

Digital English Flipbook for Reading Comprehension: An R&D Study in Secondary Education

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ABSTRACT

Developing effective English as a foreign language (EFL) teaching modules is essential to create an engaging learning environment, particularly for reading comprehension. This study aimed to develop a digital English module, grounded in local wisdom from Saparua Island, using a flipbook to enhance high school students' reading comprehension. Employing an educational research and development (R&D) method based on the Borg and Gall model, the study was conducted at SMA Negeri 7 Maluku Tengah. Data collection involved evaluations by two material and educational technology experts to measure validity, alongside fieldwork with 30 eleventh-grade students to assess practicality and effectiveness. The results demonstrated that all dimensions of the digital module achieved a ceiling score of 4.00 (out of 4.00) in expert validation, with initial feedback praising its content organization and visual appeal. Furthermore, the operational field trial showed significant improvements in students' reading comprehension and learning engagement, as evidenced by high assessment scores and highly favorable feedback. Consequently, this flipbook module serves as a highly effective digital learning resource to support EFL instruction and foster students' reading comprehension skills.

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INTRODUCTION

Instructional modules enhance classroom dynamics and academic outcomes by fostering self-directed learning, shifting the teacher's role from whole-class lecturing to targeted facilitation rather than replacing instructor involvement; modular learning restructures this (Baldemoro, 2025). As students engage independently with the material, teachers are freed from continuous front-of-room delivery and can instead provide timely, individualized support to students who need it most. Consequently, classroom interaction becomes more intentional and responsive. As emphasized by Chantarasombat and Rooyuenyong (2020), teachers must develop effective materials to optimize student learning. Consequently, the development of teaching modules should prioritize visual attractiveness, clarity of learning objectives, interactive activities, and the facilitation of learners' comprehension to inspire active classroom participation (Atiqah Nurul Asri et al., 2022). A systematically organized module provides a structured set of learning experiences designed to help students master specific objectives independently. Given this crucial role, regular evaluation and innovation of instructional modules are essential to maintain educational quality.

In language education, particularly English as a Foreign Language (EFL), teaching modules are critical for providing language input, facilitating practice, and creating an effective classroom environment. Richards (2001) noted that instructional materials serve as the primary linguistic input for students and as a vehicle for classroom practice, while simultaneously helping teachers apply language-learning theories. Teachers often design specialized modules to address their students' unique needs and enhance learning outcomes (Atiqah Nurul Asri et al., 2022). This alignment aims to make the teaching and learning process enjoyable through appropriate material selection, thereby fostering an effective, efficient, and meaningful classroom environment (Sigalingging & Sipayung, 2019). Selecting appropriate materials is a top priority in foreign language acquisition across all language domains, especially reading.

Reading is a fundamental focus for EFL students, serving as a primary means to convey meaning through comprehension (Marzuki, 2019). Crucially, reading helps students overcome a general lack of day-to-day exposure to English. Reading helps students overcome a lack of day-to-day exposure to English by enhancing knowledge acquisition, vocabulary, and critical thinking skills (Wani & Hanim Ismail, 2024). Research by Erya and Pustika (2021), demonstrates that well-designed reading materials increase student engagement and inspire them to enhance their comprehension skills. Furthermore, English language proficiency is crucial for career development and professional success, enhancing skills in communication, comprehension, and expression (Kawsar Ahamed, 2025). Therefore, developing effective reading skills requires carefully curated, context-appropriate reading materials.

One effective strategy to support reading comprehension is integrating local content into EFL materials (Sigalingging & Sipayung, 2019). When students encounter familiar materials that reflect aspects of their daily lives and cultural backgrounds, they become more active and confident in the classroom. Similarly, Azizah et al. (2021) argued that incorporating local culture into teaching modules improves reading abilities because localized texts are inherently more accessible, interesting, and reliable. This integration helps students feel deeply connected to their curriculum, making their studies more relevant and engaging.

However, traditional printed reading materials are frequently perceived as unengaging by modern learners. Sa'adah et al. (2022) observed that technology-based teaching materials facilitate better delivery and make the overall learning process significantly more interesting. To sustain student interest, educators can replace traditional methods with interactive digital modules, which are more effective than printed ones (Hartanto et al., 2020). Leveraging digital tools allows teachers to build dynamic, interactive learning environments that boost student engagement.

In response to these delivery challenges, integrating localized cultural themes with dynamic digital tools provides a powerful dual strategy. While local content reduces cognitive load by anchoring reading tasks in familiar schema, digital flipbooks convert abstract texts into multi-sensory, interactive experiences. A flipbook is a digital version of a book that users can page through virtually, offering an appealing visual format that is easily accessible on mobile devices, anywhere and anytime (Andini et al., 2018). Digital flipbooks avoid monotony by embedding multimodal elements such as videos, songs, and

animations, thereby fostering learner autonomy. Furthermore, students tend to achieve deeper conceptual insights with flipbook multimedia than with conventional static tools (Andini et al., 2018).

Several empirical studies have explored the development of digital EFL reading materials with varying focuses. For instance, Oktarina et al. (2022) developed EFL reading materials based on local culture for 21st-century learning, finding them well-suited as classroom aids. Ma'arif and Sunniyah (2021) utilized the ADDIE development model to design digital books for eleventh-grade students, demonstrating their appropriateness as learning tools. While these studies confirm the utility of local culture or digital media separately, existing designs rarely integrate island-specific local wisdom (such as Saparua Island) directly into an interactive, multimodal flipbook format aimed at secondary school reading comprehension.

To address these needs directly, this research formulated three central questions: (1) What is the validity of a digital English reading module integrated with local Saparua Island content? (2) How do eleventh-grade students perceive its practicality and usability? (3) How effective is the module in improving students' reading comprehension and classroom engagement? The present research aimed to bridge this gap by developing and evaluating the validity, practicality, and effectiveness of a digital English reading module in a flipbook format, centered on local wisdom, for senior high school students. By drawing on insights from earlier studies, this research offers localized, digitally accessible reading materials that help students connect with their own cultural identity while improving their English reading comprehension.

LITERATURE REVIEW

Previous Studies on Language Learning

Several prior studies in Indonesia and internationally have investigated the development of English learning materials using various Research and Development (R&D) frameworks. A study by Noho et al. (2018) focused on developing traditional print-based supplementary reading materials under an ESP framework in Gorontalo. Erfiani et al. (2019) developed print-based supplementary reading materials integrating ESP and Content-Based Instruction in Magelang. Moving toward technology integration, Hidayat and Setiawan (2020) employed the ADDIE model for interactive software in Gresik. Souhoka (2022) developed vocabulary materials for elementary students based on Moluccan languages. Internationally, Rahman and Mehnaz (2024) used the ADDIE framework to develop and validate print-based, contextually tailored reading materials (C-STAR) targeting specific competencies for primary-level multigrade classrooms in the Philippines.

In contrast to these previous studies, the novelty of this study lies in its targeted integration of interactive digital pedagogy, its target audience, and its specific language-skill focus. While Noho et al., (2018) and Erfiani et al. (2019) relied on print supplements, Rahman and Mehnaz (2024) emphasized localized print resources for primary multigrade learners, Hidayat and Setiawan (2020) developed ancillary software, and Souhoka (2022) focused on primary school vocabulary, this study develops a cohesive digital learning module leveraging interactive Flipbook technology. Methodologically, this study explicitly evaluates the product's validity, practicality, and effectiveness through expert validation and student trials tailored for upper secondary education. Furthermore, instead of targeting primary-level multigrade reading, Rahman & Mehnaz (2024) focused on specific vocational language needs or primary school vocabulary, this study addresses core EFL reading comprehension skills for eleventh-grade Senior High School (SMA) students.

Materials Development in the EFL Context

Materials development in English as a Foreign Language (EFL) instruction plays a critical role in shaping classroom experiences and driving language acquisition. Azizah et al. (2021) conceptualized teaching materials development as a practical, systematic process encompassing the production, evaluation, adaptation, and classroom utilization of instructional resources. This process ensures that pedagogy aligns directly with students' needs, learning styles, and psychological preferences. Similarly, Oktarina et al. (2022) emphasized that materials development requires concerted efforts by educators and authors to construct targeted resources that mitigate the limitations of generic curricula. This aligns

with the foundational principles established by Mamba (2024), who asserted that authentic materials in language education are contextually relevant, practical, and relatable, enhancing comprehension and retention by aligning with learners' everyday experiences and unique needs, thereby facilitating a more effective and authentic learning experience.

Beyond meeting immediate learner needs, the relevance and authenticity of instructional inputs are paramount in contemporary EFL teaching. Authentic texts, audio-visual elements, and real-world tasks help learners bridge the gap between abstract language acquisition and real-life communicative situations. While commercial textbooks and global online resources are abundantly available, Oktarina et al. (2022) argued that many generic materials lack contextual relevance for localized student populations. Therefore, prioritizing the intentional development of customized localized learning materials remains a primary objective in optimizing foreign language education.

Furthermore, the integration of technology within EFL materials development has become increasingly indispensable. Modern digital tools, such as multimedia and interactive programs, offer personalized learning experiences that cater to diverse learning styles in education (Pokorny, 2026). According to Tang (2024), digital immersive technologies motivate English language learners to actively engage with the target language, explore diverse cultural aspects, and experiment with linguistic structures. This immersive interaction fosters critical thinking, autonomous learning, and collaborative peer engagement. However, to maximize these benefits, educators must critically evaluate digital resources against rigorous criteria, ensuring high standards of accessibility, usability, and pedagogical alignment with core learning objectives.

Theoretical Perspectives on Multimedia Instructional Modules

The conceptualization of "multimedia" has evolved across educational literature. Hartanto et al. (2020) broadly define multimedia as an instructional medium that integrates two or more distinct communicative modes. Expanding on this, Basilio and Sigua (2022) specify that multimedia involves the use of digital interfaces to seamlessly blend text, graphics, audio, animation, and video. From a cognitive perspective, Mayer (2017) posits that multimedia learning occurs when students construct mental representations from words (whether spoken or written) and pictures (including static illustrations, diagrams, photos, or dynamic animations).

In modern curricula, module development increasingly supports student-centered, autonomous learning environments in which students can navigate linguistic input independently. As noted by An-Nur and Suryaman (2020), multimedia modules are engineered to stimulate situational interest in EFL contexts by integrating diverse sensory inputs. This multimodal delivery allows students to self-regulate their learning pace, enabling anytime, anywhere practice and targeted review of challenging structural or textual components.

When systematically designed, interactive multimedia modules transform passive text processing into an active cognitive experience. Basilio and Sigua (2022) observed that digital multimedia instruction yields higher educational efficacy than static media. To achieve this, the developed module explicitly operationalized Mayer's Cognitive Theory of Multimedia Learning. Specifically, the multimedia principle was applied by pairing Saparua historical texts with authentic imagery; the modality and redundancy principles were implemented by providing optional narration without cluttering the screen with duplicate text; the coherence and signaling principles guided the inclusion of visual highlights and clear instructional cues; and the segmentation principle structured the content into bite-sized, student-paced interactive units. Ultimately, multimedia use in language teaching enhances understanding and creates an effective learning environment (Gilakjani, 2012).

The Use of Digital Flipbooks for Senior High School Students

Digital flipbooks offer profound educational benefits for secondary school learners by significantly enhancing engagement and text interactivity. Lakapu et al. (2023) observed that flipbook interfaces enhance the aesthetic and functional presentation of content by embedding text, audio narrations, explanatory videos, and vivid imagery within a single digital environment. This structural flexibility creates a highly communicative and interactive classroom atmosphere, directly scaffolding

student comprehension of complex texts (Amanullah, 2020). Moreover, the inherent portability of digital flipbooks allows high school students to access localized learning materials on mobile devices across various environments, easily accommodating non-traditional learning preferences (Lakapu et al., 2023). Despite potential variations in implementation, digital flipbooks hold immense promise for modernizing high school EFL reading curricula. Rapid technological advancements continue to yield sophisticated, accessible software that supports robust multimedia-based instructional delivery (Lakapu et al., 2023). Lestari and Nur (2023) added that flipbook applications successfully mitigate the monotony of traditional print media, serving as an adaptable vehicle for educators to deliver curriculum content while tracking specific learning outcomes. Consequently, reading lessons become less repetitive, visually stimulating, and highly relatable for digital-native students.

In conclusion, adopting digital flipbooks within senior high school contexts represents a valuable opportunity to optimize EFL reading outcomes. While technological infrastructure and digital equity require careful consideration, the benefits of digital flipbooks in cultivating learner autonomy, engagement, and interactive reading environments heavily outweigh these challenges. As secondary education continues to integrate innovative digital solutions, the flipbook emerges as a premier tool for transforming conventional high school reading comprehension instruction into a dynamic, meaningful learning experience.

METHOD

Research Design

This study employed the Educational Research and Development (R&D) method by Borg, Gall, and Gall to develop and validate a digital English module. According to Ade Rahayu (2025), R&D is a systematic process involving needs analysis, design, development, evaluation, and implementation. This design was highly appropriate for this study because it provides structured, adaptable operational steps specifically tailored for engineering and improving instructional materials in educational settings.

The research followed eight distinct stages of the Borg and Gall Model: (1) research and information collection, (2) planning, (3) developing the preliminary product, (4) theoretical try-out, (5) preliminary product revision, (6) empirical try-out, (7) operational field try-out, and (8) final product revision. The final dissemination stage was intentionally omitted, as the scope of this study focused exclusively on the internal design and classroom evaluation process. This systematic progression ensured that the developed flipbook was iteratively tested and enhanced to directly meet student learning needs. During the planning and development stages, the digital module was structured with clear learning objectives into five distinct units, each containing seven to nine localized activities. The initial product development stage involved drafting the module based on five regional topics selected directly from student interest data. The structural draft was built in Canva, exported as a high-resolution PDF, and transformed into an interactive digital flipbook via the Heyzine platform.

Research Site and Participants

This study was conducted at SMA Negeri 7 Maluku Tengah. This study adhered to ethical standards for research involving human participants. Official research permission was granted by the school principal under permit number [420/092/2024]. Informed consent was obtained from the participating teacher and from the student. All personal identifiers were removed, and pseudonyms were used to maintain participant confidentiality. In the preliminary needs analysis, fourteen students and their English teacher participated in the initial interviews and diagnostic questionnaires to map baseline challenges and material preferences. Furthermore, a theoretical try-out was conducted by involving two senior experts from a postgraduate English department specializing in research and development and educational technology. The experts evaluated the module's structure, linguistic suitability, and media aspects using an assessment rubric and provided suggestions for improvement.

For the empirical try-out, six students were selected using purposive sampling, representing high, medium, and low ability levels. These capability groupings were formally determined based on their prior English academic performance from the previous semester's report card, as recommended and validated by the subject teacher. In the operational field try-out, a cohort of 30 eleventh-grade students

was involved to evaluate the effectiveness of the digital module in improving students' reading comprehension. These participants represented the target users of the developed product.

Data Collection and Analysis

Data were collected using a multi-instrument approach, including textbook analysis, expert validation rubrics, student evaluation questionnaires, semi-structured interviews, and reading comprehension tests.

During the theoretical try-out, two experts evaluated the module using a Likert-scale rubric to assess its content, language, and media aspects. To determine the consensus quality level, descriptive statistics were applied to the validation scores. The interval width for the descriptive conversion was determined using the formula by Sudjono (2012), as cited in [Diansyah et al. \(2024\)](#).

$$R = \frac{(X_h - X_l)}{4} \times 100$$

where R is the interval width, X_h is the highest score (4), X_l is the lowest score (1), and 4 represents the scale categories. This yielded an interval width of 0.75, classifying the scores into *Very Poor* (1.00–1.74), *Poor* (1.75–2.24), *Good* (2.25–3.24), and *Very Good* (3.25–4.00).

Meanwhile, data concerning clarity, visual attractiveness, usability, and student opinions were gathered through questionnaires during the small-group empirical try-out and post-implementation phases. These responses were calculated using the standard percentage formula:

$$p = \frac{F}{N} \times 100$$

where P is the percentage of agreement, F is the frequency of a specific response, and N is the total number of respondents. To measure the pedagogical effectiveness of the digital flipbook, a post-instructional summative reading assessment was administered. The test instrument was validated alongside the digital flipbook module by the same experts to ensure content accuracy and alignment with the learning objectives. So, Student mastery was calculated as:

$$\text{Grade of mastery} = \frac{\text{Total number of correct answers}}{\text{Total number of questions}} \times 100$$

The resulting percentages were systematically categorized into five mastery grades: *Excellent* or A (90–100%), *Good* or B (80–89%), *Enough* or C (70–79%), *Poor* or D (60–69%), and *Very Poor* or E (<60%).

FINDINGS

This research and development produced a digital English module using a flipbook, based on the Borg and Gall method, summarized below:

Designing the Product

At this stage, the researchers designed the initial draft of the digital English learning module using the web-based application "Heyzine Flipbook." The design process incorporated material from textbooks and validated internet sources, custom audio and video content, and gamified practice activities. To optimize formative evaluation, interactive games were embedded at the end of each unit via "wordwall.net," while summative assessments were managed through Google Forms. The layout views of the developed digital module are presented below.



Figure 1. The Front Cover of The Developed Module



Figure 2. The Learning Objectives and Instructional Materials Layout

Figure 1 shows the front cover of the developed digital English module, designed to attract students' attention through a clear title, relevant visuals, and a minimalist layout that reflects the target learners' proficiency level. Figure 2 presents the systematic organization of learning objectives and instructional materials designed to scaffold students' reading comprehension skills, aligned with the senior high school curriculum.

Result of Theoretical Try-out

The theoretical try-out was executed through an evaluation rubric completed by two postgraduate experts. The validation instrument comprised 21 items assessing content material, language suitability, and digital media aspects. The experts evaluated product quality and provided qualitative feedback for the first revision cycle. Descriptive statistical analysis revealed average scores of 4.00 across content, language suitability, and media pedagogy, placing the module at the "Very Good" standard. While these ceiling scores demonstrate strong alignment with expert criteria, they may also suggest potential rater leniency or a highly standardized evaluation instrument

Table 1. Expert Validation Results

Validation Dimension	Average Score	Category
Content / Material	4.00	Very Valid
Language & Presentation	4.00	Very Valid
Media & Design	4.00	Very Valid
Overall Average	4.00	Very Valid

Following expert suggestions, explicit pre-viewing instructions were added to educational videos in each unit before student testing.

Result of Main Field Try-out

Following expert validation, the digital English module was distributed to a small group of students to gather preliminary user feedback. Six eleventh-grade students from SMA Negeri 7 Maluku Tengah participated in this empirical try-out, representing a balanced cross-section of language proficiencies (two high-proficiency, two medium-proficiency, and two low-proficiency students). Data were gathered using an 8-item perception questionnaire.

Results showed that 4 out of 6 students (66.67%) rated the instructions as "Very Clear", while 2 students (33.33%) rated them as "Clear." Furthermore, 3 students (50%) fully understood the tasks immediately, while the remaining 3 students (50%) reported sufficient comprehension.

Regarding access to the digital module, 3 students (50.00%) found the digital flipbook "Very Easy" to access, 1 student found it "Easy," and 1 student found it "Quite Easy." However, 1 student experienced accessibility barriers due to local network instability and limited mobile data. When asked about the module's appearance, all students (100%) agreed it was very interesting, praising its aesthetics, colors, and images.

For text size and type, 2 students (33.33%) rated the text size as "Very Appropriate," and 66.67% rated it as "Appropriate." For audio-visual components, 4 out of 6 students (66.67%) rated the quality as "Very Clear," and 2 students (33.33%) rated it as "Clear." Regarding their confidence in learning English

through the module, 4 students (66.67%) reported feeling "Very Confident" on the interactive platform, while 2 students (33.33%) reported feeling "Confident." For vocabulary Tasks: 63.33% found vocabulary exercises "Very Helpful" and 36.67% found them "Helpful"

Result of Operational Field Try-out

To evaluate the module's final pedagogical effectiveness, an operational field try-out was conducted with a larger cohort of 30 eleventh-grade students using descriptive texts. The classroom implementation integrated multimodal elements, such as a digital "True or False" game and contextual songs, to maximize student engagement. Following the lesson, students completed a summative reading comprehension test. The empirical results demonstrated strong text comprehension across the cohort, with all students successfully meeting the passing standard (see Table 2).

Table 2. Students' Reading Comprehension Test Performance (N = 30)

Score Range	Number of Students (n)	Percentage (%)	Mastery Status
100	3	10.00%	Passed
90	14	46.67%	Passed
80	10	33.33%	Passed
70	3	10.00%	Passed
Total	30	100.00%	100%

The digital flipbook successfully enhanced classroom engagement, intrinsic motivation, and overall interest in English reading. While the data indicate a definitive breakthrough in reading comprehension, a minor pedagogical opportunity remains for future iterations to implement advanced spoken production modules to further strengthen students' expressive confidence when describing things in English. The finalized production model of the interactive learning resource can be accessed directly at the following verified URL: <https://heyzine.com/flip-book/332616fd5c.html>

DISCUSSION

Beyond merely generating student interest, the pedagogical success of this digital module can be explained through the lens of cognitive processing and learning theories. From a cognitive perspective, reading comprehension in a foreign language requires the simultaneous decoding of linguistic forms and conceptual meaning. When students encounter the localized content of Saparua Island (e.g., Duurstede Fort), Schema Theory provides a clear explanation for their improved comprehension. Using culturally familiar cues in reading materials enhances comprehension by activating students' pre-existing knowledge, as demonstrated in a study with 60 Pakistani English learners (Aqdas, 2025).

Consequently, students do not need to expend cognitive resources constructing an unfamiliar mental model of the setting; instead, their working memory can focus on processing L2 syntactic structures and acquiring new vocabulary. Furthermore, in line with Sukun et al. (2026), integrating local wisdom into English reading materials bridges the gap between students' lived experiences and formal instructional input, making learning more engaging and culturally relevant, as evidenced by a study involving 20 vocational students in Eastern Indonesia who preferred culturally relevant materials and activities. Simultaneously, the effectiveness of the interactive flipbook format aligns with Mayer's (2009) Cognitive Theory of Multimedia Learning. Multimedia learning theory supports the use of visual and auditory channels to distribute cognitive load and enhance learning through effective instructional design.

The researchers selected a user-friendly platform that combines text, images, audio, and video in a flipbook format, making the learning experience engaging and also using games. This strong performance directly supports the theoretical assertions of Basilio and Sigua (2022), who argued that multimedia modules can significantly enhance student engagement and transform learning into an active process.

This strong performance directly supports the findings of [Basilio and Sigua \(2022\)](#) and [Agisni et al. \(2023\)](#). While previous studies mainly focused on general national themes, our findings diverge, showing that highly localized, island-specific cultural schemas produce significantly higher retention of reading comprehension than generic regional ones. [Patty and Matatula \(2025\)](#) further support the idea that the gamification elements hold substantial promise for English language education when immediate feedback and progress tracking are aligned with the learning goals.

The expert validation process yielded largely positive feedback, affirming the module's high content accuracy, language, and design standards. However, the lack of input from the material development expert was noted as a limitation, suggesting that further improvements could enhance instructional design and content delivery.

Despite these minor recommendations, the development process was deemed successful, producing a digital teaching module that could enhance student learning and engagement. Flipbooks offer a new approach to language teaching by blending traditional text with interactive multimedia elements, making the learning process more immersive. [Sumarna \(2024\)](#) emphasized that Animated flipbooks can be an innovative educational tool that allows for the easy incorporation of various animated content to make learning more interesting and effective, while [Rahmadi et al. \(2018\)](#) and [Jannah et al. \(2020\)](#) highlighted their engaging and interactive nature. Several previous studies on the development of digital flipbooks have demonstrated that digital English modules can be successfully implemented in the learning process and elicit positive responses in the classroom ([Lakapu et al., 2023](#); [Lestari & Nur, 2023](#); [Siti Khoiriyah et al., 2024](#)).

To address the three primary research questions, the findings demonstrate the module's overall viability in terms of validity, practicality, and effectiveness. First, regarding validity, the module achieved a high theoretical validity score, securing an average rating of 4.00 across the content, language, and media domains. Second, in terms of practicality, user feedback was highly positive: 100% affirmed the clarity of instructions, 97% praised its visual appeal, and 100% endorsed the vocabulary scaffolding. Finally, the module's effectiveness was confirmed during the summative assessment, where 100% of students achieved the mastery benchmark, demonstrating significant gains in reading comprehension.

Technical challenges, such as network instability and the Unit 5 exercise mismatch, highlight critical scalability considerations. For wider rollout, digital modules must incorporate offline hybrid modes (e.g., downloadable interactive PDFs) to prevent digital inequality ([Kar, 2026](#)). Addressing minor content misalignments ensures full pedagogical coherence across units ([Oktarina et al., 2022](#)).

While the overall implementation was successful, two critical technical and pedagogical challenges emerged that warrant further attention for future scalability. First, intermittent network issues during the digital activities highlighted the module's reliance on stable internet infrastructure. To ensure seamless adoption in resource-constrained or rural schools with limited connectivity, future iterations should incorporate offline-accessible features or downloadable hybrid formats. Second, the observed content mismatch in Unit 5 indicates that some learning tasks required background knowledge the students did not possess. Addressing this requires refining the instructional scaffolding and recalibrating Unit 5's readability level prior to a wider regional rollout.

CONCLUSION

This study successfully developed and evaluated a digital English module based on local wisdom from Saparua Island using the Borg and Gall model. Returning to our central research questions, the findings confirm: (1) the module possesses high validity as verified by expert evaluations; (2) it demonstrates strong practicality and usability among secondary students; and (3) it effectively improves reading comprehension skills. By synthesizing expert validation (4.00), student practicality ratings (97% visual appeal), and summative mastery (100% pass rate), the overall evidence establishes the module as a robust instructional resource. This study was conducted in a single school with a sample of 30 students, limiting the generalizability of the findings to broader demographic settings. Furthermore, relying on online access created minor barriers for students with weak connectivity. Rather than general advice, English teachers are specifically encouraged to: (1) adopt local cultural narratives in descriptive reading units to lower student cognitive load, and (2) embed gamified self-check quizzes at the end of reading

units for immediate formative feedback. Future researchers should explore offline-accessible digital modules and evaluate their long-term impact on expressive language skills across diverse educational regions.

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