



CULTURAL ENGAGEMENT THROUGH E-MODULES: THE DEVELOPMENT OF LOCAL WISDOM BASED MATERIAL TO IMPROVE HIGH SCHOOL STUDENTS' READING COMPREHENSION SKILLS IN ACEH

by

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Abstract:

A narrative text E-Module based on Acehese local wisdom has never been developed by any scholars, yet it is essential for material development in English as a Foreign Language (EFL) context at high school level to enhance students' reading comprehension skills. The research process involved four stages: needs analysis, expert validation, implementation, and student response evaluation. The needs analysis involving 35 students revealed that learners required short, simple, accessible, and up-to-date texts, particularly folklores reflecting local wisdom. Expert validation indicated that the developed E-Module achieved a "very valid" category, with material validation scoring 96.7% and media validation scoring 94.6%. While the module was considered highly effective in improving vocabulary, inference, and comprehension skills, experts recommended minor revisions to better support independent learning and enrich multimedia features. The effectiveness of the E-Module was further confirmed through a paired sample t-test, which demonstrated a significant improvement between pre-test and post-test

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scores ($t = -10.81, p < 0.05$), with a mean gain of 26.57 points. Moreover, students' responses were overwhelmingly positive, with 80%–89% strongly agreeing and 6%–14% agreeing across aspects such as ease of use, systematic arrangement, motivation, and contribution to reading comprehension. This study concludes that the developed E-Module is pedagogically sound, contextually relevant, and feasible for broader implementation in EFL reading instruction. This study provided reading material with local wisdom based that can be easily access online.

Keywords: e-module, local wisdom, reading

Abstrak:

Teks naratif E-Modul berbasis kearifan lokal belum pernah dikembangkan oleh peneliti lain, namun modul ini sangat dibutuhkan untuk pengembangan materi ajar di Tingkat sekolah menengah atas untuk meningkatkan pemahaman membaca siswa. Proses penelitian melibatkan empat tahap: analisis kebutuhan, validasi ahli, implementasi, dan evaluasi respon siswa. Analisis kebutuhan yang melibatkan 35 siswa mengungkapkan bahwa peserta didik membutuhkan teks yang singkat, sederhana, mudah diakses, dan terkini, terutama cerita rakyat yang mencerminkan kearifan lokal. Validasi ahli menunjukkan bahwa E-Modul yang dikembangkan mencapai kategori "sangat valid", dengan skor validasi material 96,7% dan skor validasi media 94,6%. Sementara modul ini dianggap sangat efektif dalam meningkatkan keterampilan kosakata, inferensi, dan pemahaman, para ahli merekomendasikan revisi kecil untuk mendukung pembelajaran mandiri dan memperkaya fitur multimedia dengan lebih baik. Efektivitas E-Module lebih lanjut dikonfirmasi melalui uji-t sampel berpasangan, yang menunjukkan peningkatan yang signifikan antara skor pra-tes dan pasca-tes ($t = -10,81, p < 0,05$), dengan perolehan rata-rata 26,57 poin. Selain itu, tanggapan siswa sangat positif, dengan 80%–89% sangat setuju dan 6%–14% setuju di berbagai aspek seperti kemudahan penggunaan, pengaturan sistematis, motivasi, dan kontribusi terhadap pemahaman bacaan. Studi ini menyimpulkan bahwa E-Modul yang dikembangkan secara pedagogis sehat, relevan secara kontekstual, dan layak untuk implementasi yang lebih luas dalam instruksi membaca EFL.

Kata kunci: e-modul, kearifan lokal, membaca

INTRODUCTION

Reading competence plays a pivotal role in the academic success of EFL learners, particularly at the secondary school level where students must engage with increasingly complex texts. Narrative texts, including legends, myths, and traditional stories, serve as effective vehicles for teaching cultural values, critical thinking, and language comprehension through structured story elements such as characters, settings, conflicts, and resolutions.

However, a persistent issue in Indonesian education is that narrative texts used in classrooms are heavily dominated by Western cultural representations (Nafiah, 2020), which often overshadow local cultural heritage and weaken students' connection to national identity (Barella, 2020). This concern is exacerbated by rapid modernization and globalization, which further contribute to erosion of local wisdom and cultural knowledge (Anggraeni & Mundilarto, 2020). Thus, the integration of cultural elements in language education is increasingly vital to strengthening students' cultural awareness while also supporting language learning.

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The urgency of this issue is further reflected in national literacy challenges. Indonesia ranks 75th out of 80 participating countries in reading proficiency (Education GPS., 2024), indicating significant deficiencies in comprehension strategies, vocabulary mastery, and reading motivation. Contributing to these difficulties are conventional instructional materials and teacher-centered pedagogies that rely heavily on textbook-based learning, often leading to disengagement and superficial comprehension.

In response to these challenges, digital learning solutions such as e-modules have gained attention as effective tools for interactive learning, flexible pacing, and independent study (Jannah, 2024; Rusni et al., 2023). When enriched with features such as multimedia elements, self-assessment tasks, and contextualized texts, e-modules have been shown to support reading proficiency and learner motivation (Daud et al., 2022; Parinduri et al., 2022). Moreover, research has indicated the pedagogical benefits of integrating local wisdom into learning materials, which promotes deeper comprehension and cultural identity reinforcement (Laila et al., 2021; Yusuf, 2023). Incorporating local wisdom in learning materials, particularly in diverse cultures like Indonesia is essential because it promotes holistic learning and impacted students' reading comprehension scores (Sastrawati, 2019; Laila et al., 2021; Jumriani et al., 2021).

Local wisdom represents an unwritten set of values and principles passed down through generations, providing communities with guidance and inspiration for navigating life's challenges (Suparmini et al., 2013; Henie et al., 2017; Arsal et al., 2023). These values are often embodied in customs, traditions, proverbs, and sayings that are widely regarded as true and integral to communal life (Sastrawati, 2019). Local wisdom is deeply rooted in the belief systems of communities and is expressed through practices, traditions, or myths, serving as a means of survival and adaptation in their environment and academic subjects (Arifiani et al., 2019; Mukaromah et al., 2022; Syamsi & Tahar, 2021). This approach connects academic lessons with students' social environments, making the learning process more relevant and engaging (Anggraeni & Mundilarto, 2020; Armawi & Limbongan, 2022; Syamsi & Tahar, 2021; Yanti et al., 2022).

Folklore is generally classified into three major categories: myths, legends, and folktales (Kusmana et al., 2020). As a form of literary work, folklore possesses intrinsic structures and values that make it a powerful educational tool when integrated into student

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learning (Sastrawati, 2019). Well-known Indonesian folktales, such as *Malin Kundang* and *Bawang Merah Bawang Putih*, exemplify the moral lessons and cultural diversity of the various ethnic groups in the country. Additionally, due to Indonesia's geographic composition as an archipelago, the nation is home to a rich diversity of folktales, with each island having its unique stories. However, as Yoedo and Mustofa (2022) note, only a limited number of these tales are widely recognized across the country, despite the vast collection that exists on each island.

Particularly in Aceh, there are several folklores that have been spreading over the region such as the story of local stories, such as *Jugi Tapa*, *Malem Diwa*, and *Putri Pukes*. They are three significant folktales from Aceh that highlight the rich cultural heritage of the region. *Jugi Tapa* centers on a spiritual figure that embarks on an ascetic journey, symbolizing sacrifice and devotion in the pursuit of enlightenment. The tale teaches perseverance and faith. *Malem Diwa*, a story of a young warrior or prince, emphasizes themes of bravery, loyalty, and destiny as he seeks to fulfill his heroic journey, reflecting Acehnese values of honor and courage. *Putri Pukes* tells the tragic story of a princess cursed for disobeying her mother's advice, serving as a cautionary tale on the importance of respecting parental guidance and tradition. Together, these stories not only preserve local wisdom but also convey moral lessons that resonate with Acehnese identity and values.

Folklore's usefulness in education has been researched by a number of scholars, particularly those working in the field of ELT the folklore can be studied for its structure so that it can be used as teaching material that has positive values and provides many benefits to students. Unfortunately, there is still no research that develops digital modules based on local wisdom specifically Acehnese folklore for reading skills. Therefore, this research is intended to know, **“How effective is the narrative text e-module based on local wisdom developed using the ADDIE instructional design model in improving students’ reading skills?”**

METHOD

Design

This study employed Research and Development (R&D) design with ADDIE model, a widely recognized and systematic instructional design framework consisting of five interrelated stages: Analyze Design, Develop, Implement, and Evaluate (Branch, 2009).

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ADDIE serves as flexible and systematic framework that facilitates the organized modification of educational interventions, allowing ongoing enhancement through formative feedback. Its adaptability is beneficial in addressing the multifaceted needs of Acehese students, where contextual relevance and cultural sensitivity must be carefully integrated. The Analysis phase enables a full needs assessment, while the Design and Development phases give a scaffolded approach to content production that is linked with learners' pedagogical needs. The Implementation and Evaluation stages verify that the intended course is feasible and empirically validated. Thus, the ADDIE Model facilitates the development of focused products.

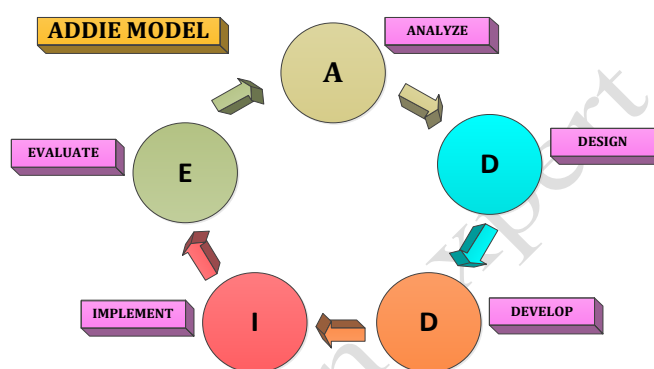


Figure 1. ADDIE research model

This model was employed through the development stage consisting of: (1) Analyze, at this stage need analysis was carried out to investigate students target needs, consisting of necessities, lacks, and wants. (2) Design, at this stage the researchers design the product. (3) Develop, at this stage the researchers develop e-modules narrative text based on local wisdom. (4) Implement, at this stage the researchers conduct product trials through expert validation, group test, and field test. (5) Evaluate, at this stage the researchers provide both formative and summative evaluations. The evaluation results are used to provide feedback to users of the product.

Participant

A total of 35 students, 10 males and 25 females, from the third grade of SMA Negeri 1 Bireuen of Aceh Province, Indonesia, participated in this study. Simple random sampling technique was chosen to select the students from five classes. The level of their English proficiency is intermediate and it is applied for English medium instruction.

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Instrument

Two instruments were used during the implementation of the narrative text e-module, including questionnaires and tests. First, three types of questionnaires were distributed, namely needs analysis questionnaires to identify students' necessities, lacks, and wants; expert validation questionnaires to evaluate the appropriateness of the developed e-module; and student response questionnaires to gather perceptions regarding the implementation of the teaching materials. All the questionnaires were close-ended as presented in the results section. Second, there were two reading comprehension tests: an initial test in the preliminary stage and a final test in the field trial stage. The tests consisted of questions related to narrative texts of Acehese legends. There were 10 questions of quantitative and qualitative for both pre-test and post-test in multiple choice form.

Data collection technique

The data in this study were collected systematically following the ADDIE sequence to ensure that each stage of instructional development was supported by relevant empirical data.

In the analyze phase (needs analysis data collection), a close-ended needs analysis questionnaire was administered to 35 students to collect data on their necessities, lacks, and wants related to narrative reading material. Students' necessities part consisted of six questions, while students' lacks covered eight questions, and students' wants also had eight questions. This data established the pedagogical foundation and informed the initial specifications of the e-module.

In the design stage (expert preliminary input), preliminary consultation with experts was conducted to ensure planned content alignment with curriculum standards and local wisdom integration. Although not yet in the form of scoring, expert input at this stage guided structural and conceptual design decisions for the e-module prototype. The researchers first started creating the storyboard by drafting the layout of each module screen/page and planning the sequence; introduction, content, practice, assessment, and feedback for the 3rd grade of high school students. This e-module was created using Heyzin Flipbooks, a free online platform that converts PDF files into interactive digital books with realistic page-turning effects, adds multimedia content such as video, audio, animations, and links, and is easily accessible in a browser without the need to download an application. The narrative text e-module consisted of 33 pages with two learning activities; learning objectives, material

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descriptions, summaries, independent assignments, practice questions, and self-assessment and evaluation.

In the development stage (expert validation data), data were collected using two expert validation questionnaires: one for material quality and one for media design. The experts provided quantitative evaluation using a five-point scale and qualitative feedback on appropriateness, attractiveness, functionality, content clarity, and cultural alignment. Material expert validation questionnaires consisted of four learning aspects, four activities aspects, and four language aspects. Meanwhile, media expert validation questionnaires covered four learning aspects, four communication visual aspects, and three software designing aspects.

In implement stage (learning outcomes performance data), pre-test and post-test were administered to measure learning outcomes after using the e-module. The pre-test was conducted before students used the e-module, while the post-test was administered after they completed the learning activities with the module. Both tests consisted of 10 multiple-choice comprehension questions derived from Acehese folklore texts featured in the module. The results displayed quantitatively in paired sample t-test using SPSS with a significance level of $p = .000$ ($p < 0.05$).

In the evaluation phase (summative feedback data), a student response questionnaire was distributed to collect perception data regarding usability, ease of learning, motivation, and perceived improvement in reading comprehension. This feedback served as summative evaluation and provided user-centered reflection for final refinement. Students' response questionnaires employed 10 statements using Likert scale with Strongly Agree (SA) = 5, Agree (A) = 4, Neutral (N) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1.

Data analysis technique

The data in this study were presented in both qualitative and quantitative modes. The quantitative data were gathered from pre-test and post-test and then analyzed using IBM SPSS Statistic 25. The paired samples t-test was employed to compare the pre-test and post-test scores. If the sig. (2 tailed) value is < 0.05 , then there is a significant difference between the learning outcomes in the pre-test and post-test data. Meanwhile, if the sig. (2 tailed) value > 0.05 , then there is no significant difference in the students' learning result. Furthermore, the questionnaires results were gathered using five possible answers; Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5) using Likert Scale which then

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described qualitatively. Lastly, expert validation results can be concluded by this following formula:

$$\text{Score} = \frac{\text{Achieving score}}{\text{Maximum score}} \times 100$$

85% – 100% = Very Valid
 70% – 84% = Valid
 55% – 69% = Quite Valid
 40% – 54% = Less Valid
 0% – 39% = Not Valid

RESULT AND DISCUSSION

Result : analyze stage

This stage has three aspects: students' necessities, students' lacks, and students' wants. The first aspect covers six statements about students' necessities of the narrative text. The second aspect consists of eight statements about students' lacks toward reading material. The third aspect contains eight statements regarding students' wants about reading material.

Table 1. Students' needs analysis results

	<i>N=35</i>	<i>M</i>	<i>SD</i>	<i>Interpretation</i>
<i>Students' Necessities</i>	1. <i>The text must be short and simple.</i>	4,91	0,28	<i>Strongly Agree</i>
	2. <i>The module must suit the school's needs.</i>	4,80	0,47	<i>Strongly Agree</i>
	3. <i>The module tells local folk tales.</i>	4,83	0,38	<i>Strongly Agree</i>
	4. <i>The module must be up-to-date.</i>	4,91	0,28	<i>Agree</i>
	5. <i>The module must be easy to operate</i>	4,89	0,32	<i>Strongly Agree</i>
	6. <i>The module must be easy to access.</i>	4,86	0,42	<i>Strongly Agree</i>
<i>Students' Lacks</i>	1. <i>Lack of English vocabulary</i>	4,83	0,38	<i>Strongly Agree</i>
	2. <i>Difficulty finding detailed information in texts</i>	4,77	0,54	<i>Strongly Agree</i>
	3. <i>Difficulty finding the main idea</i>	4,69	0,62	<i>Strongly Agree</i>
	4. <i>Difficulty drawing conclusions from reading</i>	4,83	0,51	<i>Strongly Agree</i>
	5. <i>Difficulty understanding word meaning</i>	4,69	0,62	<i>Strongly Agree</i>
	6. <i>Lack of motivation to read</i>	4,71	0,61	<i>Agree</i>
	7. <i>Lack of folk tales containing local wisdom</i>	4,83	0,45	<i>Strongly Agree</i>
	8. <i>Lack of digital-based teaching materials</i>	4,69	0,62	<i>Strongly Agree</i>
<i>Students' Wants</i>	1. <i>Availability of engage with digital-based materials</i>	4,89	0,40	<i>Strongly Agree</i>
		4,71	0,56	<i>Strongly Agree</i>
	2. <i>Availability of folk tales containing local wisdom</i>	4,74	0,60	<i>Strongly Agree</i>
		4,86	0,35	<i>Strongly Agree</i>
	3. <i>Students want to improve their English vocabulary</i>	4,83	0,51	<i>Strongly Agree</i>
		4,83	0,51	<i>Agree</i>
	4. <i>Can easily find the main idea</i>	4,94	0,33	<i>Strongly Agree</i>
	5. <i>Can find detailed information in the text</i>	4,97	0,17	<i>Strongly Agree</i>
6. <i>Can draw conclusions from the text</i>				
7. <i>Can understand the meaning of words well</i>				
8. <i>Students are motivated to read</i>				

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Based on the results of students' necessities, it can be concluded that the text must be short and up-to-date. Meanwhile, most of the students lack in vocabulary mastery and finding detail information. Furthermore, in students' wants aspect, most of them want the materials (folklores) that contain the local wisdom in their own areas. Students also want digital-based materials that can be accessed easily. From five Likert scale score, most students choose strongly agree, some of them choose agree, but nobody choose neutral, disagree, and strongly disagree.

Design stage: e-module blueprint

The first step is formulating precise learning outcomes to guide the entire instructional process. These outcomes include students' ability to identify the generic structure and linguistic features of narrative texts, analyze culturally rooted stories that reflect local wisdom, and ultimately produce their own narratives that embody moral or cultural values from their community. The next component involves organizing instructional content and developing a storyboard that outlines the flow of the entire e-module.

Another essential component is designing learning activities and assessments that align with the defined objectives and the characteristics of digital learning. During this stage, the researchers plan both formative and summative assessments to evaluate students' understanding of narrative texts and their ability to integrate elements of local wisdom. Formative assessments include comprehension questions based on cultural stories, and reflection prompts designed to reinforce understanding. Summative assessment involves a writing task.

The technical design component focuses on how the e-module will be developed within the Heyzine Flipbooks platform. This involves determining the appropriate file format, and planning page size, orientation, and layout to optimize readability and interactivity. The researchers used interactive elements such as audio files, navigation pathways, including next-page buttons, a home menu, and links for returning to previous sections. All technical considerations are designed to ensure smooth transitions, intuitive navigation, and an engaging multimodal learning environment within Heyzine.

The final component in the design stage is preparing evaluation instruments that will be used later to assess the quality, validity, and practicality of the e-module. These instruments include expert validation sheets for material experts, media experts, as well as questionnaire

forms to collect student responses regarding usability, attractiveness, clarity, and cultural relevance.

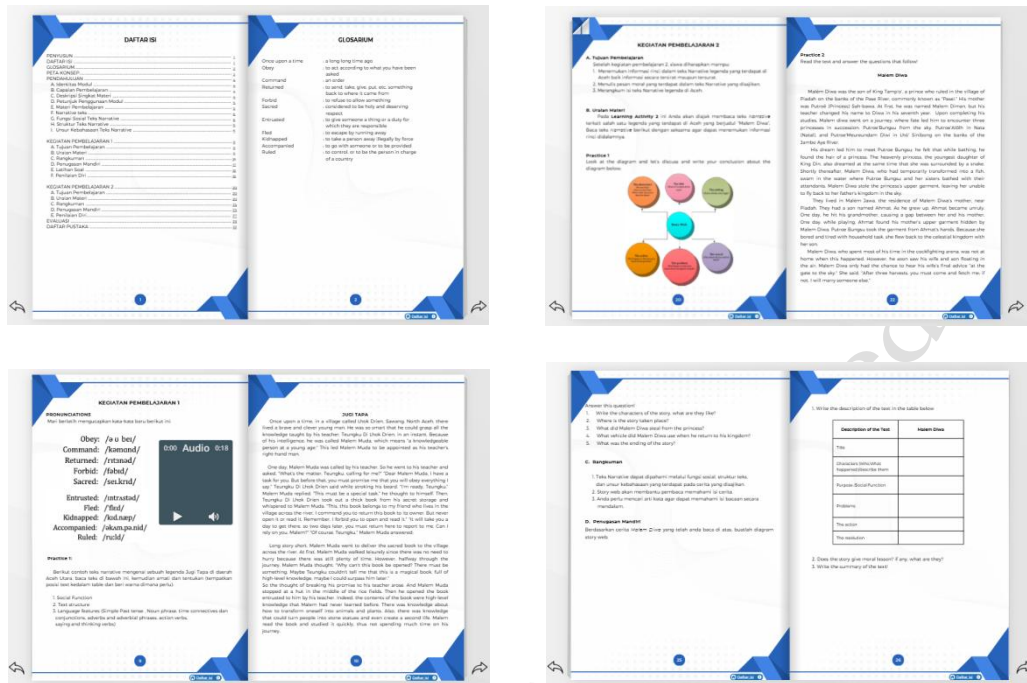


Figure 2. E-module contents

Develop stage: expert validation

This stage showed the recapitulation of experts' validation for both material and media of narrative text e-module. Assessment is carried out using criteria 5=Very Valid, 4=Valid, 3=Quite Valid, 2= Less Valid, and 1= Not Valid. Material validation consisted of three aspects such as learning aspects, activities aspects, and language. Each aspect covered four statements to be validated by the expert. Meanwhile, media validation consisted of three aspects such as learning aspects with four statements, communication visual aspects with four statements, and software designing aspects with three statements. Table 2 and 3 showed the recapitulation of experts validation for e-module material and media.

Table 2. Material expert validation results

No	Achieving Score Aspects	Mean of Experts' Score
1	Learning Aspects	
1	The use of e-Module is able to Achieve the Basic Competencies	5

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2	The use of e-Module is matching with the learning material	5
3	The use of e-Module is able to respond to the independent learning of students	4
4	The use of e-Modul is matching with students' interests, needs and conditions	5
II Activities Aspects		
1	The use of e-Module is able to improve students' ability to find main idea	5
2	The use of e-Module is able to improve students' vocabulary	5
3	The use of e-Module helps students to find specific information	5
4	The use of e-Module helps students in making inference	5
III Language Aspects		
1	E-Module is in accordance with English grammar rules.	5
2	The sentences used are easy for students to understand.	4
3	The linkage in paragraph parts in E-Module is easy to understand.	5
4	Narrative Text in E-Module is in accordance with the language features	5
Total		58

The validation results from material experts indicate that the developed E-Module is categorized as very valid with a total score of 58 out of 60 (96.7%). In the learning aspect, the module was considered appropriate in achieving basic competencies, aligning with the learning material, and accommodating students' interests and needs, although a slightly lower score was given for its ability to fully foster independent learning. The activities aspect received the highest validation, with experts agreeing that the module effectively improves students' skills in identifying main ideas, enhancing vocabulary, locating specific information, and making inferences. In the language aspect, the module was rated highly for grammatical accuracy, paragraph coherence, and the use of narrative text features, though experts suggested improving sentence clarity to ensure better student comprehension. Overall, these results confirm that the E-Module is feasible and appropriate for use in the learning process with minor revisions.

Table 3. Media expert validation results

No	Achieving Score Aspects	Mean of Experts' Score
I Learning Aspects		
1	The use of e-Module is able to Achieve the Basic Competencies	5
2	The use of e-Module is matching with the learning material	5
3	The use of e-Module is able to respond to the independent learning of students	4
4	The use of e-modul matching with students' interests, needs and conditions	5
II Communication Visual Aspects		

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1	The language used can motivate the students to learn reading text	5
2	The display of design is simple and attractive	5
3	The texts can be read clearly	5
4	Equipped with multimedia elements (video / text / table / audio)	4
III Software Designing Aspects		
1	e-Module is smooth and reliable when it is used	5
2	e-Module is easy to use	5
3	e-Module navigation is easy and consistent on every display	5
Total		53

The media validation results show that the E-Module achieved a total score of 53 out of 55 (94.6%), placing it in the very valid category. In the learning aspect, the module was considered highly appropriate in achieving basic competencies, aligning with the material, and meeting students’ interests and needs, although its ability to fully support independent learning was rated slightly lower. The visual communication aspect was strongly validated, with experts noting that the language used motivates students, the design is simple and attractive, and the texts are clear; however, the integration of multimedia elements such as video or audio still requires enhancement. In the software design aspect, the module was rated excellent for its reliability, user-friendliness, and consistent navigation. Overall, these findings confirm that the E-Module is media-wise feasible for classroom implementation, with minor revisions suggested in strengthening independent learning support and enriching multimedia features.

Implement stage: e-module implementation

The paired sample t-test (pre-test and post-test) was assigned to find out whether there is a significant improvement of the students mean score after the implementation of Narrative text E-Module based on local wisdom. The summary of pre-test and post-test is displayed in the table below:

Table 4. Paired samples test result

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Interval				
Pair 1					Lower	Upper			
	Pre-test	-26.57	14.54	2.45	-31.56	-21.57	-10.81	34	.000
	Post-test								

The paired samples test result shows a significant difference between students’ pre-test and post-test scores after using the E-Module. The mean difference of -26.57 with a standard

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error of 2.45 and a 95% confidence interval ranging from -31.56 to -21.57 indicates a substantial improvement in learning outcomes. The obtained t-value of -10.81 with $df = 34$ and a significance level of $p = .000$ ($p < 0.05$) confirms that the difference is statistically significant. These findings demonstrate that the implementation of the E-Module had a positive and significant effect on students' learning performance, validating its effectiveness as a learning medium.

Evaluate stage :students' response

Table 5. Students' responses percentage

<i>Items</i>	<i>SA</i> <i>%</i>	<i>A</i> <i>%</i>	<i>N</i> <i>%</i>	<i>D</i> <i>%</i>	<i>SD</i> <i>%</i>
<i>1 E-Module is easy to learn and understand.</i>	89	6	6	0	0
<i>2 E-Module is arranged and displayed systematically.</i>	86	9	6	0	0
<i>3 The material and practice in E-Module can be understood well.</i>	80	11	9	0	0
<i>4 E-Module motivates students to be more enthusiastic.</i>	83	9	9	0	0
<i>5 Text, colors, animations and images suit the content.</i>	83	6	11	0	0
<i>6 The language used in E-Module is easy to understand.</i>	83	6	11	0	0
<i>7 E-Module can improve students' Reading Comprehension skills.</i>	80	14	6	0	0
<i>8 E-Module in Heyzine application provides learning assistance.</i>	80	14	6	0	0
<i>9 E-Module increases students' interest in learning reading text.</i>	80	11	9	0	0
<i>10 E-Module has a positive impact on students' reading skills.</i>	83	6	11	0	0

The results of students' responses to the implementation of the E-Module show a very positive perception across all aspects. A large proportion of students chose Strongly Agree (SA) and Agree (A) on every item, with percentages ranging from 80% to 89% in the SA category and 6% to 14% in the A category. These findings indicate that students found the E-Module easy to learn and understand, systematically arranged, and well-supported with materials and practice that could be comprehended effectively. Furthermore, students perceived the module as motivating, with its design elements-such as text, colors, animations, and images-being considered appropriate and engaging. Importantly, the language used in the E-Module was also recognized as clear and easy to understand, which further facilitated learning.

In addition, the E-Module was positively acknowledged for its role in enhancing reading comprehension skills and providing learning assistance through the Heyzine

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application, which contributed to increased enthusiasm and interest in learning. Students agreed that the E-Module not only improved their ability to grasp main ideas and specific information but also had a significant impact on their overall reading skills. With the majority of responses concentrated in the SA and A categories and no negative responses (D or SD), it can be concluded that the E-Module successfully met students' expectations and needs, making it an effective and engaging digital learning resource.

Discussion

The findings of this study underscore the pedagogical value of integrating local wisdom into digital learning materials, particularly within narrative text e-modules designed for EFL settings. Results from the needs analysis clearly showed that students required short, simple, and accessible texts while demonstrating strong interest in local folklore as meaningful learning material. These preferences align with previous research indicating that culturally relevant texts promote higher engagement, comprehension, and cultural connectedness among learners (Barella, 2020; Sastrawati, 2019). By incorporating Acehnese folktales such as *Jugi Tapa*, *Malem Diwa*, and *Putri Pukes*, the module successfully responded not only to students' linguistic needs—such as vocabulary limitations and difficulty identifying main ideas—but also to the broader educational objective of preserving cultural identity through literacy practices.

Expert validation results further affirm the feasibility and pedagogical soundness of the developed module. Both material and media validation scores placed the module in the “very valid” category, demonstrating strong alignment with curriculum standards, narrative text competencies, and principles of instructional design. Minor suggestions from experts—specifically related to strengthening independent learning features and enriching multimedia elements—are consistent with earlier studies which highlight that e-modules become more impactful when they provide multimodal input, intuitive navigation, and scaffolding for autonomous learning (Daud et al., 2022; Parinduri et al., 2022). The high validation scores on vocabulary building, inference-making, and identification of specific information indicate that the cultural narrative context effectively promotes the targeted reading sub-skills.

The statistical evidence strengthens these qualitative findings. A significant improvement between the pre-test and post-test scores, reflected in the mean gain of 26.57

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points, demonstrates that the e-module effectively enhanced students' reading comprehension. This improvement is substantial and supports the argument that culturally embedded digital modules can bridge the gap between conventional textbook-based instruction and the demands of modern learners who require relevant, contextualized, and interactive materials. These results echo Yusuf (2023), meta-analysis, which posits that local wisdom-based learning media contribute to both literacy outcomes and character development by grounding the learning process within students' cultural realities.

Students' responses further validate the module's practicality and acceptance. The overwhelmingly positive perceptions (80%–89% Strongly Agree across items) indicate that learners found the module easy to use, appealing, and motivating. Notably, the design features available through the Heyzine platform, such as animations, clear layout, and interactive elements were perceived as meaningful contributors to engagement. This supports findings by Jannah (2024) and Rusni et al. (2023) who emphasize that multimodal e-modules significantly increase student motivation and comprehension, particularly when they include navigation simplicity and attractive visual elements. The absence of negative responses suggests that the module's usability and content quality successfully met learners' expectations.

Taken together, these findings demonstrate that the integration of Acehnese local wisdom into digital narrative modules is not only culturally beneficial but also pedagogically effective. The module simultaneously addresses linguistic challenges, fosters cultural awareness, enhances motivation, and improves reading comprehension. As such, it provides a relevant and scalable model for developing culturally grounded digital learning materials in other regions and contexts. The results contribute both theoretically and practically to the growing body of research advocating for culturally responsive digital pedagogy in EFL instruction.

CONCLUSION AND IMPLICATION

Conclusion

The findings of this study demonstrate that the development of a narrative text E-Module based on Acehnese local wisdom is both pedagogically effective and contextually relevant for enhancing students' reading comprehension skills. The module achieved very high validity scores from both material and media experts, indicating strong alignment with

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curriculum goals, linguistic clarity, and appropriate multimedia integration. Furthermore, the significant improvement between students' pre-test and post-test scores confirms the e-module's effectiveness in strengthening vocabulary, identifying main ideas, and making inferences. Positive student responses also indicate that the module is user-friendly, engaging, and motivating. Overall, the integration of local wisdom through culturally embedded narrative texts contributes not only to improved reading comprehension but also to strengthening students' cultural awareness and identity.

Limitation

Despite its promising results, this study has several limitations that must be acknowledged. First, the sample size was relatively small and limited to a single school context, which restricts the generalizability of the findings to broader EFL populations. Second, the implementation period was short, focusing exclusively on reading comprehension without evaluating potential effects on other skills such as writing, listening, or speaking. Third, although the module includes multimedia elements, its interactive features remain basic and the study did not measure students' long-term retention or sustained motivation after the intervention. Finally, the reliance on self-reported student responses may introduce bias, as learners may provide favorable evaluations during novel learning experiences.

Implication

For future studies, it is recommended to conduct research with larger and more diverse student populations to increase the generalizability of the results. Longitudinal studies could also be carried out to investigate the long-term impact of digital modules on reading comprehension and overall language development. Further exploration of how multimedia features-such as interactive videos, gamification, and adaptive feedback can enhance students' independent learning is also suggested. Moreover, researchers may extend the application of the E-Module to other skills and integrate it into blended or flipped learning models to examine its effectiveness in broader instructional settings. These directions would provide a more comprehensive understanding of the potential and scalability of digital modules in EFL learning.

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