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The Effect of the Clustering Technique on Students' Writing Ability in Descriptive Texts

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Abstract

One of the critical skills that one must have when learning English as a Foreign Language (EFL) at the junior high school level is writing descriptive texts. Nevertheless, it is still observed that a significant number of seventh-grade students have problems with the development and structuring of ideas in a coherent way when composing descriptive texts. The research was intended to examine how the clustering technique influences the writing skills of students in the descriptive texts. The study adopted a quantitative methodology, and it was designed as a quasi-experimental one. The sample was all the students of SMP Swasta Cinta Rakyat 3 Pematangsiantar in the seventh grade in the 2025/2026 academic year (two classes were used as a sample). The experimental group was given as Class VII-C (30 students) which was taught through clustering technique and Class VII-D(30 students) as the control group which was taught through a conventional teaching technique. The items were pre-tested and post-tested and a t-test was conducted to analyze the data. The findings indicated that the experimental group improved significantly, and the mean score rose to 80.10 compared to 63.73, whereas the mean score increased to 71.53 compared to 39.06 in the control group. The t-value (4.86) was above the t -table value (1.665) at the 0.05 level of significance, which meant that there was a statistically significant difference between the two groups. The results of these studies show that the clustering method is useful in increasing the success of junior high school students in writing descriptive texts in EFL classrooms.

Keyword: Descriptive Writing; Clustering Technique; Technique Writing Skill

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INTRODUCTION

Writing is widely acknowledged as one of the most complex skills for learners in English as a Foreign Language (EFL) contexts because it requires the integration of multiple linguistic components, including idea generation, organization, vocabulary selection, grammatical accuracy, and mechanics. At the junior high school level, students are expected to develop the ability to express ideas clearly and systematically through written texts as part of their English learning outcomes. One of the essential text types emphasized in the junior high school curriculum is descriptive text. Descriptive text aims to describe a particular person, place, thing, or event in detail so that readers can visualize the subject clearly (Siahaan & Siahaan, 2019). Writing descriptive text requires mastery of specific language features such as the use of adjectives, simple present tense, and sensory details. Therefore, students need to understand both the structure and language features in order to produce effective descriptive writing.

However, despite these expectations, many junior high school students still experience persistent difficulties in writing descriptive texts. These difficulties are particularly evident in organizing ideas into coherent paragraphs, which often results in fragmented, unclear, and superficial descriptions. Students tend to present ideas randomly without clear relationships among them, negatively affecting the overall quality of their writing.

Previous studies have reported that students' problems in descriptive writing are not limited to grammatical accuracy but are strongly related to weaknesses in the prewriting stage, especially in generating and

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structuring ideas (Bulqiyah et al., 2021; Suvin, 2020). Learners frequently struggle to transform abstract ideas into organized written texts, leading to poor content development and weak paragraph unity. These findings indicate the need for instructional strategies that explicitly support students during the idea-planning phase of writing. Several researchers have suggested the use of prewriting strategies to address these challenges. One widely used strategy is the clustering technique, which visually maps ideas around a central topic and helps learners establish relationships among concepts. Previous studies have shown that clustering can improve students' writing performance by facilitating idea generation and increasing engagement in the writing process (Restika, 2022; Abidin, 2022). Other studies have also reported positive effects of clustering on paragraph organization and students' motivation to write (Aini et al., 2025).

Despite these positive findings, existing research on the clustering technique has largely focused on general improvements in writing ability or has been conducted in varied educational settings without providing detailed quantitative evidence at the junior high school level, particularly in local EFL classroom contexts. Moreover, empirical studies that specifically examine students' descriptive writing performance through controlled quantitative designs, such as pre-test and post-test comparisons in Indonesian junior high schools, remain limited. Consequently, the effectiveness of the clustering technique in enhancing students' descriptive writing ability in this specific context has not been sufficiently documented. Therefore, this study seeks to contribute empirical evidence by quantitatively examining the effectiveness of the clustering technique in improving junior high school students' writing ability in descriptive texts within a local EFL context. By focusing on measurable learning outcomes through pre-test and post-test comparisons, this research provides practical and context-specific insights into the use of clustering as a prewriting technique in descriptive writing instruction.

Literature Review

Writing is a very crucial language skill and an expression of ideas, thoughts, and experiences in written form. It can be explained as the creation, structuring, and clear articulation of ideas to readers (Nurmaulia 2022). Fitria (2024) defines writing as an indirect communication method that is employed to communicate feelings and pass information. Despite writing being a complex and a difficult skill, it is essential that students learn to master this skill since it will enable them to be able to convert whatever they think in written form. As far as English learning is concerned, writing helps students express their ideas, share the information and tell their experiences in the form of a written source. Writing is done to convey ideas, opinions and information to the readers in a clear manner. Relationships can be created with the help of writing because of the correct choice of words and logical presentation. It helps people to communicate emotions, persuade other people, as well as share knowledge. Putri (2022) identifies writing as an informative way, a persuasive one, self-expression, a creative process, problem-solving, and entertainment.

Andriani et al. (2022) describe writing as having five primary elements, including content, organization, vocabulary, use of language, and mechanics. Content, the information in any writing should be easily comprehensible and simple to understand to ensure that the readers get the message the writer intends to convey and get information out of it. This attribute represents the skill of the writer to build and interrelate thoughts in a logical manner towards a single outcome. Organization is simply the general framework and logical organization of ideas in a text. A clearly structured writing work will generally have an introduction paragraph, in which the author will present the general statement of the paper, then body paragraphs, where each significant point is explained in a logical progression. This element highlights the way the author organizes his or her thoughts in an orderly manner. Vocabulary entails the process of using the right words to mean something. Good vocabulary enables authors to express themselves well and with more accuracy. The use of language is associated with proper usage of grammar and sentence structure in the writing. It involves the proficiency of verbs, modifiers (adjectives, adverbs, etc.) and other forms of grammar that define clarity and meaning. Mechanics are defined as rules of writing, (capitalization, punctuations and spelling) that contributes to reliability and validity. The text will be easier to follow and ideas will be better expressed with the help of proper mechanics.

A descriptive text is a kind of writing that intends to present and explain the object or situation being explained by using a clear and detailed language so that the readers can interpret the object or situation being explained effectively (Asyifa, 2024). Descriptive text is concerned with the description of things that are observed and touches so that readers can have the sense that they can be experiencing whatever the writer is describing (Asyifa, 2024). The definition stresses the need to have language skills to communicate the said details in an

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objective and vivid manner that will enable the readers to see the same image of the object being described. The generic composition of descriptive writing comprises ofidentification that recognizes phenomenon to be described anddescription that explains bits, qualities and attributes. Language features namely, specific participant, has something like an object or explain only one thing e.g.my brother, my cat, my favorite food, etc. Simple Present Tense, the pattern of the sentence is Simple Present Tense due to the fact that it tells the fact regarding something (noun, place, person, etc.). Adjective, when describing in descriptive text, it is to describe the characteristics of the item e.g a beautiful place in pacitan, a popular singer, the handsome boy etc. Adverb is also used in descriptive text to further explain about the object.

Clustering Technique is a prewriting technique is known as Clustering Technique, which assists the writers to visually create and organize the ideas in advance, prior to beginning the process of writing. It enables them to relate related ideas around a key subject in a form of a visual map which facilitates the development of ideas and creativity. By using this method, writers can enjoy the liberty of experimenting with the relationships between ideas to make the writing process more productive and not to be stressful. Furthermore, in data analysis, clustering can also be called a technique to group objects with similar properties or attributes to simplify their analysis and interpretation (Sarimole, 2024).

According to Saputri (2017), to develop the language competence, it is quite essential that during teaching writing, the process should be guided and facilitated. Therefore, when it comes to teaching writing, the teacher should lead his or her students using the right strategy and follow all the steps one by one to attain good writing outcomes. The process of teaching writing descriptive text through use of clustering technique follows the following steps here: (1) Pre-activities; a) The instructor welcomes the learners; b) The teacher informs the students of the subject that will be studied; c) Present the students with the idea of clustering technique. (2) Main activities: a) Teacher provides students with the topic which they should discuss and leading students to produce the ideas in the form of clustering technique on the whiteboard as a model; b) Description of the descriptive text, the meaning of the term, the generic scheme, and the language peculiarities; c) Request the students to compose the first draft, basing on the structure of clustering technique samples which have been presented on the whiteboard and begin to write descriptive paragraph; d) Review the worksheet of the students. (3) Post activities: provide the students with the evaluation to test their skill in writing descriptive text and the awareness of their issues in writing.

METHOD

Research method is an essential part of academic research since it offers a methodological process of investigating the impact of a single variable on another (Indu & Vidhukumar, 2020). Similar to the purpose of research and the title of this study, which aims at exploring the impact of clustering technique on the writing ability of the students in descriptive texts, this study adopted a quantitative research methodology that utilized a quasi-experimental research design. A quasi-experimental design includes two groups of participants (at least: an experimental group and a control group) so that the researcher can study the causal relationships in educational settings where random assignment is unavailable (Creswell & Creswell, 2022). The independent variable in this research was the clustering technique where the dependent variable was the writing ability of students in descriptive texts. The experimental class which applied the clustering technique and the control class which taught the students through a traditional teaching method were used. The respondents in this study were seventh-grade students of SMP Swasta Cinta Rakyat 3 Pematangsiantar, 20252026. The purposive sampling recommended by Sugiyono (2021) was applied to pick two classes as the sample due to its ability to enable the researcher to identify the participants based on certain criteria that are pertinent to the research goals. The experimental group (Class VII-C, 30 students) and the control group (Class VII-D, 30 students) were used as the groups in the experiment.

The writing test in the form of a descriptive text was the main tool of this research. The writing test was given in the form of pre-test and post-test to compare the performance of the students in the form of writing prior to and after the treatment. Brown (2004) argues that assessment of writing should take into account many elements of writing quality; thus, the works written by students were evaluated with the help of analytical scoring rubric involving content, organization, vocabulary, and language use, and mechanics. The research process comprised three key phases which included pre-test, treatment and post-test. In the pre- test, the two groups were requested to compose a descriptive text on a topic provided. Experimental group was introduced to descriptive

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writing by the use of the clustering technique that led students to brainstorm and visualize ideas first, and only then write, but the control group was taught by the traditional methods. During the post-test stage, a similar writing test to the pre-test was administered to both groups in order to be consistent in measurement.

The analytical approach to the data collected during the pre-test and post-test included the statistical analysis that was carried out with the help of SPSS version 26. Paired-sample and independent-sample t-tests were used to establish whether the difference between the writing ability of the students before and after the treatment and in the experimental and the control group at a significant level of 0.05. This analytical process made the objective of measuring the effectiveness of the clustering technique to enhance the ability of the students to write descriptively.

Data Analysis

In the quantitative research, data analysis is one of the most critical steps in the research, and it is particularly important when it comes to determining whether the experimental group, or the control one, is more successful in the production of the descriptive texts. Theories of Ary et al., (2014) were also used in the analysis of data in the research. The analysis of the obtained data was presented in this chapter. The chapter was made up of the data of the experimental and control class, data analysis, hypothesis test and findings and discussion. An analytical scoring rubric modifying the one developed by Brown (2007) was used to evaluate students in terms of descriptive writing in text, comprising of 5 parts, namely content, organization, vocabulary, grammar, and mechanics. The validity of the instrument was achieved by matching the writing activities and the scoring rubric to the learning objectives and descriptive text writing indicators in the English curriculum of the junior high school. An English teacher also revised the instrument to ensure that it would be appropriate to seventh-grade students. In order to improve the validity of the test, the pre-test and post-test had the same scoring criteria. All students were scored on the writing with the same rubric to reduce the subjectivity of scoring. The pre-test and post-test had different yet similar topics, but the same difficulty so that the potential effects of learning or memorizing were reduced, regardless of the fact that the test form used was similar. The SPSS was used to analyze the data collected during the pre-test and post-test. The mean scores were calculated using descriptive statistics and the inferential statistics especially t-test was used to establish whether the difference between the experimental and control group was significant at the 0.05 level of significance.

Data of Experimental Class

Data of Pre-test in the Experimental Class

A pretest was conducted before utilizing the clustering method. 30 students of class VII C at SMP Cinta Rakyat 3 Pematangsianatar served as the experimental class for this research. This shows the data which contain important information about the students' writing competence.

Na = Total of students (experimental)
Σa_1 = Total scores of pre-test (experimental)
Ma_1= Mean of pre-test (experimental)

Na=30
Σa_1= 1912
Ma_1= 63, 73

The experimental class had a total pre-test score of 1912, with a mean score of 63, 73.

Data of Post-test in Experimental Class

Scores were calculated after administering the post-test which took place after the use of the technique to implement the treatment. The following results illustrate any significant progress.

Na = Total of students (experimental)
Σa_2 = Total of scores of post-test (experimental)
Ma_2= Mean of post-test (experimental)

Na=30 Σa2= 2386
Ma2= 79,53

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The experimental class's post-test resulted in a total score of 2386, with a mean score of 79,53.

Data of Control Class

Data of Pre-test in Control Class

This research has a control group which consists of thirty students from class VII-D at SMP Cinta Rakyat 3 Pematangsiantar and the scores they obtained serve as a reflection of their capability.

Nb = Total of students (control)
Σb_1 = Total scores of pre-test (control)
Mb_1= Mean of pre-test (control)
Nb=30 Σb1= 2036
Mb1=67,86

As a result, the control class's pre-test score total was 2036, with a mean score of 67,86.

Data of Post-test in Control Class

After the pre-test, the researcher implemented either the Conventional Strategy or did not employ the clustering technique to perform the treatment. The scores obtained, with advancements, are displayed.

Nb = Total of students (control)
Σb_2 = Total of scores of post-test (control)
Mb_2= Mean of post-test (control)
Nb=30 Σb2= 2.146
Mb2= 71, 53

As a result, the total post-test score for the control class amounted to 2.146, with a mean score of 71, 53.

Data Analysis of Experimental Class

This shows the students' writing test scores (d) for the experimental class.

Note:
Na = Total of students (experimental)
Σda = Sum of obtained score (experimental)
Σda^2 = Squared sum of obtained score (experimental)
Na=30
$\sum da^2$= 474
$\sum da^2$= 9,566

Calculating variable's mean of experimental:

$$Ma = \frac{\Sigma \text{da}}{\text{Na}}$$
$$Ma = \frac{474}{30}$$
$$Ma = 15{,}8$$

Calculating variable's mean of experimental:

$$da^2 = \sum d^2 - \left(\frac{(\Sigma da)^2}{Na}\right)$$
$$da^2 = 9566 - \left(\frac{(474)^2}{30}\right) = 2076{,}8$$

From these calculations, result of experimental are:
Total students (Na) =3
Mean of variable (Ma) =15,8
Standard deviation (da^2) = 2076,8

Data Analysis of Control Class

This shows the pupils in the experimental class's writing test scores (d).

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Nb=30
d= 110
d^2= 110

Calculating variable's mean of control:

$$Mb = \frac{\sum \text{db}}{\text{Nb}}$$

$Mb = \frac{110}{30}$= 3, 66

Calculating standard deviation score of control is as:

$$db^2 = \sum d^2 - \left(\frac{(\Sigma d)^2}{Nb}\right)$$

$= 1090 - \left(\frac{(110)^2}{30}\right)$= 686,67

From these calculations, result of control are:
Total students (Nb) =30
Mean of variable (Mb) = 3,66
Standard deviation (db^2) = 686,67

Since there were equal class numbers (Na and Nb), it was easy to just use the t-test formula for both classes. The researcher prior to doing the t-test had to calculate the t-table value to compare to the t-test based on the degree of freedom (df) formula.

df = Na+Nb-2
df = 30+3O-2
df = 58
Therefore, the t-test formula, calculated as follows:

$$\text{t}_{\text{test}} = \frac{Ma - Mb}{\sqrt{\left(\frac{(da^2 + db^2)}{(Na + Nb) - 2}\right)\left(\frac{1}{Na} + \frac{1}{Nb}\right)}}$$

$$\text{t}_{\text{test}} = \frac{15{,}8 - 3{,}66}{\sqrt{\left(\frac{(2076{,}8 + 686{,}67)}{(30 + 30) - 2}\right)\left(\frac{1}{30} + \frac{1}{30}\right)}}$$

$$\text{t}_{\text{test}} = 6{,}82$$

As long as the teacher applied the clustering technique, indicators showed that the experimental class was more active than the control class, among others:

Writing Quality

Descriptive writing of the students in the experimental group was rated as good according to the content, language use, grammar, vocabulary, and mechanics. The KKM was passed by 24 students out of 30 in the experimental group and 18 students in the control group. These findings show that the students who were taught on Clustering Technique created better and organized descriptive texts.

Interaction in Classroom Observations

The classroom observations indicated that the use of Clustering Technique encouraged students to interact with the lesson more. Students participated more in the generation of ideas in the writing process. Students were able to more efficiently organize and connect their ideas because of the visual structuring in clustering.

Achievement Tests

The results from the achievement tests showed that the experimental class demonstrated greater improvement in writing descriptive texts than the control class. This was evidenced by the experimental class

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posttest mean score of 80.1 compared to the 71.53 mean score from the control class indicating that the Clustering Technique contributed to enhancement in the descriptive writing ability of the students.

RESULTS AND DISCUSSION

Research Findings

Based on data analysis, it was established by the researcher that the influence of clustering technique was on the ability of the students to write descriptive text. In the test group, the pre-test score was 63.73, whereas the post-test was 80.1. An impressive improvement was observed among the scores of the students with the lowest score being 55 in pre-test, rising to 65 in post-test whereas the highest score was 73 to 91. Ma was found to be 16.36 in the experimental class and this represents the progress that was caused by the intervention. The control class on the other hand improved but at a lower rate. The average score rose to 71.53 as compared to 39.06 in the pre-test and post-test respectively. The minimum score was increased to 58 and the maximum score was increased to 78. The average difference (Mb) in the control group was 32.46 which is an indication that there was development in the traditional mode of teaching. In addition, the hypothesis testing was found to be effective as indicated by the results. The t-test value of 4.86 yielded at the 0.05 level of significance was greater than the t-table value of 1.66 that indicates that alternative hypothesis (Ha) was accepted. That indicates that the Clustering Technique has a significant effect on the performance of the students in writing in a descriptive manner.

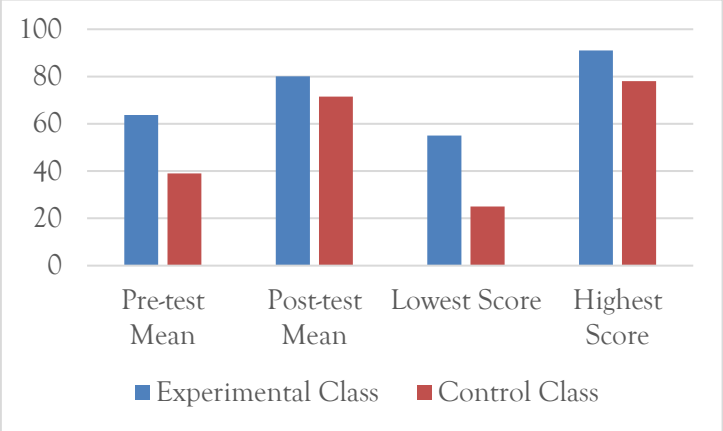

Figure 1. The significant effect of clustering technique on students' ability to write descriptive text

The presentation reviews of the data clearly indicate the differences in the descriptive writing performance between the control and the experimental group. As demonstrated in the tables and the graphs, the Clustering Technique resulted in improved performance in the post-test results of the of the students. The mean score of the experimental group rose to 80.10 (63.73 points) to reach a total of 80.10. The control group on the other hand rose by 67.86 to 71.53 (a difference of 3.67 points). The improvement in the scores of both groups was witnessed, with the experiment group having a higher improvement in score that showed the effectiveness of the Clustering Technique.

The data of minimum and maximum scores proves this tendency. The minimum score of 55 rose to a minimum of 65 and the maximum of 73 rose to 91 in the experimental group with the highest score. The lowest score in the control group rose 56 to 58 and the largest score rose 83 to 78. This demonstrates that the Clustering Technique was able to assist higher and lower achieving students to develop better organization and idea development in their writing. The experimental group keeps on improving, while control group shows lesser advancement on the mean, lower, and highest values of the scores. It was also necessary to mention that the 4.86 t score surpassed the 1.66 t table. Hence showing that differences are statistically significant. Consequently, descriptive writing abilities of students were impacted positively by the Clustering Technique.

Discussion

This study's findings are in a complete alignment with a number of previous works that showed the impact of the Clustering Technique on students' writing capabilities, with some variations, in the level of enhancement, and in the particular features that were developed. Note, Restika (2022) reported that the Clustering Technique allowed learners to more effectively organize their ideas and develop coherent and structured descriptive pieces,

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while in this study the experimental group increased their scores by 16.37 points and so were also able to produce descriptive texts that were coherent as demonstrated by their scores increasing from 63.73 to 80.10. This validates Restika's findings as it seems that learners were able to organize their ideas in a more effective manner. In the same way, Lestari et al. (2022) reported that the impact of clustering on writing quality was positive, and it also increased students' motivation. Similarly, the present study showed that the experimental group's lowest score by 10 points was 55 and the highest score increased from 73 to 91. This confirms that the Clustering Technique helped students of various proficiency levels. While Lestari's study lacked comparable quantitative improvement, both studies reflect the positive impact that clustering has on cognition and motivation. Last, Aini et al. (2025) also observed remarkable improvement on students' writing scores among those who studied the application of clustering in writing recount texts. Nonetheless, the enhancement seen in this study, particularly the difference in gain scores of the experimental group and control group (16.37 vs. 3.67 points), was much higher than that in Aini's study which reported mean gains of about 8-10 points. This indicates that Clustering Technique was more effective in this case, possibly attributed to deeper adoption of the technique or a more engaged learner cohort. Moreover, earlier studies, including Mirawati (2021), noted that clustering helps students with difficulties in generating initial ideas. The current study corroborated this because students with lower pre-test scores made significant improvements, such as moving from 55 to 65. This suggests clustering is an inclusive approach that accommodates both lower and higher-achieving students. While corroborating prior studies, this study also offers more robust results and other results demonstrating greater improvements in scores with more consistent results across the different strata of the students. This affirmation of the clustering technique makes the current study an important addition to the studies geared towards improving writing instruction in junior high schools.

CONCLUSION

Concluding on the results of data analysis, the researcher came out with the conclusion that the Clustering Technique played a significant role in students acquiring the skills of writing out descriptive text. This is demonstrable when the researcher established that the pre-test mean score of the experimental class was 63.73 which was initially a low score to the control class. The post-test mean score rose greatly to 80.1 after the treatment was administered with the help of the Clustering Technique, compared to the slight increase in the case of the control class of 67.12 to 71.53. It implies that the Clustering Technique simplified the process of writing descriptive texts by students since it assisted them in creating and organizing ideas in an effective manner. The outcome of the hypothesis testing revealed that the t-count (4.86) was greater than the t-table (1.66) at the significance level of 0.05. The Alternative Hypothesis (Ha) is accepted and the Null Hypothesis (H0) is rejected. Thus, the researcher finds that the application of the Clustering Technique had a great impact on the ability of students to write descriptive texts in Grade VII of SMP Swasta Cinta Rakyat 3 Pematangsiantar.

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