



Webgos E-Module Development for Elementary Descriptive Writing Learning Outcomes

Pengembangan E-Module Webgos untuk Pembelajaran Menulis Deskripsi Sekolah Dasar

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Abstract

General Background: Writing is a fundamental language skill in elementary education that supports communication competence and literacy development. **Specific Background:** However, many elementary students experience difficulties in descriptive writing, particularly in generating ideas, organizing sentences, and using appropriate vocabulary, while learning materials remain dominated by conventional printed modules. **Knowledge Gap:** Previous studies on Google Sites learning media have rarely developed structured e-modules specifically designed to guide descriptive writing learning processes. **Aims:** This study aims to develop a Webgos (Web Google Sites)-based e-module and evaluate its validity, practicality, and effectiveness for fifth-grade elementary students. **Results:** Using the ADDIE research and development model, the developed e-module obtained high validity scores from media and material experts (87%–97%), demonstrated high practicality based on learning implementation observations (98%) and positive teacher and student responses, and showed improved learning outcomes with average scores increasing from 45 in the pretest to 88 in the posttest with an N-Gain value of 0.79 in the high category. **Novelty:** The study presents an integrated Webgos e-module combining Google Sites structure, Canva-based materials, and interactive evaluation in a single digital learning system. **Implications:** The findings indicate that Webgos-based e-modules provide a feasible digital learning medium to support descriptive writing instruction in elementary education.

Highlights

- *Web-based digital module designed through systematic ADDIE development stages*
- *Expert validation confirmed high feasibility of the developed learning media*
- *Student achievement scores increased substantially after module implementation*

Keywords: Webgos E-Module; Google Sites Learning Media; Descriptive Writing Skills; Elementary School Students; ADDIE Development Model

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INTRODUCTION

Indonesian language learning in elementary schools plays a fundamental role in developing students' thinking, reasoning, and communication skills. Mastery of the four language skills, namely listening, speaking, reading, and writing, is an important foundation in forming comprehensive communication competencies and supporting learning success in various fields of knowledge ((Huda et al., 2021), (Wahyudi et al., 2023), (Haslinda et al., 2022)). Language learning not only functions as a means of communication, but also as a medium for character building, intellectual development, and strengthening cultural values in the lives of students ((Syamsuri & Bur, 2023), (Yamtinah et al., 2021)). Therefore, language learning in elementary schools needs to be designed systematically, attractively, and meaningfully in order to optimally develop students' literacy competencies.

Among these language skills, writing is a complex language skill because it involves cognitive, linguistic, and organizational abilities simultaneously. The writing process requires mastery of vocabulary, language structure, and the ability to organize ideas systematically in order to produce coherent and communicative texts. The quality of writing depends on how the writer arranges and connects these parts to form a complete and easily understood text (Stavans & Ehrlich, 2024). Writing is also a higher-order thinking skill because it involves the process of planning, organizing, and expressing ideas in a structured manner ((Ratnawati et al., 2022), (Alfiyani et al., 2024)). Therefore, writing skills do not develop automatically but require continuous practice, appropriate learning strategies, and media support that suits the characteristics of the students ((Ulfa et al., 2020), (Wen & Walters, 2022), (Anindya et al., 2023)).

Despite its important role, elementary school students' writing skills remain a challenge in learning practices. Several literature reviews indicate that students' writing abilities still require serious attention

because many students have difficulty developing ideas, constructing coherent sentences, and writing clearly and meaningfully (Nurazizah & Darmayanti, 2024); (Nurnaningrum et al., 2025)). Several studies also indicate that students' descriptive writing skills are still relatively low and have not developed optimally ((Asyifa et al., 2024), (Andira et al., 2025)). This situation underscores the need to prioritize improving writing skills in elementary school language education.

Technological developments in the digital age have changed the paradigm of learning. Educational transformation requires teachers to be able to adapt their strategies, approaches, and learning media to align with the characteristics of the digital generation ((Doringin et al., 2020), (Dewi et al., 2022)). Technology does not only function as a tool, but also has the potential to become a means of learning innovation that can increase the effectiveness of learning and the active involvement of students ((Alfi et al., 2022); (Sulistiani et al., 2022)). The integration of technology has also been proven to have a positive impact on learning outcomes, motivation, and students' attitudes towards learning ((Murniasih & Nurlina, 2023), (Weng et al., 2019)).

Based on observations made at SD Negeri 27 Matekko in Gantarang Subdistrict, Bulukumba Regency, there are several problems that occur in the learning process, one of which is that the modules or teaching materials used by teachers are still in printed form and are no longer suitable for use because there are torn parts on each side. These teaching modules or materials also appear to be old and unattractive to students, making them less motivated to learn. On the other hand, although the school has adequate technological facilities, such as internet access, their use in the learning process is still limited. Teachers have not optimally used digital platforms as learning media, which actually have great potential to be used as a medium for developing interactive teaching materials. The lack of utilization of digital media discourages students from learning independently or collaboratively.

Another prominent problem is the low level of students' writing skills. This can be seen from the results of the initial student needs survey, which shows that 80% of students stated that they had difficulty developing ideas, while 78% felt that their vocabulary was still limited. In addition, 76.67% of students still often make mistakes in spelling, capitalization, and punctuation. This is also supported by the results of interviews with teachers who stated that, in the learning process, students still have difficulty expressing their ideas in writing due to their limited vocabulary. When given writing assignments, students tend to be confused in developing ideas, choosing the right words, and constructing coherent sentences. The resulting writing is still simple, unstructured, and does not describe the content in depth. Basic errors such as incorrect spelling and capitalization are also still frequently found. This shows that students' writing skills have not developed optimally and require more creative and systematic learning interventions.

One form of writing skill that is the focus of learning in elementary school is descriptive writing. Descriptive writing is a type of writing that aims to describe objects, places, or events in detail so that readers can see, hear, and feel what the writer is describing (Barton *et al.* , 2024). This skill is important to develop from an early age because it trains observational sensitivity, enriches vocabulary, and improves students' ability to express ideas in detail and systematically. Therefore, in writing lessons, teachers need to provide guidance and concrete examples so that students understand the purpose of descriptive texts and how to compose them ((Le *et al.* , 2023); (Troia *et al.* , 2024)). However, in reality, students still find it difficult to write descriptive texts because they are not accustomed to developing ideas in detail and in a coherent manner. Students' writing tends to be short, unstructured, and some are even only able to write one sentence without adequate explanation.

This condition has a direct impact on the low learning outcomes of students in terms of writing skills. Based on this, it can be said that to improve one's writing skills, one must practice more. Writing

exercises are one way that can be used to hone students' abilities in developing ideas, thoughts, and feelings in the form of writing. Because even if someone has talent, if that talent is not accompanied by writing practice, it will not develop (Bahri *et al.* , 2023).

These conditions indicate the need for innovative learning media that can support the learning process in a more effective, interactive, and appropriate manner for the characteristics of the students. Several studies have shown that the use of interactive digital learning media can increase student motivation, engagement, and learning outcomes because it can provide more interesting and flexible learning ((Agelia *et al.*, 2024), (Lestari *et al.* , 2024), (NP Pertiwi *et al.*, 2024), (Dermawan *et al.* , 2025).

One form of innovation that is relevant to addressing this issue is the development of web-based *e-modules* (*Web Google Sites*). This type of *e-module* is a form of technology utilization in education that is implemented through learning activities using web sites connected to the internet. The presence of web-based modules contributes to the transformation of the learning process because they are able to provide a more varied, interactive, and innovative learning experience, thereby potentially improving student learning outcomes.

An *e-module* or *electronic module* is a self-contained unit of digital learning material delivered through an electronic platform (Wijdan Majri & Niah, 2024). In line with this, *e-modules* are also understood as electronic teaching materials that are systematically arranged to support student independent learning (Lativa *et al.* , 2024), (Handayani *et al.* , 2021). In addition, *e-modules* are defined as digital teaching materials packaged in electronic form and accessible through various devices such as computers, laptops, and smartphones, making it easier for students to learn independently through attractive and interactive displays (Ly *et al.* , 2024). This is also explained by (Balkis Arova *et al.* , 2024) that *e-modules* allow students to study independently in specific time units

because they are presented in the smallest learning units.

In the context of developing digital learning media, web-based platforms such as *Canva* and *Google Sites* can be used to design and present learning materials. *Canva* is a graphic design application that allows users to develop creative and engaging visual learning content (Permatasari & Widagdo, 2025). Meanwhile, *Google Sites* can be used as an alternative digital learning platform to increase student interest in learning in the technological era because it functions as a website creation service that can be used individually or collaboratively (Subhan Aryandi & Rikayanti, 2024). Platform can also be integrated with various other Google services such as *Google Docs*, *Google Forms*, *Google Sheets*, *Google Drive*, *Google Calendar*, and *YouTube*, thereby supporting the integrated presentation of learning materials (Said *et al.*, 2023). In addition, *Google Sites* is free, safe from virus threats, and accessible via various devices such as smartphones, laptops, and tablets, thereby providing flexibility in the learning process process (Juhairiah *et al.*, 2022).

Ease of access is one of the main advantages of *Google Sites* because learning materials can be accessed anytime and anywhere through a single integrated platform. Its simple, web-based system also makes it easy for students to access materials without having to install additional applications. Students simply open the link shared by the teacher via an internet browser on their respective devices. Thus, this platform enables the efficient provision, distribution, and collection of learning materials, making the learning process more practical, engaging, and effective for both teachers and students (Jannah *et al.*, 2024).

The effectiveness of using *Google Sites* in learning has also been supported by previous research. Research conducted by (Ratnawati *et al.*, 2024) shows that students who learn using interactive *e-modules* based on *Google Sites* have higher critical thinking skills, are more active in discussions, and are more

involved in learning activities than students who use textbooks. Another study by (Fatonah & Isdaryanti, 2024) shows that *Google Sites*-based learning media is deemed suitable for use with a very good validation category. Similar findings are also reported by (Sundari *et al.*, 2024), which states that the *Google Sites* media developed received a very good category based on the validator's assessment.

Although various studies have shown that *Google Sites* is effective as a digital learning medium, these studies have generally not specifically developed e-modules designed to build descriptive writing skills through systematic and structured learning stages. The use of *Google Sites* still tends to be used as a medium for presenting material, rather than as an integrated learning system that guides students in the process of developing ideas, composing sentences, and producing complete texts. Therefore, this study presents the development of a Webgos-based e-module that not only utilizes a digital platform but is also designed as a learning tool that pedagogically supports the development of descriptive writing skills in elementary school students. Based on this, the novelty of this research lies in the development of a Webgos (Web *Google Sites*)-based e-module combined with material design using *Canva* to produce a more interactive and attractive learning display. In addition, this research innovation also includes the integration of *Zep Quiz*-based interactive evaluation in the developed e-module. This integration is expected to improve elementary school students' descriptive writing skills and learning outcomes.

Based on the issues described above, this study was conducted to develop a Webgos (Web *Google Sites*)-based e-module aimed at supporting the improvement of descriptive writing skills and learning outcomes of fifth-grade elementary school students. This article focuses on three main research questions, namely: (1) to what extent does the developed Webgos-based e-module meet the validity criteria, (2) how practical is the e-module when applied in the learning process, and (3) how effective is the use of the e-module in

improving students' descriptive writing skills and learning outcomes.

METHODS

This research is a *research and development* study that aims to produce a product in the form of a Webgos (*Web Google Sites*)-based e-module on descriptive writing for fifth-grade elementary school students. The development research was conducted through a systematic process, starting from needs analysis to product evaluation, to ensure that the teaching materials produced were appropriate, practical, and effective for use in learning. The development model used was the ADDIE model, which consists of five stages, namely analysis, design, development, implementation, and evaluation, because this model provides structured steps in designing learning products.

The analysis stage was conducted to identify the needs for developing learning media. The analysis covered student needs, teacher needs, curriculum, and learning materials. The analysis of student needs aimed to identify the difficulties they experienced in writing descriptive essays and their needs for interactive digital teaching materials. The analysis of teacher needs was conducted to identify learning obstacles and readiness to use technology as a learning medium. The curriculum analysis was conducted by reviewing learning outcomes and indicators relevant to descriptive writing material. Meanwhile, the material analysis included determining the scope of material such as the definition of descriptive text, characteristics, structure, types, text examples, exercises, and supporting media in the form of learning videos.

The design stage is carried out to compile the initial design of the e-module with reference to the results of the needs analysis that has been carried out previously. At this stage, researchers design the structure of the e-module, prepare learning materials, and compile various learning activities that will be carried out by students. In addition, flowcharts and storyboards are

also created to illustrate the flow of e-module usage systematically. At the same stage, researchers also prepared research instruments in the form of validation sheets for subject matter experts and media experts, which would later be used to assess the feasibility of the developed product.

The development stage is the stage of realizing the design into a complete e-module product. This process includes compiling and organizing materials, integrating various learning media, designing the module display, and compiling learning evaluations. After the product is completed, the e-module is then validated by subject matter experts and media experts using the assessment instruments that have been prepared. The validation results, in the form of assessment scores and various suggestions for improvement, are then used as a basis for revising the product until the e-module is declared suitable for use in learning.

The implementation stage was carried out through limited trials on 29 fifth-grade students at SD Negeri 27 Matekko. Before testing the students, the product was first tested on teachers to obtain initial feedback. The trial was conducted by giving a pretest to determine the students' initial abilities, then conducting lessons using the e-module, followed by a posttest to measure learning outcomes after using the module. In addition, students were also asked to fill out a response questionnaire to determine the practicality of using the learning media.

The evaluation stage is carried out by revising the product based on input from validators, teachers, and students. The revision aims to improve the product's shortcomings so that it suits learning needs and is suitable for wider use. The product testing process is carried out in several stages, namely expert validation, initial revision, small group testing, further revision, and large group testing in one class.

This study involved several parties who acted as research subjects. Validators consisting of subject matter experts and media experts were involved to assess the feasibility of the developed product. In addition, fifth-grade students acted as users of the e-

module in the learning process, while teachers acted as engagement in writing learning. observers who observed the learning activities.

The data collected in this study included Webgos (*Google Sites*) based *e-module* was developed quantitative and qualitative data. Quantitative data and systematically designed with consideration given were obtained from the results of expert validation to curriculum suitability, student characteristics, and assessments, user response questionnaire scores, and learning objectives. The material was compiled using a student pretest and posttest scores. Meanwhile, design application and then integrated into the *Google* qualitative data were obtained from various *Sites* platform so that all learning components are comments, suggestions, and responses provided by available in a single access link that students can use validators, teachers, and students during the research for independent learning. The developed *e-module* process.

Data collection was carried out using several techniques, namely expert validation to determine the validity level of the product, distribution of questionnaires to obtain information about the practicality of using *e-modules*, and tests to measure the improvement in students' descriptive writing skills. The instruments used in this study included expert material validation sheets, expert media validation sheets, teacher response questionnaires, student response questionnaires, and descriptive writing tests.

[Table 1 About here]

[Table 2 About here]

FINDINGS AND DISCUSSION

FINDINGS

This research produced a product in the form of a Webgos (*Web Google Sites*)-based *e-module* developed through the ADDIE model, which is carried out through a series of development stages that include needs analysis, product design, development process, implementation in learning, and evaluation stage. The development of the product began with a needs analysis that showed that students still had difficulty developing writing ideas, choosing the right vocabulary, and arranging sentences into coherent paragraphs. In addition, the teaching materials used previously were not interesting and did not support independent learning, so interactive digital learning media was needed to increase student motivation and

Based on the results of the needs analysis, a Webgos (*Google Sites*) based *e-module* was developed quantitatively and systematically designed with consideration given to curriculum suitability, student characteristics, and learning objectives. The material was compiled using a student pretest and posttest scores. Meanwhile, design application and then integrated into the *Google Sites* platform so that all learning components are available in a single access link that students can use for independent learning. The developed *e-module* presents several learning components, ranging from materials, instructional videos, exercises, to evaluations and usage instructions. All components are integrated to support student learning activities.

Product feasibility was tested through validation by media experts and material experts. The validation results showed that the media obtained a percentage of 87% and 95% from media validators and 97% and 90% from material validators. Instrument validation also showed scores of 94.5% and 94.75%. All of these results were in the valid category, so the product was declared feasible for use in learning. The high validity scores indicate that the *e-module* has met quality standards in terms of content, presentation, language, and graphics. The results of the validators' assessment of the webgos (*web google sites*)-based *e-module* development instrument are presented in the following table:

[Table 3 About here]

[Table 4 About here]

The practicality of webgos-based *e-modules* (*web google sites*) was analyzed through observation of learning implementation and user response questionnaires, in this case teachers as observers and students as users of webgos- based *e-modules* (*web google sites*). The scores and criteria can be seen in the following table:

[Table 5 About here]

Based on the observer's findings in the table the significance value was greater than 0.05. above, overall, the implementation of learning was Furthermore, the paired sample t-test results showed a deemed practical. The findings of the observer, who is significance value of less than 0.05, indicating a a fifth-grade teacher, stated that the implementation of significant difference between learning outcomes learning met the practical criteria because it received a before and after using the Webgos-based e-module. score of 98%, which can be considered practical. Details of the students' pretest and posttest scores are Furthermore, the scores and criteria of the teacher presented in the following table. response questionnaire can be seen in the following table:

[Table 6 About here]

Based on the results of teachers' responses to the practicality of webgos- based *e-modules* (*web google sites*) in the table above, it can be seen that teachers' responses to practicality are considered practical. The results obtained from fifth- grade teachers state that webgos-based *e-modules* (*web google sites*) fully meet the practical criteria with a score of 97. Thus, *e-modules* are considered practical learning media. Furthermore, the results of the student response questionnaire can be seen in the following table:

[Table 7 About here]

Based on the students' responses to the practicality of *the webgos-based e- module* (*web google sites*) in the table and diagram above, it is considered to be very practical overall. The results of the responses from fifth-grade students indicate that *the web-based e-module* (*Google Sites*) scored 89.11%. Therefore, based on the assessment table of students' responses to the practicality of *the web-based e-module* (*Google Sites*), it is very practical and falls within the score or percentage range of 84% to 99%.

The effectiveness of using Webgos (*Web Google Sites*) based e-modules was analyzed by comparing student learning outcomes before and after using the e-modules. The results of the analysis showed that the average pretest score of 45 increased to 88 on the posttest. This increase indicates an improvement in students' learning abilities after using e-modules in learning.

Based on the statistical test results, the research data was declared to be normally distributed because

[Table 8 About here]

Based on the *pretest* results, most of the students were in the poor and fair categories, with 15 participants (51.72%) scoring 21–40 and 11 participants (37.93%) scoring 41–60, while 3 participants (10.34%) were effective, and none were very effective. After learning using *the Webgos (Web Google Sites)-based e- module*, the *posttest* results showed a significant improvement: 25 participants (86.21%) were very effective and 4 participants (13.79%) were effective, with no participants in the adequate, below average, or very below average categories. Thus, *the Webgos (Web Google Sites)-based e-module* was declared to be very effective in improving student learning outcomes.

The N-Gain test results obtained an average score of 0.7973, which is classified as highly effective because it is above the threshold of 0.70. The distribution of scores also shows a shift from a predominance of low scores in *the pretest* to a predominance of very high scores in *the posttest*, indicating that the use of e-modules can improve students' overall learning performance.

Overall, the results of the study show that *the Webgos (Web Google Sites)- based e-module* meets the three indicators of learning media quality, namely validity, practicality, and effectiveness, and is able to increase student engagement in learning through systematic presentation of material, attractive display, and interactive features.

DISCUSSION

The development of Webgos (*Web Google Sites*)- based *e-modules* in this study was carried out through

the ADDIE model stages, which include analysis,

design, development, implementation, and evaluation. The analysis stage showed that students' writing skills were still low and the learning media used tended to be conventional and less interactive. This condition indicates a gap between students' learning needs and the available learning media. Therefore, web-based digital media was developed to provide structured material, step-by-step exercises, and self-evaluation in one integrated platform. The *e-module* prototype was designed using *Google Sites* with visual material design through Canva so that the display structure, navigation, and learning flow were systematically arranged so that students could learn independently and in a focused manner.

This *e-module* is organized into several main sections, such as a user guide menu, motivation, ice breaking, competencies, materials, learning videos, quizzes, and evaluations. Each section has a pedagogical function designed to support the students' learning process in stages. This design is in line with the constructivist theory according to (Romdhon *et al.*, 2024), which emphasizes that knowledge is actively constructed by students through learning experiences, practice, and reflection. The gradual practice and self-evaluation features in *the e-module* allow students to construct their own understanding of the concept of descriptive writing. These results are in line with the research (Ghozali *et al.*, 2024), which states that *Google Sites-based e-modules* can increase learning engagement because they are flexible, attractive, and support independent learning.

The validity of *the e-module* is demonstrated through the results of the validation of instruments, materials, and media, all of which are in the valid category with a high percentage. Instrument validation obtained an average score above 94%, indicating that the research measurement tools have met the aspects of content, construct, and measurement objectives. These findings support (Nisrina *et al.*, 2022), which states that expert validation is a crucial stage to ensure that the instrument accurately measures the research variables. Material validation showed a percentage of 90–97%, while media validation obtained a score of

87–95% after revisions were made according to the validator's suggestions. This shows that the product has met the eligibility standards before being applied in learning.

This feasibility also shows that the quality of learning media is influenced by the suitability of the material to the characteristics of the students. This is in line with the opinion of (Wulandari *et al.*, 2023), which states that teaching materials are considered feasible if they are in line with learning objectives and students' cognitive levels. In addition, (Ariyanti *et al.*, 2022) states that learning media that is interesting and easy to use can increase interest in learning. Thus, the validity of *the e-module* in this study indicates that the media has met the standards of feasibility in terms of content, appearance, and use, so that it is ready to be used in actual learning.

The practicality of *the e-module* can be seen from the results of observations of learning implementation, which received a very high score of 99.16 in small group trials and 98 in large group trials. This shows that the media is easy to use, the learning flow is clear, and learning time can be used efficiently. The integration of interactive activities such as quizzes makes students actively involved in the learning process, while clear instructions for use help teachers manage learning systematically. These conditions show that media designed with a simple navigation structure and clear instructions can support optimal learning implementation.

Teachers' and students' responses also showed a very practical category with percentages above 97% and 89.11%. Teachers assessed that *the e-module* facilitated the delivery of material because all learning components were organized in one system, while students felt helped in understanding the steps of writing descriptions gradually. These results reinforce the findings of (Nugroho *et al.*, 2024) and (Tony *et al.*, 2025), which state that *Google Sites-based e-modules* can improve student understanding because they provide easily accessible, interactive material that supports independent learning. These findings are also

consistent with constructivist theory, which asserts that effective learning occurs when students are actively involved in the process of constructing their own knowledge. digital learning modules can increase student engagement and independence in learning. Thus, the improvement in learning outcomes in this study is not only statistically significant but also supported by constructivism theory and previous research findings on the effectiveness of digital modules.

The effectiveness of *the e-module* was proven through a significant increase in *pretest* and *posttest* scores in both small and large trials. The average student score increased from low to very high after using the media, accompanied by a change in the score distribution from a dominance of low scores to a dominance of high scores. Based on the analysis results, the N-Gain value of 0.7973 is in the high category. This shows that the use of learning media has a positive impact on improving students' descriptive writing skills. The material presented systematically, supported by visual elements and exercises given in stages, helps students understand concepts better and apply them in writing activities. This improvement is not only seen in the increase in learning scores, but also in the quality of students' writing, which shows progress. Students began to be able to organize their ideas more coherently, present descriptions with more concrete details, and use more appropriate and varied vocabulary. This indicates that the systematic structure of the e-module and gradual exercises serve as scaffolding that supports the development of conceptual understanding and practical writing skills. Thus, the effectiveness of the media is not only seen from the test results but also from the development of descriptive thinking and more structured idea management skills. This is in line with the opinion of (S. J. Pertiwi et al., 2024) stating that the effectiveness of teaching materials depends on the suitability of the material taught with the learning objectives, ease of understanding, and its ability to increase students' curiosity.

These results are in line with research on (Lativa et al., 2024), which shows that web-based *e-modules* are effective in improving learning abilities because they combine accessibility, interactivity, and clear material structure. Furthermore, these findings are also consistent with international research by (Mamun et al., 2020), which states that structured web-based

The novelty of this study lies in the development of a Webgos (*Web Google Sites*)-based *e-module* specifically designed to improve elementary school students' descriptive writing skills through an integrated learning structure in a single platform. Unlike previous studies that generally examine web-based *e-modules* in general or in other subjects, this study specifically integrates pedagogical design, visual illustrated materials, step-by-step exercises, and evaluation into a single writing learning system. Thus, this study contributes a new model for developing *Google Sites-based* digital learning media that is not only valid, practical, and effective, but also contextual to the language learning needs of elementary schools.

CONCLUSIONS

Based on the results of research and development, it can be concluded that teachers and students need interactive, interesting, and easily accessible digital learning media, because the previous media was not very varied, did not fully support independent learning, and was not able to increase motivation to learn in writing descriptive essays. This research produced a Webgos (*Web Google Sites*)-based *e-module* that was systematically designed with a complete learning menu, supporting both independent and guided learning. The *e-module* was declared valid based on assessments by subject matter experts and media experts (media 87–95%, subject matter 90–97%) as well as research instrument validation (94.5–94.75%), making all instruments suitable for use. In terms of practice, this *e-module* is easy to use, as evidenced by observations of learning implementation (98%) and responses from teachers (97%) and students (89.11%). The effectiveness of *the e-module* can be seen from the significant improvement in student learning outcomes in small and large-scale trials, with most students achieving a score range of 81–100 on *the posttest*. Thus, this Webgos (*Web Google Sites*)-based *e-module* is valid, practical, and effective as a learning medium

for developing descriptive writing skills, both independently and with guidance.

In addition, this study contributes to the development of digital learning media by presenting a Google Sites-based e-module model that is systematically designed and tailored to teaching descriptive writing at the elementary school level. In practical terms, the e-module developed can serve as a reference for teachers in integrating structured and interactive digital media into classroom learning practices, particularly in language learning at elementary schools.

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LIMITATIONS AND RECOMMENDATIONS

This study has several limitations that need to be considered when interpreting the results. First, the product trial was only conducted in one class at one school, so the generalization of the results is still limited to the context of the subjects and the research environment. Second, the implementation of the Webgos-based e-module was carried out in a relatively short period of time, so it cannot describe the long-term impact of media use on the development of students' writing skills. Third, the measurement of effectiveness still focuses on learning outcomes and descriptive writing skills, so that other aspects such as creativity, intrinsic motivation, or advanced literacy skills have not been analyzed in depth.

Given these limitations, further research should conduct trials on a broader population, involving more schools and diverse student characteristics, in order to

improve the level of product generalization. Further research could also test the use of e-modules over a longer period of time to see the consistency of their effectiveness and examine their influence on other variables such as writing creativity, learning independence, and higher-order thinking skills. In addition, the development of additional interactive features and the integration of other learning technologies could also be carried out to improve the quality of the product.

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Table 1/ Grid Validation Expert Design Material

No	Rated aspect	Indicator
1.	Learning	Conformity material with achievements learning
		Conformity material with objective learning
		Compliance material with characteristics student
2.	Material	Load material in the media is packaged with clear
		<i>E- module based webgos (web google sites) make it easier student understand material</i>
		Material flow served with clear

Source : (Purwita & Zuhdi, 2023)

Table 2/ Grid Validation Expert Media Design

No	Rated aspect	Indicator
1.	Appearance	Attraction design
		Illustration served with clear
		Election illustration in accordance material
		Election color in accordance
		Election type letter in accordance
2.	Navigation	<i>E- module based Google Sites easy operated</i>
		<i>E- module based Google Sites easy accessible Where just</i>
3.	Learning	<i>E- module Google Sites web- based in accordance with level development cognitive student</i>
		<i>E- module Google Sites web- based can motivating student in Study.</i>

Source : (Firdaus & Wilujeng, 2018)

Table 3/ Instrument Validation Results

Aspect	Validator 1		Validator 2	
	%	Criteria	%	Criteria
Validation Instrument Response Student	$\frac{32}{32} = 100$	Very Valid	$\frac{31}{32} = 97$	Valid
Validation Instrument Teacher Response	$\frac{31}{32} = 97$	Valid	$\frac{29}{32} = 91$	Valid
Validation Instrument Implementation Learning	$\frac{39}{40} = 97,5$	Valid	$\frac{37}{40} = 92,5$	Valid
Validation Grid and Test Instruments	$\frac{51}{56} = 91,07$	Valid	$\frac{53}{56} = 95$	Valid
Validation Teaching Module Instrument	$\frac{115}{120} = 96$	Valid	$\frac{118}{120} = 98$	Valid
Validation Media Instruments	$\frac{52}{60} = 87$	Valid	$\frac{57}{60} = 95$	Valid
Validation Material Instruments	$\frac{58}{60} = 97$	Valid	$\frac{54}{60} = 90$	Valid
Total	$\frac{378}{400} = 94,5$	Valid	$\frac{379}{400} = 94,75$	Valid

Table 4/Recapitulation Results Percentage Score Validity

No	Aspect	Validator 1		Validator 2	
		Percentage score	Information	Percentage score	Information
1	Media	87%	Valid	95%	Valid
2	Material	97%	Valid	90%	Valid
Average		92%	Valid	92.5%	Valid

Table 5/ Observation Results Implementation Learning

No	Observer	Score	Average	Criteria
1.	Observer	$\frac{47}{48} \times 100\%$	98	Practical

Table 6/ Questionnaire Results Teacher Response

No	Respondents	Score	Average	Criteria
1.	Respondents	$\frac{116}{120} \times 100\%$	97	Practical

Table 7/Questionnaire Results Response Participant Educate

No	Respondents	Percentage	Criteria
1.	Participant educate class V (29 people)	89.11%	Very Practical

Table 8. Pretest and Posttest Results

Score	Category	<i>Pretest</i>		<i>Posttest</i>	
		F	P	F	P
81%-100%	Very Effective	-	-	25	86.21
61%-80%	Effective	3	10.34	4	13.79
41%-60%	Enough	11	37.93	-	-
21%-40%	Not enough	15	51.72	-	-
0%-20%	Very less	-	-	-	-
Total		29	100	29	100