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Developing an E-Module for Teaching Reading Descriptive Text Using Graphic Organizers

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Abstract

Reading comprehension is an essential skill for understanding and interpreting written texts. This study aimed to develop an e-module using graphic organizers for teaching descriptive texts, determine its feasibility based on expert validation, and examine students' responses after its implementation. The study employed a Research and Development (R&D) design using the ADDIE model, which consisted of five stages: analysis, design, development, implementation, and evaluation. The participants were 37 seventh grade students of SMP Negeri 13 Cimahi. Data were collected through a need analysis questionnaire, expert validation sheets, and students' response questionnaire. The developed e-module was validated by a material expert and a media expert and was implemented with the students. The results showed three main findings. First, the e-module was developed through the five stages of the ADDIE model by integrating descriptive texts, vocabulary activities, reading exercises , and graphic organizers to support students' reading comprehension. Second, the material expert and media expert validation resulted in mean scores of 3.8 and 3.3, categorized as valid, was considered appropriate for classroom use after revision. Third, students' responses also showed positive perceptions of the developed e-module: 64.90% of students agreed that it helped them understand descriptive texts more easily, 70.30% agreed that graphic organizers made reading activities more engaging, and 86.50% agreed that the e-module increased their interest in reading descriptive texts. These findings indicate that the developed e-module was feasible for teaching descriptive texts and positively received by the students.

Keywords: ADDIE Model; Descriptive Texts; E-Module, Graphic Organizers; Reading Comprehension

INTRODUCTION

Reading comprehension is a fundamental skill in English language learning because it enables students to construct meaning from written texts by integrating vocabulary, prior knowledge, and comprehension strategies. Effective reading instruction therefore requires learning activities and materials that actively support students in constructing meaning rather than simply decoding individual words (Nguyen, 2022; Hennessy, 2021). Research also emphasizes the importance of using varied, evidence informed approaches to address differences in learners' reading needs (Duke et al., 2021).

For junior high school students, descriptive texts can present particular comprehension difficulties. Students may struggle to identify main ideas, understand unfamiliar vocabulary, recognize generic structures, and locate specific information in descriptive texts (Fitri et al., 2022). These difficulties indicate a need for instructional support that helps students identify important information and organize it systematically.

Graphic organizers can provide this support by functioning as visual scaffolds that help learners classify information, identify relationships among ideas, and summarize key points. Previous studies have reported that graphic organizers can support reading comprehension and retention by making textual relationships more visible (Qi and Jiang, 2021; Santika et al., 2021; Setyaningsih and Hariyanti, 2025). They are therefore relevant for descriptive-text instruction, in which students need to organize descriptions and supporting details.

Alongside visual support, digital learning materials can provide a more flexible and multimodal learning experience. E-modules can integrate text, images, activities, and interactive features in a single learning resource, which may support student engagement and independent learning (Islami et al., 2022; Daud et al., 2024). Multimedia learning can also strengthen the presentation of information by combining verbal and visual representations (Mayer, 2022).

Previous studies have examined digital modules for descriptive-text learning and the use of graphic organizers for reading comprehension. For example, Fitriani and Fadhilawati (2022) developed a digital module for descriptive-text writing, while Imsa-ard (2022) examined the use of graphic organizers to support EFL reading comprehension.
Few studies have combined these two elements into an e-module specially designed for teacing reading descriptive text.

This gap suggests the need for an instructional product that combines digital learning features with systematic visual support and is developed according to students' needs. Therefore, this study aimed to develop an e-module using graphic organizers for teaching descriptive texts to seventh grade students, determine its feasibility through material and media expert validation, and examine students' responses after implementation. The development process was guided by the ADDIE model to ensure that the product was designed, revised, and evaluated systematically.

The research questions of this study were formulated as follows:

1. How was the e-module using graphic organizers for teaching descriptive texts developed through the ADDIE model?
2. To what extent is the developed e-module feasible based on material and media expert validation?
3. How do students respond to the developed e-module after its implementation?

METHOD

This study employed a Research and Development (R&D) method to develop and evaluate an e-module for teaching reading descriptive texts using graphic organizers. R&D was selected because the study focused on producing and refining an instructional product for classroom use (Slamet, 2022; Rahayu, 2025). The development process followed the ADDIE model proposed by Branch (2009), which consists of five stages: analysis, design, development, implementation, and evaluation.

The participants were 37 seventh-grade students of SMP Negeri 13 Cimahi who were involved in the needs analysis and classroom implementation. The product was also evaluated by two experts: one material expert and one media expert. The students represented the target users of the developed e-module.

Three instruments were used to collect the data: a needs analysis questionnaire, expert validation sheets, and a students' response questionnaire. The needs analysis questionnaire contained 15 items covering students' necessities, wants, and lacks. The expert validation sheets assessed the material and media quality of the product. The students' response questionnaire contained 11 items examined usability, the learning process, the use of graphic organizers, and learning motivation. All questionnaire responses used a four point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The development of the learning product followed the ADDIE model, which consists of five stages: (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation, as illustrated in Figure 1.

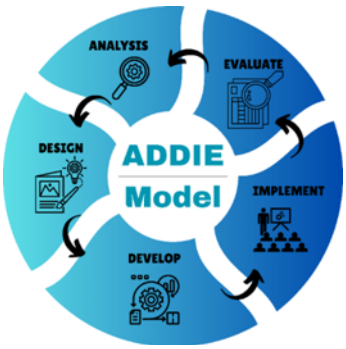


Figure 1. ADDIE model

The ADDIE procedure was conducted as follows. In the analysis stage, students' needs and difficulties in learning descriptive texts were identified through the needs analysis questionnaire. In the design stage, the learning objectives, content, sequence of activities, and graphic organizer activities were planned according to the analysis results. In the development stage, the e-module was produced and reviewed by the material and media experts. The product was revised based on their recommedations before implementation. In the implementation stage, the revised e-module was used with the 37 students in two classroom sessions. In the evaluation stage, students completed the response questionnaire.

The questionnaire data were summarized using mean scores calculated from the obtained ratings, modified from Arikunto (2013) as cited in Yudha et al., (2023). For interpretation, mean scores of 3.26–4.00 were categorized as valid, 2.51–3.25 as valid enough, 1.76–2.50 as Invalid, and 1.00–1.75 as invalid.

RESULTS AND DISCUSSION

Results

1. Development of the E-Module Using Graphic Organizers for Teaching Descriptive Texts

The development process followed the five ADDIE stages. During the analysis stage, the researcher identified students' necessities, wants, and lacks. The findings from these three dimensions were used as the basis for the design stage. The e-module was then developed, validated, revised, implemented in two classroom sessions, and evaluated through students' responses.

Necessities

The necessities analysis was conducted to identify the essential learning materials and resources required by students to support their comprehension of descriptive texts. The findings are presented in Figure 2 and indicate several key materials that students considered necessary for improving their reading comprehension.

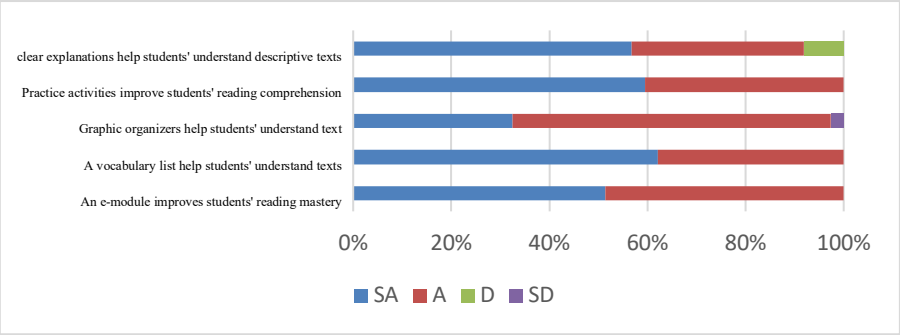


Figure 2. Necesities (Students Needs)

The necessities analysis indicated that students needed materials that supported comprehension of descriptive texts, including clear explanation help students' understand descriptive text (56,80% strongly agreed), practice activities improve students' reading comprehension (59,46% strongly agreed), graphic organizers help students understand text (64,87% agreed), a vocabulary list help students' before reading (62,17% agreed), and an e-module improve reading mastery (51,35% strongly agreed).

Wants

The wants analysis was conducted to identify students' preferences regarding the content, text length, and learning process they expected from the developed e-module.The analysis focused on students' preferred topics, with the results presented in Figure 3.

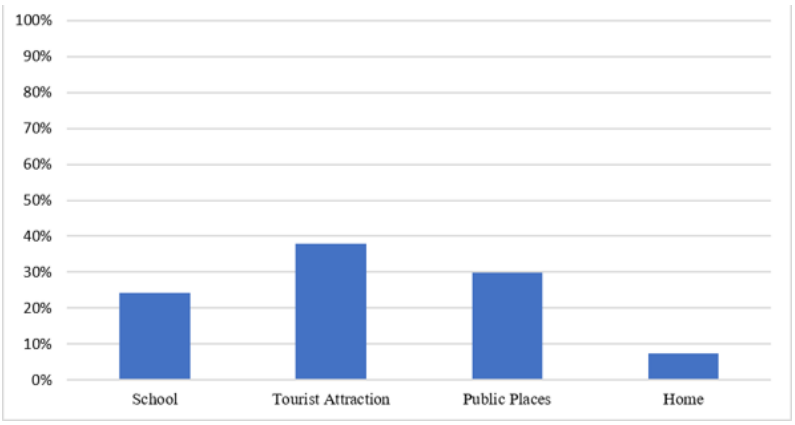


Figure 3. Students' Preferred Topics

The data showed that tourist attractions were the most preferred topic (37.84%), followed by public places (29.73%), school (24.32%), and home (8.11%). Because tourist attractions received the highest preference, this topic was prioritized in the descriptive-text materials.

Beyond topic preferences, the analysis also examined students' preferences regarding the length of descriptive texts. The results of this analysis are presented in Figure 4.

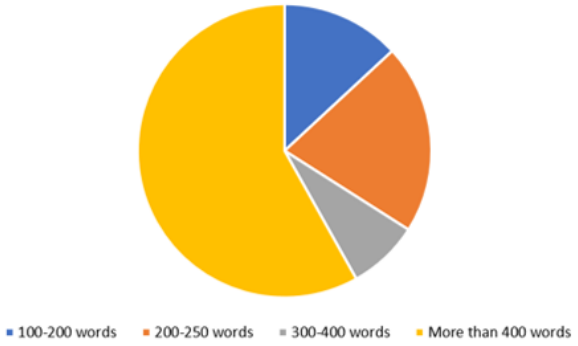


Figure 4. Students' Preferred Text Length

Based on students' needs, a text length of 200–250 words was the most preferred, as indicated by 43.24% of the students. In addition to students' preferences for text length, the analysis also explored students' preferred learning processes. Students' preferences for the learning process were used to determine the organization of classroom activities. The results of students' preferences regarding the learning process are presented in Figure 5.

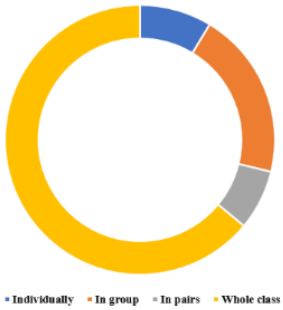


Figure 5. Students' Preferred Learning Process

The findings revealed that group learning was the most preferred format (37.84%), followed by whole-class learning (32.43%), individual learning (16.22%), and pair work (13.51%). Therefore, the e-module included interactive and collaborative activities that could be used during group learning.

Lacks

The lacks analysis focused on difficulties that could hinder students' comprehension of descriptive texts.

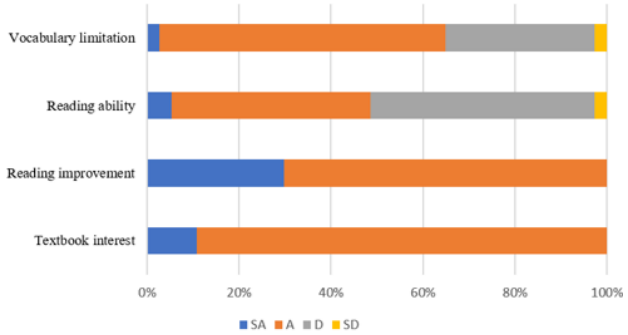


Figure 6. Students' lacks

Regarding students' lacks, the findings indicated that students still experienced difficulties in reading English and understanding descriptive texts. Although most students perceived the textbook currently used in the classroom as interesting (89.19%) and sufficient (86.49%), 48.65% of the students considered themselves less proficient in reading English. In addition, 62.17% reported that their vocabulary was limited when understanding descriptive texts. These findings were addressed by incorporating reading comprehension strategies, vocabulary activities, and visual support through graphic organizers into the e-module.

Overall, the needs analysis showed that students preferred descriptive texts about tourist destinations, texts of approximately 200–250 words, and group learning activities. The analysis also identified reading difficulties, limited vocabulary, and insufficient learning resources as important gaps to address.

Furthermore, in the design stage, the findings from the needs analysis were translated into specific learning objectives, content selection, module structure, and learning activities. Accordingly, the e-module was organized into two units to provide progressive support for students' comprehension of descriptive texts through the use of graphic organizers. Each unit was designed with learning objectives and activities that were aligned with students' identified needs and preferences. The learning objectives and corresponding activities are presented in Table 1.

Table 1. Learning Objectives and Learning Activities

Learning Objectives	Unit	Learning Activities
1. Students are able to activate their prior knowledge and predict the topic of the descriptive text	Unit 1	Let's Get Ready
2. Students are able to identify and match key vocabulary related to the descriptive text		Let's Match the Words
3. Students are able to identify the purpose, generic structure, and specific information in a descriptive text		Let's Read
1. Students are able to analyze the characteristics of a descriptive text based on the information they have discovered	Unit 2	Let's Find Out
2. Students are able to organize information from the descriptive text using a graphic organizer		Let's Organize the Information
3. Students are able to know the generic structure of desriptive text		Let's explore
4. Students are able to demonstrate their understanding by answering reading comprehension questions accurately		Let's Check Your Understanding

Table 1 presents the learning objectives and activities developed for the two-unit e-module. The activities were sequenced progressively to guide students from activating prior knowledge and building vocabulary to analyzing, organizing, and evaluating information in descriptive texts. Unit 1, *Introduction to Descriptive Texts*, was designed to establish students' foundational understanding through three activities: *Let's Get Ready*, *Let's Match the Words*, and *Let's Read*. Students first activated their prior knowledge and predicted the topic of the text, then developed their understanding of key vocabulary, and finally identified the purpose, generic structure, and

specific information in the descriptive text. While, Unit 2, *Exploring and Understanding Descriptive Texts*, emphasized deeper comprehension and information processing through *Let's Find Out*, *Let's Organize the Information*, *Let's Explore* and *Let's Check Your Understanding*. Students analyzed the characteristics of descriptive texts based on the information they discovered, organized key information using a graphic organizer, and demonstrated their comprehension by completing reading activities.

The development stage involved transforming the design specifications into a functional e-module. The final e-module retained the two-unit structure and incorporated a sequence of
The first unit was developed to establish students' foundational knowledge and prepare them for subsequent reading activities. An overview of the activities and instructional components included in Unit 1 is presented in Figure 7.



Figure 7. UNIT 1 of E-module

Figure 8 shows Unit 1, which introduces descriptive texts through a series of scaffolded reading activities. The activities guide students to activate their prior knowledge, predict the topic, develop key vocabulary, and identify the purpose, generic structure, and specific information of the text. This unit provides the foundational knowledge and skills needed for students to engage with the more analytical activities in Unit 2.
Building on the foundational skills developed in Unit 1, the second unit was designed to engage students in deeper comprehension and information-processing activities. The structure and learning activities developed for Unit 2 are illustrated in Figure 8.

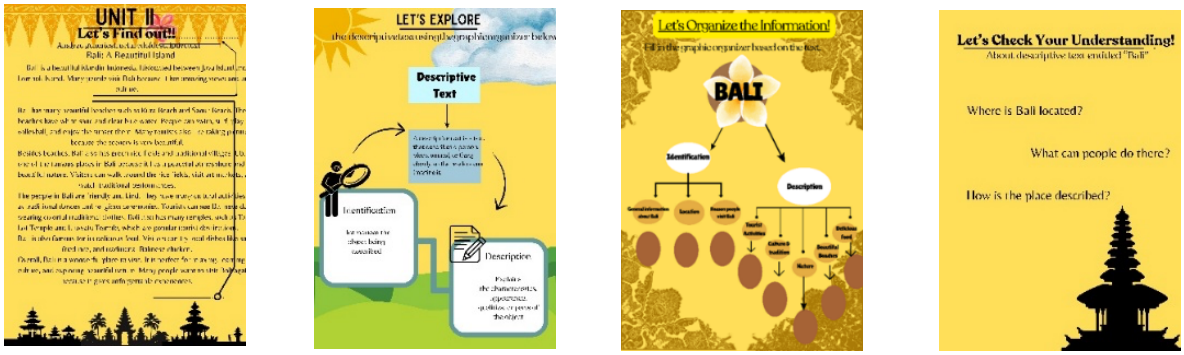


Figure 8. Unit 2 of the E-module

Figure 8 shows Unit 2, which extends the learning activities introduced in Unit 1 by focusing on deeper text comprehension and information processing. Students analyze the characteristics of descriptive texts, organize key information using graphic organizers, and demonstrate their

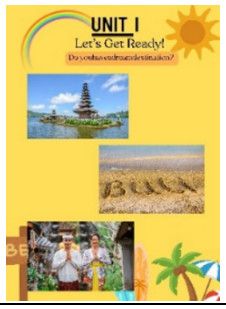
understanding through reading comprehension activities. The sequence is designed to help students move from identifying information to organizing and interpreting it systematically.
The developed e-module was then subjected to expert validation to assess its content quality, instructional appropriateness, and technical presentation. Furthermore, in the development stage, the initial product was evaluated by two experts, comprising a material expert and a media expert. Their evaluation was intended to identify strengths and areas requiring improvement before the e-module was implemented with students. The feedback and recommendations provided by the two validators are summarized in Table 2.

Table 2. Feedback and Recommendations from Validators

Validator 1	Validator 2
1. Guessing Activity Revise the vocabulary section, students' will asked to guess the name of tourist attraction based on the provided picture 2. Vocabulary Section Change the vocabulary section into a matching words activity to make it more interactive and engaging for students'	1. Organizing Information Make the "organize information" activity more specific by providing cleare categories or aspects that will guide students' in organize the information from text clearly. 2. Explanation of Descriptive Text Make the explanation of descriptive text more focused on a one topic, to provide a clear explanation for students', its generic structure, such as identification and description

Based on the above suggestion, the researcher attempted to make a revision. The revisions that were done can be seen in the table 3.

Table 3. Product Revision

No.	Before	After
1.		

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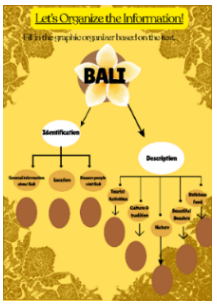
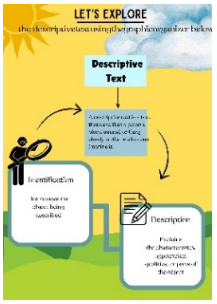
3.		
4.		

Moreover, in the implementation stage, the revised e-module was applied to the 37 seventh-grade students in two classroom sessions. In the first session, students completed Unit 1, consisting of "Let's Get Ready," "Let's Match the Words," and "Let's Read." In the second session, students continued with Unit 2, consisting of "Let's Find Out," "Let's Organize the Information," "Let's Explore," and "Let's Check Your Understanding." After implementation, the evaluation stage used the students' response questionnaire and classroom observation. The evaluation focused on students' perceptions of the e-module and their participation during the learning activities.

2. Feasibility of the Developed E-Module Based on Expert Validation

The developed e-module was validated by two experts before classroom implementation. The material expert assessed material quality, clarity, organization, examples and practice activities, skills development, and language and presentation. The media expert assessed media appropriateness, display quality, interactivity, ease of use, consistency and completeness, and compatibility and functionality. The results of the assesment are presented in table 4 and 5.

Table 4. Material Expert Validation Results

No.	Items	Aspect	Score	Mean score	Criteria
1	Quality of the material	2	8	4	Valid
2	Clarity of the material	2	8	4	Valid
3	Organization of the material	3	11	3.6	Valid
4	Examples and practice activities	2	7	3.5	Valid
5	Skills development	2	7	3.5	Valid
6	Language and presentation	1	4	4	Valid
Total		12	45		
Mean		3.8			
Criteria		**Valid**			

Table 5. Media Expert Validation Results

No.	Aspect	Aspect	Score	Mean score	Criteria
1	Media appropriateness	2	6	3	Valid enough
2	Display quality	3	10	3.3	Valid
3	Interactivity	3	10	3.3	Valid
4	Ease of use	2	8	4	Valid
5	Consistency and completeness	3	9	3	Valid enough
6	Compatibility and functionality	2	6	3	Valid enough
Total		15	49		
Mean		3.3			
Criteria		**Valid**			

The material expert gave the e-module a mean score of 3.8, which falls into the valid category. The media expert gave a mean score of 3.3, which falls into the valid enough category. These results indicate that the e-module was feasible for classroom implementation after revisions based on expert recommendations, particularly regarding visual appeal and layout consistency.

3. Students' Responses to the Developed E-Module

The questionnaire was administered to examine students' responses to the developed e-module using a four-point Likert scale ranging from strongly disagree to strongly agree. The questionnaire focused on five aspects of students' responses: (1) the e-module's contribution to students' understanding of descriptive texts, (2) the role of graphic organizers in making reading activities more engaging, (3) the e-module's ability to encourage active participation in reading activities, (4) its contribution to increasing students' interest in reading descriptive texts, and (5) its ability to create a more enjoyable learning environment. The findings for each aspect are presented below.

The E-Module Helps Students' Understand Descriptive Texts More Easily

The results shows that most students (64,90%) agreed and (16,20%) strongly agreed. These results indicate that the majority of students perceived the e-module as helpful in supporting their understanding of descriptive texts. The distribution of students' responses to this statement is presented in Figure 9.

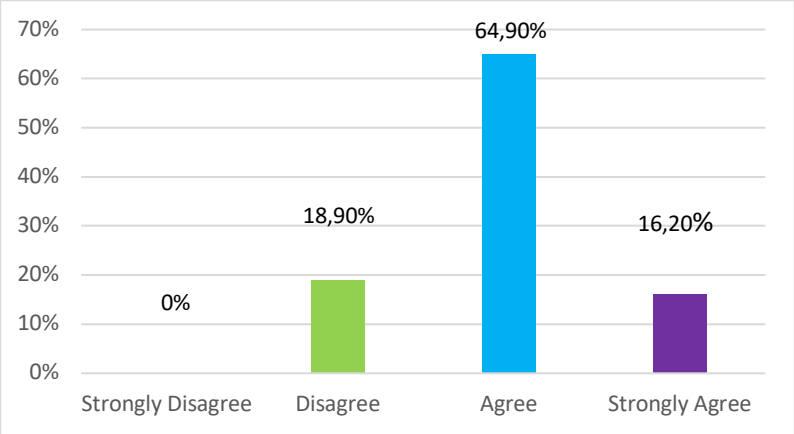


Figure 9. Students Responses to E-module in Supporting Text Comprehension

The Graphic Organizers Make Reading Activities More Engaging

The findings also showed positive responses to the use of graphic organizers. Most of students' agreed (70,30%) that the graphic organizers in e-module make reading activities more engaging. Figure 10 illustrates the students' responses to the use of graphic organizers in the reading activities.

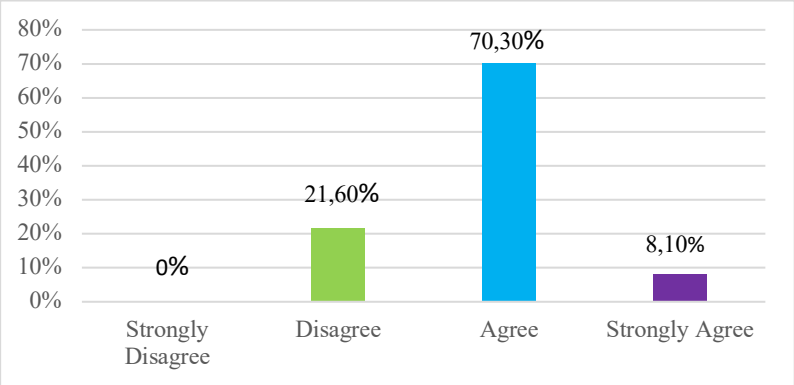


Figure 10. Students Responses to the Use of Graphic Organizers

The E-Module Encourages Students to Participate More Actively in Reading Descriptive Texts

Regarding active participation, 70,30% agreed that the e-module encourages students' to participate more actively in reading descriptive texts. This finding indicates that the e-module provided opportunities for students to engage actively in the learning process through reading, identifying important information, organizing ideas, and completing comprehension activities. The students' responses regarding their active participation are presented in Figure 11.

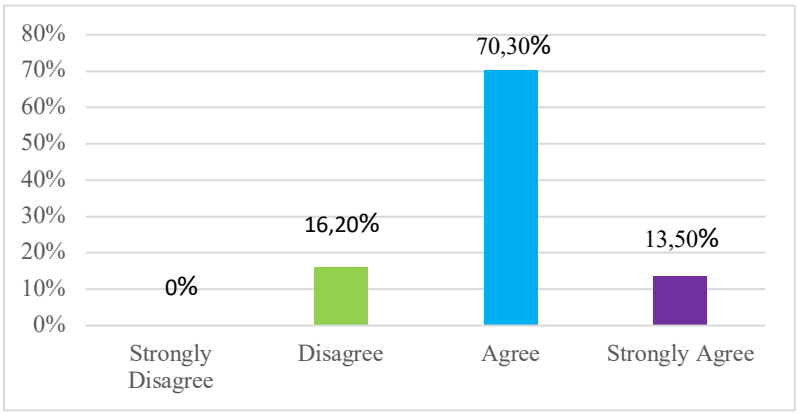


Figure 11. Students' Responses to the E-Module in Encouraging Active Participation

The E-Module Increases Students' Interest in Reading Descriptive Texts

Students also demonstrated highly positive responses regarding their interest in reading descriptive texts. The results showed that 86.50% of students agreed and 13.50% strongly agreed that the students perceived that the e-module increased their interest in reading descriptive texts. Thus, all students responded positively to this aspect. The combination of digital presentation, descriptive texts, visual elements, and interactive activities may have contributed to greater interest in the reading process. Figure 12 presents the distribution of students' responses regarding their interest in reading descriptive texts.

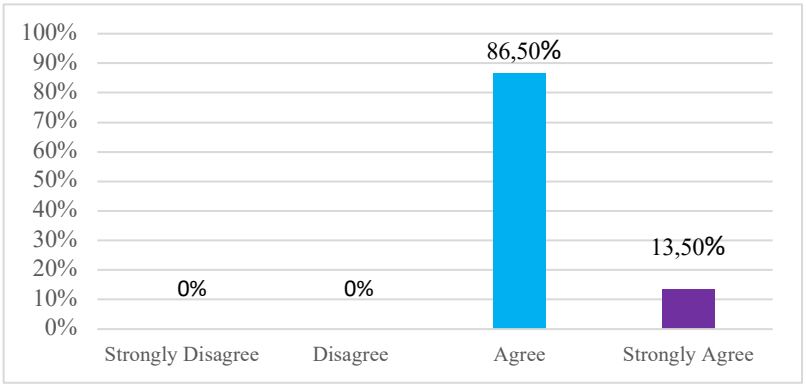


Figure 12. Students' Responses to the E-Module in Increasing Reading Interest

The E-Module Creates a More Enjoyable Learning Environment

Most students (64,90% agree, 24,30% strongly agree) indicated that the e-module creates a more enjoyable learning environment. These findings suggests that the e-module was implemented in classroom make learning environment more enjoyable. The distribution of responses concerning the learning environment is shown in Figure 13.

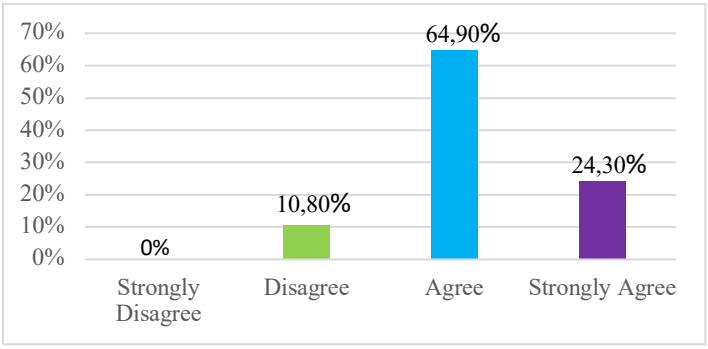


Figure 13. Students' Responses to the E-Module in Creating an Enjoyable Learning Environment

Overall, the students' responses indicated a positive perception of the developed e-module. Most students agreed or strongly agreed that the e-module helped them understand descriptive texts, made reading activities more engaging, encouraged active participation, increased their interest in reading, and created a more enjoyable learning environment.

Discussion

The findings suggest that the e-module was developed in close alignment with students' identified needs. The needs analysis showed difficulties related to reading comprehension and vocabulary, while students also preferred visual support and collaborative learning. This alignment is consistent with research showing that instructional strategies and appropriate learning materials can support active reading comprehension (Duke et al., 2021; Nguyen, 2022). The ADDIE model provided a structured sequence for connecting needs analysis, product design, expert validation, classroom implementation, and evaluation.

The development process also demonstrates the value of using students' preferences as a design reference. Tourist attractions were the most preferred topic (37.84%) in e-module while 200–250-word texts and group learning were also preferred. Incorporating these preferences can make the learning material more relevant to the target learners. Based on students' needs, 64,87% agreed that graphic organizers help students' understand texts more easily.

Graphic organizers can make relationships among ideas more visible and help students classify and organize information from a text (Qi and Jiang, 2021; Santika et al., 2021). The finding is also in line with Setyaningsih and Hariyanti (2025), who emphasize the role of graphic organizers in supporting comprehension and retention. The integration of graphic organizers into the e-module is particularly relevant to descriptive texts because students need to distinguish the main topic from supporting details and organize descriptive information. The visual representation may make the relationships among these elements easier to follow. This interpretation is also supported by research on digital graphic organizers and reading instruction (Chigbu et al., 2023; Sari and Susanti, 2026).

The expert validation scores of 3.8 for the material and 3.3 for the media indicate that the product met the predetermined valid criteria after revision. However, because the present study focused on product development and valid rather than experimental effectiveness.

The positive student response to the digital format may also be related to the multimodal features of the e-module. This finding is consistent with previous studies reporting that

interactive e-modules can support engagement and flexible learning through multimodal features (Islami et al., 2022; Daud et al., 2024).

Finally, The findings of this study indicate that the e-module was feasible after revision and well received by the students, particularly through its integration of graphic organizers to support reading comprehension.

CONCLUSION

This study developed an e-module for teaching reading descriptive texts using graphic organizers through the ADDIE model, comprising five stages: analysis, design, development, implementation, and evaluation. The analysis stage identified students' necessities, lacks, and wants, which provided the basis for determining the content, structure, learning activities, and instructional features of the e-module. The developed e-module consisted of two units. Furthermore, the feasibility of the e-module was subsequently assessed through material and media expert validation. The material expert obtained a mean score of 3.8, categorized as valid. While the media expert obtained a mean score of 3.3, also categorized as valid, based on the validation criteria. The validators' feedback was used to refine several aspects of the e-module before its implementation.

Following implementation with 37 seventh-grade students, the students' responses indicated a positive perception of the developed e-module. Specifically, 64.90% of students agreed that the e-module helped them understand descriptive texts more easily, 70.30% agreed that the graphic organizers made reading activities more engaging, and 86.50% agreed that the e-module increased their interest in reading descriptive texts. These findings suggest that the e-module supported students' engagement and provided a positive learning experience in reading descriptive texts. Thus, the findings demonstrate that the developed e-module was systematically designed through the ADDIE model, met the feasibility criteria based on expert validation, and received positive responses from students. However, this study was limited to 37 seventh grade students from a single school and did not test its effectiveness. Further research should involve larger samples and effectiveness testing.

ACKNOWLEDGMENTS

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