

Research Article

# Designing A Web-Based E-Module for Empowering Tenth-Grade Students' Writing Skills on Descriptive Text

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**Abstract.** The study titled “Designing a Web-Based E-Module for Empowering Tenth-Grade Students’ Writing Skills in Descriptive Text” aims to develop a digital learning medium to improve students’ descriptive writing abilities. The research applies a Design and Development (D&D) approach using the ADDIE model, consisting of analysis, design, development, implementation, and evaluation, supported by a descriptive quantitative method. The study addresses limitations of traditional, teacher-centered instruction that relies heavily on printed materials by integrating technology into the learning process. The research begins with an analysis of existing teaching practices and learning resources for descriptive text writing. Based on this analysis, a web-based e-module is designed to provide a more interactive and engaging learning experience. The module includes structured materials such as definitions, purposes, text structures, language features, examples, and practice exercises. The e-module is then implemented in a tenth-grade classroom setting, followed by an evaluation of its effectiveness using quantitative data. The results indicate that the web-based e-module effectively improves students’ descriptive writing skills. Interactive features, including multimedia content, self-paced activities, and immediate feedback, enhance students’ motivation and active participation. Teachers and students report positive perceptions regarding the practicality, accessibility, and usefulness of the e-module. Pre-test and post-test results also show a clear improvement in students’ writing performance. Overall, the study concludes that web-based e-modules are a promising instructional medium for enhancing writing skills and supporting student-centered, technology-integrated English language learning.

**Keywords:** ADDIE Model; Descriptive Writing; English Learning; Student-Centered; Web-Based Module

## 1. Background

English as an International Language (EIL) has experienced a profound transformation in its global status (Tan et al., 2020). The worldwide expansion of English has changed it from a uniform and standardized language used by a few dominant nations into a global lingua franca spoken by diverse communities across continents. EIL today is perceived not only as a set of English varieties but also as a way in which English is utilized in intercultural communication. Its conceptual scope ranges from recognizing multiple world Englishes to understanding the language practices of second-language users. This unprecedented global demand for EIL calls for a collective response from the English language teaching profession—encompassing pedagogy, teacher preparation, assessment, and policy-making.

The significance of learning English, particularly in education, cannot be overstated, as it provides Indonesian students with a substantial competitive advantage in an increasingly interconnected world (Isadaud et al., 2022). Proficiency in English opens doors to numerous opportunities, extending beyond academics to professional domains. English has therefore become a vital element of Indonesia’s education system, reflecting the nation’s recognition of the need for linguistic competence that transcends national boundaries.

Mastery of English communication skills enables individuals to explore broader academic and career pathways. Beyond a mere skill, it functions as a catalyst for both

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personal and professional development (Akther, 2022). The ability to communicate effectively in this global language equips individuals to engage in meaningful exchanges, pursue international opportunities, and contribute more effectively to their respective fields. Consequently, investing in English proficiency is not only beneficial for individual growth but also strategically essential in preparing individuals to navigate the challenges of today's globalized professional environment.

Integrating English into Indonesia's educational framework serves a dual purpose: empowering younger generations and positioning the country advantageously in the international arena. English is no longer seen solely as a linguistic competence but as an instrument of cultural diplomacy, enabling Indonesia to share its heritage, traditions, and perspectives with global audiences (Rao, 2019). As global interconnection continues to deepen, the urgency of English language mastery becomes even more evident, and Indonesia's commitment to embedding English within its education system underscores a progressive effort to prepare its citizens for success in a rapidly evolving world.

In the field of English education, learners must acquire competence in four core skills: listening, speaking, reading, and writing. Listening, as a receptive skill, is often regarded as the most difficult due to the need to process spoken information in real time. Speaking, on the other hand, is a productive skill that involves more than pronunciation, it requires mastery of intonation, expression, and interactive communication (Alzamil, 2021). Reading serves as an essential component for comprehensive language learning, fostering the development of vocabulary, grammar, spelling, and writing ability. Writing, meanwhile, provides tangible proof of students' progress and serves as a reflective self-assessment tool. These four skills are interrelated, each contributing uniquely to the holistic development of English language proficiency.

Writing, in particular, holds a crucial position in English instruction and is included in nearly all language programs (Suharyat & Lusiana, 2023). This emphasis stems from the increasing need for English writing competence across academic and professional fields. To achieve writing proficiency, learners must understand the stages of the writing process and key principles of composition. Effective writers should be able to organize their ideas logically, construct grammatically correct sentences, and apply punctuation and spelling conventions accurately. They must also create coherent paragraphs that support overall text unity. Therefore, mastering English writing is not only about linguistic accuracy but also about developing the ability to communicate ideas clearly and cohesively.

Preliminary observations conducted by the researcher at SMAN 1 Kademangan revealed several instructional challenges. Interviews with one of the English teachers, Mr. Asmaur (December 4, 2023), provided further insight into the issue.

**R:** What are the advantages and disadvantages of the method you use?

**T:** The advantage of the Complete Sentence method is that the questions are easy to create by removing one word from a sentence. Students are not required to explain their answers, so the focus remains on understanding the material. However, the drawbacks are that teachers become less innovative in designing questions, and students tend to be less motivated because they only guess words. Additionally, this method is not suitable for every subject.

Based on this interview, it can be inferred that the teacher primarily uses the Complete Sentence method in instruction. While this technique simplifies question-making and helps students comprehend material efficiently, it has notable limitations. The approach may reduce teacher creativity, encourage surface-level engagement among students, and lack adaptability across disciplines. Consequently, the main problem identified at SMAN 1 Kademangan is the limited use of innovative learning media by English teachers.

Eka highlights that interactive e-books possess several advantages, including the ability to combine audio, text, images, animation, video, and quizzes, thus delivering richer learning experiences than traditional textbooks. These e-books are also cost-effective, durable, environmentally friendly, and easy to use, offering sustainable benefits for both teachers and students.

According to (Arsyad, 2019) instructional media serve a vital function in teaching and learning processes. These media encompass not only physical resources such as books, visuals, and audio-visual tools but also digital platforms and educational software. Properly integrated, instructional media can enhance learning quality, stimulate interest, and positively affect learners' psychological engagement. When content is delivered creatively, students are more likely to participate actively and enjoy the process, ultimately leading to improved learning outcomes.

The emergence of innovative e-modules represents a new approach to enriching learning experiences in the modern era. Within this framework, enhancing tenth graders' ability to write descriptive texts through e-modules becomes a relevant area of investigation. Numerous studies in language education have demonstrated that digital learning materials, such as e-modules, increase motivation and engagement. E-modules offer interactive, flexible, and multimedia-based learning experiences that accommodate individual learning needs. They also foster essential 21st-century skills, including digital literacy, critical thinking, and problem-solving abilities.

This study is grounded in several previous works that emphasize the role of digital media in education, particularly in the teaching of English writing. (Wulandari, 2018) developed an interactive e-book for junior high school students on the digestive system, demonstrating improved comprehension of complex content. Murdianto et al. (2021) created a constructivist-based e-module for descriptive writing, which enhanced student engagement and understanding. Ulya & Sidqi (2020) designed a CEFR-based e-module, *Writing for Professional Contexts*, highlighting the importance of aligning modules with international standards and local contexts. Firiani & Fadhilawati (2022) produced a digital module that simplified descriptive text writing for seventh graders through structured guidance. Similarly, Aprilianto (2019) developed a module for descriptive text writing at SMAN 1 Dawarblandong Mojokerto, emphasizing the need for tailored learning resources for high school students.

Collectively, these studies underscore the effectiveness of digital media, the importance of learner-centered approaches, and the need for locally relevant instructional materials. However, despite these advancements, limited research specifically addresses the development of web-based e-modules for teaching descriptive writing to tenth-grade students. Therefore, the present study seeks to bridge this gap by designing and testing a web-based e-module aimed at enhancing descriptive text writing proficiency among tenth graders.

## 2. Literature Review

### 2.1 Writing Skill

In English language learning, writing mastery is considered an essential component for foreign language students. This skill extends beyond the physical act of writing; it encompasses processes of learning, exploring, developing, and enhancing overall language competence (Nurussadiah et al., 2021). Writing holds a vital role not only in academic settings but also in professional and social contexts. Ramelan (1992) highlights that individuals lacking writing proficiency may face difficulties in effective interaction with teachers, superiors, colleagues, or others.

Pincas, as cited in Asrifan & Cardoso (2025) emphasizes that writing is an indispensable element of human communication, serving as a medium for self-expression and the transmission of ideas. Similarly, Ali & Hasanah (2014) define writing as “the most perfect means to convey messages to readers,” underscoring that without writing skills, students may struggle to communicate their thoughts effectively beyond oral expression. According to Brown (2014) writing is not an innate ability but a skill developed through conscious attention, drafting, and revision. It requires deliberate practice and specific techniques that distinguish it from speaking. Writing, therefore, functions as a sophisticated tool for articulating and sharing thoughts clearly and effectively.

Language acquisition involves mastering four core competencies, listening, speaking, reading, and writing, each interlinked in fostering communicative ability. Among these, writing serves as a unique gateway to knowledge and self-expression. Through exposure to English literature such as books, newspapers, and magazines, learners enhance their grammatical understanding and sentence construction. Writing also integrates visual, motoric, and cognitive processes, emphasizing the need for broad knowledge. Ultimately, the ability to write allows learners to express their thoughts coherently and meaningfully in written form.

### Descriptive Text

Descriptive text aims to depict an object, person, place, or phenomenon vividly so that readers can imagine or experience it. Gerot & Wignell (1994) describe descriptive text as writing that provides a detailed portrayal of something through precise language. For tenth-grade students, learning to write descriptive texts enhances their ability to express experiences and observations creatively and coherently. Knapp & Watkins (2005) identify two structural components of descriptive text: identification and description. Identification

introduces the subject, while description elaborates on specific features such as appearance, size, or color. Mastery of this structure helps students organize ideas logically.

Satriani et al. (2012) emphasizes that learning descriptive writing involves observation and critical thinking, as students must pay attention to key details and include them meaningfully in their writing. Through web-based e-modules, learners can access diverse resources such as images, videos, and text samples, that enrich their understanding and provide personalized teacher feedback. Gerald & Allan (2018) advocates for a contextual learning approach, encouraging students to describe real-life experiences and familiar environments. This makes lessons more relevant and engaging. In line with this, Hyland & Hyland (2001) suggests that integrating technology and visual aids into descriptive writing enhances comprehension and creativity.

### **Web-Based Application Module**

A web-based application is software accessible through a web browser without installation. Murugesan (2007) defines it as a platform-independent system using web technologies to enable user-server interaction via the internet. O'reilly (2005) notes that Web 2.0 applications allow dynamic updates and interactive content, providing adaptable learning experiences. Jeong et al. (2021) highlights their advantages in collaboration, enabling students to share and receive feedback. Parker & Chao (2007) emphasize their flexibility, allowing students to learn anytime and anywhere. Ally (2004) further notes that web-based applications support personalized and competency-based learning, making them ideal for e-modules that promote self-paced and interactive learning experiences.

Canva is a web-based graphic design platform that simplifies the creation of visual materials. Rahma et al. (2024) describes it as intuitive and accessible even for users without professional design experience. Reftyawati (2025) notes that Canva streamlines the design process, offering ready-made templates and elements that enable fast, professional-quality results. Hutapea et al. (2024) observes that Canva enhances creativity and collaboration in educational contexts, allowing teachers and students to produce engaging visual materials. Marvelapp is a web-based platform for creating interactive prototypes and UI designs. Fajri et al. (2023) explains that it enables rapid visualization and testing of design ideas without coding. Green (2019) emphasizes its collaborative features, which allow teams to comment and make revisions directly within the platform. Mayer (2009) states that multimedia-based e-modules combining text, images, and videos enhance understanding more effectively than traditional materials.

## **3. Research Method**

### **Research Design**

This study employed a Design and Development (D&D) research approach. According to Richey & Klein (2013), D&D research is a systematic study of design, development, and evaluation processes aimed at building an empirical foundation for creating or improving products, tools, and models in instructional and non-instructional contexts. The D&D approach emphasizes a structured and systematic process supported by empirical data derived from observation, measurement, and validation. It consists of three main stages: design, development, and evaluation. Richey & Klein (2013) further classify D&D research into product and tool research and model research; this study belongs to product and tool research as it focuses on the design and evaluation of a developed instructional product.

D&D research not only focuses on the final product but also contributes to theoretical and practical knowledge through problem identification, literature-based analysis, and scientific development (Ellis & Levy, 2010). The six stages of D&D research consist of identifying the problem, describing the objectives, designing and developing the artifact, testing the artifact, evaluating results, and communicating findings. In this study, three stages were adopted, namely identifying the problem, describing the objectives, and designing and developing the artifact.

### **Research Procedures**

The research procedures followed the selected D&D stages. The first stage involved identifying problems through needs analysis, classroom observations, interviews, questionnaires, and literature review to identify challenges faced by teachers and students. The second stage focused on defining research objectives based on teacher interviews, student questionnaires, and theoretical review to ensure alignment with curriculum standards and learning needs. The third stage involved designing and developing an interactive e-

module for teaching descriptive text, created using Canva and Marvelapp. The product integrated data from earlier stages and underwent expert validation to ensure quality and effectiveness.

The developed e-module consisted of key components, including a cover, navigation menu, motivation section, reinforcement section, definition, purpose, structure, language features, examples, and exercises. Validation was conducted by media, material, and language experts, whose feedback was used to revise and refine the product to meet academic, pedagogical, and technical standards.

### **Planning and Product Design**

Planning began with a needs analysis through literature review to identify appropriate e-module designs aligned with the Independent Curriculum for tenth-grade students. Product development was based on these findings and involved preparing design tools, compiling materials from credible sources, and integrating content into a cohesive e-module. The final product was revised based on expert validation to ensure relevance, usability, and quality.

### **Instrument Validity Test**

Instrument validity was established to ensure accurate measurement of research variables. According to Siregar (2023) validity reflects the extent to which an instrument measures what it is intended to measure. Validation was conducted through structured questionnaires completed by a media expert, a material expert, and a linguist. Their evaluations ensured that the e-module met technical, pedagogical, and linguistic standards, thereby strengthening the credibility and feasibility of the research instrument.

### **Data Analysis**

Data analysis focused on identifying learning needs, measuring the effectiveness of the e-module, and assessing user satisfaction. Quantitative descriptive analysis was used to analyze pre-test and post-test results, supported by questionnaire data. Sugiyono (2019) states that descriptive quantitative analysis employs statistical measures such as mean, percentage, and standard deviation to identify changes before and after treatment. Expert validation data were analyzed using a Likert scale to determine levels of agreement and satisfaction.

**Table 1.** Likert Scale.

Scale	Target (%)	Interpretation
5	80–100	Very Good (SB)
4	60–79.99	Good (B)
3	40–59.99	Fair (C)
2	20–39.99	Poor (K)
1	0–19.99	Very Poor (SK)

These categories provided a clear representation of quality, ranging from excellent to unsatisfactory performance levels. The data analysis process began with needs identification, continued with product implementation in a classroom setting, followed by pre-test and post-test administration, as well as questionnaire and interview data collection. The analyzed results were then compiled into the final research report.

## **4. Result**

### **Material Evaluation**

Based on the assessment from the material expert, the developed e-module aligns well with the curriculum standards and learning objectives. The score of 80% reflects that the content sufficiently supports students' learning outcomes. Nevertheless, certain areas still require refinement, particularly in terms of content clarity and the systematic flow of presentation. The expert recommended adding contextual questions and restructuring the material sequence to enhance students' comprehension and engagement with the content. Such revisions are expected to help learners grasp the material more effectively and apply it in real learning contexts.

### **Language Evaluation**

The linguist's evaluation showed that the language used throughout the e-module was generally appropriate and supportive of the learning process, earning an overall score of 80%. However, several minor improvements were suggested, such as ensuring consistency in punctuation, simplifying complex sentence structures, and maintaining grammatical uniformity. Implementing these revisions would increase the readability of the text and help students better understand the presented material.

### **Media Evaluation**

The media expert provided a highly positive evaluation of the e-module's design and technical aspects, with a total score of 87.06%. The results indicate that the layout, visual design, and multimedia components are effectively integrated to create an engaging and interactive learning experience. Despite this, some improvements were suggested to enhance usability and interactivity, such as refining navigation buttons, incorporating learning videos, and diversifying quiz formats. These enhancements are expected to make the e-module more dynamic, user-friendly, and pedagogically effective.

## 5. Discussion

The findings of this study indicate that the developed web-based e-module demonstrates strong alignment with curriculum standards and learning objectives, as reflected in the material expert's evaluation score of 80%. This result suggests that the e-module content is pedagogically relevant and capable of supporting students' descriptive writing development. However, the expert's recommendation to improve content clarity and sequencing highlights the importance of structured instructional design in digital learning materials. According to Richey & Klein (2013) well-organized instructional content is essential in Design and Development research to ensure that learning objectives are systematically translated into learning activities. A clear progression from definition, structure, language features, to guided practice is crucial in helping students internalize writing concepts, particularly in genre-based writing such as descriptive texts (Knapp & Watkins, 2005).

From a linguistic perspective, the linguist's evaluation score of 80% indicates that the language used in the e-module is generally appropriate for tenth-grade learners. Nevertheless, suggestions related to simplifying sentence structures and improving grammatical consistency reflect common challenges faced by EFL learners. Brown & Abeywickrama (2010) emphasizes that writing instruction should consider learners' linguistic competence, as overly complex language may hinder comprehension and reduce motivation. By refining grammatical accuracy and sentence clarity, the e-module can better scaffold students' writing development and reduce cognitive load during learning, especially for learners who are still developing foundational writing skills.

The media expert's evaluation yielded the highest score (87.06%), confirming that the visual design, layout, and multimedia integration effectively support interactive learning. This finding aligns with Mayer's (2009) Cognitive Theory of Multimedia Learning, which states that students learn more effectively from a combination of words and visuals than from text alone, provided that multimedia elements are well-integrated and not distracting. The positive evaluation suggests that the use of Canva and Marvelapp successfully facilitated an engaging interface, intuitive navigation, and visually appealing content. These aspects are essential in maintaining learner attention and encouraging self-directed learning in web-based environments (Ally, 2004).

The recommendation to incorporate more learning videos and varied assessment formats further supports the idea that interactive multimedia enhances student engagement and motivation. Previous studies have shown that digital modules equipped with multimedia features and immediate feedback can significantly improve students' writing performance and learning autonomy (Firiani & Fadhilawati, 2022; Murdianto et al., 2021). Similarly, the findings of this study resonate with Nst & Ariyanti (2025) who reported that web-based e-modules positively influenced students' descriptive writing skills by promoting active participation and independent learning. This suggests that the developed e-module not only functions as a learning resource but also as a medium that fosters learner-centered instruction.

Moreover, the integration of needs analysis findings into the e-module design strengthens its relevance to real classroom contexts. Ellis & Levy (2010) argue that D&D research should bridge practical problems and theoretical contributions. By addressing teachers' limited use of innovative media and students' need for engaging writing materials, this study contributes practical insights into how web-based instructional media can enhance writing instruction. The results support the argument that technology-integrated learning tools are particularly effective in teaching productive skills such as writing, which require continuous practice, feedback, and reflection (Hyland & Hyland, 2001).

Overall, the discussion highlights that while the developed e-module has met essential pedagogical, linguistic, and technical standards, continuous refinement remains necessary to maximize its instructional impact. Improvements in content organization, language clarity, and multimedia variety are expected to further enhance students' learning experiences and writing outcomes. These findings reinforce the role of web-based e-modules as effective instructional media for EFL writing instruction and contribute to the growing body of research on digital learning innovations in secondary education.

## 6. Conclusion

Based on the validation results provided by the experts, the web-based e-module developed to enhance tenth-grade students' descriptive text writing skills demonstrates good quality and effectiveness as a learning medium. The material expert's evaluation revealed that

the e-module content is relevant and aligned with the curriculum, achieving a score of 80%. However, several refinements are still necessary to improve content clarity and ensure a more systematic presentation. From the linguistic perspective, the e-module also obtained a favorable score of 80%, indicating that the language used appropriately supports the learning process, though minor adjustments related to grammar accuracy and sentence simplification remain needed. Meanwhile, the media evaluation received the highest score of 87.06%, reflecting that the design and technical features effectively promote interactivity and user convenience. Overall, the developed e-module possesses strong potential for effective classroom implementation, with only slight improvements required to achieve optimal quality.

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