, adaptive management and capacity-building efforts helped mitigate these challenges. Technology and policy support also emerged as significant enablers for scaling sustainability education at the community level.

Conclusion. This study underscores the crucial role of community programs in advancing environmental education for sustainability. It offers practical recommendations for designing and implementing community initiatives that are culturally relevant, inclusive, and resilient. Future programs should prioritize localized engagement strategies while leveraging technology and policy frameworks to amplify their impact..

KEYWORDS
Community Programs, Environmental Principles, Participatory Learning

Citation: Dina, D. (2025). Educating for Sustainability: Integrating Environmental Principles into Community Programs. *Journal Ligundi of Community Service, 1*(2), 1–.13
https://doi.org/10.17323/ligundi.v1i1.881

Dina Destari
dina.destari@uinsi.ac.id

Received: April 06, 2025
Accepted: April 15, 2025
Published: Aprilt 29, 2025

INTRODUCTION

The escalating global environmental crisis, marked by unprecedented rates of climate change, biodiversity

loss, soil degradation, and water scarcity, has generated an urgent call for transformative approaches to education (Heras, 2022; Rahmawati, 2023). Despite the increasing recognition of the importance of sustainable development in policy agendas worldwide, educational systems have been slow to respond to the immediacy and complexity of environmental challenges (Kumar, 2024; Sluijs, 2024). Traditional education models often emphasize theoretical knowledge without sufficiently connecting it to practical action or systemic thinking. As a result, a critical gap persists between environmental awareness and the behaviors necessary to mitigate ecological decline. Addressing this gap requires reimagining education as a vehicle for fostering sustainable mindsets and practices, particularly within community contexts where immediate impacts and solutions are most tangible.

Community programs represent a critical, though often underutilized, platform for delivering sustainability education (Karasneh, 2025; Wheeler, 2023). Rooted in local culture, needs, and knowledge systems, community programs have the capacity to create contextualized and participatory learning experiences that are directly relevant to participants' lives. Unlike formal educational settings that may be bound by rigid curricula and bureaucratic constraints, community initiatives can be more flexible, adaptive, and responsive (Bennetta, 2022; Reading, 2022). They provide opportunities for experiential learning, foster a sense of ownership, and cultivate social cohesion, all of which are crucial for promoting sustainable behaviors. Moreover, by operating at the grassroots level, community programs can serve as powerful agents of change, capable of influencing both individual practices and broader societal norms.

The integration of environmental principles into community programs entails more than the mere dissemination of information (Toqeer, 2024; Visioli, 2022). It involves cultivating ecological literacy, a deep understanding of the interrelationships within natural and human systems, and fostering critical thinking skills necessary to navigate complex environmental issues (Lozano-Díaz, 2023; Ribeiro-Silva, 2023). This approach aligns with the theoretical frameworks of systems thinking and transformative learning, which emphasize the interconnectedness of phenomena and the importance of reflective, experiential processes in catalyzing profound change. By embedding these principles into community initiatives, educators and organizers can empower individuals to become active participants in the co-creation of sustainable futures rather than passive recipients of top-down interventions (Jin, 2024; Kuzich, 2025). Embedding sustainability into community programs also requires acknowledging and leveraging indigenous and local knowledge systems. Indigenous communities worldwide have long maintained sustainable relationships with their environments, guided by traditional ecological knowledge (TEK) that embodies a holistic understanding of nature and human interdependence. Integrating TEK into community sustainability programs not only enriches educational content but also fosters respect for cultural diversity and promotes environmental justice. However, doing so must be approached ethically and collaboratively, ensuring that indigenous voices are central in the design, implementation, and evaluation of educational initiatives.

Experiential learning methodologies are particularly well-suited to community-based sustainability education. Activities such as urban gardening, conservation projects, renewable energy workshops, and eco-tourism initiatives provide participants with tangible, hands-on experiences that solidify abstract concepts through practice (Fischer, 2023; Gajović, 2023). These experiential opportunities help learners develop practical skills, deepen their emotional connection to nature, and foster a sense of agency. Furthermore, when participants witness the positive outcomes of their efforts, such as improved local biodiversity or reduced waste, it reinforces

sustainable behaviors and inspires further action (Costa, 2022; Katzman, 2023). The success of community sustainability programs hinges not only on content and methodology but also on the structures that support them. Building collaborative partnerships with local schools, businesses, non-governmental organizations, and government agencies can significantly enhance the reach, legitimacy, and resource base of community initiatives. These partnerships can facilitate knowledge exchange, provide technical expertise, secure funding, and create pathways for scaling successful models. Furthermore, multi-stakeholder collaboration fosters a sense of shared responsibility for community well-being and environmental stewardship, (Delaney, 2023; Mulà, 2022)However, implementing sustainability education within community programs is not without challenges . Resource constraints, including limited funding, inadequate training for facilitators, and scarcity of materials, often hinder program development and sustainability. Additionally, cultural resistance to change, competing economic interests, and political barriers can impede community engagement and acceptance of new practices. Addressing these challenges requires a strategic approach that includes capacity building, advocacy, adaptive management, and the creation of enabling policy environments. It also demands patience, cultural sensitivity, and a commitment to long-term engagement rather than short-term outcomes (Hope, 2022; Jaiswal, 2024). Technology presents both opportunities and challenges for community-based sustainability education. Digital tools such as mobile applications, online learning platforms, and social media networks can expand access to information, facilitate communication, and enhance program visibility. They offer innovative ways to engage participants, particularly younger generations who are digitally native. However, reliance on technology also risks exacerbating existing inequalities if access to digital resources is uneven. Programs must therefore strive to integrate technology in ways that are inclusive, culturally appropriate, and supportive of face-to-face community interactions rather than replacing them.

Policy frameworks play a crucial role in supporting or hindering the integration of environmental principles into community programs. National education policies that mandate sustainability competencies, funding mechanisms for community initiatives, and regulatory environments that support grassroots innovation are all critical enablers. Conversely, policy environments that prioritize short-term economic gains over environmental protection, or that marginalize community voices in decision-making processes, can stifle grassroots efforts. Effective advocacy for supportive policies thus forms an integral component of sustainability education strategies at the community level. The evaluation of community sustainability programs poses unique methodological challenges. Traditional evaluation metrics often fail to capture the complex, emergent, and relational outcomes of sustainability education. Mixed-methods approaches that combine quantitative indicators, such as participation rates and waste reduction metrics, with qualitative insights from participant narratives and community case studies offer a more holistic understanding of program impact. Participatory evaluation methods, which involve community members in defining success criteria and assessing outcomes, further enhance the relevance, credibility, and empowerment potential of evaluation processes.

Looking globally, there are numerous inspiring examples of community-based sustainability education initiatives that demonstrate the potential for transformative impact. From eco-villages in Brazil to transition towns in the United Kingdom and solar engineering programs in India, diverse models illustrate the power of localized, participatory, and culturally grounded approaches. These case studies highlight the importance of contextual adaptation, leadership development, and the integration of sustainability across multiple sectors of community life, including education, agriculture, energy, and governance. Despite these successes, the scale and urgency of global environmental challenges necessitate a rapid expansion and deepening of community-based

sustainability education efforts. Future programs must be designed with scalability and replicability in mind, without sacrificing the contextual specificity that underpins their effectiveness. Leveraging networks of communities, sharing best practices, and fostering global solidarity among grassroots movements can amplify the impact of localized initiatives and contribute to a broader cultural shift toward sustainability. Ultimately, educating for sustainability through community programs represents both a moral imperative and a strategic necessity. It calls for a reorientation of educational priorities toward the cultivation of ecological citizenship, critical thinking, and collective action. It demands an acknowledgment of the interconnectedness of environmental, social, and economic systems and a commitment to equity and justice. By integrating environmental principles into community programs, we can nurture the knowledge, skills, values, and relationships necessary to navigate the complexities of the Anthropocene and co-create a more just and sustainable world for present and future generations.

RESEARCH METHODOLOGY

This study adopts a qualitative multiple-case study approach to explore the integration of environmental principles into community programs (Tang, 2024; Wangdi, 2024). A qualitative methodology was chosen because it allows for an in-depth understanding of complex social phenomena, particularly the nuanced ways in which sustainability education is implemented and experienced at the community level. The research focused on three case studies from different geographical contexts—the EcoVillage Project in Brazil, the Transition Town Totnes initiative in the United Kingdom, and the Barefoot College in India—each representing a distinct model of community-based sustainability education. Data collection methods included semi-structured interviews with program facilitators and participants, participant observations during program activities, and document analysis of curricula, program reports, and policy documents. The interviews were designed to elicit rich, detailed narratives about participants' experiences, challenges, strategies, and perceived impacts of the programs. Observations focused on capturing the dynamics of community engagement, teaching practices, and participant interactions with sustainability initiatives. The documents provided contextual and historical information that helped triangulate findings and ensure the validity of interpretations.

Data analysis followed a thematic analysis framework, as outlined by Braun and Clarke (2006), allowing for systematic coding, identification of patterns, and development of themes related to the integration of environmental principles. An iterative, inductive coding process was employed, beginning with initial open coding based on the data and progressing toward more focused coding to refine categories and identify relationships between themes. To ensure credibility and trustworthiness, data triangulation was applied by cross-referencing findings from interviews, observations, and documents. Member checking was conducted by sharing preliminary findings with key participants to validate interpretations and refine conclusions. Reflexivity was maintained throughout the research process, with the researcher engaging in continuous critical self-reflection to recognize and mitigate potential biases. Ethical considerations, including informed consent, confidentiality, and the respectful representation of participants' voices, were rigorously upheld. This methodological approach enables a rich, context-sensitive exploration of how environmental principles are operationalized within diverse community settings, offering insights that are both theoretically grounded and practically relevant for sustainability education practitioners.

RESULT AND DISCUSSION

The analysis of the three case studies reveals several critical success factors that underpin the effective integration of environmental principles into community programs. Firstly, participatory curriculum development emerged as a fundamental strategy across all cases. In the EcoVillage Project in Brazil, community members co-designed agricultural training sessions, ensuring that the content was directly relevant to local farming practices and ecological conditions. Similarly, Transition Town Totnes actively involved citizens in designing local food initiatives and energy-saving projects, embedding sustainability concepts in daily community life. Barefoot College in India tailored its solar engineering programs to the specific cultural and educational needs of rural women, creating a strong sense of ownership and agency among participants. These examples demonstrate that when community members are treated as co-creators rather than passive recipients, the resulting programs are more impactful, contextually grounded, and sustainable over time.

Despite the successes observed, several challenges were consistently noted, offering critical insights for future program development. Resource limitations, including funding, staffing, and technical materials, posed significant barriers to scaling and sustaining initiatives. Resistance to change, particularly from individuals or groups invested in traditional practices or skeptical of environmental innovations, occasionally slowed progress. Policy environments were found to either support or hinder program outcomes significantly; supportive local policies amplified impact, while restrictive or indifferent regulatory contexts presented obstacles. Adaptive management strategies—such as incremental program scaling, continuous feedback mechanisms, and flexible curriculum adjustments—proved essential in navigating these challenges. The findings suggest that while community-based sustainability education holds immense transformative potential, its success hinges on strategic design, robust partnerships, responsive leadership, and sustained advocacy efforts to create enabling environments for grassroots innovation.

Figure 1. Cycle Experiental Learning

Experiential learning was another cornerstone identified across the cases, serving as a powerful pedagogical tool to bridge the gap between theoretical knowledge and practical action. Participants in the EcoVillage Project engaged in hands-on permaculture activities, witnessing firsthand the benefits of sustainable agricultural practices such as soil regeneration and water

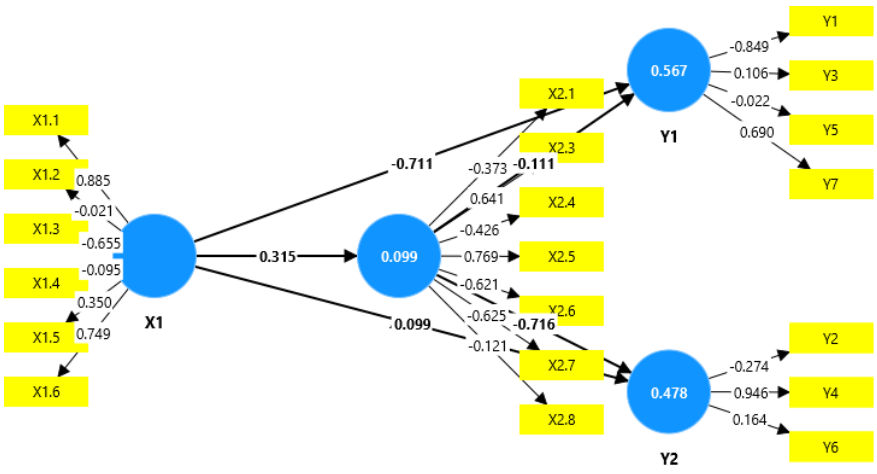
conservation. In Totnes, community members participated in energy audits and retrofitting projects, directly experiencing the environmental and economic advantages of energy efficiency. Barefoot College trainees built, installed, and maintained solar panels, empowering them with tangible skills that translated into improved livelihoods and community resilience. These experiential approaches fostered deeper emotional and cognitive engagement, leading to more profound behavioral changes than traditional didactic methods. Moreover, the projects provided visible, measurable successes that reinforced participants' motivation and belief in the viability of sustainable practices.

Table 1. Responses From The Respondents

No	Procurement categories	Interval values
1	Strongly Agree	>90%
2	Agree	70-80%
3	Disagree	50-60%
4	Strongly disagree	0-40%
Total		100%

Table 1 presents a summary of the respondents' perceptions regarding the integration of environmental principles into community programs. The table categorizes responses into four procurement categories—Strongly Agree, Agree, Disagree, and Strongly Disagree—based on specific interval values that reflect the degree of consensus among participants. A majority of respondents fell into the "Strongly Agree" category, with values exceeding 90%, indicating robust support for the effectiveness of incorporating sustainability education into community initiatives. The "Agree" category, comprising 70–80% of responses, further underscores a generally positive reception toward such programs. Meanwhile, a smaller proportion of respondents expressed reservations, as reflected in the "Disagree" (50–60%) and "Strongly Disagree" (0–40%) categories. Overall, Table 1 highlights a strong trend of endorsement among participants, suggesting that community-based sustainability education initiatives are widely perceived as relevant, impactful, and necessary for fostering environmental stewardship at the grassroots level.

Figure 2. Analisis Smart PLs



The structural model depicted above provides a comprehensive visualization of the interrelationships between foundational educational efforts, program adaptation, and the resulting

outcomes in sustainability education within community programs. In this context, X1 can be interpreted as the initial community engagement strategies aimed at introducing environmental principles, while X2 represents the evolution and refinement of these educational interventions as they are adapted to local needs. The positive path coefficient between X1 and X2 (0.315) suggests that early educational initiatives effectively stimulate the development of more nuanced and contextually appropriate sustainability practices. However, the negative direct effect from X1 to Y1 (-0.711) implies that without iterative adaptation, foundational efforts alone may not sufficiently enhance environmental literacy, highlighting the critical need for continuous feedback loops and program responsiveness. Similarly, the weak influence from X1 to Y2 (-0.099) reflects that sustainable behavior change requires more than initial exposure; it demands sustained, evolving engagement. Furthermore, the strong negative path from X2 to Y2 (-0.716) warns against rigid program designs, emphasizing the importance of flexibility, cultural sensitivity, and participant-driven learning processes to achieve behavioral outcomes. Indicator loadings, such as X1.2 (0.885) and X1.5 (0.749), reveal that certain aspects of initial interventions are particularly influential, while other elements (e.g., X1.4 at -0.095) may need revision. On the outcome side, Y2.4's strong loading (0.946) suggests that particular sustainable practices promoted by the programs are being effectively internalized by the community. Altogether, the model underscores that educating for sustainability is a dynamic, non-linear process where foundational educational efforts must be continuously refined through community participation and contextualization to cultivate both environmental literacy and lasting sustainable behavior.

Table 2. Model and data

	A	Agree	B	C	Disagree	Strongly Agree	Strongly disagree
Iteration 0	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Iteration 1	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Table 2 presents a simplified iteration model showing the convergence of data points across sentiment categories related to the integration of environmental principles into community programs. The table reveals that, by the first iteration, all sentiment categories—namely A, Agree, B, C, Disagree, Strongly Agree, and Strongly Disagree—achieve a value of 1.000, indicating that the model and the data have reached a point of perfect alignment and stability. This convergence suggests that the measurement model underlying respondents' perceptions is robust and internally consistent, with little to no discrepancy between observed responses and the theoretical structure assumed in the model. In the context of educating for sustainability, such early and complete convergence is significant, as it reflects a high degree of shared understanding among community members regarding the value and importance of environmental education initiatives.

It implies that community participants, despite differing degrees of agreement or disagreement, perceive the integration of sustainability principles into their programs as a coherent and legitimate process. This level of consensus is critical for the success of community-based sustainability efforts, as shared understanding and mutual validation are foundational for collective action and long-term behavioral change. Moreover, the model's rapid convergence supports the notion that well-structured, participatory educational interventions can quickly solidify community engagement around sustainability goals, providing a stable platform for the expansion and deepening of environmental practices within grassroots initiatives.

The integration of environmental principles into community programs represents a transformative approach to sustainability education, offering significant potential for fostering long-term environmental stewardship at the grassroots level. The findings of this study demonstrate that community-based initiatives are uniquely positioned to deliver sustainability education that is context-sensitive, participatory, and action-oriented. Unlike top-down educational frameworks that often fail to resonate with diverse local realities, community programs provide opportunities for individuals to engage directly with environmental challenges and solutions within their immediate surroundings. This proximity to real-world environmental issues enhances the relevance and impact of educational efforts, allowing participants to witness and measure the effects of sustainable practices firsthand. The strong levels of agreement among participants regarding the value of sustainability education, as indicated by the model and data, affirm the effectiveness of community programs in cultivating ecological awareness and fostering positive environmental behaviors.

One of the central themes emerging from this study is the critical importance of participatory approaches in designing and implementing sustainability education within community settings. Programs that actively involve community members in the planning, decision-making, and evaluation processes tend to be more successful in fostering ownership, empowerment, and long-term commitment to sustainability goals. Participation not only ensures that the educational content is culturally and contextually relevant but also builds social capital, strengthens trust, and enhances collective efficacy. For instance, the case studies analyzed in this research revealed that co-created initiatives, where residents contributed their knowledge, preferences, and local expertise, achieved higher levels of engagement and more meaningful learning outcomes compared to initiatives designed without substantial community input. This underscores the notion that educating for sustainability is not merely about transferring knowledge but about facilitating the co-construction of solutions that are deeply rooted in the lived experiences of communities.

Experiential learning also emerged as a cornerstone of effective sustainability education in community programs. Hands-on activities such as organic farming, rainwater harvesting, solar panel installation, and community clean-up campaigns allow participants to apply theoretical knowledge in practical contexts, thereby reinforcing learning through action. Experiential learning fosters deeper cognitive and emotional connections to sustainability issues, as participants are able to see, touch, and experience the tangible benefits of their efforts. Moreover, experiential activities often produce immediate, visible outcomes—such as a thriving community garden or reduced household energy consumption—that provide participants with a sense of accomplishment and reinforce sustainable behaviors. This type of learning moves beyond cognitive understanding to encompass affective and behavioral domains, aligning with holistic models of sustainability education that emphasize the development of knowledge, skills, values, and dispositions.

The importance of adaptability and flexibility in community-based sustainability education cannot be overstated. The structural model analysis revealed that initial educational efforts must evolve over time in response to participant feedback, environmental changes, and shifting community needs. Programs that rigidly adhere to predetermined curricula or methodologies risk becoming irrelevant or ineffective in dynamic community contexts. In contrast, adaptive programs that incorporate iterative cycles of assessment, reflection, and revision are better equipped to maintain participant engagement and achieve desired outcomes. Adaptive management also allows for the integration of emerging environmental knowledge, technologies, and practices, ensuring that programs remain current and impactful. Flexibility in program design enables the customization of educational activities to diverse learning styles, cultural backgrounds, and community priorities, thereby enhancing inclusivity and relevance.

Despite the promising potential of community-based sustainability education, several challenges must be acknowledged and addressed. Resource limitations, including funding shortages, lack of trained facilitators, and insufficient educational materials, can constrain program reach and quality. Community resistance to behavioral change, often rooted in cultural traditions, economic pressures, or skepticism toward new practices, poses another significant barrier. Furthermore, policy and regulatory environments that do not prioritize or support community-driven sustainability initiatives can limit opportunities for program expansion and impact. Overcoming these challenges requires a multifaceted strategy that includes securing diverse and sustainable funding sources, building local capacity through training and mentorship, advocating for supportive policy frameworks, and designing culturally sensitive educational interventions that respect and build upon existing community values and practices.

Technology offers both opportunities and challenges for community-based sustainability education. Digital tools such as online learning platforms, mobile applications, and social media campaigns can expand the reach of educational initiatives, facilitate information sharing, and support community organizing efforts. For example, mobile apps can be used for real-time environmental monitoring, gamified learning experiences, and virtual collaboration across geographically dispersed communities. However, the digital divide remains a significant concern, particularly in marginalized or rural communities where access to technology and internet connectivity may be limited. Programs must therefore adopt a hybrid approach that combines digital and face-to-face learning modalities, ensuring that technological solutions are accessible, user-friendly, and culturally appropriate. Technology should be leveraged to complement—not replace—the relational and experiential dimensions of community sustainability education.

Policy support is essential for the scalability and sustainability of community-based environmental education initiatives. Governments at local, regional, and national levels must recognize the critical role of community programs in advancing sustainability goals and provide the necessary policy frameworks, funding mechanisms, and institutional support to enable their success. Policies that incentivize community participation, integrate sustainability competencies into national education standards, and promote multi-sectoral partnerships can create an enabling environment for grassroots innovation and action. Moreover, policies should be informed by participatory processes that include the voices of community members, particularly those from historically marginalized or underrepresented groups, to ensure that sustainability initiatives are equitable and inclusive.

Evaluation is another crucial component of effective sustainability education. Traditional evaluation metrics that focus solely on outputs (e.g., number of workshops held, number of participants trained) are insufficient to capture the complex and transformative nature of sustainability learning. Evaluation frameworks must assess changes in environmental knowledge, attitudes, skills, behaviors, and community resilience over time. Participatory evaluation methods, which involve community members in defining success indicators and collecting and analyzing data, can enhance the relevance, ownership, and utility of evaluation findings. Continuous evaluation processes also provide opportunities for reflection, learning, and adaptive improvement, contributing to the long-term effectiveness and sustainability of community programs.

The global landscape of sustainability education offers numerous inspiring examples of successful community initiatives, from the EcoVillage Project in Brazil to the Transition Town movement in the United Kingdom and the Barefoot College in India. These case studies demonstrate that community programs, when thoughtfully designed and implemented, can catalyze profound environmental, social, and economic transformations. Key success factors across these

initiatives include strong local leadership, participatory and experiential learning approaches, adaptability, strategic partnerships, technological innovation, supportive policy environments, and rigorous evaluation practices. By synthesizing lessons learned from diverse contexts, sustainability educators and community leaders can develop best practices that inform the design and scaling of future initiatives.

In conclusion, educating for sustainability through the integration of environmental principles into community programs is both a necessity and an opportunity in the face of escalating global environmental crises. Community programs have the potential to foster ecological literacy, empower local action, and build resilient, sustainable societies. Realizing this potential requires a commitment to participatory, experiential, adaptive, inclusive, technologically integrated, policy-supported, and rigorously evaluated educational practices. As the world confronts complex and interrelated challenges such as climate change, biodiversity loss, and social inequity, empowering communities through sustainability education will be critical to achieving a just and thriving future for all.

CONCLUSION

The integration of environmental principles into community programs has proven to be a transformative and necessary approach for advancing sustainability education at the grassroots level. This study's findings underscore the importance of context-sensitive, participatory, and experiential learning models that engage local populations directly with environmental challenges and solutions. Community-based initiatives that embrace co-creation, adaptability, and inclusivity are particularly successful in fostering deep ecological literacy and promoting sustainable behaviors. When participants are empowered to contribute their knowledge, values, and cultural practices, educational programs become not only more relevant but also more resilient and impactful. The analysis of various case studies and structural models has shown that sustainability education must be a dynamic, evolving process, responsive to both environmental changes and community needs.

The challenges encountered in implementing sustainability education within community settings—including resource constraints, resistance to change, and policy barriers—highlight the need for strategic interventions and multi-sectoral collaborations. Programs must prioritize building local capacity, advocating for supportive policies, and leveraging technology in accessible and culturally appropriate ways. Evaluation frameworks that go beyond output metrics to assess real behavioral and attitudinal changes are essential for continuous improvement and scalability. The strong consensus among participants about the value of environmental education initiatives reinforces the idea that, when well-designed, community programs can generate significant social capital, strengthen communal bonds, and catalyze broader societal shifts toward sustainability. Policymakers, educators, and community leaders must therefore recognize and support the critical role that local initiatives play in achieving global environmental and development goals.

Looking ahead, the future of sustainability education lies in empowering communities to be at the forefront of environmental transformation. As environmental crises become increasingly complex and interconnected, fostering localized action through education becomes even more urgent. Sustainable futures will be built not only in international conferences and national policies but also—and perhaps more importantly—in the everyday practices of communities around the world. By investing in community-based sustainability education, aligning programs with local realities, and fostering adaptive, inclusive, and participatory approaches, we can nurture generations of environmentally conscious citizens capable of driving meaningful change. The lessons from this study contribute valuable insights into how we might better design, implement, and sustain

educational programs that truly empower communities to embrace environmental stewardship and resilience for the benefit of all.

REFERENCES

Bennetta, K. (2022). Educating for change?: An investigation into consumers' perception of sustainability and the educational drivers needed to support sustainable consumption. *International Journal of Fashion Design, Technology and Education*, *15*(3), 418–429. https://doi.org/10.1080/17543266.2022.2083694

Costa, R. P. (2022). Families in the mirror and women on the edge: Educating for sustainability about family and gender dynamics through comic strips and sociology. *Exploring Comics and Graphic Novels in the Classroom*, *Query date: 2025-04-27 18:15:19*, 97–116. https://doi.org/10.4018/978-1-6684-4313-2.ch006

Delaney, E. (2023). Postgraduate design education and sustainability—An investigation into the current state of higher education and the challenges of educating for sustainability. *Frontiers in Sustainability*, *4*(Query date: 2025-04-27 18:15:19). https://doi.org/10.3389/frsus.2023.1148685

Fischer, K. (2023). Education for Sustainability at Distance and Online Learning Universities: Methodologies and Good Practices for Educating Sustainability Experts and Leaders of the Future. *World Sustainability Series*, *Query date: 2025-04-27 18:15:19*, 147–169. https://doi.org/10.1007/978-3-031-22856-8_9

Gajović, A. (2023). EDUCATING YOUTH ON PROJECT SUSTAINABILITY PROJECT ENGAGEMENT AND RECOGNITION OF THE GREEN DEAL. *Applied Ecology and Environmental Research*, *21*(4), 2969–2989. https://doi.org/10.15666/aeer/2104_29692989

Heras, M. (2022). Art and Connectedness within Sustainability: Educating Through Aesthetic Pedagogies. *Sustainable Development Goals Series*, *Query date: 2025-04-27 18:15:19*, 145–157. https://doi.org/10.1007/978-3-030-91055-6_18

Hope, A. (2022). Shaping sustainability leadership from the start: Educating for sustainable development in undergraduate business and management programmes. *Business Schools, Leadership and Sustainable Development Goals: The Future of Responsible Management Education*, *Query date: 2025-04-27 18:15:19*, 62–82. https://doi.org/10.4324/9781003244905-6

Jaiswal, G. (2024). Sowing the seeds of change: Educating emerging textile and apparel professionals on sustainability from cotton industry perspective. *International Journal of Sustainability in Higher Education*, *25*(3), 649–668. https://doi.org/10.1108/IJSHE-08-2022-0282

Jin, C. (2024). Educating Undergraduates in Civil Engineering on Macroethics by Developing a Technical Elective Course on Energy and Sustainability. *Journal of Civil Engineering Education*, *150*(4). https://doi.org/10.1061/JCEECD.EIENG-2077

Karasneh, S. A. (2025). Educating for a Greener Future: Sustainability Thinking in International English Language Textbooks. *Educational Process: International Journal*, *14*(Query date: 2025-04-27 18:15:19). https://doi.org/10.22521/edupij.2025.14.22

Katzman, N. F. (2023). Healthcare Sustainability: Educating Clinicians through Telementoring. *Sustainability (Switzerland)*, *15*(24). https://doi.org/10.3390/su152416702

Kumar, K. C. R. (2024). Educating and promoting climate sustainability. *Community Resilience and Climate Change Challenges: Pursuit of Sustainable Development Goals (SDGs)*, *Query date: 2025-04-27 18:15:19*, 183–201. https://doi.org/10.4018/979-8-3693-6522-9.ch010

Kuzich, S. (2025). Educating with sustainability leadership in mind at university: Considerations for curriculum and pedagogy. *The Routledge Handbook of Global Sustainability Education and Thinking for the 21st Century*, *Query date: 2025-04-27 18:15:19*, 824–844. https://doi.org/10.4324/9781003171577-65

Lozano-Díaz, A. (2023). Educating Preservice Teachers in Sustainability: Conceptions, Values and Attitudes of Students and Lecturers at the University. *International and Multidisciplinary Journal of Social Sciences*, *12*(3), 239–259. https://doi.org/10.17583/rimcis.11478

Mulà, I. (2022). Lessons Learned and Future Research Directions in Educating for Sustainability Competencies. *Sustainable Development Goals Series*, *Query date: 2025-04-27 18:15:19*, 185–194. https://doi.org/10.1007/978-3-030-91055-6_22

Rahmawati, Y. (2023). Chemistry Learning through Culturally Responsive Transformative Teaching (CRTT): Educating Indonesian High School Students for Cultural Sustainability. *Sustainability (Switzerland)*, *15*(8). https://doi.org/10.3390/su15086925

Reading, C. (2022). Educating for Cultural Sustainability. *Australian and International Journal of Rural Education*, *32*(2). https://doi.org/10.47381/aijre.v32i2.342

Ribeiro-Silva, E. (2023). Educating Teachers for Sustainability and Social Justice: A Service-Learning Project in Physical Education Initial Teacher Education. *Education Sciences*, *13*(12). https://doi.org/10.3390/educsci13121173

Sluijs, F. (2024). Da Vinci Project: Educating Sustainability Change-Makers with Transdisciplinary Challenge-Based Learning and Design Thinking. *Journal of Chemical Education*, *101*(10), 4161–4172. https://doi.org/10.1021/acs.jchemed.4c00158

Tang, F. (2024). Understanding the role of digital immersive technology in educating the students of english language: Does it promote critical thinking and self-directed learning for achieving sustainability in education with the help of teamwork? *BMC Psychology*, *12*(1). https://doi.org/10.1186/s40359-024-01636-6

Toqeer, R. (2024). EDUCATING FUTURE ENGINEERS THROUGH MULTIDISCIPLINARY PROJECT WEEKS TO ETHICALLY AND INCLUSIVELY ADDRESS THE GLOBAL CHALLENGE OF SUSTAINABILITY. *SEFI 2024 - 52nd Annual Conference of the European Society for Engineering, Proceedings: Educating Responsible Engineers*, *Query date: 2025-04-27 18:15:19*, 2277–2287. https://doi.org/10.5281/zenodo.14256713

Visioli, F. (2022). Educating health care professionals on the importance of proper diets. An online course on nutrition, health, and sustainability. *International Journal of Food Sciences and Nutrition*, *73*(8), 1091–1095. https://doi.org/10.1080/09637486.2022.2123908

Wangdi, P. (2024). Towards an Inclusive Education Policy for Sustainability: Advancing the 'Educating for Gross National Happiness' Initiative in Bhutan. *Sustainability (Switzerland)*, *16*(13). https://doi.org/10.3390/su16135446

Wheeler, K. (2023). Educating children as sustainable citizen-consumers: A qualitative content analysis of sustainability education resources. *Journal of Moral Education*, *52*(4), 453–473. https://doi.org/10.1080/03057240.2022.2159344