

Developing an ADDIE-based e-module for analytical exposition text: A validity, feasibility, and practicality study

Tasya Herdiyanti^{1*}, Hadriana Hardiana², Eliwarti Eliwarti³, Jismulatif Jismulatif⁴

^{1,2,3,4}English Study Magister Program, Faculty of Teacher Training and Education, Universitas Riau, Indonesia

*) Corresponding Author, email: tasya.herdiyanti6926@grad.unri.ac.id

ABSTRACT

Integrating digital learning media has become increasingly important for supporting student-centred learning and enhancing English language instruction in the context of the *Merdeka Curriculum*. However, teaching analytical exposition text in Indonesian senior high schools remains challenging because students struggle to organize arguments, understand text structures, and apply language features, while existing learning resources are often limited and insufficiently interactive. This study aimed to develop an ADDIE-based e-module integrating project-based learning (PjBL) for teaching analytical exposition text and to evaluate its validity, feasibility, and practicality for Grade XI students. The study used a research and development (R&D) design based on the ADDIE model. Five English teachers participated in the needs analysis, nine experts validated the e-module, and one English teacher and 25 Grade XI students participated in the product evaluation and limited classroom implementation at a senior high school in Pekanbaru. Data were collected through needs analysis questionnaires, expert validation sheets, and teacher and student response questionnaires. The e-module achieved an overall expert validity score of 87.50% (very valid). Feasibility scores were 88.33% for teachers and 82.22% for students, while practicality scores were 87.50% and 85.11%, respectively; all were categorized as very feasible and very practical. The findings indicate that the e-module can serve as a suitable supplementary resource for teaching analytical exposition text and supporting student-centred learning. However, the limited sample and single-school implementation restrict the generalizability of the findings. Future research should involve larger samples and multiple schools to further examine its applicability.

Keywords: ADDIE model; analytical exposition text; EFL; e-module development; English language learning

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INTRODUCTION

Nowadays, the implementation of the *Merdeka Curriculum* in Indonesia emphasizes meaningful, student-centered, and technology-supported learning that enables students to develop communicative competence, critical thinking, creativity, and digital literacy. At the senior high school level, analytical

exposition text is an important genre in English learning because students are expected to express opinions, develop logical arguments, and persuade readers through written communication. These competencies are relevant to the learning goals of the Merdeka Curriculum, which encourages students to actively construct knowledge and communicate their ideas in meaningful contexts. In this regard, project-based learning (PjBL) provides a suitable pedagogical approach for teaching analytical exposition because it engages students in authentic projects that encourage argument development, collaboration, problem-solving, and communication (Ministry of Education, Culture, Research, 2025). Therefore, integrating PjBL into analytical exposition instruction is considered relevant to support the curriculum's emphasis on active and meaningful learning.

Despite these expectations, the implementation of analytical exposition learning in Indonesian classrooms still faces various challenges. Many students consider analytical exposition text difficult because they struggle to understand its generic structure, generate and organize arguments, and develop ideas into coherent paragraphs. In addition, limited vocabulary mastery and grammatical understanding may reduce students' confidence in expressing their opinions in written English. These difficulties can affect students' participation and motivation during the learning process, particularly when learning activities and resources do not sufficiently support their needs (Afnita et al., 2023; Charlina et al., 2022; Kalzan et al., 2021; Nurlatifah & Yusuf, 2022; Susianti, 2023). Since analytical exposition requires students to understand a particular text structure while simultaneously developing and communicating arguments, students need instructional support that combines genre understanding, language development, and opportunities for meaningful writing practice.

Previous studies conducted in Indonesia provide further evidence of these challenges. Nurlatifah and Yusuf (2022) found that students experienced cognitive, linguistic, and psychological difficulties in writing analytical exposition texts, particularly in generating ideas, organizing arguments, and applying grammar correctly. Similarly, Kalzan et al. (2021), in a study at SMA Negeri 9 Pekanbaru, reported that students experienced difficulties in identifying main ideas, understanding vocabulary, and recognizing the generic structure of analytical exposition texts. Research at MAS Al-Iman Ponorogo also indicated that students had difficulties organizing ideas and developing arguments because of limited vocabulary and low learning motivation. Furthermore, Susianti (2023) reported that students struggled to develop ideas during analytical exposition writing activities, indicating the need for more supportive learning strategies. These findings are consistent with Afnita et al. (2023) and Charlina et al. (2022), who reported that students' motivation to learn exposition texts remained relatively low, partly because of limited and insufficiently interactive learning resources. Collectively, these studies suggest that both instructional support and appropriate learning resources are needed to facilitate students' learning of analytical exposition texts.

Similar conditions were identified through the researcher's preliminary needs analysis conducted in senior high schools in Marpoyan Damai Subdistrict, Pekanbaru. The findings indicated that many students experienced difficulties in generating arguments, organizing ideas coherently, and understanding the language features of analytical exposition texts. The analysis also showed that teachers still relied predominantly on printed textbooks and conventional teaching methods, while students demonstrated greater interest in interactive and technology-based learning resources that could support independent learning. Notably, 86.5% of the students reported that they needed interactive e-modules as learning resources. The students also expressed preferences for learning materials that included attractive visuals, videos, exercises, quizzes, and other digital activities because such features were perceived as helpful for understanding the lesson and increasing learning motivation. These findings indicate that students require not only additional learning materials but also resources that are interactive, multimodal, and responsive to their learning needs.

The needs analysis therefore reveals a gap between the learning expectations of the *Merdeka Curriculum* and the learning resources commonly available in the classroom. While the curriculum encourages students to become active, critical, independent, and digitally literate learners, classroom instruction may still depend heavily on conventional textbooks and less interactive learning media. Previous studies have similarly noted that many schools continue to rely on conventional learning

resources, limiting students' exposure to interactive and multimodal materials (Kusumaningrum et al., 2024; Purwanti et al., 2023; Wardani et al., 2025). Appropriate digital learning media may help address this limitation because multimedia learning can combine text, visuals, and other forms of representation to support students' understanding and engagement (Mayer, 2009). Therefore, an interactive e-module that integrates structured materials, multimedia features, and meaningful learning activities may provide a more supportive learning environment for students learning analytical exposition text.

Although previous studies conducted by Fadilah (2024) and Firiani and Fadhilawati (2022) have examined e-modules, digital learning materials, multimedia resources, and PjBL to support English language learning and writing skills, relatively limited research has integrated these approaches into a single digital learning resource specifically designed for teaching analytical exposition text to Grade XI students within the Indonesian *Merdeka Curriculum*. In particular, the integration of structured analytical exposition materials, PjBL activities, interactive multimodal features, and argumentative writing scaffolding in a validated e-module remains insufficiently explored. Therefore, this study seeks to address this gap by developing an ADDIE-based interactive e-module that integrates PjBL for teaching analytical exposition text to Grade XI students. The developed e-module is evaluated in terms of its validity, feasibility, and practicality as a contextually relevant supplementary learning resource for senior high school English instruction.

The importance of this study lies in its effort to provide a digital learning resource that responds to both curriculum demands and students' actual learning needs. Through the integration of PjBL, the e-module provides structured opportunities for students to explore relevant issues, collect information, develop and organize arguments, revise their work based on feedback, and produce analytical exposition texts. The novelty of the study lies in the instructional architecture of an ADDIE-developed analytical exposition e-module that integrates a genre-based approach, PjBL, multimodal digital activities, and argumentative writing scaffolding specifically for Grade XI Indonesian EFL learners. Rather than presenting these components as separate instructional elements, the e-module integrates them into a structured learning sequence that guides students from understanding the genre and its linguistic features to developing, revising, and producing their own argumentative texts. Furthermore, the evaluation of the e-module in terms of validity, feasibility, and practicality provides evidence of its quality and usability. Thus, this study contributes a contextually relevant and pedagogically structured digital learning resource for teaching analytical exposition text in Indonesian senior high school EFL contexts.

LITERATURE REVIEW

E-module in EFL context

An e-module is not simply a digital transformation of printed learning materials but a learning resource designed to support flexible, interactive, and meaningful learning experiences. In the context of English as a foreign language (EFL) learning, e-modules can facilitate independent learning while encouraging students to participate actively in the learning process. The integration of technology in education has shifted learning practices toward more student-centered approaches, in which learners are expected to access materials independently and interact with various forms of digital content. In particular, multimedia-based instructional materials can support students' engagement, motivation, and comprehension when they are appropriately designed and aligned with learning objectives (Çeken & Taşkın, 2022; Daud et al., 2024; Gilakjani, 2012; Mayer, 2003). Therefore, an e-module can function not only as a digital source of information but also as an interactive learning environment that provides students with opportunities to engage with content through multiple forms of representation.

The quality of an e-module is also determined by the relevance and organization of its content and language. The materials presented should be aligned with curriculum objectives, students' learning needs, and expected competencies, while the language should be clear, communicative, and appropriate to students' proficiency levels. Well-structured materials can help learners follow the learning process systematically and independently. Materials development scholars emphasize that

effective learning materials should not merely provide information but also facilitate meaningful learning experiences that encourage learners' cognitive and emotional engagement (Tomlinson, 2012; Majid, 2021). Furthermore, e-modules that integrate text, visuals, and interactive activities can support students' understanding by presenting information through multiple forms of representation (Daud et al., 2024). Thus, effective e-module development requires attention to both instructional content and language so that digital materials can support meaningful learning rather than simply transfer printed content into a digital format.

Another important characteristic of e-modules is their flexibility and accessibility. Unlike conventional printed modules, e-modules can generally be accessed repeatedly through digital devices, allowing students to review learning materials according to their individual needs and pace. This flexibility provides opportunities for students to manage aspects of their own learning while still receiving instructional guidance through structured digital activities. In technology-enhanced learning environments, such flexibility can contribute to learner autonomy because students can access and revisit learning resources beyond the limitations of classroom time and space (Deng, 2026). Consequently, e-modules have the potential to support personalized and student-centered learning by combining accessible digital content with structured instructional guidance. This characteristic is particularly relevant in EFL contexts, where students may require additional opportunities to review vocabulary, language features, reading materials, and writing activities independently.

Analytical exposition text in Indonesian curriculum

Analytical exposition text is an important genre in senior high school English learning because it provides opportunities for students to develop argumentative and critical literacy skills. Within the Merdeka Curriculum, English learning emphasizes students' ability to understand, interpret, and communicate information through meaningful literacy activities. In this context, analytical exposition text is relevant because it requires students to understand a writer's position, examine supporting arguments, and recognize how ideas are organized to persuade readers (Gerot & Wignell, 1994). The learning of this genre therefore involves more than understanding language forms; it also requires students to process information and interpret relationships among ideas. Such activities are consistent with the literacy-oriented goals of the Indonesian curriculum and can support students' development of critical engagement with texts (Emilia, 2011; Ministry of Education, Culture, Research, 2025).

Writing is equally important in analytical exposition instruction because students need opportunities to express their own positions and construct logical arguments. Through writing activities, students learn to organize ideas, provide supporting reasons or evidence, and use appropriate language features to communicate their viewpoints effectively. The connection between reading and writing is particularly important because students can use information and ideas obtained from reading as a basis for developing their own arguments. Hyland (2004) emphasizes the importance of understanding writing as a socially situated process in which learners construct meaning for particular purposes and audiences. Therefore, integrating reading and writing activities in analytical exposition instruction can provide students with a more comprehensive learning experience, guiding them from understanding how arguments are presented in texts toward producing their own coherent argumentative texts.

The learning of analytical exposition can also provide opportunities for developing higher-order thinking skills (HOTS) and supporting the broader goals of the *Merdeka Curriculum*. In reading activities, students can analyze the organization of arguments and evaluate the ideas or evidence presented by the writer, while in writing activities, they can develop, justify, and refine their own positions. These processes are related to the cognitive levels of analyzing, evaluating, and creating in the revised Bloom's taxonomy (Anderson & Krathwohl, 2001). Furthermore, these activities can be incorporated into PjBL, in which students explore relevant issues, process information, collaborate with others, and produce meaningful written products (Thomas, 2000). Such learning experiences are also relevant to the development of the *Profil Pelajar Pancasila* (Pancasila Student Profile), particularly critical reasoning, independence, and communication. Therefore, analytical exposition text provides

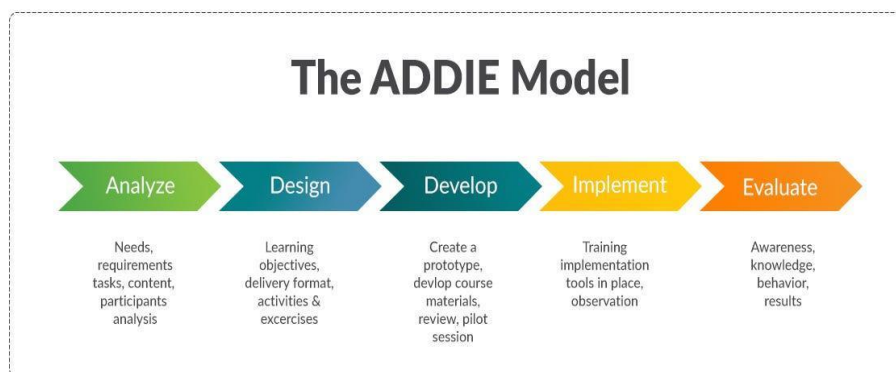
an appropriate context for integrating reading, writing, HOTS, and PjBL within the instructional goals of the *Merdeka Curriculum* (Ministry of Education, Culture, Research, 2025).

METHOD

This study employed a research and development (R&D) design using the ADDIE instructional design model developed by Branch (2009). The ADDIE model consists of five systematic phases, namely analysis, design, development, implementation, and evaluation. This model was selected because it provides a structured framework for developing instructional materials and allows continuous revision throughout the development process.

Figure. 1

ADDIE Process



The research began with the Analysis stage, in which the researcher identified the instructional needs related to the teaching of analytical exposition text. The needs analysis involved five English teachers from several senior high schools in Marpoan Damai, Pekanbaru, and 25 Grade XI students from SMA Al-Fatih Pekanbaru. The five English teachers were selected using purposive sampling based on their experience in teaching English at the senior high school level and their involvement in teaching analytical exposition text. They were included to provide information on instructional practices, students' learning difficulties, available learning resources, and teachers' needs for supplementary digital learning materials across several schools in the target area. Meanwhile, the 25 students were selected from Grade XI at SMA Al-Fatih Pekanbaru because they represented the target users of the developed e-module and had received instruction related to analytical exposition text. The students were selected based on their enrollment in Grade XI and their participation in English learning at the research site. The needs analysis questionnaires consisted of closed-ended and open-ended questions aimed at obtaining information regarding students' learning difficulties, preferred learning media, classroom learning conditions, and expectations regarding digital learning materials. The close-ended questions used a four-point Likert scale (1–4) to obtain measurable data, while the open-ended questions allowed participants to provide additional explanations and suggestions regarding the learning process.

Table 1

Need Analysis Questionnaire

Aspect	Indicators	Respondents
Learning Difficulties	Difficulties in understanding analytical exposition text	Students
Learning Media	Use of learning media in classroom learning	Teachers and Students
Students' Needs	Students' expectations toward learning materials	Students
Classroom Condition	Teaching and learning activities in the classroom	Teachers
Digital Learning	Students' interest in e-module learning	Students

Based on the results of the needs analysis, the researcher designed the framework of the e-module. In this phase, the researcher formulated learning objectives aligned with the Merdeka Curriculum, organized the learning materials, determined the sequence of learning activities, and prepared the storyboard and layout design of the e-module. The design included the cover page, learning instructions, learning materials, exercises, quizzes, and evaluation sections. The assessment components and learning tasks were also designed to support students' understanding of analytical exposition text. After completing the design phase, the researcher developed the e-module using the Canva application. The materials, illustrations, videos, and interactive exercises were integrated into the module based on the predetermined design.

Once the initial version of the e-module had been completed, expert validation was conducted to evaluate the quality and validity of the developed product. The validation involved nine independent experts from three domains: content, pedagogical, and media/design. Each domain was represented by three experts to obtain multiple expert judgments. The content validation involved one university lecturer and two experienced English teachers, all of whom held at least a master's degree and had more than five years of experience in English language teaching. The pedagogical validation involved one university lecturer and two experienced English teachers who held at least a master's degree, had more than five years of teaching experience, and possessed professional teaching certification. The media/design validation involved three experts with master's degrees in visual design or related fields and more than three years of professional experience in graphic or digital design. The experts were purposively selected based on their academic qualifications, professional experience, and expertise relevant to their respective validation domains. They independently assessed several aspects of the e-module, including content appropriateness, instructional quality, language use, presentation, visual appearance, and technical design. The expert validation questionnaire used for the assessment is presented in [Table 2](#).

Table 2

Expert Validation Questionnaire

Validators	Aspects Assessed
Material Experts	Content, language, relevance (Daud et al. 2024; Tomlinson, 2012)
Pedagogical Experts	Learning activities and instructional suitability (Çeken & Taşkın, 2022; Mayer, 2003)
IT & Design Experts	Layout, typography, and navigation (Deno et al. 2026; Mayer, 2003)

Each expert validation assessed the developed e-module using a four-point Likert scale. The validity score was calculated by dividing the total score obtained by the maximum possible score and multiplying the result by 100%. The resulting percentages were interpreted using five categories: 81–100% indicated 'Very Valid', 61–80% indicated 'Valid', 41–60% indicated 'Quite Valid', 21–40% indicated 'Less Valid', and 0–20% indicated 'Invalid'. These scores were used to describe the experts' evaluation of the quality and suitability of the developed e-module rather than to claim comprehensive psychometric validity of the product.

After revising the e-module based on expert validation feedback, the e-module was implemented in a limited classroom setting involving 25 eleventh-grade students. During the implementation, students used the e-module in learning analytical exposition text under the guidance of their English teacher. The researcher only observed real conditions in the classroom while the teacher taught the students. The feasibility and practicality questionnaires were distributed to the teacher and students to evaluate the appropriateness of the developed e-module in terms of content, language, design, learning activities, media function, use, and benefit through the developed e-module during classroom implementation. The aspects and indicators used to assess the feasibility of the e-module are shown in [Table 3](#).

Table 3*Feasibility Questionnaire*

Aspects	Indicators
Content	The suitability of the material with learning objectives and curriculum
Language	The clarity and readability of the language used
Design	The attractiveness and organization of the e-module layout
Learning Activities	The suitability of exercises and activities provided
Media Function	The functionality and usefulness of the e-module for learning

Furthermore, the aspects and indicators used to assess the practicality of the e-module are shown in [Table 4](#).

Table 4*Practicality Questionnaire*

Aspects	Indicators
Ease of Use	Easy to access and operate
Material Presentation	Clear explanations and instructions
Design	Attractive appearance
Learning Benefits	Helping students understand the material

The questionnaires used a four-point Likert scale ranging from 1 to 4. Feasibility and practicality were treated as distinct constructs based on their different purposes in product evaluation. Feasibility referred to the extent to which the developed e-module was considered appropriate and suitable as a supplementary learning resource. Its indicators addressed the suitability of the content, organization, and presentation of materials, learning activities, and alignment with the intended learning objectives. In contrast, practicality referred to the ease and convenience of using the e-module in the learning process. Its indicators addressed ease of access and navigation, clarity of instructions, ease of completing learning activities, and users' perceived convenience in using the e-module.

The feasibility and practicality scores were calculated by dividing the total obtained score by the maximum possible score and multiplying the result by 100%. The resulting percentages were interpreted using five categories: 81–100% indicated 'Very Feasible/Practical', 61–80% indicated 'Feasible/Practical', 41–60% indicated 'Quite Feasible/Practical', 21–40% indicated 'Less Feasible/Practical', and 0–20% indicated 'Unfeasible/Impractical'. For validity, the same percentage ranges were interpreted as 'Very Valid', 'Valid', 'Quite Valid', 'Less Valid', and 'Invalid', respectively.

The evaluation phase was conducted throughout the research process to assess and refine the quality of the developed e-module. The researcher analyzed expert validation results to determine the validity of the product and examined teacher and student responses to assess its feasibility and practicality. Thus, feasibility focused on the suitability of the e-module as a learning resource, whereas practicality focused on the ease and convenience of using the e-module during the learning process. The resulting percentage was then interpreted based on the criteria adapted from Riduwan (2015), as presented in [Table 5](#).

Table 5*Criteria for Interpreting Validity, Feasibility, Practicality*

Percentage	Interpretation
81-100%	Very Valid/Feasible/Practical
61-80%	Valid/Feasible/Practical
41-60%	Quite Valid/Feasible/Practical
21-40%	Less Valid/Feasible/Practical
0-20%	Invalid/Unfeasible/Impractical

ADDIE development procedure

The development of the e-module followed five stages of the ADDIE model: analysis, design, development, implementation, and evaluation. Each stage was conducted systematically to ensure that the developed product was aligned with the identified learning needs and the instructional objectives.

Analysis

The analysis stage was conducted to identify the instructional needs related to teaching analytical exposition text. Needs analysis questionnaires were distributed to five English teachers from several senior high schools in Marpoyan Damai, Pekanbaru, and 25 Grade XI students at SMA Al-Fatih Pekanbaru. The questionnaires collected information about students' learning difficulties, existing learning resources, preferred learning media, classroom learning conditions, and expectations regarding digital learning materials. The results of this stage were used as the basis for determining the content, features, and instructional activities of the e-module.

Design

Based on the needs analysis findings, the researcher designed the framework of the e-module. This stage involved formulating learning objectives aligned with the *Merdeka Curriculum*, selecting and organizing the learning materials, determining the sequence of learning activities, and preparing the storyboard and layout. The design incorporated analytical exposition text materials, learning instructions, examples, exercises, quizzes, evaluation activities, and interactive digital elements. The instructional activities were organized by integrating the genre-based approach and PjBL to provide students with structured opportunities to understand the genre, analyze arguments, develop ideas, and produce argumentative texts.

Development

In the development stage, the planned framework and storyboard were transformed into the initial version of the e-module. The content, activities, visual elements, and interactive features were developed and integrated into the digital learning product. Once the initial version was completed, the e-module was reviewed and evaluated by nine experts consisting of content, pedagogical, and media/design experts. Their feedback and validity scores were used to identify aspects requiring revision before the product was implemented with the target users.

Implementation

The implementation stage involved a limited classroom try-out of the revised e-module at SMA Al-Fatih Pekanbaru. The implementation involved one English teacher and 25 Grade XI students in one class. The e-module was implemented in eight English learning meetings. During the implementation, the teacher facilitated the learning activities while the students accessed and worked with the e-module through the provided digital link. The activities included reading and analyzing analytical exposition texts, identifying generic structures and language features, discussing issues and arguments, completing interactive exercises and quizzes, developing ideas, and producing argumentative text through the PjBL activities. The implementation was conducted to observe the use of the e-module in an authentic classroom setting and to obtain teacher and student responses regarding its feasibility and practicality.

Evaluation

The evaluation stage was conducted throughout the development process and after the limited classroom implementation. During the development process, expert feedback was used to identify and revise weaknesses in the content, instructional design, language, presentation, visual appearance, and technical aspects of the e-module. Following implementation, the participating teacher and 25 students completed response questionnaires to evaluate the feasibility and practicality of the developed product. The resulting validity, feasibility, and practicality scores, together with qualitative comments and suggestions, were analyzed to determine the strengths and aspects requiring further improvement.

The evaluation stage therefore served both formative and final product-evaluation purposes within the ADDIE process.

FINDINGS

Analysis stage

Table 6

Need Analysis Results from Students

No	Statement	Mean Score	Percentage	Category
1	The importance of learning Analytical Exposition Text	3.50	87.50%	Very High
2	Difficulty in understanding Analytical Exposition Text	2.35	58.75%	Moderate
3	The need for digital learning resources/e-module	3.45	86.25%	Very High
4	The need for an interactive e-module	3.45	86.25%	Very High
5	The need for a colourful e-module	3.50	87.50%	Very High
6	The need for an e-module that increases learning motivation	3.55	88.75%	Very High
7	Interest in learning through mobile phone or laptop	3.55	88.75%	Very High

The results of the needs analysis indicate that students had a very high level of need for the development of a digital and interactive e-module for learning analytical exposition text. Most questionnaire items obtained percentages above 80%, which were categorized as very high. The highest percentages were found in students' interest in learning through mobile phones or laptops (88.75%) and the need for an e-module that increases learning motivation (88.75%). These findings suggest that students expect more engaging, accessible, and technology-based learning materials to support their learning process. Meanwhile, students also admitted that they still experienced difficulties in understanding analytical exposition text material (58.75%). In the open-ended responses, students mentioned several difficulties, such as generating ideas, arranging the text structure, using grammar, and choosing appropriate vocabulary. Therefore, students expected an interactive, colourful, and technology-based e-module to support their learning process. This finding is consistent with the theory of multimedia learning, which posits that well-designed digital materials can facilitate deeper understanding and increase learner engagement (Mayer, 2009).

Table 7

Need Analysis Results from Teachers

No	Statement	Mean Score	Percentage	Category
1	The importance of teaching analytical exposition text	3.63	90.63%	Very High
2	Students' understanding of analytical exposition text	2.75	68.75%	High
3	Students' difficulties in learning analytical exposition text	2.50	62.50%	High
4	The need for digital learning resources/e-module	3.38	84.38%	Very
5	Teachers' experience in using e-modules	2.00	50.00%	Moderate
6	The suitability of technology-based learning	3.00	75.00%	High
8	Students' learning motivation	3.00	75.00%	High

From the teachers' side, the results showed that they strongly agreed that analytical exposition text is an important material to be taught at school, with a percentage of 90.63%. Teachers also indicated a very high need for digital learning resources or e-modules (84.38%). Furthermore, teachers stated that students still faced difficulties in understanding the material, especially in vocabulary mastery, grammar usage, organizing ideas, and understanding text structure. Teachers also explained that existing learning resources were still limited and less interactive. Most teachers expected the e-module to include interactive features such as videos, animations, quizzes, examples of texts, vocabulary lists, grammar explanations, and writing exercises to support students' learning motivation and understanding. Curriculum analysis was conducted to ensure that the developed e-module was aligned with the curriculum implemented at the research site. The analysis focused on identifying the

learning outcomes, learning objectives, and content requirements related to analytical exposition text for Grade XI students.

Table 8

Curriculum Analysis

Learning Outcomes	Learning Objectives	E-Module Components
Students are able to comprehend and interpret information presented in analytical exposition texts.	Students identify the social function of analytical exposition texts.	Learning materials, examples, and comprehension exercises.
Students are able to analyze the structure and language features of texts.	Students identify thesis, arguments, and reiteration sections.	Interactive materials and text analysis activities.
Students are able to evaluate ideas and arguments presented in texts.	Students analyze the effectiveness of arguments in analytical exposition texts.	Discussion activities, critical-thinking tasks, and quizzes.
Students are able to respond critically to issues presented in texts.	Students express opinions based on information obtained from texts.	Reflection activities and guided exercises.

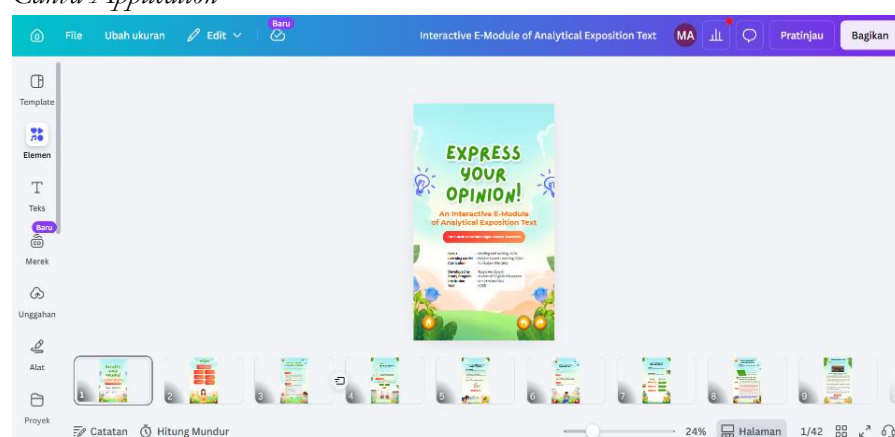
The results of the curriculum analysis were used as the basis for determining the content, learning objectives, learning activities, and assessments included in the e-module. Therefore, the developed e-module was designed to support the achievement of curriculum objectives while providing interactive and technology-based learning experiences for students.

Design Stage

The e-module was designed using the Canva application. This platform was selected due to its user-friendly interface, flexibility, and ability to integrate various multimedia elements such as images, icons, and layouts. The e-module was entitled *Express Your Opinion! An Interactive E-Module of Analytical Exposition Text*. The module consists of 42 pages with a cover page, navigation pages, six learning units, project activities, assessments, and reflection sections.

Figure 2

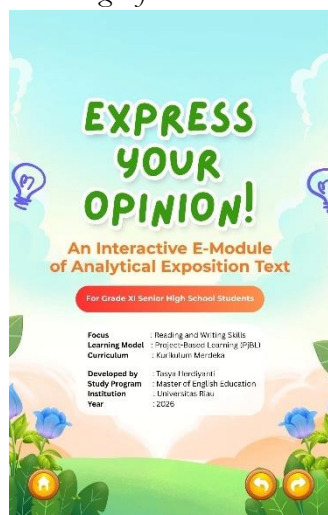
Canva Application



The organization of the six units was guided by the principles and stages of PjBL. Rather than presenting learning materials in isolation, each unit was designed to gradually support students in completing a final writing project. The project required students to produce an analytical exposition text based on a real-life issue relevant to their experiences. Therefore, the learning activities in each unit were sequenced to reflect the progression of the PjBL process, starting from exploring issues and building background knowledge, continuing with planning and drafting, and ending with revising, presenting, and evaluating the final product. The cover page was designed to attract students' attention and provide general information about the e-module. It contains the title of the module, target

learners, learning focus, curriculum, and learning model used in the development. The cover employs a colorful and modern design in order to create a positive first impression and increase students' motivation to learn.

Figure 3
Cover Page of the E-Module



After the cover page, an instruction page was provided to guide users in utilizing the e-module effectively. This page contains directions for both students and teachers regarding how to access the learning materials, complete interactive activities, and accomplish the final project. In addition, a menu page was included to allow users to navigate easily through clickable buttons among the six units.

Figure 4
Main Menu



The learning materials were organized into six units that follow the stages of PjBL. Each unit contains learning objectives, materials, activities, and assessments designed to gradually prepare students to produce an analytical exposition text as their final project. First, Unit 1 entitled “*What Do You Think? Sharing Opinions that Matter*” serves as the introductory unit. Students are encouraged to express their opinions on several real-life issues through a polling activity. This unit introduces the concept of analytical exposition text, its purpose, generic structure, and examples of analytical exposition texts. Students also analyze model texts and complete reflection activities to build their initial understanding of the genre. In the PjBL stage, starting with an essential question. Students are introduced to authentic issues and invited to express their opinions through polling activities and

discussions. Through these activities, students begin exploring ideas that may later become the basis of their writing project.

Figure 5
Sample Pages from Unit 1



Next, Unit 2, with the title “*How Do Arguments Sound Convincing?*”, focuses on the language features commonly found in analytical exposition texts. The materials include simple present tense, internal conjunctions, modality, and evaluative language. In the PjBL stage, the students will focus on building their background knowledge and preparing them with the language resources needed for the project. Various interactive exercises such as matching activities, highlighting tasks, drag-and-drop exercises, and reading analyses were designed to help students recognize and apply these language features in context.

Figure 6
Sample Pages from Unit 2



Additionally, some of the interactive exercises are given a hyperlink to some external websites such as *Wordwall*, *Wayground*, *Educa*, and *Polling*. The researcher added a hyperlink to the clickable button. When users click the button, they will automatically be moved to the interactive activities. For example, in Figure 4, when the users click the button ‘Start’, they will automatically be directed to the link that has been entered.

Furthermore, Unit 3, entitled “*Do the Arguments Make Sense?*”, represents the exploration phase of PjBL. This unit emphasizes critical reading skills. Students learn to identify the writer’s position, evaluate the quality of arguments, distinguish between strong and weak arguments, and critically analyze model analytical exposition texts. Reflection activities are also provided to help students connect reading skills with future writing tasks. These activities provide examples and inspiration that students can later apply in their own projects.

Figure 7
Sample Pages from Unit 3



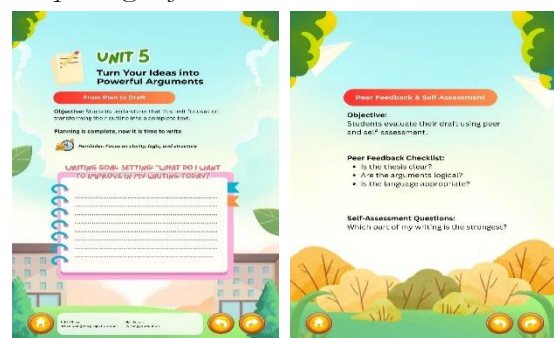
Moreover, Unit 4, entitled “*Ready to Speak Your Mind?*”, it marks the transition from reading to writing which also corresponds to the planning phase of PjBL. In this unit, students select a debatable topic, formulate a thesis statement, plan supporting arguments, and create an outline for their analytical exposition text. The activities are designed to help students organize their ideas systematically before beginning the drafting process.

Figure 8
Sample Pages from Unit 4



Then, Unit 5, “*Turn Your Ideas into Powerful Arguments*”, focuses on the drafting stage, which also represents the project development phase in PjBL. Students develop a complete analytical exposition text by writing the thesis paragraph, argument paragraphs, and reiteration paragraph. The unit also includes peer-feedback and self-assessment activities to help students evaluate and improve their writing.

Figure 9
Sample Pages of Unit 5



Lastly, Unit 6, with the title “*Make It Better, Share It Proudly*”, reflects the final stages of PjBL, including revising, presenting, and evaluating the project. Students review their drafts, improve content organization, edit language accuracy, and present their final analytical exposition texts. The unit concludes with self-reflection and learning evaluation activities that allow students to assess their learning experiences throughout the project.

Figure 10
Sample Pages of Unit 6



The e-module was then published through an online link, allowing students and teachers to access the learning materials anytime and anywhere using various digital devices, such as smartphones, tablets, and computers. The online format also enabled the e-module to be shared easily and accessed simultaneously by multiple users, supporting both classroom learning and independent study.

Development stage

The development phase involved transforming the designed e-module into a complete instructional product and conducting expert validation to ensure its quality and appropriateness. This phase is essential to ensure that the developed material meets content, technical, and pedagogical standards (Branch, 2009). The developed e-module can be accessed through smartphones, laptops, or desktop computers using an internet connection. Students and teachers can access the e-module through a shared link generated from Canva and published online. The e-module was designed to support independent and classroom-based learning.

Validity

The e-module, which was designed using the Canva application, was validated by experts including content experts, pedagogical experts, and IT & design experts. Each expert assessed the e-module based on specific indicators to determine its validity. The scores were calculated based on a 4-point Likert scale, where the mean score was converted into a percentage to determine the level of validity.

Table 9
Content Validity Result

Code	Indicator	Mean Score	Percentage	Interpretation
C1	Accuracy and conceptual correctness	4.00	100%	Very Valid
C2	Alignment with learning outcomes (CP/ATP)	3.67	91.7%	Very Valid
C3	Grounding in English learning theories	4.00	100%	Very Valid
C4	Linguistic accuracy and student suitability	3.33	83.3%	Very Valid
C5	Cognitive depth and material breadth	3.33	83.3%	Very Valid
C6	Logical sequencing and organization	4.00	100%	Very Valid
C7	Contextual relevance to real-life	3.67	91.7%	Very Valid
C8	Integration of language skills	3.67	91.7%	Very Valid
C9	Exercises supporting learning objectives	4.00	100%	Very Valid
C10	Current relevance and meaningfulness	3.67	91.7%	Very Valid
Avg	Content Validity	3.73	93.3%	Very Valid

The content validation achieved a high score of 93.3%, placing it in the Very Valid category. Indicators C1, C3, C6, and C9 received perfect scores, suggesting that the e-module is structurally sound and theoretically strong. Expert feedback particularly appreciated the logical flow of the chapters. However, the score of 83.3% for language suitability (C4) suggests that the reading level may still be challenging for some students. To address this, the researcher added a "vocabulary bank" as suggested by validators to support comprehension. The pedagogical assessment focused on the instructional design and the ability of the module to facilitate active learning.

Table 10*Pedagogical Validity Result*

Code	Indicator	Mean Score	Percentage	Interpretation
P1	Clarity of learning objectives	4.00	100%	Very Valid
P2	Alignment of material with objectives	4.00	100%	Very Valid
P3	Meaningful and engaging activities	3.67	91.7%	Very Valid
P4	Promotion of active participation	3.67	91.7%	Very Valid
P5	Support for independent learning	3.33	83.3%	Very Valid
P6	Appropriate level of difficulty	3.33	83.3%	Very Valid
P7	Clarity of instructional directions	4.00	100%	Very Valid
P8	Promotion of critical thinking	3.67	91.7%	Very Valid
P9	Quality of learning feedback	3.67	91.7%	Very Valid
P10	Effectiveness of teaching approach	3.33	83.3%	Very Valid
Avg	Pedagogical Validity	3.67	91.7%	Very Valid

With an average percentage of 91.7%, the pedagogical framework is considered highly effective. The highest scores were observed in the clarity of objectives (P1) and instructions (P7), which are vital for self-directed learning in an e-module. Validators noted that the use of group divisions for affirmative/contradictory sides in the activities successfully stimulated critical thinking skills. The valid scores in P5 and P6 suggest that while the module supports independence, it requires careful monitoring by the teacher to ensure students are not overwhelmed by the task difficulty.

Table 11*IT & Design Validity Result*

Code	Indicator	Mean Score	Percentage	Interpretation
D1	Visual clarity and interface attractiveness	3.33	83.3%	Very Valid
D2	Consistency of layout and structure	3.33	83.3%	Very Valid
D3	Readability of typography/fonts	3.33	83.3%	Very Valid
D4	Color use and visual comfort	3.33	83.3%	Very Valid
D5	Clarity of navigation flow	3.00	75.0%	Valid
D6	Functionality of buttons and menus	2.67	66.7%	Valid
D7	Effectiveness of multimedia elements	3.33	83.3%	Very Valid
D8	Cross-device accessibility	3.00	75.0%	Valid
D9	System performance/responsiveness	2.67	66.7%	Valid
D10	Design-driven engagement	3.00	75.0%	Valid
Avg	IT & Design Validity	3.10	77.5%	Valid

The design aspect achieved a score of 77.5%, categorizing it as Valid. While the visual aesthetics and readability were praised, technical functionality (D6) and system performance (D9) were the weakest points (66.7%). Validators specifically identified bugs in the navigation buttons when accessed via smartphones and tablets. Furthermore, one expert mentioned that the initial design felt slightly too "juvenile" for senior high school students. Consequently, the researcher undertook a technical revision to repair links and modernize the visual themes before the trial phase. The final validity of the e-module is a synthesis of all three fields. The results can be seen in [Table 12](#).

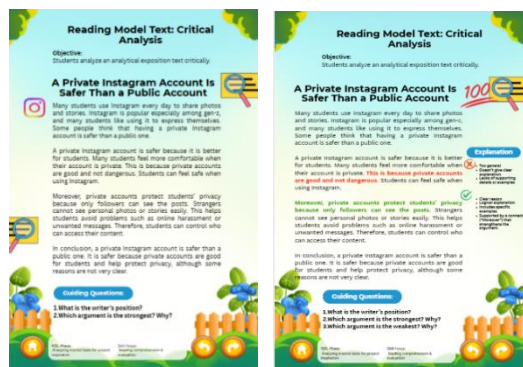
Table 12
Expert Validity Result

Validation Fields	Average Score	Percentage	Interpretation	Validation Domain	Average Score
Material/Content	3.73	93.3%	Very Valid	Material/Content	3.73
Pedagogy	3.67	91.7%	Very Valid	Pedagogy	3.67
IT & Design	3.10	77.5%	Valid	IT & Design	3.10
Combined Average	3.50	87.5%	Very Valid	Combined Average	3.50

The results from the experts' validation phase indicate that the e-module reached a validity level of 87.5%, which is categorized as "Very Valid." This confirms that the media is fit for use as an instructional tool for Grade XI English lessons. Nevertheless, qualitative feedback from the experts served as the basis for several revision actions, including:

1. Add explanations to enhance clarity and depth of content

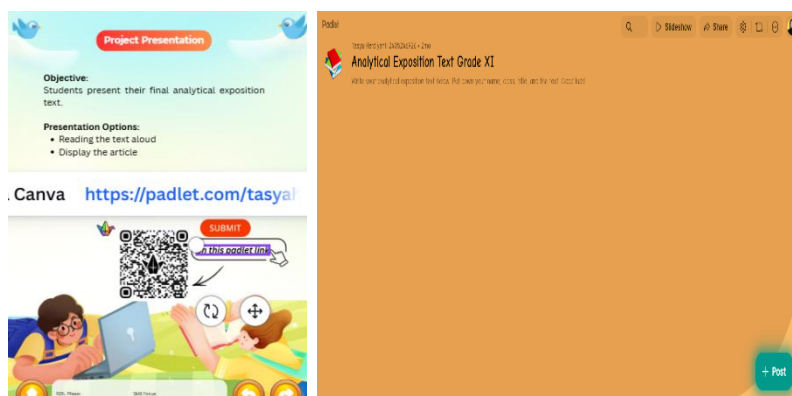
Figure 11
E-Module Revision 1



The researcher added explanations after the exercises page to ensure the clarity of students' comprehension regarding the analytical exposition text.

2. Improving navigation and layout consistency

Figure 12
E-Module Revision 2



The researcher continued to make sure all the navigation and hyperlinks work correctly.

3. Adding more contextual examples and exercises

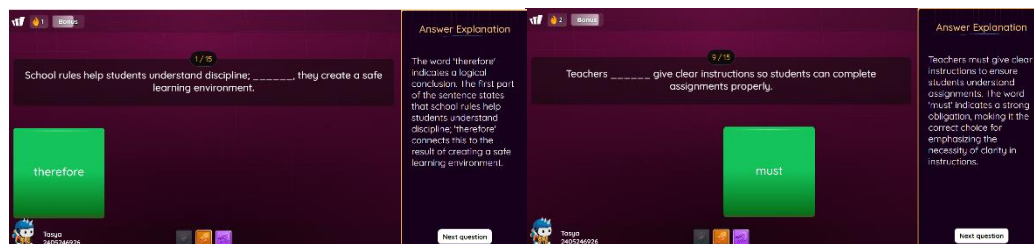
Figure 13
E-Module Revision 3



The researcher added more text samples and exercises with current issues about *Makan Bergizi Gratis* (Free Meal Program) in Indonesia to ensure students' understanding of the analytical exposition text of the students.

4. Adjusting the level of difficulty to better match students' abilities

Figure 14
E-Module Revision 4



The researcher adjusted the level of questions to improve students' abilities in order to understand the language features of analytical exposition texts better.

5. Adding vocabulary banks to increase students' vocabulary knowledge

Figure 15
E-Module Revision 5



The researcher added vocabulary banks to increase students' vocabulary knowledge, in order to help them build their own text. These revisions were conducted to ensure that the e-module is more effective, user-friendly, and aligned with students' learning needs.

Implementation stage

The implementation phase involved conducting a try-out of the developed e-module in a real classroom setting to evaluate its practicality and usability. This phase aimed to examine how the e-

module functions when used by students and teachers in the actual learning process (Branch, 2009). The implementation involved 25 Grade XI students of SMA Al-Fatih during the academic year 2025/2026. Prior to the implementation, students were informed about the objectives of the learning activities and were provided with access to the e-module through a digital link for online access or a PDF file for offline access. The e-module could be accessed using smartphones, laptops, or desktop computers with an internet connection via the digital link.

Throughout the implementation process, the teacher acted primarily as a facilitator rather than as the main source of information. During the implementation, students showed positive engagement while using the e-module. They actively participated in completing the exercises and demonstrated interest in the learning materials. The interactive design and structured content helped students follow the lesson more easily. However, several minor challenges were observed, such as some students requiring initial guidance in navigating the e-module and limited internet access affecting a few students. Despite these challenges, the overall learning process ran effectively.

Evaluation stage

Feasibility

Feasibility was evaluated based on students' and teachers' responses after the implementation. The questionnaire focused on aspects such as suitability, usability, clarity, and applicability of the e-module in the learning process. To examine the feasibility of the developed e-module based on the teacher's evaluation, the results are shown in Table 13.

Table 13

Teacher's Evaluation of E-Module Feasibility

Aspect	Mean Score	Percentage	Category
Content Feasibility	3.80	95.00%	Very Feasible
Language Feasibility	3.50	87.50%	Very Feasible
Presentation Feasibility	3.25	81.25%	Very Feasible
Graphic and Media Feasibility	3.33	83.25%	Very Feasible
Overall	3.53	88.33%	Very Feasible

The result obtained a mean score of 3.53 out of 4, which was equivalent to 88.33%. Based on the predetermined criteria, the e-module was categorized as Very Feasible. The teacher strongly agreed that the materials were relevant to the learning objectives, aligned with the *Kurikulum Merdeka*, and suitable for Grade XI students. In addition, the activities were viewed as supportive of students' reading and writing development. The visual appearance and accessibility of the e-module were also positively perceived because the module could be accessed through both laptops and mobile devices. Furthermore, to examine the feasibility of the developed e-module based on the students' responses, the results are shown in Table 14.

Table 14

Students' Evaluation of E-Module Feasibility

Aspect	Mean Score	Percentage	Category
Content Feasibility	3.23	80.75%	Feasible
Language Feasibility	3.15	78.75%	Feasible
Presentation Feasibility	3.39	84.75%	Very Feasible
Graphic and Media Feasibility	3.44	86.00%	Very Feasible
Overall	3.29	82.22%	Very Feasible

The feasibility questionnaire distributed to the students also demonstrated positive results. The students' responses produced an overall mean score of 3.29, equivalent to 82.22%, indicating that the e-module was categorized as "Very Feasible." The positive responses suggest that the students perceived the e-module as suitable for supporting their learning. In particular, the students responded positively to the visual presentation, including the attractive layout, colors, and overall appearance of

the e-module. The interactive activities, such as exercises and quizzes, were also perceived as interesting and engaging because they encouraged students to participate actively in the learning process.

In terms of practicality, most students considered the e-module relatively easy to access and use through their personal devices. The online format allowed students to access the learning materials without being limited to printed resources. However, connectivity remained a practical challenge for some students, particularly when accessing online content and interactive features. This finding indicates that, although the e-module was generally easy and convenient to use, the effectiveness of its practical use may still depend on the availability and stability of internet access.

Practicality

The practicality evaluation aimed to examine how easy, useful, and effective the developed e-module was when implemented in the teaching and learning process. To examine the practicality of the developed e-module based on the teacher's evaluation, the results are shown in [Table 15](#).

Table 15

Teacher's Evaluation of E-Module Practicality

Aspect	Mean Score	Percentage	Category
Ease of Use	3.50	87.50%	Very Practical
Time and Classroom Use	4.00	100%	Very Practical
Usefulness for Teaching and Learning	3.00	75.00%	Practical
Motivation and Engagement	3.50	87.50%	Very Practical
Overall	3.50	87.50%	Very Practical

The teacher's practicality assessment showed that the e-module obtained an overall mean score of 3.50 or 87.50%. This result indicated that the developed e-module belonged to the Very Practical category. The teacher stated that the e-module was easy to use and suitable for classroom instruction. The activities could be completed within the allocated class time, and the module was considered flexible because it could be accessed anywhere. The teacher also highlighted that the design and topic selection were attractive and relevant to students' interests. In terms of classroom implementation, the teacher believed that the e-module encouraged students' participation and increased their motivation to learn analytical exposition text. However, the teacher also mentioned that the implementation depended on a stable internet connection, which could become a challenge under certain conditions such as bad weather or power outages. Furthermore, to examine the practicality of the developed e-module based on the students' evaluation, the results are presented in [Table 16](#).

Table 16

Students' Evaluation of E-Module Practicality

Aspect	Mean Score	Percentage	Category
Ease of Use	3.52	88.00%	Very Practical
Learning Experience	3.43	85.75%	Very Practical
Motivation	3.31	82.75%	Very Practical
Overall	3.40	85.11%	Very Practical

The students' responses toward the practicality of the e-module also demonstrated highly positive results. The overall mean score reached 3.40, which was equal to 85.11%. Thus, the developed e-module was categorized as Very Practical. Furthermore, the students generally perceived the e-module as easy to operate and enjoyable to use. Many students mentioned that the pictures, colors, and layouts made the learning process more interesting and less monotonous. The interactive activities also helped students understand the lesson more quickly and effectively.

DISCUSSION

The favorable validation results may be attributed to the systematic development procedure adopted in this study. As the e-module was developed using the ADDIE model, its design was grounded from the outset in students' needs, curriculum requirements, and expert recommendations rather than incorporated retrospectively. This finding is consistent with previous studies that similarly employed the ADDIE model and emphasized the significance of a structured development process in producing quality learning materials (Padmadewi et al., 2023; Purwanti et al., 2023; Syahrinaita & Kalsum, 2025; Talitha et al., 2025). More recent evidence further supports this pattern. Daud et al. (2024), for instance, applied the ADDIE model to develop a multimodal interactive e-module and reported very high validation scores from both material and media experts. Likewise, Islami et al. (2022) developed a multimodal interactive e-module for senior high school English learning through the ADDIE framework and found the resulting product valid and feasible for classroom implementation. These findings suggest that the systematic sequencing of analysis, design, development, implementation, and evaluation can help ensure that digital learning materials are aligned with learners' needs and instructional objectives rather than being developed primarily from technological considerations.

The present findings further corroborate previous research on e-module development. Daud et al. (2024), for example, found that multimodal e-modules achieved high validity scores because they integrated curriculum objectives, multimedia elements, and learner-centered instructional activities, rather than treating these components separately. Similarly, Arosyad et al. (2021) and Nurhikmah et al. (2021) reported that digital English learning materials received positive expert evaluations when pedagogical relevance and interactivity were combined. More recently, Daud et al. (2024) demonstrated that an interactive e-module containing written texts, images, animated videos, and interactive quizzes obtained very high ratings from both material and media experts.

The module also received favorable student evaluations regarding language clarity and ease of use. This evidence reinforces the argument that multimodality is pedagogically valuable when different modes are integrated purposefully into the learning process. Mayer's (2009) cognitive theory of multimedia learning provides a theoretical basis for understanding this pattern, as it posits that learning materials are more effective when verbal and visual channels function in a complementary rather than redundant manner. Viewed from this perspective, the high validity of the multimodal e-modules reported in the studies above may be attributed not merely to the inclusion of additional media, but to the meaningful integration of media with instructional content, a principle similarly reflected in the present study's combination of explanations, model texts, and interactive exercises.

This interpretation is also supported by recent research on digital English learning materials at the secondary-school level. Islami et al. (2022) reported that an interactive e-module incorporating written texts, images, animations, videos, and games was considered valid for use in senior high school English learning. The finding is particularly relevant to the present study because it demonstrates that multimodal digital materials can be adapted not only for university-level language courses but also for secondary EFL contexts. Thus, the favorable validation obtained in the present study may be understood as part of a broader shift toward digital learning resources that combine textual explanations with interactive and visual elements to facilitate learner engagement and accessibility.

Nevertheless, the present study extends previous research by focusing specifically on analytical exposition text, a genre that demands more complex cognitive processes than many others typically taught at the secondary level. Indonesian EFL learners frequently experience difficulty in generating ideas, organizing arguments, and defending positions, largely due to limited exposure to argumentative discourse (Emilia, 2011). Recent research continues to demonstrate the complexity of analytical exposition for Indonesian EFL learners. For example, Amalia and Emilia (2025) identified distinctive linguistic characteristics in analytical exposition texts written by Indonesian EFL learners, highlighting the complexity of the genre and the importance of understanding how linguistic resources are used to construct arguments. Similarly, Mustofa and Gustine (2025) found that analytical exposition texts in Indonesian EFL textbooks contain frequent ideational metaphors and emphasized the pedagogical importance of explicitly teaching such linguistic features through a genre-based approach.

Accordingly, the incorporation of structured argumentation activities within the e-module may have substantially contributed to its pedagogical strength, as reflected in the validation results.

The relevance of a genre-oriented design is further supported by empirical research on analytical exposition writing. [Yuliani and Lengkanawati \(2017\)](#) reported that the implementation of a genre-based approach generated positive student perceptions and supported students' analytical exposition writing. More recently, [Hitimala et al. \(2024\)](#) found that the genre-based approach could enhance students' motivation and ability to write analytical exposition texts, suggesting that explicit attention to genre structure can provide meaningful support for learners who struggle with organizing their ideas. In addition, [Zebua and Rozimela \(2020\)](#) demonstrated that genre-based approach instruction could assist students in producing analytical exposition texts according to their appropriate generic structures, although its implementation requires careful attention to the sequential stages of genre pedagogy. These findings strengthen the rationale for embedding genre-based instruction directly into the e-module rather than presenting analytical exposition merely as a reading topic.

These findings suggest that the developed e-module has the potential to contribute meaningfully to the teaching and learning of analytical exposition text by offering structured, interactive learning materials that support students' comprehension of argumentative texts. In contrast to conventional learning resources, which tend to emphasize reading comprehension alone, the e-module integrates explanations, model texts, interactive exercises, self-assessment activities, and writing tasks within a single platform. This integration was evaluated by experts as supporting a more comprehensive coverage of analytical exposition, encompassing its social function, generic structure, and language features. Such a design is consistent with the genre-based approach, which underscores the importance of explicit instruction and scaffolding in helping learners understand how texts are organized and used for communicative purposes ([Hyland, 2007](#); [Martin & Rose, 2008](#); [Derewianka & Jones, 2016](#)).

The relevance of scaffolding is particularly important in the context of analytical exposition writing. [Nurlatifah and Yusuf \(2022\)](#), in an Indonesian EFL classroom context, reported that students experienced difficulties not only with the linguistic and structural aspects of analytical exposition but also with psychological barriers and negative perceptions toward writing. Her study emphasized scaffolding as a strategy for addressing these difficulties. The sequential structure embedded within the present e-module, progressing from explanation to model text, guided practice, and finally independent writing, therefore further reflects [Vygotsky's \(1978\)](#) sociocultural theory of learning, particularly the concept of scaffolding within the zone of proximal development. As instructional support is gradually reduced while learners advance toward greater independence, the e-module embodies the principle of gradual release of responsibility central to scaffolding theory. This design feature may account for the favorable ratings assigned by validators to the instructional quality of the module, given that it does not merely present content but is structured to guide learners through progressively demanding stages of the task.

Beyond the immediate design rationale, the validity and practicality results carry several implications for practice. For teachers, the e-module offers a ready-made instructional scaffold for a genre widely regarded as difficult to teach, potentially reducing the burden of developing argumentation materials independently while modeling how genre-based scaffolding may be adapted for digital instruction. This is particularly relevant because previous research has shown that implementing genre-based approach instruction for analytical exposition requires teachers to manage several sequential pedagogical stages effectively ([Zebua & Rozimela, 2020](#)). Consequently, a digital module that embeds these stages within its instructional sequence may provide teachers with a more structured resource for classroom implementation.

With regard to curriculum implementation, given that the *Merdeka Curriculum* emphasizes differentiated and student-centered learning, a module validated as feasible and practical for classroom use provides a concrete example of how such policy objectives may be translated into practice, with potential relevance extending beyond analytical exposition to other argumentative or genre-based texts. The recent development of interactive multimodal e-modules for senior high school English learning also demonstrates the growing relevance of digital resources that allow learning activities to

be presented through multiple modes and accessed in more flexible ways (Islami et al., 2022). For students, the self-paced and interactive nature of the material, judged practical by validators and practitioners, may further support learner autonomy in engaging with argumentation tasks, an affordance rarely available through conventional printed materials.

At the same time, these findings should be interpreted within their appropriate scope. The validation results indicate that the e-module satisfies expert standards of content, pedagogical, and media quality, and the practicality results indicate that the module is feasible and manageable for use in the classroom context. Together, these results are consistent with the distinction drawn by Nieveen (1999) between validity, practicality, and effectiveness as separate dimensions of educational product evaluation. The present article addresses the first two of these dimensions, namely validity and practicality; the effectiveness of the e-module in improving students' argumentative writing performance was beyond the scope of this article and is discussed separately in the broader thesis from which this study is drawn. This distinction is important because high expert validation and positive practicality responses should not automatically be interpreted as evidence of learning effectiveness. Recent e-module research has likewise distinguished feasibility or validity evidence from subsequent evidence of learning outcomes, with effectiveness requiring separate empirical testing among learners (e.g., studies employing pre-test and post-test designs). Therefore, future research should investigate whether the favorable validity and practicality demonstrated in the present study translate into measurable improvements in students' analytical exposition writing performance, argument quality, and independent learning.

CONCLUSION

This study aimed to develop an ADDIE-based e-module for teaching analytical exposition text to Grade XI senior high school students. The findings demonstrated that the developed e-module met the three evaluation criteria examined in this study, with an overall expert validation score of 87.50%, teacher feasibility of 88.33%, student feasibility of 82.22%, teacher practicality of 87.50%, and student practicality of 85.11%, indicating that the product was very valid, feasible, and practical. These findings suggest that the e-module can serve as a structured supplementary learning resource by integrating multimodal materials, model texts, interactive activities, self-assessment, and scaffolded writing tasks to support students' engagement and independent learning while assisting teachers in implementing more interactive and student-centered instruction. Thus, the study contributes a contextually relevant digital resource for analytical exposition learning within the Merdeka Curriculum. Future research may examine its effectiveness through longer-term implementation and investigate its potential contribution to students' writing performance, critical thinking, learner autonomy, and digital literacy.

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CONFLICT OF INTEREST STATEMENT:

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About the authors

Tasya Herdiyanti is a postgraduate student in the Master's Program in English Education at Universitas Riau (UNRI), Indonesia. Her academic and research interests include English language teaching, instructional material development, educational technology, and digital learning in English as a Foreign Language (EFL) contexts. Her research focuses particularly on the development and evaluation of technology-enhanced learning materials, including e-modules, to support meaningful and student-centered English language learning. ORCID: <https://orcid.org/0009-0009-2549-2682>, email: tasya.herdiyanti6926@grad.unri.ac.id

Hadriana is a professor at the Faculty of Teacher Training and Education (FKIP), Universitas Riau (UNRI), Indonesia. Her academic and research interests include educational technology and English language education, particularly communicative language activities, learning styles, the integration of educational technologies such as learning management systems (LMS) and digital learning frameworks, and strategies for enhancing student learning motivation. ORCID: <https://orcid.org/0000-0002-4323-5622>, email: hadriana@lecturer.unri.ac.id

Eliwarti is a lecturer in English language education at the Faculty of Teacher Training and Education (FKIP), Universitas Riau (UNRI), Indonesia. Her academic and research interests focus on English Language Teaching (ELT), particularly the teaching of writing and applied linguistics. Her research also explores genre-based approaches, interactive reading comprehension, and the implementation of digital learning in English language classrooms. ORCID: <https://orcid.org/0000-0002-8538-1812>, email: eliwarti@lecturer.unri.ac.id

Jismulatif is a lecturer in English Language Education at the Faculty of Teacher Training and Education (FKIP), Universitas Riau (UNRI), Indonesia. His academic and research interests focus on English Language Education, Applied Linguistics, and the development and evaluation of learning media. His research also explores students' writing ability, code-switching, English as a Foreign Language (EFL) learning, digital learning resources, and technology-based instructional media. His scholarly interests further include Humanities, particularly American Studies, and the integration of local culture into English language education. ORCID: <https://orcid.org/0000-0002-2155-2360>, email: jismulatif@lecturer.unri.ac.id