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The Effectiveness of Using Mind Mapping in Improving English Writing Skills of the Tenth Grade Students of SMKN 1 Pujut

Meilisa Cahya Pratiwi[1], Santi Farmasari[2], Ni Wayan Mira Susanti[3], Lalu Thohir[4]
[1-4] English Education Department, Faculty of Teacher Training and Education, University of Mataram, Indonesia

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Corresponding Author
Meilisa Cahya Pratiwi
meilisacahyapratiwi022@gmail.com

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Abstract
This research investigates the effectiveness of the Mind Mapping technique in improving the English writing skills of tenth-grade students at SMKN 1 Pujut. This study used a quantitative approach with a quasi-experimental design, involving two groups: an experimental class (X AP 1, 30 students) taught with Mind Mapping and a control class (X AP 3, 30 students) taught with conventional methods. Data were collected through pre-tests and post-tests of descriptive writing, and then scored based on content, organization, vocabulary, language use, and mechanics, and analyzed using SPSS with normality tests, homogeneity tests, and an Independent Samples t-test. The scores of the experimental group increased by 36.87 to 87.27 and the scores of the control group increased by 41.3 to 81.30 and statistical data confirmed that there was a significant difference ($t = -5.207$, $p < 0.001$). These findings showed that Mind Mapping was effective in terms of improving students in terms of organizing ideas, vocabulary and the quality of writing as a whole. One can conclude that Mind Mapping is a helpful teaching tool that encourages the development of creativity, logical thinking, and writing confidence, which makes it very helpful to both the teacher and the learner. Future studies could explore the long-term retention of writing skills acquired through Mind Mapping and investigate its effectiveness across different genres of writing and diverse learner populations.

Keywords
mind mapping, English writing skills, descriptive text, quasi-experimental study, EFL learners

INTRODUCTION

In the teaching of the English language, especially the English as a Foreign Language (EFL), writing skill is one of the key elements. It is an effective skill that helps the learners to share their ideas, feelings, and experiences in a logical and communication sense. In the 21st century, communication and creativity are regarded as key elements, and, therefore, the ability to write becomes not only an essential requirement of academic success but also a vital skill of lifetime learning (Hyland, 2019). Nevertheless, writing is ranked among the most difficult language skills among students, although it is very important. The problem that many EFL learners face is their inability to produce and structure ideas, select the right vocabulary, and use proper grammar and mechanics in the writing (Fareed et al., 2016).

Writing is means of expression of ideas and feelings by means of using letters, dot, and spaces to create understandable texts (Hyland, 2016). It is an art that entails the translation of ideas into words, arrangement of information, and the meaning in form of structured arguments. Writing is the act of converting your mind to clear ideas by meticulously developing and building them up to connect and inform other people (Carter, 2018).

Writing is a very important skill in English education since students are able to express ideas and thoughts about what they carry in their minds in order to express the same. However, in the real-life, very few students are able to be clear and confident in expressing their feelings, emotions, and thoughts in English (Harliani et al., 2021). Besides, writing is also very important in language learning. As it is an effective skill, writing involves use of words, sentences and extended sections of evidence to effectively convey thoughts. Learning English includes writing an important aspect since it allows enhancing your language proficiency, makes you think deeper, and easier, since writing allows you to articulate your thoughts more clearly (Klimova, 2015).

This is also a common case in Indonesia where teaching writing is done in high schools. Students are more likely to view writing as a hard and time-consuming process and this is mostly because there are no strategies that enable them plan and organize their ideas properly. Low motivation and weak creativity of students are also common outcomes of the traditional teacher-centered model, which is based on the final written work instead of the idea-generating and organizing process (Erdem, 2017). Because of this, a greater number of students end up with writing that is not coherent, has no diversity in word use and no logical organization. The same problem was noticed with regard to the students of the tenth grade in the SMKN 1 Pujut, as a number of them were unable to write descriptive texts according to the required standards of organization and development of content.

In order to overcome this issue, one should employ innovative and student-oriented methods that would stimulate students to think imaginatively and systematize their ideas in a logical way. The *Mind Mapping* technique is one of the developing techniques that have received interest in the recent years. *Mind Mapping*, a proposed learning strategy by Buzan (2024), *Mind Mapping* is a visual learning strategy that can assist learners to create, relate, and organize ideas using diagrams that emerge out of a central concept. Students can visualize ideas, visualizing a relationship between concepts, which will help with brainstorming and improve the development of ideas (Erdem, 2017). This method matches with cognitive and constructivist theories of learning that focus on active learning, association and meaningful learning.

A mind map is a visual tool that allows organizing ideas around a central topic using branches, colors, and images to demonstrate the relationship between the ideas in a more loose,

creative manner (Leeds et al., 2019). Students will be able to concentrate more on the important points, to sort or summarize information and to see the connections between ideas in case they learn to work with mind maps (Nurhalizah et al., 2021).

A descriptive text is generally written in systematic order, which consists of the introduction, detailed description, and conclusion (Mulyasin et al., 2023). The introduction gives the reader a general overview of the subject under description by giving some background information about the subject. The description section expounds on the specific attributes or characteristics of the subject describing them in details. Lastly, the conclusion is the individual feeling/ opinion of the writer on the topic summarizing the general description. Being descriptive writer makes students more sensitive and aware since they can easily describe things or situations. That is the reason why the development of writing skills should be considered in terms of writing descriptive texts in English (Juliansyah et al., 2023).

A number of the studies that have been conducted before prove the efficiency of *Mind Mapping* on enhancing the writing abilities of students. Mind map use stimulated EFL students to make more ideas and organize the texts better. In the same manner, Nyagblormase et al. (2021), stated that visual mapping not only increased memory retention but also enabled students to tie the concept together whenever they were engaging in a writing activity. A study carried out by Nurhalizah et al. (2021) to establish the significance of using *Mind Mapping* in enhancing descriptive writing among students in Indonesia revealed that the application of the tool led to a substantial improvement in writing studies through creativity and logical sequencing.

In the case of teachers, mind mapping makes it easy to convey the learning material and at the same time be understandable (Fu et al., 2019). Teachers may also teach their students to group their thoughts just as books do according to their genre. The systematic mind mapping strategy is cognitively efficient in new information processing. The relevance of the research lies not only in supporting already existing studies but also in investigating the possibility of applying Mind Mapping in the context of vocational high school, where students may have practical orientations and lesser interest in language-based activities. This study is based on a more applied learning setting and directly examines the effect of Mind Mapping on the English writing performance of vocational learners at SMKN 1 Pujut rather than general high school students, who were the primary focus of other studies dealing with general high school student populations.

Thus, the purpose of the given study is to investigate the efficiency of applying Mind Mapping to enhance students' writing abilities, particularly the ability to write descriptive texts. It particularly concentrates on whether the method improves students' skills in the development and organization of ideas. Furthermore, the study aims to contribute to English language teaching practice by providing information on the application of Mind Mapping as a new tool that can help EFL learners develop creativity, engagement, and confidence.

The originality of the study lies in its contextual examination of the situation of vocational students in rural areas and its evaluation of all five key elements of writing, namely content, organization, vocabulary, language use, and mechanics, within the framework of a quasi-experimental research design. Focusing on how Mind Mapping can be utilized in developing ideas, this paper adds to the existing debate regarding the application of visual learning tools in EFL writing education and offers groundwork for prospective investigation into the ways creative learning methods can be incorporated into the writing teaching process.

RESEARCH METHOD

This was a quantitative study with the quasi - experimental design that involved a pre-test, treatment, and post-test. The subjects were two groups of tenth-grade students at SMKN 1 Pujut in the academic year 2024/2025, which were purposely chosen. Experimental group (X AP 1) was delivered via Mind Mapping technique and the control group (X AP 3) via the traditional method via outlines. The classes were composed of 30 students each and there were 60 participants**.**

In the case of writing, the data were obtained by way of writing tests (pre-test and post-test) that centered on descriptive texts in writing. The two tests were administered in a period of 60 minutes and graded based on a scoring rubric modified by Jacobs et al. (1981) and Brown and Bailey (1984), which considered five criteria of content, organization, vocabulary, language use and mechanics**.**

Analysis of data was done with help of SPSS 26. This was done to determine whether the data met the conditions required in parametric analysis before performing the hypothesis test, which involved the Normality and Homogeneity Tests. Having checked the normal and homogeneous distributions, independent sample t -test was conducted to check the existence of a significant difference between the results of the post-test of the experimental and control groups. The level of significance (p) was 0.05, when p is less than 0.05, the null hypothesis was rejected and the result was that the Mind Mapping technique was significant in enhancing the performance of students in writing.

FINDINGS AND DISCUSSION

The reason why this research was carried out was to compare the writing skills of tenth-grade students at SMKN 1 Pujut, which was taught via the mind mapping method, and that taught via the conventional methods. It is also meant to determine the effectiveness of mind mapping in improving writing skills of students. The research information will include the scores attained by the students upon the finish of the learning (pretest) and (posttest).

Mind Mapping was positively influenced on the ability of students to structure their ideas and write them down. This could be observed in the post-test, the descriptions of students were more detailed, structured and meaningful. Although a certain number of students still had minor writing errors, including wrong capital letter usage and spelling errors, their overall writing performance was evidently improved in terms of developing idea.

Data Analysis

Normality Test

The T-test was performed after a normally test to determine the normality of the data, since it was a preliminary step to verify the normality of the data. Since the total number of participants was 60, the Kolmogorov-Smirnov test was used because it is more appropriate for larger sample sizes. The interpretation of the results was based on the following criteria:

- *If Sig. > 0.05, H_0 was accepted → the data were normal.*

- *If Sig. < 0.05, H_0 was rejected → the data were not normal.*

Table 1. Test of Normality

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelas	Statistic	df	Sig.	Statistic	df	Sig.
Hasil	Pretest AP3 Control	.115	30	.200*	.963	30	.363
	Posttest AP3 Control	.137	30	.160	.924	30	.034
	Pretest AP1 Eksperimen	.092	30	.200*	.969	30	.506
	Posttest AP1 Eksperimen	.141	30	.133	.956	30	.245

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the result of the normality test presented in the table above, the Kolmogorov-Smirnov test, the pre-test results of the experimental class showed $p \geq \alpha$ (0.200 ≥ 0.05), and the control class also showed $p \geq \alpha$ (0.200 ≥ 0.05). This indicates that the pre-test data in both classes were normally distributed. For the post-test results, the experimental class obtained $p \geq \alpha$ (0.133 ≥ 0.05), while the control class obtained $p \geq \alpha$ (0.160 ≥ 0.05). These findings also demonstrate that the post-test scores in both classes followed a normal distribution.

Homogeneity Test

Once the testing of the normality of the data has been conducted using the Kolmogorov-Smirnov method, the next test is the homogeneity test, which seeks to illustrate whether the data of the various groups have the same variance. To put it simply, it examines the similarity of the spread of data in each of the groups. The test of homogeneity has been performed with the help of SPSS.

The hypotheses are:

- **H_0 (null hypothesis):** The data have equal variances (homogeneous).
- **H_a (alternative hypothesis):** The data have unequal variances (not homogeneous).

Decision rule:

- If the significance value (sig.) is greater than 0.05, it means that the null hypothesis (H_0) is accepted, indicating that the data are homogenous.
- If the significance value is less than 0.05, the alternative hypothesis (H_a) is accepted, which means the data are not homogenous.

Table 2. Test of Homogeneity Pre-Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Nilai	Based on Mean	.813	1	58	.371
	Based on Median	.783	1	58	.380
	Based on Median and with adjusted df	.783	1	57.987	.380
	Based on trimmed mean	.797	1	58	.376

Based on the homogeneity test results in the table, the significance values (Sig.) from Levene's Test are 0.371 (mean), 0.380 (median), 0.380 (median with adjusted df), and 0.376 (trimmed mean). Since all values are greater than 0.05, it can be concluded that the data from both groups have homogeneous variances.

Table 3. Test of Homogeneity Post-Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Nilai	Based on Mean	.711	1	58	.403
	Based on Median	.785	1	58	.379
	Based on Median and with adjusted df	.785	1	57.843	.379
	Based on trimmed mean	.678	1	58	.414

The table above shows the results of Levene's Test for Equality of Variances. The result showed significance values of 0.403 for the mean, 0.379 for the median, 0.379 for the median with adjusted degrees of freedom, and 0.414 for the trimmed mean. Because all of these values are above 0.05, it can be concluded that the data variances between the groups are statistically equal. Therefore, the assumption of homogeneity of variance is fulfilled, indicating that the experimental and control groups have homogeneous variances.

Statistical Hypothesis

Statistical hypothesis testing was carried out to examine whether the difference between the pre-test and post-test scores after the treatment was statistically significant. The analysis of the research hypothesis was conducted using SPSS version 31. The data were processed and interpreted by comparing the average (mean) scores of the groups to determine the effect of the treatment.

Table 4. Group Statistic

Group Statistics

	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Nilai	Posttest-Control	30	81.30	4.706	.859
	Posttest-Experiment	30	87.27	4.152	.758

The post-test results for both the experimental and control groups are presented in the table above. Each group consisted of 30 students, as indicated by the symbol N. The mean scores show that the experimental group achieved an average score of 87.27, while the control group obtained a lower average of 81.30. The standard deviation values, 4.152 for the experimental group and 4.706 for the control group, indicate relatively similar levels of score variation within each group. These results suggest that the students in the experimental group performed better than those in the control group.

Table 5. Group Statistic

Independent Samples Test

		t-test for Equality of Means							
				Significance				95% Confidence Interval of the Difference	
		t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Nilai	Equal variances assumed	-5.207	58	<.001	<.001	-5.967	1.146	-8.260	-3.673
	Equal variances not assumed	-5.207	57.112	<.001	<.001	-5.967	1.146	-8.261	-3.672

The results of the Independent Samples t-test are presented in the table above. Since the assumption of homogeneity of variance was met in the previous test, the row labeled "Equal variances assumed" was used for interpretation. The analysis resulted in a t-value of -5.207 with 58 degrees of freedom (df) and a significance level (p-value) of less than 0.001. Since the p-value is much lower than 0.05, the result is statistically significant. This means that the null

hypothesis (H_0), which states there is no difference between the two groups, is rejected, and the alternative hypothesis (H_a) is accepted.

The mean difference between the groups was -5.967, indicating that the experimental group achieved higher scores than the control group by almost 6 points. The 95% confidence interval for this difference ranged from -8.260 to -3.673, which does not include zero, further confirming that the difference between the experimental and control groups is statistically significant.

Discussion

This study investigated whether the use of the Mind Mapping strategy significantly improved the English writing skills of tenth-grade students at SMKN 1 Pujut compared to conventional teaching methods. The findings indicated a clear difference in the post-test results between the experimental group, which was taught using the Mind Mapping technique, and the control group, which received traditional instruction.

The analysis of pre-test and post-test scores demonstrated that the experimental group experienced greater progress than the control group. The experimental group achieved an average post-test score of 87.27, meanwhile, the control group achieved a lower mean score of 81.30. this difference indicates that students taught using the Mind Mapping technique performed better in writing tasks compared to those who learned through conventional methods.

The result of the Independent Samples t-test also confirmed these findings. The t -value obtained was -5.207 and the degrees of freedom were 58 which is significantly lower than the normal significance of 0.05. This finding led to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_a) and proved that the application of Mind Mapping resulted in a statistically significant influence on the performance of students in written works.

The fact that the students scored higher in the experimental class in their writing shows that the Mind Mapping could be adapted to enhance the performance of students in their writing, particularly, in organizing their ideas and developing the content. Students could create and relate ideas better after the use of Mind Mapping, and thus their paragraphs became more understandable and elaborate. They would be able to give more detailed and coherent descriptions of places like Pink Beach or Narmada Park.

Moreover, the fact that the Mind Mapping technique helped the students improve their writing skills proves that the given strategy was effective in terms of making them organize and develop their ideas more orderly. By making the main and supporting branches, students were taught how to relate the ideas together and make more sense in the paragraphs. Though there were still few instances of minor writing errors among few students, e.g. wrong use of capital letters, misspellings, etc., their writing performance was clearly seen to have reached the next level in terms of idea formulation and organization.

This fact indicates that in addition to increasing the ability of students to organize their thoughts, the Mind Mapping can promote the critical thinking about interconnections between central ideas and supporting facts. These findings are aligned with the results of Storch (2019), who stated that Mind Mapping enhances the creativity levels with writing, logical thinking, and understanding among students. In the same vein, Kusuma et al. (2024), discovered that students who engaged in *Mind Mapping* created better structured and meaningful paragraphs as opposed to those who did not. Therefore, even though areas in which the accuracy of writing can still be improved still exist, the application of the *Mind Mapping* method has been determined to be an effective strategy in promoting the better organization, coherence, and involvement in the writing process.

Among the greatest advantages of the *Mind Mapping*, the boost in motivation and engagement of the students as the active participants in the learning process should be mentioned. English writing usually leaves students nervous and lack of motivation particularly where they do not know how to begin or arrange their thoughts. Through *Mind Mapping*, however, students were more interested and enthusiastic since the technique provided a visual and creative learning experience**.**

Thus, the general findings of this research prove that the Mind Mapping strategy is a good method of writing instruction. It did not only increase the writing marks of the students but also enhanced planning, creative thinking, and confidence in writing ideas in a written form.

CONCLUSION

This statistical study proved that Mind Mapping method is effective in teaching writing. The findings revealed that there was a tremendous change in the experimental and control groups whereby the mean score of the experimental group was at 36.87 and then it changed to 87.27 whereas the mean score of the control group was 41.30 and changed to 81.30. This finding was further proven to be statistically significant which the result of the Independent Samples t-test ($t = -5.207$, the p-value of less than 0.001 further indicated that the difference was statistically significant. $p < 0.001$) confirmed that Mind Mapping would be more beneficial than conventional teaching method in enhancing writing skills among students. Future studies could explore the long-term retention of writing skills acquired through Mind Mapping and investigate its effectiveness across different genres of writing and diverse learner populations.

REFERENCES

Brown, J. D., & Bailey, K. M. (1984). A categorical instrument for scoring second language writing skills. *Language Learning, 34*(4), 21–38. https://doi.org/10.1111/j.1467-1770.1984.tb00350.x

Buzan, T. (2024). *Mind map mastery: The complete guide to learning and using the most powerful thinking tool in the universe*. Jaico Publishing House.

Carter, B. (2018). The practice of writing. *Journal of Child Health Care, 22*(2), 173–174. https://doi.org/10.1177/1367493518777030

Erdem, A. (2017). Mind maps as a lifelong learning tool. *Universal Journal of Educational Research, 5*(12A), 1–7. https://doi.org/10.13189/ujer.2017.051301

Fareed, M., Ashraf, A., & Bilal, M. (2016). ESL learners' writing skills: Problems, factors and suggestions. *Journal of Education and Social Sciences, 4*(2), 81–92. https://www.academia.edu/download/55946187/ESLLearnerswritingskills.pdf

Fu, Q., Lin, C., Hwang, G., & Zhang, L. (2019). Impacts of a mind mapping-based contextual gaming approach on EFL students' writing performance, learning perceptions and generative uses in an English course.

Computers & Education, 137, 59–77. https://doi.org/10.1016/j.compedu.2019.04.005

Harliani, N., Zamzam, A., & Hanafi, N. (2021). A study on grammatical cohesion in the descriptive essays by the third semester students of English Education program in the University of Mataram in the academic year 2019/2020. *Jurnal Lisdaya, 17*(1), 49–58. https://lisdaya.unram.ac.id/index.php/lisdaya/article/view/26

Hyland, K. (2016). *Academic writing: An international perspective*. In K. Hyland & F. Hyland (Eds.), *The Cambridge handbook of academic writing* (pp. 3–18). Cambridge University Press.

Hyland, K. (2019). *Second language writing*. Cambridge University Press.

Jacobs, G. M., Curtis, A., Braine, G., & Hong, H. L. (1981). *A guide to language teaching methodology*. SEAMEO Regional Language Centre.

Juliansyah, M. R., Udin, U., Lail, H., & Zamzam, A. (2023). The effectiveness of using picture in teaching writing descriptive text at a senior high school in Mataram. *Pendas: Jurnal Ilmiah Pendidikan Dasar, 8*(3), 6405–6412. https://eprints.unram.ac.id/44348/

Klimova, B. (2015). Diary writing as a tool for students' self-reflection and teacher's feedback in the course of academic writing. *Procedia - Social and Behavioral Sciences, 197*, 549–553. https://doi.org/10.1016/j.sbspro.2015.07.189

Kusuma, L. A., Rachman, L. A., & Mauriyat, A. (2024). Teaching mind-mapping technique to improve students writing descriptive text. *PROJECT (Professional Journal of English Education), 7*(4), 743–748. https://journal.ikipsiliwangi.ac.id/project/article/view/9067

Leeds, A. J., Kudrowitz, B., & Kwon, J. (2018). Mapping associations: Exploring divergent thinking through mind mapping. *International Journal of Design Creativity and Innovation, 7*(1–2), 16–29. https://doi.org/10.1080/21650349.2018.1463178

Mulyasin, M. A., Zamzam, A., Putera, L. J., Amin, M., & Arfah, H. (2023). The challenges and strategies in writing descriptive text on local places in the EFL essay writing course. *Jurnal Educatio FKIP UNMA, 9*(4), 2086–2092. https://doi.org/10.31949/educatio.v9i4.6017

Nurhalizah, P., Sujana, I. M., & Wardana, L. A. (2021). Mind mapping technique to improve students' speaking ability in retelling narrative story. *Journal of English Education Forum (JEEF), 1*(2), 48–54. https://jeef.unram.ac.id/index.php/jeef/article/view/185

Nyagblormase, G., Gyampoh, A., Hinson, J., Aidoo, B., & Yeboah, E. (2021). Effect of mind mapping as a learning tool on online learning of chemistry. *Studies in Learning and Teaching, 2*(2), 47–58. https://sciejournal.com/index.php/SiLeT/article/view/75

Setiawan, R., Sujana, I. M., & Apgrianto, K. (2017). The effect of think-talk-write (TTW) technique on students' writing ability. *ELT Tech: Journal of English Language Teaching and Technology, 1*(1), 31–39. https://ejournal.upi.edu/index.php/ELTTech/article/view/9429

Storch, N. (2019). Collaborative writing. *Language Teaching, 52*(1), 40–59. https://doi.org/10.1017/S0261444818000320