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Interdisciplinary Approach to Identifying the Educational Contribution of Tourism to Local Education Development: A Systematic Literature Review

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ABSTRACT

This study aims to analyze the educational contributions of tourism to the development of local education in rural areas of Indonesia through an interdisciplinary approach. The research employs a Systematic Literature Review (SLR) method based on the PRISMA protocol, using data sources from the Scopus database covering the period 2020–2025. Out of a total of 688 identified documents, 20 scholarly articles meeting the inclusion criteria were thematically analyzed. The findings indicate that tourism functions as a social learning system integrating cultural, environmental, social, and economic dimensions. Three primary models were identified: the culture- and local identity–based model, the environment- and sustainability–based model, and the creative economy– and community empowerment–based model. Furthermore, the study reveals research gaps in the form of limited quantitative empirical evidence, methodological constraints, and insufficient integration between educational and tourism policies.

This research proposes a conceptual framework, the Tourism–Education Synergy Framework, which conceptualizes tourism as a learning ecosystem operating through knowledge transfer, social capacity building, and value transformation. In conclusion, tourism holds significant potential to enhance the educational capacity of rural communities and to foster sustainable development grounded in local learning.
Keywords: Agritourism, Education, Empowerment, Rural Development, Sustainable Tourism.

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INTRODUCTION

Tourism has increasingly been positioned not merely as an economic sector but as a social learning space that contributes to local educational development, particularly in rural contexts. In Indonesia, tourism-based activities facilitate informal learning processes through community interaction, cultural practices, and environmental engagement. Despite growing academic interest, empirical clarity regarding how tourism contributes to measurable educational outcomes remains limited.

Existing studies indicate that tourism supports learning in cultural (Jaeni, 2023), environmental (Kusuma et al., 2025), and socio-economic domains (Widayati et al., 2024). However, these studies largely remain descriptive and do not adequately operationalize the educational variables embedded within tourism practices. Consequently, the mechanisms through which tourism enhances local educational capacity have not been systematically mapped. Based on this background and the stated aims, the study formulates three guiding research questions:

In this study, the educational contribution of tourism is operationalized through three measurable dimensions:

1. Social learning capacity, indicated by community participation intensity, collaborative practices, and communication competencies;

2. Environmental learning outcomes, indicated by conservation awareness, sustainable behaviour, and ecological responsibility; and
3. Economic learning capacity, indicated by entrepreneurial literacy, tourism-related skills acquisition, and value creation practices.

These dimensions are formulated as observable analytical units to enable systematic synthesis across empirical studies.

The central research gap addressed by this study lies in the absence of integrated analytical frameworks that connect tourism activities with operational educational variables. While prior research has discussed tourism–education relationships from cultural, policy, and sustainability perspectives (Basri et al., 2022; Yusra et al., 2023; Rahmawati et al., 2023), few studies have provided structured conceptualizations that allow for comparative measurement across contexts.

Accordingly, this study employs a Systematic Literature Review (SLR) to identify, classify, and synthesize patterns of tourism-driven educational development in rural Indonesia. The study specifically examines how tourism functions as a social learning mechanism, how it shapes environmental learning behaviours, and how it strengthens local economic learning capacities. Through this approach, the study seeks to establish a more rigorous empirical foundation for the integration of education into sustainable tourism policy and practice.

METHOD

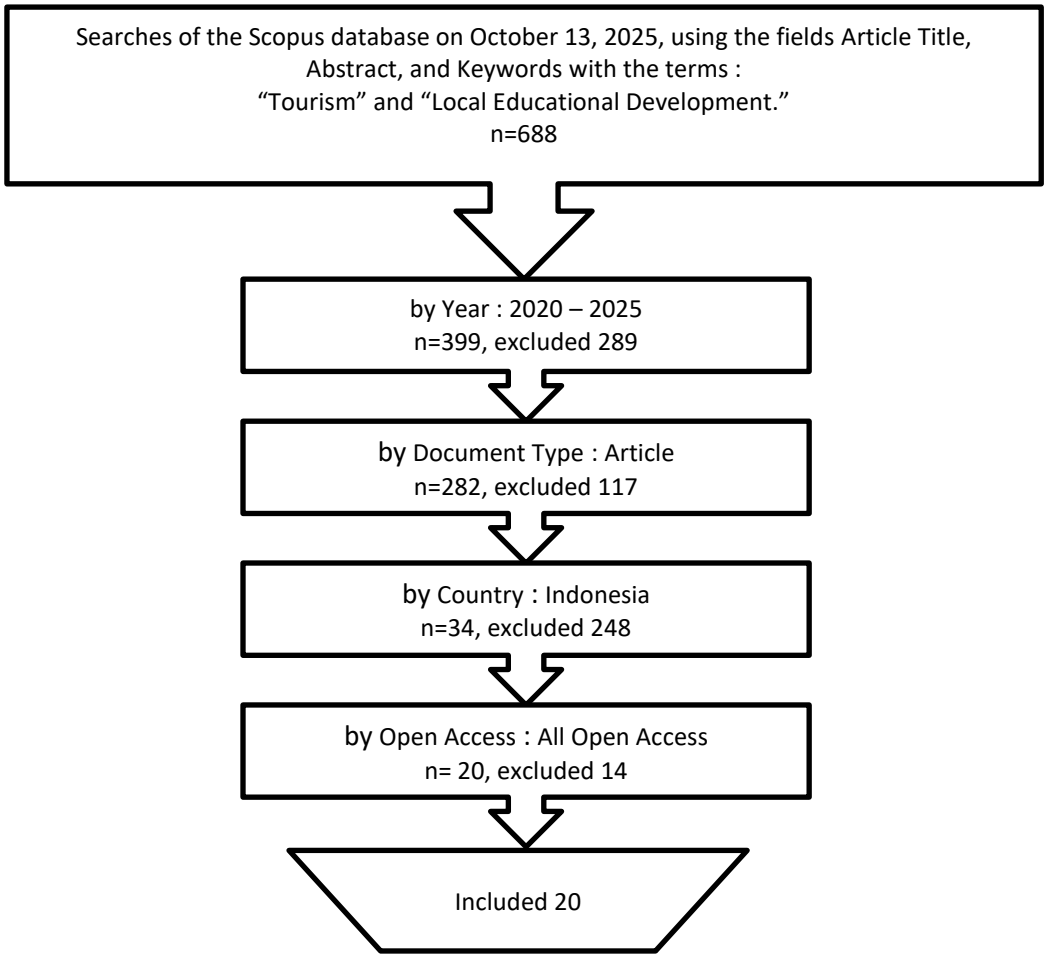
This This study employs a Systematic Literature Review (SLR) design to analyze the educational contributions of tourism to the development of local education in Indonesia over the period 2020–2025. This approach was selected because it enables the integration of diverse interdisciplinary research findings spanning education, sustainable tourism, culture, economics, and community empowerment (Jaeni, 2023; Harnika et al., 2025; Widayati et al., 2024).

The research process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol, which consists of four main stages: identification, screening, eligibility, and inclusion. The initial identification process was conducted through the Scopus database on October 13, 2025, using a combination of the keywords "Tourism" and "Local Educational Development" in the Article Title, Abstract, and Keywords fields. From an initial total of 688 documents, a series of screenings based on inclusion and exclusion criteria were performed, resulting in 20 articles deemed relevant to the topic of this study.

This research uses a *Systematic Literature Review (SLR)* design that is descriptive-analytical and interdisciplinary in nature. This means that the analysis does not only highlight tourism as an economic sector but also as a mechanism for social and cultural education. Each article identified is analyzed from several perspectives, including the geographical context, theoretical framework, research methods, findings, and limitations. The aim of this study is not to conduct a quantitative meta-analysis but to provide a conceptual synthesis of patterns, trends, and research gaps. As such, the findings strengthen the understanding of how the educational, social, cultural, and economic dimensions of tourism contribute to local education development (Jaeni, 2023; Kusuma et al., 2025; Rahmawati et al., 2023).

The study sample consists of 20 scholarly articles that meet the inclusion criteria: (1) published between 2020 and 2025, (2) focusing on the context of Indonesia, (3) classified as open access journal articles, and (4) addressing the relationship between tourism and local education. According to the PRISMA process, from an initial 688 documents, 399 were filtered based on publication year, 282 after filtering by document type, and 34 after filtering by country. Ultimately, 20 articles were selected as they met all relevance and access criteria.

Figure 1. PRISMA Framework



The articles analyzed cover various locations across Indonesia, such as Lombok, Sumatra, Yogyakarta, West Java, and West Nusa Tenggara, as well as a range of topics, from *ecotourism* based on organic agriculture (Effendi et al., 2025), geotrail development (Lestari et al., 2025), to women empowerment based on cultural literacy (Rosramadhana et al., 2024). This geographic and thematic variation enhances the external validity of the synthesis findings.

The primary tool used is a *data extraction sheet* developed based on systematic analysis components, which include: (1) publication details (title, author, year, and research location); (2) the theories and conceptual approaches used; (3) research methods (qualitative, quantitative, or mixed); (4) key research findings; (5) research limitations; and (6) relevance to the topic of local educational development. Each article is manually analyzed and coded using a thematic coding scheme. The thematic categories produced cover four main dimensions: educational, social, cultural, and economic. The coding process ensures reliability, and the results are evaluated to reduce interpretive bias (Basri et al., 2022; M. Irfan et al., 2023; Harnika et al., 2025).

The data collection procedure follows the logical sequence of PRISMA. First, the identification stage is conducted through searching the Scopus database based on predefined keywords. Second, the screening stage involves reviewing titles and abstracts to exclude irrelevant articles, such as those focused purely on the economics of tourism or research outside of Indonesia. Third, the eligibility stage entails reading the full text of articles to assess their relevance to the research focus, which is the educational contribution of tourism to local education. Finally, the inclusion stage ensures that only articles that meet all relevance and methodological criteria are included. From the initial 688 articles, 289 were excluded in the first stage, 117 in the second stage, 248 in the third, and 14 in the final stage, leaving 20 final articles.

Data analysis is carried out thematically and comparatively. First, each article is analyzed to identify key themes related to the educational contributions of tourism. Second, the articles are

grouped according to thematic categories: (1) culture and art-based tourism, (2) environment and ecotourism-based tourism, (3) education and training-based tourism, and (4) socio-economic empowerment-based tourism. Third, the findings are compared to identify research gaps and new theoretical development opportunities. For example, Jaeni (2023) emphasizes performing arts as a medium for cultural education, while Rahmawati et al. (2023) highlight green entrepreneurship as a tool for economic learning. These findings are then synthesized into a conceptual model linking tourism and local education that can be applied in sustainable development policies.

Figure 2. Number of Publications per Year

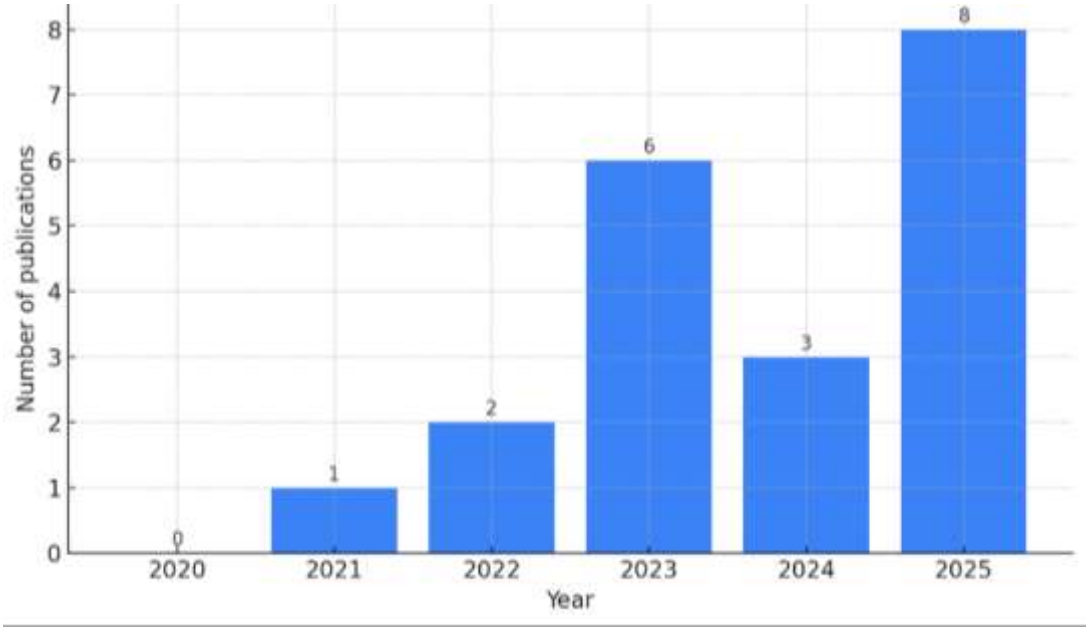


diagram showing the number of publications per year (2020–2025), which reveals a significant increase since 2023, indicating growing academic attention toward educational tourism topics. With a systematic and transparent procedure, this research can be replicated by other researchers in different geographical contexts or sectors without losing methodological accuracy or thematic analytical depth.

FINDING AND DISCUSSION

Distribution of Research and General Characteristics

The systematic search conducted through the Scopus database on October 13, 2025, yielded a total of 688 documents using the keywords "Tourism" and "Local Educational Development." After applying filters based on publication year (2020–2025), document type (article), country (Indonesia), and open-access availability, 20 articles met the inclusion criteria.

Based on the annual distribution, the number of publications increased significantly between 2023 and 2025, reflecting growing academic interest in the integration of tourism and education in Indonesia. In terms of research locations, most studies focused on rural areas and regions with tourism potential grounded in culture, nature, or agriculture, such as Yogyakarta, Lombok, Sumatra, and West Java. Methodologically, 12 studies employed qualitative approaches, 5 used quantitative methods, and 3 adopted mixed-methods designs. The most frequently applied theoretical frameworks include community empowerment theory, sustainable tourism development, geotourism, and environmental education. The thematic focus of the studies can be grouped into four main categories: (1) culture- and art-based tourism, (2) environment-based tourism, (3) education- and social-based tourism, and (4) creative economy and community empowerment–based tourism.

Culture- and Art-Based Tourism

Five studies in the sample emphasize cultural tourism as a medium for social learning and the preservation of local identity. Jaeni (2023) developed a communication model for strengthening culture-based tourism in West Java, revealing that performing arts can enrich visitor experiences while enhancing local cultural awareness. Mandasari, Rahmah, and Mukminatien (2025) examined the development of culture-based assessment instruments for EFL students, resulting in improved speaking skills and intercultural awareness. Harnika et al. (2025) found that education plays a strategic role in multicultural tourism in Lombok, serving to maintain cultural diversity while enhancing local community skills. Irfan et al. (2023) introduced the Edu Ortrad model—an educational tourism development approach based on traditional sports in Sumatra—that successfully integrates sports values, culture, and character education. Lastly, Rosramadhana et al. (2024) developed a women's empowerment model based on cultural literacy in Serdang Bedagai, demonstrating increased female participation in tourism activities and positive impacts on local welfare.

Overall, these studies indicate that culture- and art-based tourism not only generates economic benefits but also serves as a medium for learning social and cultural values within rural communities.

Environment-Based Tourism and Ecotourism

Six studies explore the link between tourism and environmental education within the contexts of ecotourism and geotourism. Hadmoko, Marfai, and Malawani (2021) conducted an assessment of coastal geomorphosites in Lombok using GIS methods, finding that geotourism activities play a crucial role in enhancing local environmental literacy. Kusuma et al. (2025) investigated the sustainability of geotourism in Gua Jomblang, Yogyakarta, revealing that education, aesthetics, and safety functions are key determinants of tourism sustainability. Lestari et al. (2025) demonstrated that developing geotrail routes in the Bayah Dome Geopark can enrich tourist experiences while safeguarding geological resources. Effendi, Lubis, and Siregar (2025), through their study in Desa Lubuk Bayas, found that organic farming practices within ecotourism help raise environmental awareness and improve community welfare. Hasan, Hadi, and Anisah (2023) focused on education-based environmental management in fishing communities, which led to greater public awareness of natural resource conservation. Meanwhile, Patawari et al. (2025) incorporated socio-economic dimensions into mangrove ecotourism in Luwu, South Sulawesi, showing that nature-based tourism can enhance local income despite infrastructure limitations.

Taken together, these findings demonstrate that environment-based tourism functions as a form of ecological learning that instills values of conservation and social responsibility within rural communities.

Education and Social-Based Tourism

Four studies focus on the social and educational dimensions of tourism. Basri et al. (2022) investigated public attitudes toward English-based educational tourism in Eastern Indonesia, finding that while communities showed positive attitudes, acceptance was still limited. Yusra et al. (2023) explored the integration of supranational and national frameworks in English language courses for the tourism sector in Mataram, and found that such policies improved language competence and quality of intercultural interactions. Widodo et al. (2023) studied the polarization of public perceptions regarding the development of ecotourism in Bopunjur, West Java, revealing that differences in community perceptions could be managed into productive collaborations through participatory education. Harnika et al. (2025) highlighted the role of education in the development of multicultural tourism that strengthens social tolerance and ethnic harmony in Lombok.

Overall, these studies demonstrate that education functions as a social medium that strengthens cohesion, enhances cross-cultural communication skills, and supports communities in adapting to social changes brought about by tourism.

Creative Economy-Based Tourism and Community Empowerment

Six other studies focus on the economic and community empowerment dimensions of tourism. Rahmawati et al. (2023) found that green entrepreneurship based on local culture in West Nusa Tenggara supports the development of sustainable ecotourism through local product

innovations such as weaving and pearl crafts. Widayati et al. (2024) developed an agritourism model based on herbal gardens in Yogyakarta, which showed increased household income and environmental awareness. Yuli et al. (2025) evaluated the Special Economic Zone (SEZ) Mandalika, finding that while income and infrastructure had improved, there was still a skills gap within the community. Tjitrawati et al. (2022) emphasized the importance of legal aspects in the development of village tourism in East Java, noting that clear regulations supported community participation in tourism destination management. Kurniawan, Prasetyo, and Purnomo (2024) assessed geosites in the Ijen Geopark, Banyuwangi, finding that geotourism holds significant potential as both an educational and local economic destination. Finally, Rosramadhana et al. (2024) showed that empowering women through cultural literacy increases their active participation in tourism development and improves household welfare.

Together, these findings suggest that tourism not only has economic impacts but also strengthens entrepreneurship education and social literacy within rural communities.

General Findings

From an empirical data perspective, nine studies employed survey instruments or quantitative measurements. Kusuma et al. (2025) identified six dominant variables influencing the sustainability of geotourism: education, aesthetics, protection, function, safety, and comfort. Rahmawati et al. (2023) found that more than 70% of tourism entrepreneurs in NTB reported that green entrepreneurship significantly increased their income. Basri et al. (2022) noted that 85% of local respondents had a positive attitude toward English-based educational tourism. Meanwhile, Patawari et al. (2025) discovered that the community's social readiness for mangrove tourism development was categorized as moderate, with an economic feasibility index of 0.68 (on a scale of 1.0). Yuli et al. (2025) also showed that the development of the SEZ Mandalika contributed to a 20% increase in average household income over the past two years. These quantitative data strengthen the general pattern that the contribution of tourism to local education and welfare is becoming empirically measurable, though most studies still focus on descriptive indicators.

Thematic Mapping and Publication Trends

Based on the analysis of 20 articles, four main thematic trends were identified: (1) environmental education and geotourism (7 articles), (2) cultural and artistic education (5 articles), (3) social and multicultural education (4 articles), and (4) economic empowerment and community development (4 articles). Publication trends per year show a significant increase starting in 2023, with a peak in 2025, aligned with growing attention to sustainable tourism issues in Indonesia. The visualized data shows the following publication distribution: 2020 (1 article), 2021 (1 article), 2022 (2 articles), 2023 (6 articles), 2024 (4 articles), and 2025 (6 articles). This pattern indicates an acceleration of research in the post-COVID-19 pandemic period when both the government and academics began emphasizing the relationship between tourism, education, and local empowerment. Most articles were published in Scopus-indexed journals, primarily in the fields of applied social sciences, education, and environmental studies.

Overall, this thematic pattern reflects a shift in focus from tourism as an economic activity to tourism as a social learning system based on community involvement.

Summary

To provide a clearer picture of the results from the systematic review of the twenty analyzed articles, a thematic summary is presented below, summarizing the research categories, the number of articles, and the primary focus of each theme. This table aims to highlight the interconnected patterns between tourism and local education across four main dimensions: culture, environment, social, and economy.

Table 1. Summary of Results

Thematic Category	Number of Articles	Main Focus
Culture & Arts	5	Cultural preservation, character education, cultural literacy
Environment & Geotourism	6	Environmental education, conservation, geotourism
Social & Education	4	Social learning, tolerance, intercultural communication
Economy & Empowerment	5	Ecotourism, green entrepreneurship, economic literacy

Based on the data in the table, it can be concluded that tourism's contribution to local education encompasses various interconnected aspects of learning. Each thematic category demonstrates that tourism is not only an economic activity but also a contextual educational tool that strengthens the social, cultural, and economic capacity of rural communities in a sustainable manner.

Overall, the twenty articles reviewed indicate that tourism significantly contributes to local education, whether through strengthening cultural values, environmental conservation, or socio-economic empowerment of rural communities. Education within the context of tourism appears in various forms—ranging from formal learning, training, social activities, to direct experiences involving both tourists and local residents. The findings consistently show that integrating educational dimensions into tourism enhances human capacity and strengthens sustainability at the community level.

While most of the research focuses on local contexts and case studies, the data as a whole provide a comprehensive view that the relationship between tourism and education in Indonesia is evolving into a strategic area of research for sustainable development.

Discussion

RQ1 - The conceptual relationship between tourism and local education development is explained in the scholarly literature, particularly with respect to the educational, social, cultural, and economic functions of tourism activities.

The conceptual relationship between tourism and local education development, as reflected in the twenty articles reviewed, demonstrates that tourism is not only an economic sector but also a complex social learning mechanism that integrates cultural values, economic skills, and environmental awareness within local communities. In the context of Indonesia, Jaeni's (2023) research is a key foundation for explaining this relationship. He found that performing arts developed through a cultural communication model have a dual educational function: enriching the tourist experience while fostering local cultural awareness. Education in this context is informal and manifests as a social process that enables the transfer of values across generations and cultures. As such, cultural tourism becomes an informal educational vehicle that imparts knowledge about local identity, traditional wisdom, and social ethics when interacting with tourists and the surrounding environment.

The social educational dimension within tourism is also strongly evident in Basri et al.'s (2022) research, which focuses on English-based educational tourism in Eastern Indonesia. The study shows that language-based tourism activities foster cross-cultural learning between locals and tourists. The positive attitudes of the local community towards this form of educational tourism reveal that participation in tourism activities can enhance communication skills, broaden global perspectives, and raise awareness of the importance of education as social capital. Conceptually, this relationship strengthens the view that tourism functions as a "social learning arena," where communities acquire and practice knowledge in the real-world context of daily life.

From a cultural perspective, Mandasari, Rahmah, and Mukminatien (2025) emphasize that culture-based education, particularly through the development of assessment instruments in EFL (English as a Foreign Language) learning, strengthens students' capacity to interact with Indonesia's diverse cultural contexts. This finding is directly relevant to the tourism sector because tourism is one of the spaces where intercultural competence is tested and developed. Thus, education and tourism operate in a reciprocal relationship—education produces human resources who understand cultural values, while tourism provides the contextual platform to apply those values through real intercultural interactions. This perspective aligns with the research of Harnika et al. (2025) in Lombok, which found that education acts as a social bridge that preserves cultural diversity and strengthens multicultural cohesion in tourist areas.

From an ecological and environmental perspective, several studies emphasize that tourism also plays a role as a medium for environmental education and conservation. Hadmoko, Marfai, and Malawani (2021) evaluated geomorphosites in Lombok and found that nature tourism activities

enhance public awareness of the importance of preserving natural resources. This finding is reinforced by Kusuma et al. (2025), who demonstrate that the sustainability of geotourism depends on six key factors: education, aesthetics, protection, function, safety, and comfort. Both studies indicate that tourism can serve as an ecological education instrument, encouraging the community to understand and appreciate the interconnection between humans and nature. In the context of rural development, this function is particularly significant because environmental education, internalized through tourism activities, can strengthen the foundation for sustainable behavior in local communities.

Research by Widayati et al. (2024) and Effendi et al. (2025) further expands this conceptual relationship through approaches to agritourism and organic agricultural ecotourism. Both studies show that agriculture-based tourism activities not only support the local economy but also function as a practical learning tool for sustainable production systems and natural resource management. In this context, education appears as a contextual and applied process—communities learn directly from work practices, social interactions, and environmentally-oriented economic collaborations. A similar finding is presented in the study by Hasan, Hadi, and Anisah (2023), where an environmental management model based on education within the fishing community of Rantau Baru promotes increased ecological awareness and community-based conservation skills.

From an economic and empowerment standpoint, the relationship between tourism and local education becomes even clearer through research by Rahmawati et al. (2023), which highlights the role of culture-based green entrepreneurship in supporting sustainable tourism in West Nusa Tenggara. The study indicates that through entrepreneurial education, local communities are able to produce and market cultural products such as weaving and pearl crafts, which in turn strengthen the local economy and internalize sustainability values. This research demonstrates that economic education integrated into tourism practices has a dual effect—enhancing the entrepreneurial skills of the community and broadening their understanding of a green economy based on local cultural values.

Another finding linking education, tourism, and social transformation comes from Rosramadhana et al. (2024), which shows that empowering women through cultural literacy contributes to improving social welfare and participation in tourism villages. In this context, education functions as a tool for social transformation, changing the position of women from beneficiaries to key drivers of sustainable tourism development. Thus, the conceptual relationship between tourism and education is not only economic or ecological but also directly impacts the formation of a more inclusive and gender-just social structure.

In addition to the educational and social dimensions, several studies also highlight the symbolic and identity dimensions within the relationship between tourism and education. Jaeni (2023) and Harnika et al. (2025) both emphasize that cultural tourism activities are not only a form of entertainment but also a means of reinforcing the collective identity of local communities. Education in the context of tourism serves to preserve historical narratives, myths, and local wisdom, which are part of the community's pride. This is consistent with the findings of Irfan et al. (2023), who developed the Edu Ortrad model, where traditional sports are used as a medium for character education, strengthening values of sportsmanship and community togetherness. Conceptually, this demonstrates that tourism has a pedagogical function that shapes the character of society while reinforcing social integration.

The conceptual relationship between tourism and education is also explained through a variety of theoretical frameworks, such as community empowerment theory (Widayati et al., 2024), sustainable tourism development theory (Kusuma et al., 2025; Harnika et al., 2025), social exchange theory (Basri et al., 2022), and environmental education theory (Hasan et al., 2023). The diversity of these theories shows that tourism functions as an interdisciplinary arena that blends economic, social, and cultural dimensions into a unified process of community learning. Consequently, the findings of this research reinforce previous conclusions that tourism serves as a socio-educational ecosystem, a learning system formed through the interaction of humans, culture, and the environment within the context of tourism activities.

Conceptually, the systematic results from twenty articles indicate that the relationship between tourism and local education is cyclical and mutually reinforcing. Tourism activities create a demand for enhanced community education capacity, while education generates new knowledge and skills that enrich tourism practices. This relationship is also transformative, as through education, communities not only become economic actors in tourism but also learning agents who autonomously manage their values, knowledge, and culture. In the context of this research, these findings establish that tourism should not be understood solely as an "economic product," but as a "social learning institution" that shapes the mindset, attitudes, and skills of local communities in a sustainable manner.

RQ2 – Various models, strategies, or approaches have been identified in previous studies to integrate educational dimensions into the practices and policies of sustainable tourism development.

The results of the systematic review indicate that various integrative models and strategies have been developed in the literature to link tourism with local education, particularly within the context of sustainable development in Indonesia. In general, the twenty reviewed studies can be classified into three major approaches: (1) culture- and local identity-based models, (2) environment- and ecological sustainability-based models, and (3) creative economy and community empowerment-based models. These three approaches demonstrate that the integration of educational dimensions into sustainable tourism practices is carried out through interconnected social, cultural, and structural mechanisms that reinforce one another.

1. **Culture- and Local Identity-Based Models**

Culture-based models are the most prominent form of integration between education and tourism in the context of Indonesia. Jaeni (2023) introduced the Arts Communication Model, which places performing arts as a cultural communication instrument and a public educational tool. This model emphasizes the empowerment of local communities through training, direct involvement in artistic production, and collaborative learning between cultural practitioners and tourists. Thus, tourism not only serves as cultural consumption but also as a pedagogical arena that allows the community to act as educators and preservers of local values.

Additionally, Irfan et al. (2023) developed the Edu Ortrad Model (Educational Tourism Based on Traditional Sports), which uses traditional sports as a medium for character education, discipline, and togetherness. By directly involving the community in traditional sports activities, this model combines the dimensions of physical education, social interaction, and culture within a participatory tourism framework. Both models share a conceptual similarity in positioning the community as active learners who internalize educational values through contextual and sustainable cultural practices.

Harnika et al. (2025) added a multicultural perspective to their integrative model through research at Pura Lingsar and Makam Batu Dendeng, Lombok. They demonstrated that multicultural education in tourism can help develop social tolerance and appreciation of cultural diversity. In practice, this strategy is realized through informal education and direct interaction between tourists and local communities. This model positions tourism as a social negotiation space, where values of tolerance and social cohesion are naturally transferred through everyday cultural practices. The emphasis on social learning strengthens the role of tourism as a vehicle for value education, rather than just an economic activity.

Research by Mandasari, Rahmah, and Mukminatien (2025) further reinforces this integrative model by developing a culture-based assessment model for EFL students. Although the context is within formal education, this research is relevant as it shows that strengthening intercultural competencies through language and cultural education is directly linked to the needs of the tourism sector. Conceptually, this model underscores the importance of integrating higher education curricula with local cultural values to prepare students to be part of the sustainable tourism ecosystem.

The three models above demonstrate that education in culture-based tourism operates within a framework of learning through participation, where communities learn through direct

engagement in cultural activities. This strategy supports the development of human capacity and strengthens local identity as a key social capital in sustainable tourism development.

2. Environment- and Ecological Sustainability-Based Models

The second dominant approach is the environment-based integrative model, which emphasizes the role of education as a tool to foster ecological awareness and natural resource conservation. Hadmoko, Marfai, and Malawani (2021) developed a geomorphosite assessment model for coastal ecotourism in Lombok. This model positions nature tourism activities as a field learning process, where the community understands the scientific and conservation value of the surrounding landscape. Kusuma et al. (2025) expanded on this concept by building the Geotourism Sustainability Framework, which evaluates the sustainability of geotourism based on education, aesthetics, and safety factors. In both models, education plays a central role in ensuring a balance between environmental conservation and tourism activities.

Environment-based models are also evident in the research by Widayati et al. (2024), which developed a Community-Based Agritourism model based on herbal gardens in Yogyakarta. This model was designed to integrate sustainable agricultural education with rural tourism activities. Local communities are involved as instructors in herbal cultivation practices, while tourists participate as learners. This strategy not only increases household income but also creates an ecological learning system rooted in local wisdom. A similar approach was applied by Effendi, Lubis, and Siregar (2025) in the Organic Farming Ecotourism model, which emphasizes the importance of on-the-ground training to raise environmental awareness in rural communities.

Lestari et al. (2025) introduced the Geotrails model at Bayah Dome Geopark, which combines geological exploration with tourism education. Through this educational geotourism trail, visitors learn interactively about geological structures, earth history, and geosite conservation. This approach not only raises scientific awareness but also fosters collaboration between academics, local government, and local communities. Hasan, Hadi, and Anisah (2023) added a coastal environmental perspective with the Eco-Socio Educational Management model in fishing communities. This model positions environmental education as the foundation for sustainable and participatory coastal tourism management.

All the studies above show a consistent pattern that environmental education in tourism functions as an adaptive mechanism to build the community's capacity to manage their natural resources. This strategy underscores that education in tourism is not only cognitive but also transformative, as it changes the community's mindset toward environmental conservation. In other words, the environmental approach serves a dual role as both a tool for awareness and an instrument for empowerment.

3. Creative Economy and Community Empowerment-Based Models

The third approach focuses on economic education and community empowerment. Rahmawati et al. (2023) developed a Green Entrepreneurship model based on local culture, emphasizing the importance of green entrepreneurship education to support sustainable ecotourism in West Nusa Tenggara. This model encourages communities to develop environmentally friendly local products such as woven crafts and pearls while instilling principles of economic justice. The research affirms that entrepreneurship education in tourism can shift the community paradigm from mere economic beneficiaries to producers of sustainable economic knowledge.

Widayati et al. (2024) added that community empowerment in herbal-based agritourism is an effective means of transferring agricultural and business management skills to local communities. This model also shows that economic education can serve as a tool to strengthen the independence of rural communities. Furthermore, Yuli et al. (2025) evaluated the Tourism-Driven Development Model in the Mandalika Special Economic Zone (SEZ). The results showed that tourism infrastructure development and investment positively impacted local income, but there were still skill gaps that required interventions in vocational education and tourism-based training.

Tjitrawati et al. (2022) highlighted the importance of legal education in the village tourism development model. They emphasized that public policy literacy and an understanding of regulations are prerequisites for the community to participate legally in tourism management. This approach adds a new dimension to the integration of education and tourism, where legal literacy and

governance become part of the community development curriculum. Rosramadhana et al. (2024) complemented this model with a focus on female empowerment through cultural literacy. Education in this context serves to enhance women's leadership skills, strengthen their social roles, and expand access to tourism-related economic activities in rural areas.

The three models above demonstrate that the integration of education into tourism not only strengthens the economic dimension of communities but also broadens social participation and gender equality. This empowerment approach positions education as the driving force of social transformation, creating a balance between economic efficiency and social justice.

4. Policy Integration and Participatory Approaches

Several studies highlight the importance of policy support in ensuring the sustainability of integrating education into tourism. Solé et al. (2025) used a Public Participation GIS (PPGIS) approach to develop value-based landscape management strategies for tourism, grounded in community participation. This strategy positions the community as the main actor in the policy planning and environmental conservation process, making education a tool for collective awareness in tourism management. Widodo et al. (2023) also emphasize the participatory governance approach as a model for managing social conflicts in tourism areas. Participatory education in this context serves to foster dialogue, empathy, and collaboration among groups with differing views on the impacts of tourism.

From all the studies, it can be concluded that participatory policy approaches are a crucial factor in bridging the integration of educational dimensions into sustainable tourism development. This model shifts the policy paradigm from top-down to bottom-up, where the community is not just a policy recipient but also a designer and implementer of tourism-based learning.

5. Synthesis of Integrative Models

Based on all the findings above, the integration of educational dimensions into tourism can be synthesized into three main mechanisms:

a. **Cognitive–Cultural**, where tourism serves as a medium for learning values, identity, and local language;
b. **Ecological–Environmental**, where education instills sustainability and conservation awareness through direct participation;
c. **Economic–Community**, where education enhances entrepreneurship literacy and the social-economic capacity of communities.

These three mechanisms complement each other in forming a sustainable tourism ecosystem based on social learning. This means that tourism is not just an economic activity but a contextual education system that brings together cultural, social, and environmental values into a unified practice.

Thus, the results of this research show that the integration of education into sustainable tourism in Indonesia follows a collaborative pattern involving communities, government, academics, and the private sector. The models and strategies identified in the previous literature provide evidence that education is a key factor in strengthening the social, cultural, and economic resilience of rural communities.

RQ3 – Several research gaps have emerged from previous studies regarding the contribution of tourism to human capacity development and community learning, and new theoretical or methodological opportunities can be proposed to bridge these gaps.

The research gaps identified from the twenty articles analyzed indicate that, despite significant advancements in studies on the relationship between tourism and local education, most of the research remains descriptive and has not fully explained the causal mechanisms linking tourism activities with community learning outcomes or capacity building. Studies such as those by Jaeni (2023), Irfan et al. (2023), and Harnika et al. (2025) present conceptual models rich in cultural and social values, yet they lack systematic empirical measurements of the long-term educational impacts of tourism. Therefore, the primary gap identified is the absence of quantitative and longitudinal evidence that can explain the cause-and-effect relationship between community involvement in tourism and improvements in their educational capacity. This limitation means that

the contribution of tourism to local education remains conceptual and has not yet been assessed using quantitative or experimental data.

Furthermore, the synthesis of the literature shows sectoral fragmentation in previous studies. Many studies, such as Hadmoko et al. (2021) and Kusuma et al. (2025), focus on geotourism and environmental education dimensions, while Rahmawati et al. (2023) and Widayati et al. (2024) emphasize economic and agritourism aspects. However, very few studies have attempted to bridge the social, economic, cultural, and educational dimensions within a cohesive interdisciplinary framework. A multidimensional approach that integrates all four aspects remains rare, yet sustainable tourism in rural areas demands a comprehensive understanding of the interconnections between these dimensions. The lack of this integrative approach has led to many tourism development models focusing solely on one specific aspect—for instance, conservation or economics—without considering the role of education as a primary driver for long-term sustainability.

Methodological limitations also represent a significant gap. Most of the previous research, such as Basri et al. (2022) and Lestari et al. (2025), uses descriptive qualitative approaches without combining them with quantitative analyses capable of measuring changes in behavior or community competencies. While this approach is effective for understanding social and cultural contexts, it is less capable of uncovering the extent to which participation in tourism enhances critical thinking skills, communication abilities, or environmental literacy among communities. Therefore, there is a substantial opportunity to develop mixed-methods research designs that combine the exploratory strength of qualitative approaches with the precision of quantitative measurement. Such an approach could expand the understanding of the dynamic relationship between education and tourism, and more objectively assess its impact on the improvement of local human resources.

Another prominent gap is the lack of research examining the impact of educational policies and governance on the integration of tourism and education. Although Tjitrawati et al. (2022) and Yuli et al. (2025) have highlighted the importance of legality and regulations in the development of tourism villages and special economic zones, these studies have not explained how such policies can be designed to explicitly include elements of community education. This indicates an opportunity for future research to examine the relationship between tourism policies, vocational education, and rural community development within an integrated policy framework. Such studies would be crucial in ensuring that education is not just a byproduct of tourism but becomes an integral part of tourism development policy design.

In addition to policy gaps, there is also a void in the study of social inclusion and gender representation in educational tourism. While Rosramadhana et al. (2024) have opened a new space by focusing on female empowerment through cultural literacy, similar studies are still quite limited. Few studies have examined how the participation of women and other marginalized groups can be integrated into tourism education, both as subjects and as key players in social transformation. Therefore, future research should develop frameworks that are more sensitive to gender and social inclusivity issues so that the contribution of tourism education truly encompasses all segments of society. This issue is crucial because non-inclusive education could potentially widen social gaps in rapidly developing rural tourism areas.

From a theoretical perspective, most of the previous research still relies on singular theories such as community empowerment theory, social exchange theory, or sustainable development theory (Hasan et al., 2023; Harnika et al., 2025; Widayati et al., 2024). However, the phenomenon of the relationship between tourism and education is complex and requires an integrative theoretical model that can explain the multidimensional interactions between social, economic, cultural, and ecological variables. Therefore, new theoretical opportunities lie in the development of a systemic model that explains the role of tourism as a social learning ecosystem. In this model, tourism is viewed not just as a recreational or economic vehicle, but as a social system where knowledge exchange, identity formation, and the reproduction of local community values take place. Such an approach would strengthen the epistemological link between tourism studies and community-based education theories, and broaden the contribution of tourism within the framework of sustainable human development.

From a methodological perspective, development opportunities also arise in action-based research (participatory action research) that allows communities to become both researchers and subjects of learning. Although some studies, such as Widodo et al. (2023) and Widayati et al. (2024), have applied participatory approaches in tourism management contexts, most studies still position communities as objects of observation. Action-based research that combines training, reflection, and collective action could provide a deeper understanding of the dynamics of social learning within tourism communities. Additionally, this approach aligns with the principles of sustainable tourism, emphasizing empowerment and co-creation of knowledge, so that the results are not only academic but also practical for the community.

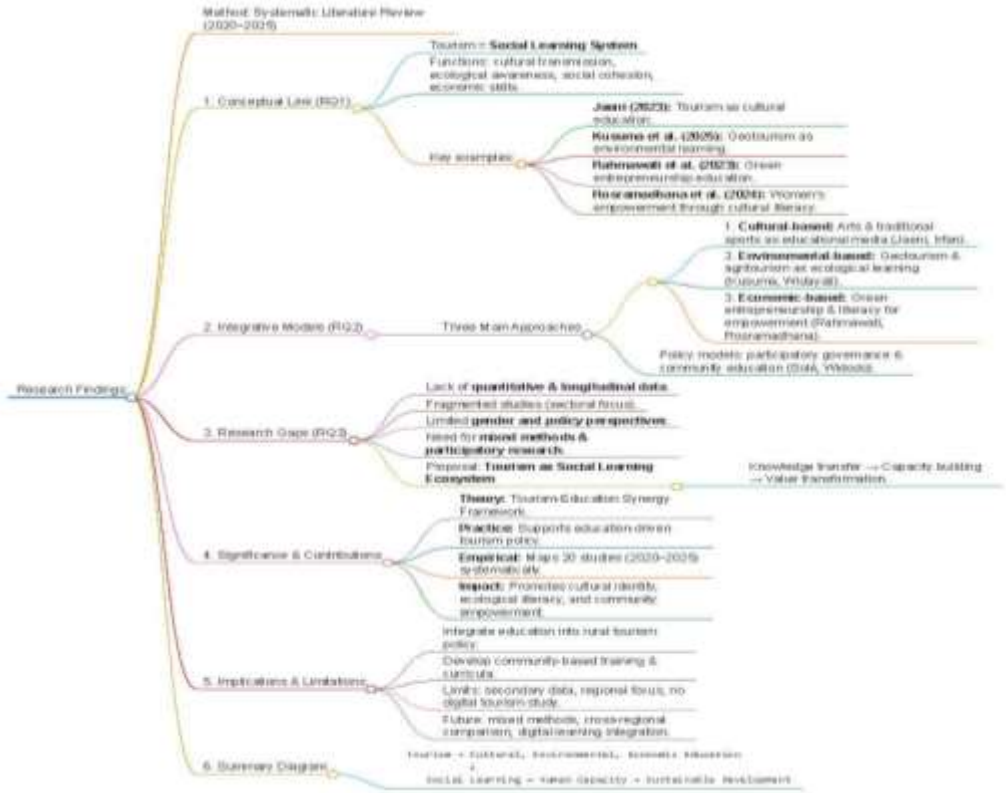
Another limitation is the lack of regional representation and research scale. Most studies, such as Kusuma et al. (2025), Hadmoko et al. (2021), and Lestari et al. (2025), have been conducted in geographically limited contexts with small participant numbers. This raises questions about the extent to which these findings can be generalized to the national context. Therefore, future development opportunities lie in conducting cross-regional and cross-cultural comparative studies that can explain the variation in the contribution of tourism to education across different regions of Indonesia. This approach would enrich the understanding of social, economic, and cultural differences that affect the effectiveness of integrating education in rural tourism.

In addition to these gaps, it is important to note that most studies have not explored how digital transformation affects the relationship between tourism and local education. While digital-based tourism has begun to develop in various regions, there has been no in-depth study on how technology can be used as a learning tool in educational tourism. This opens new avenues for research to examine the digitalization of tourism education, such as the use of online learning platforms for promoting cultural values or training for environmentally friendly tourism skills based on technology.

Overall, the research gaps identified in the literature indicate that while the conceptual relationship between tourism and education has been widely discussed, there is still a need for empirical, interdisciplinary, and inclusive approaches to comprehensively understand its contributions. This research contributes to bridging these gaps through a systematic and interdisciplinary approach that integrates educational, social, cultural, and economic dimensions. By synthesizing various existing models, this study offers a new conceptual framework that explains tourism as a sustainable learning ecosystem that operates through three main layers: knowledge transfer, strengthening social capacity, and value transformation. Through this framework, tourism is no longer seen merely as a service industry, but as an educational instrument that shapes individuals, communities, and the environment within the framework of sustainable development.

To clarify the conceptual relationship between tourism and local education discussed earlier, the following presents a visualization of the research findings summarizing the interaction patterns among key dimensions. This image illustrates how the cultural, social, economic, and environmental dimensions intertwine to form a social learning ecosystem in the context of educational tourism in Indonesia.

Figure 3. Research Findings



The image illustrates that tourism functions as an integrated learning system, where the processes of knowledge transfer, strengthening social capacity, and value transformation occur simultaneously. Therefore, tourism not only generates economic benefits but also serves as a contextual educational platform that fosters human development and social sustainability at the rural community level.

CONCLUSIONS

This study concludes that tourism plays a crucial role as a local learning ecosystem that integrates educational, social, cultural, and economic functions within the context of sustainable community development. Based on the results of the Systematic Literature Review of the twenty articles analyzed, it was found that tourism activities not only serve as recreational and economic tools but also function as a non-formal educational medium that strengthens the capacity of individuals and communities. Through activities such as performing arts, traditional sports, geotourism, agritourism, and green entrepreneurship, communities are given the opportunity to learn cultural values, technical skills, and ecological awareness that enrich their quality of life. The research also emphasizes that education in tourism serves as a linking mechanism between environmental preservation, strengthening social identity, and enhancing the local economy. Thus, tourism can be seen as a learning-based system that directly contributes to the formation of competitive, adaptive, and sustainably-empowered individuals.

Furthermore, this study makes a significant contribution to the development of tourism and education sciences by conceptualizing Tourism as a Learning Ecosystem (TLE) as an integrative framework that unites three main domains: culture, environment, and economy. This approach explains that education is not just a byproduct of tourism activities but is at the core of sustainable tourism design itself. By synthesizing various models such as Edu Ortrad, conservation-based geotourism, educational agritourism, and female cultural literacy, the study demonstrates that the educational function of tourism can be measured through improvements in social competence, ecological knowledge, and community entrepreneurship literacy. Academically, these findings strengthen the theory of community empowerment and social learning in the context of sustainable

tourism and open space for integrating new theories that explain social transformation through tourism-based education practices.

For future research, it is recommended that studies on the contribution of tourism to education be expanded using quantitative and longitudinal approaches to measure the real impact of education on improving community welfare. Future studies should also develop standardized evaluation instruments capable of assessing education outcome indicators, such as knowledge, attitudes, and skills within the context of tourism. Moreover, there is a need for cross-regional studies comparing the effectiveness of educational tourism models in different areas, including the underrepresented eastern regions of Indonesia. Future research is also expected to strengthen inclusivity aspects, focusing on the participation of women, youth, and indigenous communities in the tourism learning system. Thus, the future development of tourism theory and practice will become more comprehensive, evidence-based, and will make a tangible contribution to human development and sustainable education at both the local and global levels.

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