



MOODLE-BASED INSTRUCTION IN BLENDED LEARNING TO FOSTER JUNIOR HIGH SCHOOL STUDENTS' DESCRIPTIVE WRITING: A PRE-EXPERIMENTAL STUDY

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ABSTRACT

Although mastering writing skills is a fundamental component of English as a Foreign Language (EFL) learning, students may struggle in organizing ideas, using proper vocabularies, or constructing sentences accurately in terms of the grammar. This study aims to examine Moodle-Based Instruction in Blended Learning to foster the writing skills. By focusing on junior high school EFL students and descriptive writing, this study addresses a research gap left by previous research that has received limited empirical attention. A sample of 30 eighth-grade pupils from a private junior high school in Sidoarjo, selected from a total population of 147 students, was used in the research, which employed a pre-experimental design. An analytical scoring rubric and a brief essay writing examination were implemented in this investigation. The writing performance of students was assessed before and after the treatment using pre-test and post-test procedures. The significance of the differences was investigated through statistical analyses, which included paired sample t-test. The result indicates there is a significant improvement in the students' scores. The average score from the pre-test is 67.83, and the post-test is 79.27. The significant improvement happens in vocabulary, organization, and grammar aspect. In conclusion, Moodle-Based Instruction in Blended Learning can foster students' writing skills. The results of this study has a beneficial impact on the development of students' academic writing abilities, particularly in the area of descriptive text writing. Consequently, this investigation offers empirical evidence in favor of the integration of technology-mediated instruction into the teaching of English at the junior high school level.

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1. INTRODUCTION

Mastery of writing skills is a fundamental component of English as a Foreign Language (EFL) learning, as it plays a crucial role in enabling students to express their thoughts and ideas effectively in written form. Proficient writing skills allow students to communicate ideas clearly and systematically, facilitating the explanation of complex concepts and contributing to improved academic performance (Fathi & Rahimi, 2022). In academic contexts, writing competence is essential for presenting arguments and analyzing information in essays and research papers, thereby demonstrating students' understanding of subject matter (Nguyen & Nguyen, 2022). Furthermore, the development of writing ability enhances students' capacity to articulate opinions and construct logical arguments, which ultimately enriches the overall learning experience (Song & Song, 2023). Therefore, mastering writing skills in EFL education is crucial for students' academic success and effective written communication.

Although mastery of writing skills is essential for academic success, writing comprises multiple components that learners must acquire. Writing consists of several interrelated components including content, organization, grammar, vocabulary, and mechanics (Brown, 2007). The presence of multiple components often makes the writing process complex, resulting in students' difficulty in producing coherent texts (Abdul Hadi et al., 2024). One prominent issue underlying students' writing difficulties is limited vocabulary knowledge, which is frequently associated with insufficient reading exposure. Instructional practices that emphasize memorization and translation rather than extensive reading reduce students' opportunities to acquire new vocabulary items. As a result, students may struggle to select appropriate lexical choices to express their ideas clearly. Research has shown that vocabulary knowledge plays a critical role in effective writing, particularly in constructing coherent sentences (Mohseni, 2019). Furthermore, reading activities expose learners to a variety of writing styles and text structures that are essential for writing development (Hameed, 2021). Limited exposure to such input not only restricts vocabulary growth but also constrains students' understanding of effective writing techniques (Lee, 2014).

Another problem faced by EFL students concerns difficulties in using grammar accurately. One contributing factor is that many teachers still rely on rote memorization methods. When instruction emphasizes memorization, students tend to struggle to understand how grammatical rules are applied across different types of texts (Uktamovna, 2023). As a result, students experience persistent difficulties in understanding grammatical structures and continue to make errors in their writing (Dobakhti & Panahi, 2024). Furthermore, delayed feedback in paper-based learning, along with the limited utilization of technology such as online teacher–student discussions, reduces students' opportunities to identify and correct grammatical errors. Teacher feedback plays a crucial role in improving students' texts and enhancing the overall quality of writing (Fatoni et al., 2024). In addition, the use of technology to facilitate teacher–student interaction has been shown to support grammar learning and error correction, even when immediate in-school feedback is not available (Sugianto et al., 2021). Consequently, grammatical errors not only hinder students' writing proficiency but also negatively affect their confidence in using the language.

To address these challenges, Moodle-Based Instruction in Blended Learning offers a potential approach to improving students' writing skills by integrating face-to-face instruction with online learning. This approach facilitates students' engagement in various stages of the writing process through interactive tools and instant feedback (Manna et al., 2023; Mira & Yulia, 2024). Blended learning also enables faster feedback, provides extended opportunities for grammar practice, and enhances students' confidence in writing (Hadiyanto et al., 2022). The effectiveness of blended learning can be further strengthened when it is integrated with a Learning Management System (LMS). One widely used LMS is Moodle, which offers interactive features that support writing instruction. Moodle provides feedback tools that assist students in improving their writing and collaborating with peers (Devi, 2020; Prasetya, 2021). In addition, Moodle allows students to learn at their own pace and organize their writing more effectively (Bojiah, 2022). Moreover, previous studies have shown that the use of Moodle in writing instruction offers substantial benefits through the integration of online resources, face-to-face learning, and peer feedback (El-Sabagh, 2021; Hazaymeh, 2021).

Recent studies have demonstrated that Moodle-Based Instruction in Blended Learning can lead to significant improvements in learning outcomes. According to Kharchenko (2023), it is reported that the integration of blended learning with Moodle at the university level effectively supports the creation of an engaging learning environment. In addition, the use of Moodle in the learning process, particularly when combined with flowchart-based materials, has been shown to enhance students' learning motivation (Nugroho et al., 2023). Furthermore, previous research indicates that implementing a blended learning model through the Moodle application positively impacts students' cognitive abilities (Siswanto et al., 2023). Similarly, Suhendi (2024) found that the integration of blended learning and Moodle contributes to the improvement of students' critical thinking skills. This finding is supported by Susanti and Rachmajanti (2023), who revealed that blended learning integrated with VINESA (an LMS platform used at a public university in Surabaya) can promote students' critical thinking through writing tasks at the university level.

Despite a growing number of studies have examined Moodle-Based Instruction in Blended Learning in educational settings, several research gaps remain. In the Indonesian context, most existing studies have focused on university students, while studies involving junior high school students are still limited. This is often due to the assumption that students at lower educational levels may have limited readiness to engage in online learning environments. In addition, previous research has tended to apply Moodle-based blended learning primarily in pedagogical or content-based courses, with relatively little attention given to its use in writing-focused instruction. Consequently, research exploring the implementation of Moodle-based blended learning to support EFL writing skills at the junior high school level remains scarce.

Given the limited discussion on Moodle-Based Instruction in Blended Learning at the junior high school level, this study aims to address the identified research gap. Accordingly, the research question guiding this study is: Can Moodle-based instruction in blended learning foster junior high school students' descriptive writing ability?

In line with this question, the objective of the study is to examine the impact of Moodle-Based Instruction in Blended Learning to foster students' descriptive writing skills. Descriptive text is considered a foundational genre that supports students' development before progressing to more advanced types of writing. This study employs both offline and online learning sessions in accordance with the blended learning model. The findings of this study are expected to contribute to future research in related fields and provide pedagogical insights for teachers in designing effective teaching strategies and learning environments for teaching descriptive writing. In addition, Moodle-Based Instruction in Blended Learning is expected to offer a more flexible and engaging learning experience for students.

2. METHOD

Research Design

This study employed a quantitative approach using a pre-experimental research design. According to Creswell (2018), a pre-experimental design allows researchers to implement and examine an intervention without the inclusion of a control group for comparison. The pre-experimental approach was selected because this study represented the students' first experience with implementing blended learning through Moodle. In addition, limitations related to time and resources made the use of a control group less feasible. Therefore, the pre-experimental design was considered the most appropriate choice for this study.

Blended Learning Models

Although blended learning encompasses various instructional models, this study adopts the Station Rotation Model. This model was chosen due to the limited time available during the research period. In this model, students rotate through several learning stations according to a schedule set by the teacher. Compared to other blended learning models that require longer preparation and adaptation, the Station Rotation Model is more feasible for classroom implementation. Furthermore, it enables the integration of diverse learning activities within a single class session, including online tasks, collaborative group work, independent practice, and direct instruction (Kömür et al., 2023). This structured design facilitates effective classroom management and promotes active student participation, it can be seen in the figure 1.

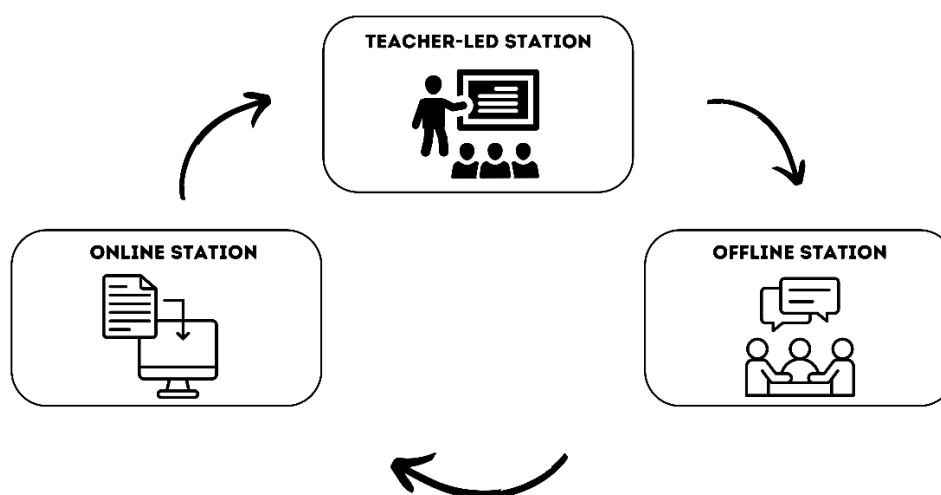


Fig. 1 – Station Rotation Model

Moreover, the Station Rotation Model is considered more suitable because it does not require specialized tools or substantial changes to the existing classroom setting. Belazi and Ganapathy (2021) note that this model is more cost-effective than many other blended learning models, as it can be implemented in regular classrooms without significant infrastructural modifications. In addition, this approach enables more personalized learning experiences through increased teacher guidance and support for individual students. Based on these considerations, the Station Rotation Model is regarded as the most practical and appropriate option for this study.

Population and Sample

This study was conducted at one of the private junior high schools in Sidoarjo. In this research, the population consisted of 8th grade at all levels, with a total of 147 (N=147). The researcher used purposive sampling to select sample based on specific criteria. A total of 30 students (N = 30) from Grade VIII A were selected purposively. Following the sample selection, preliminary data were gathered from the English teacher to identify students' writing difficulties and their familiarity with digital learning tools to support the implementation of Moodle-based blended learning. The teacher reported that many students experienced difficulties in developing ideas during writing activities, while approximately 80% of the students were familiar with basic digital tools, such as accessing learning materials and submitting assignments online.

Instruments

The research instruments included a descriptive writing rubric that was adapted from Brown & Abeywickrama (2019) and a brief essay writing test. The essay assignment necessitated that Grade VIII students compose a descriptive text of no more than 150 words that described one of Indonesia's national dishes, including Rendang, Nasi Goreng, or Gado-gado. A pre-test and a post-test were implemented in two phases, with the task being designed and administered through Moodle. The writing rubric evaluated five components: vocabulary, grammar, organization, content, and mechanics. Each component was assigned specific performance descriptors and a weighted contribution to the overall score (100 points). The following was the rubric provided by the researcher.

Table 1- Descriptive Text Rubric

Aspect	Score	Performance Descriptive
Vocabulary (V) 25%	21-25	Appropriate use of words and word formations.
	15-20	Some mistakes in word choice, but the meaning is still clear.
	10-15	Confusing word choice and word formations.
	5-10	Poor understanding of words, word forms, and confusing.
Grammar (G) 25%	21-25	There is a minority grammatical error.
	15-20	Several grammatical errors, but have a small impact on meaning.
	10-15	A lot of grammatical errors and have an impact on meaning.
	5-10	Dominated by grammatical errors.
Organization (O) - identification - description 20%	16-20	Identification is detailed, and descriptions are structured with suitable conjunctions.
	11-15	Identification is almost close to done, and descriptions are structured with appropriate conjunctions.
	6-10	Identification is partially complete, and descriptions are structured with a small conjunction.
	1-5	Identification is incomplete, and descriptions are structured without conjunctions.
Content (C) - topic - detail 15%	12-15	The topic is detailed and specific, every aspect is relevant to it.
	8-11	The topic is detailed and specific, but the aspects are nearly relevant to it.
	4-7	The topic is detailed and specific, but the aspects are not relevant to it.
	1-3	The topic is unclear, and the aspects are not relevant to it.
Mechanics (M) - Spelling - Punctuation - Capitalization 15%	12-15	The text displays accurate use of spelling, punctuation, and capital letters.
	8-11	The text displays infrequent mistakes in spelling, punctuation, and capital letters.
	4-7	The text displays frequent mistakes in spelling, punctuation, and capital letters.
	1-3	The text displays various mistakes in spelling, punctuation, and capital letters.
Total Score		25 + 25 + 20 + 15 + 15 = 100

Validity and Reliability

This study involved the validation of research instruments by two experts to confirm content validity and alignment with the research objectives. A try-out was undertaken with 15 students to evaluate the reliability and internal consistency of the instruments, wherein they completed the identical written test under comparable conditions using Cronbach's Alpha. The obtained Cronbach's Alpha value was 0.784, exceeding the allowed threshold of 0.70. This signifies that the device possesses a high degree of reliability. Consequently, after expert validation and

empirical reliability testing, the instrument is deemed valid and trustworthy for assessing students' descriptive writing abilities.

Data Collection Technique

To collect data, researcher carried out several stages which can be seen in the figure below.

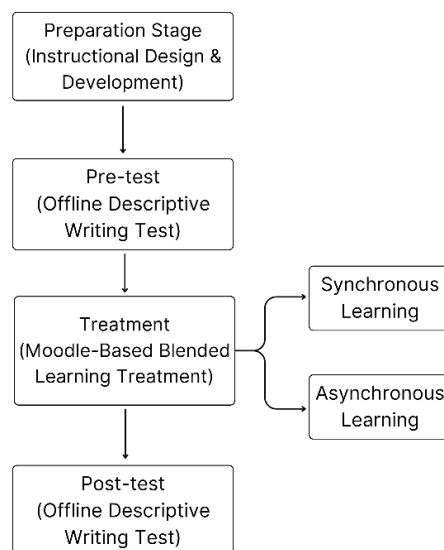


Fig. 2 – Data Collection Procedure

The researcher systematically designed and organized all instructional materials to be used throughout the learning process. These materials were developed comprehensively, covering all stages of instruction from the initial introduction to the final learning activities. The prepared materials were then uploaded and structured in the Moodle learning management system to ensure accessibility and consistency. This preparation stage aimed to support effective implementation of the blended learning model by providing well-organized and ready-to-use learning resources as illustrated in figure 3.

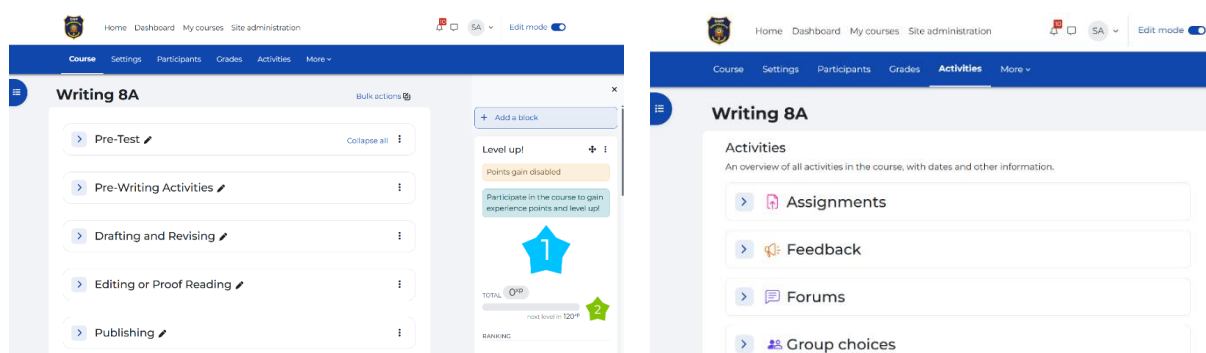


Fig. 3 – Instructional Design and Development

Following the pre-test, thirty samples of the students in the class were administered to get the initial data. The pre-test was in the form of a short essay, in which students were required to write a descriptive text on the topic "National Dish." This pre-test was conducted to assess the students' initial level of descriptive writing ability before the intervention.

Subsequently, the treatment was conducted after the researcher identified the students' initial proficiency level based on the pre-test results. The treatment was implemented through a blended learning model that integrated face-to-face classroom instruction with Moodle-based online activities. During the implementation, students participated in synchronous learning activities in the classroom and completed asynchronous tasks through the Moodle. This treatment was designed to enhance students' writing performance by providing structured learning experiences across both instructional modes. The treatment session can be shown in the table below.

Table 2- Treatment Schedule

Session	Stages of Writing	Activities		Documentation
		Synchronous Learning	Asynchronous Learning	

1	Students access Moodle e-learning and watched a video about national dishes. They analyzed two descriptive texts, identify the generic structure, language features, and discuss their answers with the teacher by Television.	The students classified the generic structures of "Nasi Bebek Madura" and "Nasi Padang" texts independently outside of the class.	
2	Pre-writing The teacher reviewed the previous assignment. Then, students continue with the next task on language features, supported by a PowerPoint explanation. They were given a new text "Naniura: Indonesian-Style Sushi" and complete the activity.	Students were given ordered sentences from the "Naniura" text and asked to arrange them into a coherent paragraph independently outside of class.	
3	Drafting, re- vising, and proofread After discussing the previous task, students form pairs and chose different topics for their own descriptive texts. They brainstormed and drafted the texts with attention to structure, then submit their drafts via e-learning.	Students evaluated their partner's work using a rubric, and received feedback. Then, the students revised their texts and resubmitted the task on the Moodle.	
4	Publishing The students presented their descriptive texts individually. Presentations were displayed via TV and done in pairs.	Students revised and submit the final version of their texts based on feedback, and completed a reflection activity in the e-learning platform.	

After the treatment schedule, the task specifications were clarified to emphasize the learning outcomes of each session. The pre-writing stage aimed to develop students' understanding of the characteristics of descriptive texts, including their generic structure and language features, so that students became familiar with the text model. The drafting stage was intended to improve students' ability to organize ideas and produce coherent descriptive texts based on the writing stages that had been taught. Finally, the publishing stage aimed to enhance students' confidence and critical awareness by allowing them to present their written work and revise it based on feedback from the teacher and peers.

In the final stage of data collection technique, a post-test was administered after the completion of the treatment to obtain students' writing scores and measure improvement following the intervention. The post-test required the same thirty students to individually write a descriptive text on the topic "National Dish," ensuring that the scores reflected their actual writing performance without external assistance. The scores obtained from this test served as the post-intervention data for statistical analysis.

Data Analysis

The data were analysed utilizing IBM SPSS version 26. The initial stage involved evaluating the normality of the data distribution by the Shapiro-Wilk test, given that the participant count was below 100 ($N < 100$). Pallant (2020) asserts that a dataset is deemed normally distributed if the significance value (Sig.) exceeds 0.05. Consequently, the data satisfied the normalcy assumption, and a parametric test—specifically, a paired sample t-test—was employed in the subsequent analysis. This exam was used because to the study involving a single group of students assessed at two distinct time intervals. The paired sample t-test sought to determine if a statistically significant

difference existed in students' mean scores between the pre-test and post-test. If the two-tailed significance value was below 0.05, the alternative hypothesis was accepted, signifying a substantial enhancement in performance.

In the concluding phase of data analysis, the researcher computed the effect size utilizing Cohen's *d* to quantify the extent of the treatment's influence. Cohen's (1988) criteria classify an effect size of 0.2 as minor, 0.5 as moderate, and 0.8 or greater as big. This supplementary analysis facilitated a more thorough comprehension of the intervention's practical impact on students' writing performance.

3. RESULTS AND DISCUSSION

Moodle-Based Instruction in Blended Learning Fosters Junior High School Students' Descriptive Writing Ability

In response to the formulated research question, the findings indicate that Moodle-Based Instruction in Blended Learning fosters junior high school students' descriptive writing skills, as demonstrated by the following statistical calculations.

Students' Mean Result

The results indicate that Moodle-Based Instruction in Blended Learning fosters students' writing skills, particularly in descriptive writing among junior high school students. This improvement is evident from the increase in the students' mean score following the implementation of the intervention.

Table 3- Students' Mean Test

	Mean	N	Std. Deviation	Std. Error of Mean
Pretest	67.8333	30	12.63570	2.30695
Posttest	79.2667	30	12.09141	2.20758

Table 3 shows that the mean pre-test score of the 30 students was 67.83, while the mean post-test score increased to 79.27. This indicates a difference between the pre-test and post-test results. Descriptively, the mean score increased by 11.43 points, suggesting a notable improvement in students' performance.

Test of Normality

The normality of the data was examined using the Shapiro–Wilk test, which is suitable for samples with fewer than 100 samples ($N < 100$). The results are presented below.

Table 4- Normality Test

	Statistic	df	Sig.
Pretest	.951	30	.183
Posttest	.958	30	.275

The pre-test (Sig = 0.183) and post-test (Sig = 0.287) values were both greater than 0.05, indicating that the data are normally distributed. Therefore, a parametric paired-sample t-test was used for further analysis.

Paired Sample t-Test

Once the students' scores were descriptively analysed using mean values and confirmed to be normally distributed, a paired-sample t-test was conducted. This test was employed to determine whether there was a statistically significant improvement in students' scores following the implementation of Moodle-Based Instruction in Blended Learning. The analysis compared students' pre-test and post-test scores obtained from the same group of samples.

Table 5- Paired Sample t-test

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pretest – Posttest	-11.43333	7.52780	1.37438	-14.24426	-8.62241	-8.319	29	.000

The results of the paired-sample t-test indicate that the Sig. (2-tailed) value is 0.000, which is lower than the significance level of 0.05. Therefore, the alternative hypothesis is accepted, indicating a statistically significant improvement in students' descriptive writing scores after the intervention using blended learning through Moodle.

This finding answers the research question by confirming that Moodle-Based Instruction in Blended Learning significantly fosters junior high school students' ability to write descriptive texts. The improvement is supported by both the increase in students' mean scores, which improve by 11.43 points, and the results of the paired-sample t-test. Accordingly, the objective of this study is successfully achieved.

Effect Size

To determine to what extent the treatment influenced students' descriptive writing performance, the effect size was calculated using Cohen's d. The results are presented in the table below.

Table 6- Cohen's d Test

	t	√N
	8.31	5.47
Cohen's d result	1.51	

The calculation above showed the effect size result is 1.51, which is greater than 0.8. As stated in chapter 3, if the value is greater than 0.8, it means that the effect size in this study has a large effect on students' descriptive text writing based on students' scores after getting treatment by the integration of blended learning through Moodle.

The calculation above shows that the effect size is 1.51, which exceeds the threshold of 0.8, this value indicates a large effect. Therefore, Moodle-Based Instruction in Blended Learning had a large effect on students' descriptive writing performance, as reflected in their post-intervention scores.

Students' Improvement in Each Aspects

In order to conduct a deeper analysis, the researcher calculated the students' scores in each aspect. To understand descriptive writing skills, students must be able to master 5 elements of writing: vocabulary, grammar, organization, content, and mechanics. Table 7 shows the results of students' mastery in writing aspects comparing the pre-test and post-test.

In order to conduct a deeper analysis of students' descriptive writing skills, the researcher analysed students' scores in five writing aspects: vocabulary, grammar, organization, content, and mechanics. Table 5 compares students' performance in each aspect before and after the intervention.

Table 7- Students' Proficiency in Descriptive Writing Aspects

No	Writing aspects	Average Score		Increase
		Pre-test	Post-test	
1	Vocabulary	15.90	19.83	3.93
2	Organization	12.23	14.87	2.63
3	Grammar	14.77	17.30	2.53
4	Content	11.97	13.83	1.87
5	Mechanic	12.97	13.43	0.47
6	Total	67.83	79.27	11.43

Table 7 presents the mean scores of students in each writing aspect. Following the implementation during the intervention, improvements were observed across all aspects in the post-test. The greatest increase was found in the vocabulary aspect, with a gain of 3.93. This improvement attributed to the learning materials provided by the teacher, which supported students in acquiring new vocabulary to describe a national dish.

The second highest increase occurred in the organization aspect, with a gain of 2.63. This improvement related to students' exposure to multiple examples of descriptive texts during the pre-writing stage, which helped them understand and apply the generic structure of descriptive texts more clearly. The grammar aspect showed the third highest increase, rising by 2.53. This improvement influenced by the peer feedback activities conducted during the revising stage, in which students were encouraged to provide feedback on grammatical accuracy.

Meanwhile, the content and mechanics aspects showed relatively lower gains. The content aspect increased by 1.87, while the mechanics aspect showed the smallest improvement, with a gain of 0.47. The limited improvement is associated with internet connectivity issues that restricted students' access to learning resources. Similarly, the lower gain in mechanics indicates that students required additional time to adapt to the use of the Moodle platform in the writing process.

Overall Improvement in Students' Descriptive Writing Performance

The findings of this study indicate that the implementation of Moodle-Based Instruction in Blended Learning resulted an improvement in students' post-test scores in writing descriptive texts. This result is consistent with previous studies reporting that blended learning positively influences students' learning outcomes, particularly in pedagogical contexts (Susanti, 2025). The observed improvement can be attributed to several instructional factors embedded in the learning process.

During the instructional stages, the researcher designed four main writing tasks: analyzing model texts, drafting, revising, and publishing the final text. In addition, several teaching strategies were incorporated, including the provision of online learning resources, classroom and online discussions, the use of graphic organizers, and real-time Moodle plugins. Through these tasks and strategies, students were encouraged to access a wider range

of reading materials, engage in peer feedback, learn flexibly across different learning environments, and complete assignments through gamified activities. These learning conditions supported students in developing writing skills at their own pace and fostered a more individualized learning experience (Mustika & Raya, 2022; Pratiwi, 2022; Chen, 2022). Consequently, Moodle-Based Instruction in Blended Learning facilitated students' ability to express ideas more clearly, work collaboratively, engage actively in learning tasks, and develop writing skills in a flexible learning environment.

Moodle Facilitated Pre-Writing Activities in Blended Learning for Developing Vocabulary and Organize The Text

A closer examination of students' performance across writing aspects revealed that the highest improvements occurred in vocabulary and organization. The improvement in these aspects can be explained through process writing theory, which emphasizes the importance of pre-writing activities such as idea generation and planning before composing a text. During the pre-writing stage, students were exposed to multiple model texts and structured activities provided by the teacher, enabling them to develop lexical resources and organize ideas more effectively prior to drafting. Increased exposure to reading materials allowed students to acquire new vocabulary and apply it appropriately in their writing. This finding aligns with Rahmawati (2022), who reported that pre-writing activities contribute to vocabulary development. Furthermore, model texts also served as organizational guides, helping students structure their ideas into coherent paragraphs. This result is consistent with studies by Gomwalk (2023), which found that pre-writing activities enhance students' ability to organize ideas logically in writing. Therefore, the integration of pre-writing activities within Moodle-Based Instruction in Blended Learning effectively supported students' development in vocabulary and organization.

Peer Feedback Supported by Moodle in a Blended Learning Environment for Grammatical Accuracy

In the revising stage, students engaged in peer feedback activities to evaluate grammatical accuracy in their writing. This stage was conducted online, allowing students to provide and receive feedback flexibly outside the classroom. The teacher facilitated this process by utilizing peer feedback tools within Moodle, enabling students to revise their writing collaboratively and at their own pace. Peer feedback plays an essential role in the writing process, as students learn from suggestions and corrections provided by their peers. These findings are consistent with Alsowat (2022), who reported that blended learning strategies improve students' writing proficiency, particularly in grammar. Peer feedback also assists students in identifying appropriate grammatical structures and reducing errors in their writing (Mellati et al., 2021). Additionally, peer feedback activities promote critical thinking and provide opportunities for students to express ideas freely in collaborative settings (Elboshi, 2021). This revising stage reflects sociocultural learning theory, which emphasizes the role of social interaction and collaboration in supporting learners' development. Through peer interaction, students were able to recognize weaknesses in their grammar and content, leading to improved writing accuracy and clarity.

The Role of Gamification in Moodle-Based Blended Learning as Motivational Support

Given the complexity of writing skills, the researcher also incorporated gamification tools to maintain students' motivation throughout the learning process. The findings indicate that students demonstrated higher motivation to complete writing tasks through the use of gamification features in Moodle, specifically the "Level Up!" plugin. This plugin employs a leaderboard system in which students earn experience points and progress through levels based on task completion. Although the gamification feature did not directly influence writing proficiency, it had a notable impact on students' motivation to write descriptive texts. This finding supports Dirgantoro (2022), who reported that Moodle gamification plugins encourage student engagement in learning. The competitive and game-like environment fostered enthusiasm and sustained participation during learning sessions, as students perceived the tasks as challenges rather than routine assignments (Wünsche et al., 2025). As a result, students were motivated to complete tasks consistently in order to progress to higher levels, thereby maintaining engagement throughout the writing process.

Moodle-Based Instruction in Blended Learning is Appropriate for Junior High School Students

Based on these findings, Moodle-Based Instruction in Blended Learning appears to be appropriate for junior high school students. While previous studies have suggested that blended learning can be challenging for lower-grade students due to teachers' perceptions (Rombot, 2020), the results of the present study indicate that students are able to engage with learning materials independently before classroom instruction. This finding is consistent with Wihartanti (2022), who reported that blended learning can improve elementary students' motivation and participation in learning activities. Furthermore, this study extends previous research by showing that Moodle-based blended learning can be effectively implemented in teaching descriptive writing. Therefore, the present findings suggest that earlier assumptions regarding the limited applicability of blended learning for lower-grade students should be reconsidered.

Implication of Moodle-Based Instruction in Blended Learning

Although Moodle-Based Instruction in Blended Learning resulted significant improvement across most writing aspects, the gains in content and mechanics were relatively limited. This limited improvement in the content aspect can be attributed to external factors, particularly unstable internet connectivity during access to online learning materials, as Moodle-based instruction heavily depends on reliable internet access. Previous studies have similarly reported that limited internet connectivity poses a major obstacle in online learning environments (Fikri et al., 2021; Susanti, 2023; Utami, 2022). In addition, the relatively high initial proficiency of the students prior to the treatment have contributed to the modest improvement in content, as preliminary observations indicated that students in the

International Class Orientation already possessed sufficient background knowledge and ideas for writing. Consequently, the improvement in this aspect was less pronounced, suggesting a possible ceiling effect influenced by both external technical constraints and students' prior competence.

The mechanics aspect showed the lowest improvement, which attributed to students' limited familiarity with Moodle as a learning platform. During the writing process, some students experienced difficulties in formatting their texts properly, as it was their first exposure to Moodle and they were unfamiliar with its text-editing features. This condition required the researcher to provide continuous guidance until students were able to adjust their writing format appropriately, indicating that students' readiness for digital-based learning had not been fully developed (Mulyadi et al., 2025). However, this limitation appears to be temporary, as many students were able to adapt quickly to the digital platform. In addition, the modest improvement in mechanics also influenced by students' relatively high initial proficiency in this aspect, supported by the use of digital writing tools with automatic correction features that help students notice mechanical errors during writing (Shakil & Siddiq, 2024). Moreover, the mechanics aspect carried a lower weighting score (15%), which have contributed to the smaller gain compared to other writing aspects.

4. CONCLUSION

This study demonstrates that Moodle-Based Instruction in Blended Learning can foster the development of students' descriptive writing skills. Overall improvement was examined, particularly in vocabulary, organization, and grammar, indicating that structured online materials and collaborative learning activities can enhance students' writing performance. Although the improvement in content and mechanics were relatively limited, the findings suggest that blended learning through Moodle provides a meaningful learning environment that fosters students' writing development and engagement. Furthermore, the integration of gamification through the Moodle XP plugin positively contributed to students' motivation by encouraging active participation and sustained engagement throughout the learning process.

Despite these positive findings, further research is needed to strengthen the generalizability of the results by involving different research designs, larger samples, longer treatment durations, and diverse classroom contexts. Future studies may also explore the development of writing aspects that showed limited improvement and investigate the use of additional Moodle features or alternative learning platforms to enhance learning effectiveness. Pedagogically, this study suggests that teachers are encouraged to integrate technology-based blended learning approaches to create more engaging writing instruction, while students are expected to actively explore digital learning tools and participate in peer feedback activities to support their writing development.

6. REFERENCES

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