AFRICAN JOURNAL OF HOSPITALITY, TOURISM AND LEISURE

AJHTL
OPEN ACCESS

2026, Vol. 15, No. 2, pp. 501-522
https://doi.org/10.46222/ajhtl.19770720.758

Research article

Design and evaluation of an Acehnese local wisdom based tourism product development educational module for tourism destination managers

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ABSTRACT

This study aimed to design and evaluate an educational module for tourism destination managers on tourism product development based on Acehnese local wisdom. The research employed a Research and Development (R&D) approach using the ADDIE model, which consists of Analysis, Design, Development, Implementation, and Evaluation stages. The study involved 23 managers of the Payanie Ecotourism destination and three expert validators selected through incidental sampling. Data were collected through observation sheets, questionnaires, tests, and documentation and analyzed using descriptive quantitative techniques. The results showed that the developed module achieved a very high level of validity in terms of content, language, presentation, graphical design, and usability. The module also demonstrated a high level of practicality, as reflected in learning activity observations, participant engagement, and positive user responses. In addition, the effectiveness evaluation indicated a significant improvement in participants' learning outcomes, with an average post-test score of 89.13. These findings imply that the module can serve as an effective learning resource for tourism destination managers in developing sustainable tourism products that integrate local cultural values. The study contributes a validated and practical educational module that specifically incorporates Acehnese local wisdom, offering a context-based approach to tourism destination management and sustainable tourism development.

KEYWORDS

Educational module; tourism product development; tourism destination managers; Acehnese local wisdom; sustainable tourism

Introduction

Rural tourism needs to be managed efficiently to ensure sustainability with all stakeholders taking roles and responsibilities (Gursoy et al., 2009; Safarov & Janzakov, 2021; Waitt, 2003). Residents' participation in tourism activities ensures equitable distribution of tourism benefits (Aideed, 2021). Furthermore, the development of community-based ecotourism projects can empower residents by creating jobs (Matilainen et al., 2018). Conservation programs often include local communities using traditional knowledge and motivating participation in environmentally friendly tourism ventures, which supports socio-economic development (Mishra, 2025). An aspect of tourism development is the availability of various tourism products to attract tourists. A tourism product is a collection of facilities or services, both tangible and intangible. These facilities and services are designed to enhance tourists' enjoyment and experiences throughout their travels. The objective is to ensure that every stage of the journey from departure from home, through the stay at the destination, to the return home offers a pleasant and memorable experience (Muljadi, 2012; Octaviany, 2016). Tourism destination managers play a strategic role in planning, developing, and managing tourism products that can meet visitor expectations while maintaining environmental, socio-cultural, and economic sustainability. Their capacity to identify local resources and transform them into innovative tourism products is a key factor in enhancing destination competitiveness. Therefore, the

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HOW TO CITE: Novalita, R., Khairani, C., Yanis, M. & Masri, M. (2026). Design and evaluation of an Acehnese local wisdom based tourism product development educational module for tourism destination managers. African Journal of Hospitality, Tourism and Leisure, 15(2), 501-522. https://doi.org/10.46222/ajhtl.19770720.758.

ISSN: 2223-814X (Online) | © 2026 AJHTL

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availability of educational resources that support tourism product development is essential for strengthening destination management practices and promoting sustainable tourism development. The development of sustainable tourism products positively affects tourism destinations (Haid & Albrecht, 2021). Aceh Province, known for its diverse local cultures, has the potential to become a major tourist attraction. It plays a crucial role in tourism development, but significant targets remain unmet. There is a decline in tourism visits, and community participation in developing sustainable tourism attractions is low. Additionally, each tourist site lacks unique products that could draw more visitors. Tourism managers often lack the knowledge and creative workforce needed to develop products, such as using local waste. There is also an inadequate implementation of the seven charms in tourist areas by tourism actors, leading to slums. Local cultural values are underused as there is limited training for local communities managing tourist sites to create products. These conditions indicate a gap in structured educational support that can guide stakeholders in developing innovative and sustainable tourism products based on local potential.

In particular, tourism destination managers often encounter difficulties in translating local cultural assets into marketable tourism products due to limited access to systematic learning resources and practical guidance. Although various tourism development programs have been implemented, educational materials specifically designed to support tourism product development based on Acehnese local wisdom remain scarce. Consequently, there is a need for a structured educational module that can assist tourism destination managers in identifying local potential, developing tourism products, and applying sustainable tourism principles in destination management. To address these pressing challenges, educational initiatives that emphasize the development of tourism products anchored in Aceh's local wisdom are imperative. Integrating local cultural knowledge and regional potential into the learning process is not only instrumental in enhancing students' academic performance, but also critical in fostering creativity, strengthening cultural identity, and cultivating environmental awareness within communities. Such an approach is essential for ensuring the sustainability and competitiveness of tourism development in the long term (Treephan et al., 2019; Septiani et al., 2020; Waluyo et al., 2023). In addition, recent studies demonstrate that tourism education and product development grounded in local wisdom significantly enhance experiential learning, destination attractiveness, and community empowerment in tourism planning (Mwawaza et al., 2022; de Beer et al., 2022; Ferreira & Perks, 2022). The integration of cultural narratives into tourism products also strengthens visitor engagement and contributes to sustainable destination development strategies (Chiwawa & Wissink, 2024; Dladla et al., 2023). Furthermore, local wisdom-based education is an effective method for learning activities aimed at preserving local traditions while equipping communities with knowledge and skills (Novalita et al., 2018; Novalita, 2019). Educational development for the community can be effectively implemented by using available social resources in the community. These resources include local resources, social capital, culture, local wisdom, and spirituality (Theresia et al., 2014). Local wisdom refers to the cultural values or ideas held by community members that have daily significant meaning (Hasanah et al., 2016). Local wisdom is a manifestation of culture that embodies human creativity, initiative, and ingenuity. Furthermore, local wisdom serves as a cultural asset and a universal guideline for the local community's way of life, making it a viable tourism product. Cultural preservation is crucial through raising awareness of the need to protect identity sustainably. Preserving cultural heritage as a dimension of sustainable ecotourism is gaining importance due to the growing awareness of the need to protect cultural identity while promoting tourism (Osman et al., 2025). In the context of tourism, local culture contributes to tourist attractions and supports environmental conservation (Hoang et al., 2023).

Preserving cultural heritage significantly affects tourists' decisions in seeking destinations where they not only experience natural beauty but also gain authentic cultural experiences (Lee & Jan, 2018). Integrating local wisdom into regional tourism development creates unique, sustainable tourism products that provide economic and cultural benefits to local communities. Integrating local wisdom into tourism development can enrich the tourist experience while preserving culture and the environment. An effort to develop tourism products based on culture and local wisdom is to package local tourism products as a structured educational module designed and systematically developed through instructional design models such as ADDIE (Analysis, Design, Development, Implementation, and Evaluation). The module is printed teaching material that functions as an independent learning medium designed to facilitate the learning process and enable learners to learn independently (Anwar et al., 2017; Setiawan et al., 2022). An advantage of using a module is that it can increase learning effectiveness, provide learning opportunities for the community, and help learners understand the competencies to be achieved (Novalita et al., 2021). For tourism destination managers, educational modules can serve as practical learning resources that provide systematic guidance for identifying local resources, developing tourism products, integrating cultural values into tourism experiences, and implementing sustainable tourism principles. Such modules can facilitate independent learning while supporting the development of competencies required for destination management and tourism product innovation.

Implementation of local wisdom-based learning through education on local cultural diversity improves content understanding, contextual learning, scientific process skills, creativity, and learning outcomes (Nofiana & Julianto, 2018; Sumarni, 2018). This learning approach aims to provide meaningful real-life experiences while fostering appreciation for cultural values (Rahmatih et al., 2020). Despite the growing recognition of local wisdom as an important foundation for sustainable tourism development, studies focusing on the design and evaluation of educational modules for tourism destination managers remain limited. Previous studies have primarily emphasized tourism awareness, community participation, and cultural preservation, whereas little attention has been paid to the development of educational modules specifically intended to support tourism product development based on Acehnese local wisdom. Furthermore, empirical evidence regarding the validity, practicality, and effectiveness of such modules is still scarce. This research gap highlights the need for a context-specific educational module that can support tourism destination managers in developing sustainable tourism products rooted in local cultural values. Therefore, this study aims to design and evaluate an Acehnese local wisdom-based tourism product development educational module for tourism destination managers by examining its validity, practicality, and effectiveness as a learning resource for sustainable tourism development.

Literature review

Development of tourism products based on local wisdom

In the tourism industry, products are conceptualized as line products, implying that their utilization occurs simultaneously (Yoeti, 2013). More broadly, tourism products encompass the comprehensive spectrum of tangible goods and intangible services or facilities offered to travelers, which can be accessed, experienced, or enjoyed throughout their journey. The entire travel process is thus oriented toward generating a positive and memorable experience, beginning with tourists' departure from their place of residence, continuing through their engagement at the chosen destination, and concluding with their return home (Muljadi, 2012). Tourism products were divided into primary which attracted and motivated tourists to visit the destination, and secondary that tended not to have a particular attraction, such as accommodation or catering (Benur & Bramwell, 2015). Secondary tourism products were characterized by a complex interaction between tangible and intangible elements, while geographically and thematically had a much wider reach (Benur & Bramwell, 2015; Smith, 1994). Sustainable tourism products were developed in accordance with the environment, society, and culture by providing specific benefits rather than threats to tourism development (UNWTO, 2020). An aspect of sustainable tourism product development was local wisdom held by local community. Local wisdom referred to valuable and unique perspectives that were embedded and embraced by the community (Magdalena et al., 2019; Suyanto et al., 2019; Suarsa et al., 2021). Using local wisdom increased respect for regional potential and fostered positive attitudes, as well as patterns of thought and action that were in harmony with the environment. Furthermore, local wisdom values associated with a community's culture affected how people expressed emotions and interacted with the environment (Miller, 2012). Local wisdom, encompassing both material and immaterial dimensions, is regarded as a fundamental guideline for sustaining life activities and ensuring community survival. As such, it represents a vital source of societal values, deeply rooted in collective beliefs and encompassing ethical, religious, and spiritual principles that shape broader socio-cultural practices (Nata, 2014; Ostrom, 1993).

Teaching module based on local wisdom

Module was a printed teaching materials designed for independent learning by students. It was a self-learning medium equipped with independent learning instructions, enabling students to carry out learning activities without the direct presence of a teacher (Masaguni et al., 2023). A module was a form of teaching materials designed using images with easy-to-understand content (Yuristia et al., 2022). Module was designed by considering the characteristics, needs, and interests of students, as well as the social, cultural, and geographic environments (Tamami, 2020; Masaguni et al., 2023). The use of module that integrated local wisdom values enriched students' learning experiences and creativity. By instilling local wisdom in education, students not only gained knowledge and conceptual understanding but also developed stronger motivation connected to cultural heritage they learned. Therefore, through culturally actualized learning, students were prepared to think adaptively, innovatively, and critically in a global landscape (Hikmawati et al., 2021; Uge et al., 2019; Avcı & Yildiz Durak, 2023). The application of teaching materials was directed toward attaining learning objectives by focusing on students' cognitive growth and the development of social attitudes. In the knowledge dimension, the emphasis was on enabling students to comprehend the presented content in alignment with established competency standards. The attitudinal aspect aimed to nurture students' social behaviors in harmony with the ethical and moral principles embedded in local wisdom. Integrating local wisdom into teaching resources proved effective, as shown by improvements in both students' knowledge

and social disposition. Compared to traditional teaching approaches, local wisdom-based learning was more beneficial because it connected to students' daily lives, thus making the learning process more relevant and meaningful (Uge et al., 2019). This approach placed students at the center of the learning process. Through contextual learning activities, learners derived meaning from their own experiences, which enhanced not only their academic performance but also their capacity for critical thinking (Sung et al., 2015). Such learning addressed real-world situations and resonated with community culture, making it easier for students to accept and apply in their everyday lives.

Methods

This study employed the ADDIE development model, which comprises the stages of analysis, design, development, implementation, and evaluation (Dick et al., 2001). The procedural framework adhered to these sequential phases to guide the module's development. The analysis phase involved a population consisting of 23 managers of the Payanie ecotourism site, alongside three expert validators specializing in instructional module development. The types, forms, and analytical methods of the collected data are summarized in Table 1. The data analysis in this study employed a quantitative approach. This method was utilized to examine the outcomes of the module's validity, practicality, and effectiveness assessments (Sugiono, 2019; Arikunto, 2020; Purwanto, 2017; Riduwan, 2018).

Table 1. Types, data forms, and data analysis methods of module

Data type	Data form	Collection techniques	Aspect
Problem-Requirement Data	Qualitative	Interview	Need Analysis
		Documentation Study	Identification of problems
Validitas Data	Qualitative and quantitative	Questionnaire	Module
Practicality Data	Qualitative and quantitative	Observation sheet	Module
	quantitative	Questionnaire	Students' Responses
Effectiveness data	quantitative	Test	Learning outcomes
		Practical work on crafts utilizing local waste	

Results

The development of an educational module for tourism products based on Aceh local wisdom adopted the ADDIE model. This model proved effective during the implementation phase, following a pilot test including 23 managers of Payanie Ecotourism attraction in Kutablang District. The results were presented, focusing on the validity, practicality, and effectiveness of the developed module

Module validity

The results of validity assessment of tourism product development module based on Aceh local wisdom, as evaluated by the validators, were as follows:

Validity of teaching module

The validity assessment of the teaching module was categorized as Very valid across multiple dimensions, including the cover design, physical attributes, linguistic features, presentation quality, and graphical elements. A comprehensive summary of the module's overall validity evaluation is illustrated in Figure 1.

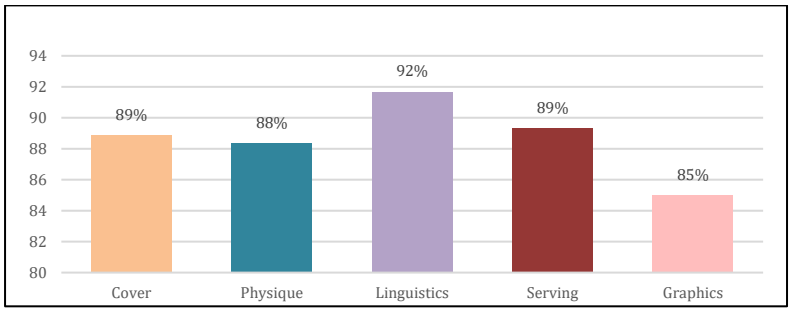

Figure 1. Percentage of validity score of teaching module

As illustrated in Figure 1, the percentage scores for the five evaluated aspects are summarized as follows: the cover aspect received a score of 89%, categorized as "very valid"; the physical aspect obtained 88%, also classified as "very valid"; the linguistic aspect achieved the highest score at 92%, indicating a "very valid" category; the presentation aspect was rated at 89% and categorized as "very valid"; and the graphic aspect attained 85%, likewise falling into the "very valid" category. Collectively, these findings confirm that the overall validity of the teaching module is classified as "very valid."

Validity of teaching materials

Validity of teaching materials for Aceh local wisdom-based tourism product development educational module was also classified as very valid. This assessment, reviewed in terms of objectives, content suitability, material description, presentation, and benefits, was presented in Figure 2.

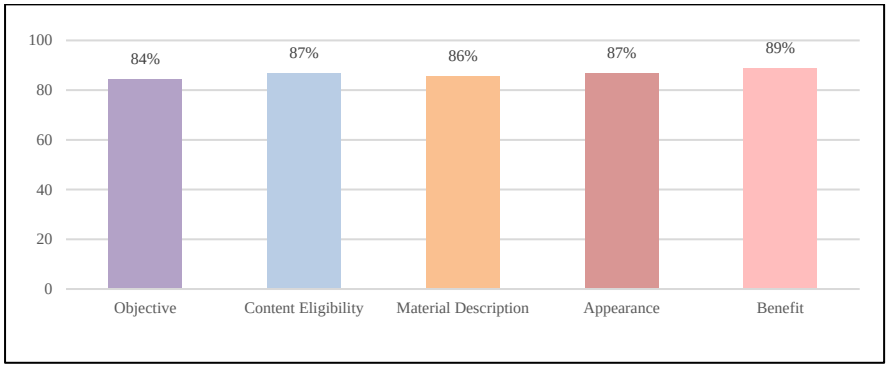

Figure 2. Percentage of teaching material validation scores

As presented in Figure 2, the percentage scores for the validation of teaching materials across five specific aspects are as follows: (1) the objective aspect received a score of 84%, categorized as "very valid"; (2) the content feasibility aspect obtained 87%, also classified as "very valid"; (3) the material description aspect achieved 86%, indicating a "very valid" category; (4) the display aspect recorded a score of 87%, likewise classified as "very valid"; and (5) the benefits aspect attained the highest score at 89%, also in the "very valid" category. These results collectively confirm that the teaching materials of the module were classified as "very valid."

Module practicality

The educational module for tourism product development was assessed to be very practical. This level of practicality was determined through observations of instructional activities, students' engagement during the learning process, and their responses to the module. The results of the module's practicality assessment are presented as follows:

Results of observations of learning activities

The observed learning activities encompassed several indicators, namely: (a) comprehension of various components of the module, (b) understanding of the procedural steps of the activities, (c) students' interest and motivation in reading and utilizing the module, and (d) active participation and enthusiasm in completing the assigned tasks. A detailed summary of the observational results regarding learning activities with the module is provided in Table 2.

Table 2. Results of observations of learning activities using the module

Observed aspects	Observation results
Understanding of the various aspects of the module	The observation results indicated that students generally understood the concepts presented in the module without significant difficulty. However, because they were not accustomed to learning through self-instructional modules, some students initially experienced confusion regarding the learning process. Facilitator support and conceptual explanations helped students overcome these challenges, leading to improved understanding and successful internalization of the concepts.
Understand the activity steps in the module.	The observations indicated that students generally had little difficulty understanding and implementing the steps provided in the module. However, a number of students initially showed uncertainty when advancing to the next stages of the activities. After receiving explanations and guidance from the facilitator, students gained a better understanding of the procedures and were able to follow the learning sequence effectively, reflecting a positive response toward the module's instructional design.
Interested and motivated to read and use the module	The observations revealed that students demonstrated a high level of interest and motivation when utilizing the module. This positive response was attributed to the module's appealing design, which incorporated diverse visual representations and varied layout formats. Such design features enhanced the attractiveness of the learning materials, thereby fostering greater student engagement and motivation throughout the learning process
Active and enthusiastic in completing the tasks in the module	The findings revealed that students exhibited considerable enthusiasm during the implementation of the module. Students participated actively in the learning activities and consistently followed each stage of the instructional process, suggesting that the module effectively supported student engagement and involvement in learning.

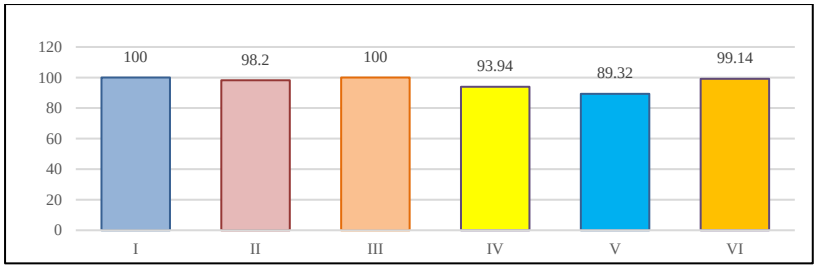

Figure 3. Average score of learning activities

The implementation of the educational module for developing tourism products grounded in Aceh's local wisdom was evaluated through the outcomes of learning activities, which were classified as highly practical. This assessment was reflected in the average scores obtained across the six observed learning activities: (1) Learning Activity I achieved an average score of 100; (2) Learning Activity II obtained 98.2; (3) Learning Activity III recorded 100; (4) Learning Activity IV reached 93.94; (5) Learning Activity V scored 89.32; and (6) Learning Activity VI obtained 99.14. Among these, Learning Activities I and III demonstrated the highest average scores. Collectively, these results indicate that the module can be categorized as very practical.

Students' responses to module

Students' responses to module also indicated a very practical rating. This was evident in the reactions to various aspects of the module, including the appeal, usage process, methods, learning media or resources, and evaluation. Figure 4 presented a more detailed overview of students' responses to module.

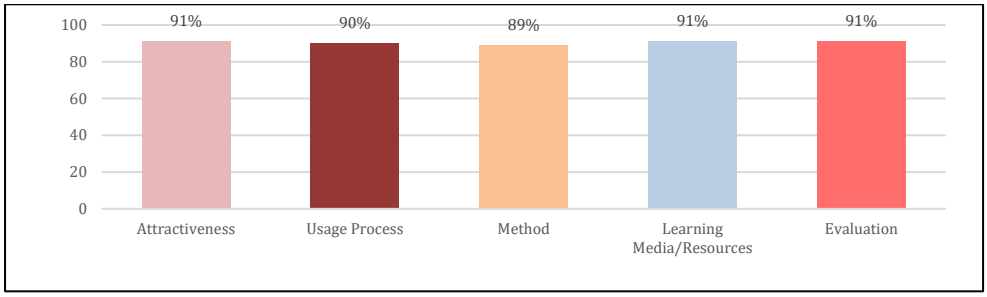

Figure 4. Students' responses to module

Based on Figure 4, the overall results score of Practicality of Social Education Module for Developing Local Wisdom-Based Tourism Products for the five aspect items in detail was stated as follows: (1) In the aspect of attraction, it obtained a percentage score of 91% with the category "very practical"; 2) In the aspect of the usage process, it obtained a percentage score of 90% with the category "very practical"; (3) In the aspect of the method, it obtained a percentage score of 89% with the category "very practical"; (4) In the aspect of media/learning resources, it obtained a percentage score of 91% with the category "very practical"; and (5) In the aspect of assessment, it obtained a percentage score of 91% with the category "very very practical".

Module effectiveness

The effectiveness of the module was assessed through the outcomes of students' learning activities utilizing the social education module on tourism product development grounded in local wisdom. A more detailed explanation of the module's effectiveness results is provided in the following section. The descriptive statistical analysis of test scores encompassed the presentation of minimum and maximum values, mean, standard deviation, and variance.

Table 3. Descriptive statistics of test scores

	N	Minimum	Maximum	Mean	Std. deviation	Variance
Pre-Test	23	10	60	46.30	11.795	139.130
Post-Test	23	80	95	89.13	5.362	28.755
Valid N (listwise)	23					

As presented in Table 3, the pre-test scores of 23 students ranged from a minimum of 10 to a maximum of 60, with a mean score of 46.30, a standard deviation of 11.795, and a variance of 139.130. In contrast, the post-test scores ranged from a minimum of 80 to a maximum of 95, yielding a mean of 89.13, a standard deviation of 5.362, and a variance of 28.755.

Table 4. Comparison of pre-test and post-test results

Score Pre-test	Post-test	Gain score
$\bar{x}$: 46,30 St.Dev: 11,795 Var: 139,130	$\bar{x}$: 89,13 St.Dev: 5,362 Var : 28,755	79,152

Table 4 showed that pre-test score was 46.30, standard deviation was 11.795, and variance was 139.130. Meanwhile, post-test average score was 89,13, standard deviation was 5.362, variance was 28.755, and gain score was 79.152.

Table 5. Tests of normality pre-test (one-sample kolmogorov-smirnov test)

		Pre-test
N		23
Normal Parameters[a,b]	Mean	46.30
	Std. Deviation	11.795
Most Extreme Differences	Absolute	.145
	Positive	.123
	Negative	-.145
Kolmogorov-Smirnov Z		.694
Asymp. Sig. (2-tailed)		.721

a. Test distribution was Normal.
b. Calculated from data.

Table 5 presents the results of the normality test conducted using SPSS 20. The Kolmogorov–Smirnov test yielded a significance value of 0.721. Since this value exceeds the predetermined alpha level (0.721 > 0.05), the data were confirmed to be normally distributed at the 0.05 significance level.

Table 6. Test of post-test normality (one-sample kolmogorov-smirnov test)

		Post-test
N		23
Normal Parameters[a,b]	Mean	89.13
	Std. Deviation	5.362
Most Extreme Differences	Absolute	.260
	Positive	.137
	Negative	-.260
Kolmogorov-Smirnov Z		1.247
Asymp. Sig. (2-tailed)		.089

a. Test distribution was Normal.
b. Calculated from data.

Based on the normality test results presented in Table 6, which were generated using SPSS 20, the Kolmogorov–Smirnov test produced a significance value of 0.089. As this value is greater than the established alpha level (0.089 > 0.05), the data were deemed to be normally distributed at the 0.05 significance level.

Table 7. Test of homogeneity of variance

		Levene statistic	df1	df2	Sig.
Pre-test and Post-test scores	Based on Mean	8.497	1	44	.006
	Based on the Median	6.854	1	44	.012
	Based on Median and with adjusted df	6.854	1	30.164	.014
	Based on trimmed mean	8.223	1	44	.006

Table 7 reports that the Levene's test for homogeneity of variance produced a significance value of 0.006, compared to the study's alpha level of 0.05. As the significance value was lower than the alpha threshold, the results indicate that the datasets were not homogeneously distributed.

Table 8. Paired sample correlations

		N	Correlation	Sig.
Pair 1	Pre-test & Post-test	23	.360	.091

Table 8 presents the results of the paired-sample correlation analysis, which indicated a significance value of 0.091. Since this value exceeds the alpha level of 0.05, the results suggest that there was no significant correlation between the pre-test and post-test variables. Following this analysis, a paired-samples t-test was subsequently performed.

Table 9. Paired sample test

		Paired differences					t	df	Sig. (2-tailed)
		Mean	Std. deviation	Std. error mean	95% Confidence interval of the difference Lower	Upper			
Pair 1	Pre-test – Post-test	-42.826	11.060	2.306	-47.609	-38.043	18.570	22	.000

Table 9 presents the results of the paired-samples t-test, showing that the calculated t-value exceeded the critical t-value (t-count > t-table; 18.570 > 2.073). This finding indicates a mean difference between the pre-test and post-test results ($-t1/2\alpha > t > t1/2\alpha$ = Accept H_a). Furthermore, the significance value (Sig. 2-tailed) was lower than the alpha level (0.000 < 0.05), confirming that the difference between the pre-test and post-test mean scores was statistically significant. To test module effectiveness, the following statistical study hypotheses were formulated:

$H_1 : \mu_1 > 80$
$H_0 : \mu_1 = 80$

To prove validity of the formulated hypothesis, a one-sample t-test was used.

Table 10. One-sample statistics

	N	Mean	Std. deviation	Std. error mean
Posttest	23	89.13	5.362	1.118

Table 10 indicates that the mean score obtained was 89.13 with a standard deviation of 5.362, surpassing the estimated population mean. Subsequently, a one-sample t-test was conducted to examine the validity of the research hypothesis.

Table 11. One-sample test

	Test value = 80					
					95% Confidence interval of the difference	
	t	df	Sig. (2-tailed)	Mean difference	Lower	Upper
Posttest	8.166	22	.000	9.130	6.81	11.45

Based on the results of the one-sample t-test, the calculated t-value was 8.166, while the critical t-value (ttab = n−1(α) = 23−1, α = 2.073) was 2.073. Since t-count > t-table (8.166 > 2.073), H_1 was accepted, indicating that the average student performance using the module significantly exceeded the reference value of 80. According to the interpretation framework proposed by Riduwan, the mean achievement score of 89.13 falls within the interval of 81–100, thereby categorizing the module as very effective.

Discussion

Educational module on tourism product development enriches students' knowledge and critical thinking skills. Local wisdom-based module is highly suitable for tourism development due to the attractiveness of cultural diversity of local community. Using modules in learning activities provides students with hands-on experience and allows participation in various activities to develop the skills. Developing module as learning resource offers significant benefits. Using module creates an interactive and enjoyable learning experience, which is crucial in learning because many local wisdom concepts are easily understood by students. Other studies also suggested that using local wisdom-based modules was suitable for learning because it could increase students' enthusiasm for learning and provide opportunities for interaction, thereby deepening understanding and inspiring students to learn (Wicaksana et al., 2024). This is further supported by the rationale for choosing modules as a learning resource for students' conceptual understanding, based on considerations. This also ensures detailed information about what will be achieved in concrete learning, with a description of changes in students' abilities, making it easier to understand whether students' learning achievements or failures are achieved (Reigeuth, 1983). Based on the identified concepts, this study is focused on developing educational module for tourism product development based on Aceh local wisdom.
The results showed that validity of the developed module was classified as very valid according to the validators' assessment. Module validation in the analysis aims to evaluate the suitability of module and its readability, suggesting how well users can understand module. Creating effective teaching materials should be grounded in instructional principles such as relevance, consistency, and adequacy (Ministry of National Education, 2008). Good teaching materials are those that meet the criteria of validity, practicality, and effectiveness. The results of module validation by the validators show that educational module for developing tourism products based on Aceh local wisdom is classified as very valid in terms of content, physical, linguistic, presentation, and graphic aspects. Similarly, validity of teaching materials is also classified as very valid, reviewed from the aspects of objectives, content feasibility, material description, display, and benefits. This indicates that the developed module correlates successfully with local wisdom of community, and the materials follow the expected educational standards. Moreover, this very valid classification confirms that the materials in the module possess a high level of accuracy, making it an appropriate and relevant source of knowledge for students, particularly for community members who manage tourist attractions. The high validity of module ensures that the information provided is sufficiently accurate and comprehensive to meet the needs of developing local wisdom-based tourism products. With such a high level of validity, module can be relied upon to provide a quality learning experience, effectively supporting students' understanding and increasing their engagement in learning process. Validity achieved in every aspect of module demonstrates that module was not only developed with educational needs in mind but also by ensuring all aspects, including content, language, presentation, and graphic design, complement each other to create an optimal learning tool.

The findings align with Gumede & Nzama (2020), who emphasized that limited knowledge and skills among tourism stakeholders hinder effective participation in tourism development, highlighting the importance of structured educational interventions in capacity building. This supports the present study where the developed module functions as a structured learning tool to strengthen destination managers' competencies in tourism product development. Besides being valid, teaching materials should also be practical to use. Practicality refers to the degree to which users consider an intervention usable and preferable

under normal conditions. Practicality is the extent to which teaching materials are usable and implementable by students and lecturers. Effectiveness refers to the level or degree of application of teaching materials. In terms of practicality, the developed module is regarded as highly practical. Its practicality is assessed through observations of learning activities, as well as students' responses and their level of engagement with the module. Observed aspects during learning activities include understanding various parts of module, grasping the steps in the activities, showing interest and motivation to read and use the module, and being active and enthusiastic in completing the tasks. Learning activities comprise visual, listening, oral, motor, and writing activities. Practicality of module enhances its usefulness, as the learning process includes communication through delivering information to students, which can include knowledge, expertise, skills, ideas, experiences, and more. This is consistent with Woyo & Musavengane (2023), who found that community-based tourism effectiveness is strongly influenced by the capacity and active participation of local stakeholders, indicating that learning tools such as modules can enhance engagement and empowerment in tourism development processes. Teaching materials, typically presented as a single unit, should be tailored to students' needs and the learning strategies used, comprising content, methods, scope, and evaluation techniques that are systematically and attractively designed to achieve the intended learning objectives (Sangka & Yasa, 2022). This module helps motivate students to learn and fosters a better classroom environment (Dumitrescus et al., 2014; Resita & Ertikanto, 2018). Students participate more actively in learning. This is further supported by Novalita et al. (2021), who stated that modules, as learning guidelines, serve to improve the knowledge, attitudes, and skills of tourism attraction managers in practicing learning in tourism object development. In line with Cloete & Ndlovu (2023), tourism education plays a crucial role in strengthening human resource capacity for sustainable tourism development, where structured learning materials significantly improve learning outcomes and stakeholder readiness.

Based on the results, effectiveness of educational module on tourism product development through Aceh local wisdom is considered very effective, as indicated by the average students' learning outcomes. Other studies also report that module is effective in helping students learn. Learning using module makes lessons easier to follow and more interesting. The community believes that module helps students learn better (Ningsih & Mahyuddin 2021; Sofyan et al. 2019). The use of a module in learning is effective because it makes the material easier to understand. Learning tools also help participants achieve the learning objectives (Astra et al. 2020; Neppala et al. 2018; Yulando et al. 2019). Educational module on tourism product development based on local wisdom is good for improving skills and motivating students to care for the environment at tourist attractions. The addition of module to learning helps students understand concepts such as thinking, feeling, and acting, further improving learning outcomes (Jaenudin et al. 2017; Novalita et al. 2018). This module provides knowledge on tourism product development based on Aceh local wisdom, which is unique to Aceh. Other studies report that learning about local wisdom and regional potential not only helps students learn better but also makes students more creative and environmentally conscious (Septiani et al. 2020). Local wisdom-based education is an effective method for learning activities, aiming to preserve local traditions while equipping students with skills relevant to modern life and active participation in environmental activities (Waluya et al. 2022; Bernardo et al. 2024). Furthermore, Dias et al. (2024) highlight that cultural resources can be transformed into tourism products through co-creation and cultural immersion, which strengthens the relevance of the Acehnese local wisdom-based module in enabling destination managers to design authentic and sustainable tourism products. Additionally, Ahmed & Dar (2022) emphasize that understanding local cultural values significantly improves responsible tourism behavior, supporting the educational role of the module in shaping sustainable tourism awareness among participants.

Conclusions

In conclusion, this study showed that educational module on tourism product development had a very high level of validity, practicality, and effectiveness. This was evident in the following (1) module validity was classified as very high based on its cover, physical appearance, language, presentation, and graphics, while teaching materials were also rated very high in terms of objectives, content suitability, material description, presentation, and benefits. (2) Module practicality was rated very high based on observations of learning activities, learning outcomes, and students' responses to the module. (3) Module effectiveness was rated very high based on students' learning outcomes, with an average score of 89.13. The results indicated that module, as teaching materials successfully improved students' knowledge, attitudes, and skills in developing environmental potential based on local wisdom as an alternative method to tourism product development.

Acknowledgement

The authors are grateful to the Directorate of Research and Community Service, Directorate General of Research and Development, Ministry of Higher Education, Science, and Technology, who have provided research grants based on Agreement/Contract Number 134/C3/DT.05.00/PL/2025, 29/LL13/AL.04/AKA.PL/2025, 260/LPPM-Umuslim/KP-PFR/2025 so that this research can be completed successfully.

References

Aideed, H. (2021). *Exploring the local community perceptions of event tourism socio-cultural impacts: A case of the Salalah Tourism Festival, Salalah City, Oman* (Doctoral dissertation, Bournemouth University). Bournemouth University Research Online. https://eprints.bournemouth.ac.uk/36113/

Ahmed, N., & Dar, S. A. (2024). Residents' responsibility behaviour in cultural heritage tourism: The role of cultural intelligence and tourism impacts. *African Journal of Hospitality, Tourism and Leisure, 13*(4), 673–681. https://doi.org/10.46222/ajhtl.19770720.552

Arikunto, S. (2020). *Research procedures: A practical approach*. Rineka Cipta.

Anwar, F. M., Ruminiati, & Suharjo. (2017). Development of an integrated thematic learning module based on local wisdom of Sumenep Regency for Grade IV subtheme "My living environment." *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan, 2*(10), 1291–1297. https://doi.org/10.17977/jptpp.v2i10.10059

Astra, I. M., Raihanati, R., & Mujayanah, N. (2020). Development of electronic module using creative problem-solving model equipped with HOTS problems on the kinetic theory of gases material. *Jurnal Penelitian & Pengembangan Pendidikan Fisika, 6*(2), 181–194. https://doi.org/10.21009/1.06205

Avcı, Ü., & Yildiz Durak, H. (2023). Innovative thinking skills and creative thinking dispositions in learning environments: Antecedents and consequences. *Thinking Skills and Creativity, 47*, Article 101225. https://doi.org/10.1016/j.tsc.2022.101225

Bernardo, F. C., Torres, A. G., & Tiu-Tatil, W. (2024). Institutional landscape of the ecotourism in Canucutan River, Pasonanca Natural Park, Zamboanga City, Philippines. *Journal of Environmental Science and Management, 27*(2), 32–41. https://doi.org/10.47125/jesam/2024_2/04

Benur, A. M., & Bramwell, B. (2015). Tourism product development and product diversification in destinations. *Tourism Management, 50*, 213–224. https://doi.org/10.1016/j.tourman.2015.02.005

Chiwawa, N., & Wissink, H. (2024). Effective strategy execution for enhanced service delivery in South African municipalities. *Africa's Public Service Delivery & Performance Review, 12*(1), Article a741. https://doi.org/10.4102/apsdpr.v12i1.741

Cloete, G., & Ndlovu, J. (2023). The future of sustainable tourism education in the digital transformation age beyond COVID-19 in Namibia. *African Journal of Hospitality, Tourism and Leisure, 12*(5SE), 1668–1682. https://doi.org/10.46222/ajhtl.19770720.457

de Beer, M. A., van Zyl, C., & Rogerson, C. M. (2022). Storytelling for destination development: Towards an African perspective. *African Journal of Hospitality, Tourism and Leisure, 11*(4), 1491–1501. https://doi.org/10.46222/ajhtl.19770720.304

Dias, A., Shazid, S., & Pereira, L. (2024). Co-creation and cultural immersion: Empowering small businesses through creative tourism. *African Journal of Hospitality, Tourism and Leisure, 13*(4), 699–706. https://doi.org/10.46222/ajhtl.19770720.555

Dick, W., & Carey, L. (2001). *The systematic design of instruction* (5th ed.). Longman.

Dladla, A., Ndlovu, J., & Phoofolo, T. (2023). Incorporating cultural heritage into the local tourism development strategy in KwaNdebele: A systematic review. *African Journal of Hospitality, Tourism and Leisure, 12*(5SE), 1740–1753. https://doi.org/10.46222/ajhtl.19770720.462

Dumitrescu, C., Olteanu, R. L., Gorghiu, L. M., & Gorghiu, G. (2014). Learning chemistry in the frame of integrated science modules: Romanian students' perception. *Procedia – Social and Behavioral Sciences, 116*, 2516–2520. https://doi.org/10.1016/j.sbspro.2014.01.603

Ferreira, D., & Perks, S. (2022). Essential destination appeal preconditions for sustainable and competitive tourism in South Africa. *African Journal of Hospitality, Tourism and Leisure, 11*(6), 2010–2026. https://doi.org/10.46222/ajhtl.19770720.338

Gumede, T. K., & Nzama, A. T. (2020). Enhancing community participation in ecotourism through a local community participation improvement model. *African Journal of Hospitality, Tourism and Leisure, 9*(5), 1252–1272. https://doi.org/10.46222/ajhtl.19770720-82

Gursoy, D., Chi, C. G. Q., & Dyer, P. (2009). Locals' attitudes toward mass and alternative tourism: The case of Sunshine Coast, Australia. *Journal of Travel Research, 49*(3), 381–394. https://doi.org/10.1177/0047287509346853

Haid, M., & Albrecht, J. N. (2021). Sustainable tourism product development: An application of product design concepts. *Sustainability, 13*(14), Article 7957. https://doi.org/10.3390/su13147957

Hasanah, A., Gustini, N., & Rohaniawati, D. (2016). Cultivating character education based on Sundanese culture local wisdom. *Jurnal Pendidikan Islam, 2*(2), 231–253. https://doi.org/10.15575/jpi.v2i2.788

Hoang, S. D., Dey, S. K., Ratilla, M., & Tučková, Z. (2023). Investigating the antecedents of ecotourism and destination loyalty among Vietnamese tourists: An expectation–confirmation perspective. *Global Business Review*. Advance online publication. https://doi.org/10.1177/09721509231174740

Hikmawati, Suastra, I. W., & Pujani, N. M. (2021). Local wisdom in Lombok Island with the potential of ethnoscience for the development of learning models in junior high school. *Journal of Physics: Conference Series, 1816*(1), Article 012105. https://doi.org/10.1088/1742-6596/1816/1/012105

Jaenudin, A., Baedhowi, & Murwaningsih, T. (2017). The effectiveness of the e-module of economics learning on problem-based learning used to improve students' learning outcomes. In *Proceedings of the International Conference on Teacher Training and Education 2017 (ICTTE 2017)* (Vol. 158, pp. 290–296). Atlantis Press. https://doi.org/10.2991/ictte-17.2017.32

Lee, T. H., & Jan, F. H. (2018). Ecotourism behavior of nature-based tourists: An integrative framework. *Journal of Travel Research, 57*(6), 792–810. https://doi.org/10.1177/0047287517717350

Magdalena, M., Sukoharsono, E. G., & Roekhudin, R. (2019). Community engagement: Implementasi corporate social responsibility pada PT BNI (Persero) Tbk. *Jurnal Ekonomi dan Bisnis, 22*(1), 101–120. https://doi.org/10.24914/jeb.v22i1.2205

Masaguni, A. N., Lamangantjo, C. J., Katili, N., Pikoli, M., Buhungo, T. J., & Payu, C. S. (2023). Development of science learning modules based on project-based learning on additives and addictive substances (A research in Class VIII SMP Negeri 7 Telaga Biru). *Jurnal Penelitian Pendidikan IPA, 9*(12), 10758–10767. https://doi.org/10.29303/jppipa.v9i12.5731

Matilainen, A., Suutari, T., Lähdesmäki, M., & Koski, P. (2018). Management by boundaries: Insights into the role of boundary objects in a community-based tourism development project. *Tourism Management, 67*, 284–296. https://doi.org/10.1016/j.tourman.2018.02.003

Miller, D. F. (2012). *Positive child guidance* (7th ed.). Cengage Learning.

Ministry of National Education. (2008). *Guide for instructional material development*. Directorate General of Primary and Secondary Education Management.
Mishra, R. (2025). Sustainable ecotourism practices and destination choice: Perspectives from tourists. *African Journal of Hospitality, Tourism and Leisure, 14*(1), 135–143. https://doi.org/10.46222/ajhtl.19770720.593
Muljadi, A. J. (2012). *Tourism and travel*. PT Raja Grafindo Persada.
Mwawaza, S. M., Kariuki, A. C., & Ndubi, E. O. (2022). Tourism product influence on domestic tourists' choice of Mombasa County, Kenya. *African Journal of Hospitality, Tourism and Leisure, 11*(3), 1188–1198. https://doi.org/10.46222/ajhtl.19770720.284
Nata, A. (2014). *Islamic educational sociology*. Rajawali Pers.
Neppala, P., Sherer, M. V., Larson, G., Bryant, A. K., Panjwani, N., Murphy, J. D., & Gillespie, E. F. (2018). An interactive contouring module improves engagement and interest in radiation oncology among preclinical medical students: Results of a randomized trial. *Practical Radiation Oncology, 8*(4), 259–266. https://doi.org/10.1016/j.prro.2018.01.001
Ningsih, S. Y., & Mahyuddin, N. (2021). The design of a thematic e-module based on language politeness for early childhood education in kindergarten. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 6*(1), 137–149. https://doi.org/10.31004/obsesi.v6i1.1217
Nofiana, M., & Julianto, T. (2018). Improving students' scientific literacy through local excellence-based learning. *Biosfer: Jurnal Tadris Biologi, 9*(1), 24–35. https://doi.org/10.24042/biosf.v9i1.2876
Novalita, R. (2019). Practicality of tourism awareness education modules for community-based tourism attraction managers in Agam Regency, West Sumatra. *Jurnal Spasial, 6*(2), 62–67. https://doi.org/10.22202/js.v6i2.3749
Novalita, R., Ahyuni, A., Wirda, M. A., & Rezki, A. (2021). The effectiveness of the tourism awareness education model for community-based tourism object managers in Agam District, West Sumatra, Indonesia. *Jurnal Geografi, 13*(2), 159–170. https://doi.org/10.24114/jg.v13i2.23989
Novalita, R., Barlian, E., Muchtar, B., & Syah, N. (2018). Design of a tourism awareness education module for tourism attraction managers in Agam District, West Sumatra. *African Journal of Hospitality, Tourism and Leisure, 7*(3), 1–16.
Novitri, Q., Junaidi, J., & Safri, M. (2014). Determinan penerimaan daerah dari sektor pariwisata di kabupaten/kota Provinsi Jambi. *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah, 1*(3), 149–149. https://doi.org/10.22437/ppd.v1i3.1548
Nurhayati, E., Andayani, Y., & Hakim, A. (2021). Development of STEM-based chemical e-modules with an ethnoscience approach. *Journal of Chemistry Education Practice, 4*(2), 107–112. https://doi.org/10.29303/cep.v4i2.2768
Octaviany, V. (2016). The effect of tourism product quality on visiting decisions at Bale Seni Barli Kota Baru Parahyangan. *Tourism Scientific Journal, 1*(2), 184–195. https://doi.org/10.32659/tsj.v1i2.11
Osman, Z., Othman, F. I., Yasin, N. M., Kassim, Z. A., & Hashim, H. (2025). Always return, always recommend: The impact of sustainability on tourist loyalty in ecotourism. *International Journal of Academic Research in Business and Social Sciences, 15*(6), 1524–1539. https://doi.org/10.6007/IJARBSS/v15-i6/25562
Ostrom, E. (1993). *The evolution of norms, rules, and rights* (Workshop in Political Theory and Policy Analysis Working Paper No. D93-17). Indiana University. https://hdl.handle.net/10535/1733
Purwanto. (2017). *Learning outcomes evaluation*. Pustaka Pelajar.
Rahmatih, A. N., Maulyda, M. A., & Syazali, M. (2020). Reflection on local wisdom values in elementary school science learning: A literature review. *Jurnal Pijar MIPA, 15*(2), 151–156. https://doi.org/10.29303/jpm.v15i2.1663
Reigeluth, C. M. (Ed.). (1983). *Instructional-design theories and models: An overview of their current status*. Lawrence Erlbaum Associates.
Resita, I., & Ertikanto, C. (2018). Designing an electronic module based on a learning content development system in fostering students' multi-representation skills. *Journal of Physics: Conference Series, 1022*(1), Article 012025. https://doi.org/10.1088/1742-6596/1022/1/012025
Riduwan. (2018). *Measurement scales for research variables*. Alfabeta.
Safarov, B., & Janzakov, B. (2021). Measuring competitiveness in tourism enterprises using the integral index. *GeoJournal of Tourism and Geosites, 37*(3), 768–774. https://doi.org/10.30892/gtg.37305-707
Salama, W. M. E., & Mansour, H. (2022). The impact of COVID-19 pandemic on green hotel management. *African Journal of Hospitality, Tourism and Leisure, 11*(2), 440–456. https://doi.org/10.46222/ajhtl.19770720.235
Sangka, I., & Yasa, I. (2022). Practicality test of a Schoology-based trigonometry e-module for online learning in a polytechnic institution. *PRISMA: Prosiding Seminar Nasional Matematika, 5*, 177–184. https://journal.unnes.ac.id/sju/prisma/article/view/54268
Septiani, F., Sriyati, S., & Amprasto. (2020). The implementation of teaching materials based on local agricultural wisdom in Binjai to improve student environmental literacy. In *Advances in Social Science, Education and Humanities Research* (Vol. 399, pp. 80–83). https://doi.org/10.2991/assehr.k.200130.086
Setiawan, H., Utomo, S., & Utaminingsih, S. (2022). Development of science module based on Demak local wisdom to improve learning results of fifth-grade elementary school students. *Uniglobal Journal of Social Sciences and Humanities, 1*(1), 22–28. https://doi.org/10.53797/ujssh.v1i1.4.2022
Smith, S. L. J. (1994). The tourism product. *Annals of Tourism Research, 21*(3), 582–595. https://doi.org/10.1016/0160-7383(94)90121-X
Sugiyono. (2019). *Quantitative, qualitative, and R&D research methods*. Alfabeta.
Sumarni, W. (2018). The influence of ethnoscience-based learning on chemistry to the chemistry literacy rate of prospective teachers. *Unnes Science Education Journal, 7*(2), 198–205. https://doi.org/10.15294/usej.v7i2.23722
Sung, H.-Y., Hwang, G.-J., & Chang, H.-S. (2015). An integrated contextual and web-based issue quest approach to improving students' learning achievements, attitudes and critical thinking. *Educational Technology & Society, 18*(4), 299–311.
Sofyan, H., Anggereini, E., & Saadiah, J. (2019). Development of e-modules based on local wisdom in central learning model at kindergartens in Jambi City. *European Journal of Educational Research, 8*(4), 1137–1143. https://doi.org/10.12973/eu-jer.8.4.1137
Suarsa, A., Kurnia, I., Erfiansyah, E., Bagianto, A., Sugihyanto, T., Kodariah, S., Pratiwi, I. R., & Noor, H. Q. (2021). Triple bottom line in local wisdoms insight: A learning from the indigenous people. *Journal of Legal, Ethical and Regulatory Issues, 24*(6), 1–9.
Suyanto, E., Lestari, S., Wardiyono, F. X., Wuryaningsih, T., & Widyastuti, T. R. (2019). Community participation model in formulating cross-potential mangrove ecotourism policies supporting Kampung Laut sustainable tourism village. *IOSR Journal of Environmental Science, Toxicology and Food Technology, 13*(8), 1–9.
Tamami, S. (2020). Development of a problem-based civic education module on norms and justice for seventh-grade junior high school students. *Jurnal Ilmiah Pendidikan Pancasila dan Kewarganegaraan, 5*(1), 178–186. https://doi.org/10.17977/um019v5i1p178-186
Theresia, A., Andini, K. S., Nugraha, P. G., & Mardikanto, T. (2014). *Community-based development: A reference for practitioners, academics, and community development observers*. Alfabeta.
Treephan, P., Visuthismajarn, P., & Isaramalai, S. A. (2019). A model of participatory community-based ecotourism and mangrove forest conservation in Ban Hua Thang, Thailand. *African Journal of Hospitality, Tourism and Leisure, 8*(5), 1–8.
Uge, S., Neolaka, A., & Yasin, M. (2019). Development of social studies learning model based on local wisdom in improving students' knowledge and social attitude. *International Journal of Instruction, 12*(3), 375–388. https://doi.org/10.29333/iji.2019.12323a

United Nations World Tourism Organization. (2020). *Impact assessment of the COVID-19 outbreak on international tourism*. https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-03/UNWTO-Impact-Assessment-COVID19.pdf

Waitt, G. (2003). Social impacts of the Sydney Olympics. *Annals of Tourism Research*, *30*(1), 194–215. https://doi.org/10.1016/S0160-7383(02)00050-6

Waluyo, B., Malihah, E., Ruhimat, M., & Wiyanarti, E. (2023). Cultural ecology and environmental education: Lessons learned from the Baduy Indigenous community. *Indonesian Journal of Geography*, *55*(1), 88–97. https://doi.org/10.22146/ijg.77203

Wicaksana, E. J., Rosyadi, A. F., Hasni, U., & Amanda, R. S. (2024). Local wisdom-based educational tourism model for children's science learning. *Jurnal Ilmiah Pendidikan dan Pembelajaran*, *8*(3), 472–481. https://doi.org/10.23887/jipp.v8i3.86179

Woyo, E., & Musavengane, R. (2023). Has community-based tourism been a useful tool for poverty eradication in Southern African rural destinations? *African Journal of Hospitality, Tourism and Leisure*, *12*(2), 521–534. https://doi.org/10.46222/ajhtl.19770720.383

Yoeti, O. A. (2013). *Tourism marketing*. CV Angkasa.

Yulando, S., Sutopo, & Franklin Chi, T. (2019). Electronic module design and development: An interactive learning. *American Journal of Educational Research*, *7*(10), 694–698. https://doi.org/10.12691/education-7-10-4

Yuristia, F., Hidayati, A., & Ratih, M. (2022). Development of science learning modules based on problem-based learning in thematic learning for elementary schools. *Jurnal Basicedu*, *6*(2), 2400–2409. https://doi.org/10.31004/basicedu.v6i2.2393