

## UTILIZING CLUSTERING TECHNIQUE TO ENHANCE STUDENTS' ENGLISH WRITING PERFORMANCE

**Erina Ayu Lestari**

*English Language Education Department, Universitas Teknologi Yogyakarta, Indonesia*  
Email: [erinaayulestari14@gmail.com](mailto:erinaayulestari14@gmail.com)

**Budiarti**

*English Language Education Department, Universitas Teknologi Yogyakarta, Indonesia*  
Email: [budiarti@staff.uty.ac.id](mailto:budiarti@staff.uty.ac.id)

**Juhansar (Corresponding author)**

*Informatics Department, Universitas Teknologi Yogyakarta, Indonesia*  
Email: [juhansar@uty.ac.id](mailto:juhansar@uty.ac.id)

APA Citation: Lestari, E. A., Budiarti., & Juhansar. (2022). Utilizing clustering technique to enhance students' English writing performance. *English Review: Journal of English Education*, 10(2), 439-452. <https://doi.org/10.25134/erjee.v10i2.6245>

Received: 01-02-2022

Accepted: 28-04-2022

Published: 30-06-2022

**Abstract:** This present study aims at exploring the utilization of the clustering technique to enrich students' performance in writing a descriptive text in English, discovering students' participation in learning-teaching descriptive text writing using the clustering technique, and finding out the improvement of students' English writing performance using the clustering technique. This research implies a Mixed-Method Action Research design where researchers act as teachers. The respondents consisted of 30 Vocational High School students. This research uses qualitative and quantitative data. The qualitative data were obtained by observing the learning-teaching process of writing descriptive text using the clustering technique and interviewing students. Quantitative data were acquired through the pre-test, post-test I, and post-test II. The results show that implementing the clustering technique in the learning-teaching process enriches students' performance and attracts students' participation, attention, activeness, motivation, and seriousness in learning English writing. Pre-test and post-tests prove that the clustering technique enhances students' English writing performance. The technique helps students to express ideas in English text writing. Students gain 67.49 in the pre-test, up to 75 in the post-test I, and up to 79.87 in the post-test II. The mean improvement percentage shows about 16.6% enhancement from the pre-test, 36.6% from the post-test I, and 86.6% from the post-test II.

**Keywords:** *clustering technique; learning-teaching; English writing; students' performance.*

### INTRODUCTION

Writing is one of the four language skills which difficult to learn for second and foreign language learners (Manegre, 2021). The difficulties are not only in generating and organizing ideas but also in translating ideas into readable texts. Writing is the most challenging skill to learn for students who regard English as a second language or the foreign language. It has brainstorming, planning, drafting, revision, editing, to proofreading process (Fadhly, Emzir, & Lustyantie, 2018). Writing is a form to produce language, the same as when you speak, but the writing needs more time to think about the subject and revise your work to achieve good sentences and paragraphs (Hassanzadeh & Fotoohnejad, 2021). Writing takes more time to

produce the language before it becomes good writing by determining the subject and revising it. Writing is a process of expressing thoughts and ideas in a paragraph in which every sentence relates one to another (Nemati, Alavi, & Mohebbi, 2019). Writing in this research means putting words into sentences that relate to one another to build paragraphs in a descriptive text.

Descriptive text is one of the functional texts that students should master. Descriptive text is a part of factual genres that functions to describe a particular person, place, or thing (Potradinata, 2018). It means a factual genre of text that says what a person, a thing, or place is like to be described. Besides, descriptive text is a text that helps the readers to imagine what they have read or

helps the reader to visualize something of what they have read about something that has been described (Sari, Pulungan, & Husein, 2020). The text gives the reader information about the physical appearance and the nature of the object described. It means the descriptive text is the text that gives the readers visualize to imagine what they read about the information of the physical appearance and the nature of the object described (Hasanah & Aziz, 2021). The definitions mentioned earlier show that descriptive text is a part of factual genres that helps the readers visualize something about the physical appearance and the nature of the object described. The social function describes a particular person, place, or thing.

Teachers have to use the appropriate technique to engage students' involvement in the English writing learning-teaching process. The appropriate technique is used to accomplish the objectives with a consistent method and a harmony with an approach that the teacher uses, which takes place in a classroom. The technique is manifested by specific activity consistently, which is in harmony with an approach in the classroom (Khoiriyah, Waris, & Juhansar, 2019). The technique is one specific activity that is very important in the learning-teaching process in the classroom in which the method is implemented or manifested consistently and in harmony with the approach to achieve the goal (Anggraini, 2020). Teaching descriptive text English writing needs effective techniques such as clustering to overcome students' problems. The clustering technique is like diagramming or mapping ideas to visually generate material for a paragraph by making the lines, boxes, arrows, and circles to show the relationships among the ideas. The clustering technique is one strategy for expressing the relationship among facts and ideas that require preliminary preparation time to divide the topic broadly (Herniyastuti & Rahmi, 2020). In other words, the clustering technique is a preliminary preparation in writing and strategy to cluster the topic broadly through expressing the relationship of ideas and the facts that relate to one another using lines, boxes, arrows, and circles to generate the sentences into a good paragraph.

So far, several studies related to clustering techniques and English writing have been conducted by scholars. First, some studies concerned the use of Classroom Action Research (Arifuddin, 2019; Herniyastuti & Rahmi, 2020) in

exploring the clustering technique improves the students' writing ability in descriptive text. These studies show that students understand more to make descriptive sentences and make the descriptive sentences into a descriptive text. The activity makes the student interested in describing the pictures or objects, and students are more active and more enthusiastic in the writing learning process. These studies conclude that the clustering technique can positively improve the students' writing ability (Megawati, 2019; Sari & Wahyuni, 2018; Suryani & Apriliani, 2021; Widiyanti, Fiki, Susilawati, Endang, Rosnija, 2018). Second, some other studies focus on the effect of the clustering technique to increase students' ability in English writing. These studies were quasi-experiment (Dewi & Ayunisa, 2020; Hanafiawi, Muharam, & Parmawati, 2020; Sumartini, Puspita, & Zahrida, 2018). Sumartini et al. (2018) showed that the clustering technique affects students' writing ability. It shows that the t-count was 2.07 and the t-table was 2.01. The T-count of the organization was 2.56, the t-count of content was 3.62, and the t-count of coherent was 3.47. Since the t-count was higher than the t-table, H1 was accepted.

Those aforementioned studies have similarities with this research in terms of research variables, dependent and independent variables, and significant differences with this current research, including research setting, respondents, data collecting and analysis techniques, and research design. The design of this research is different from other studies; classroom action research, quantitative research, and experimental research, whereas this present study uses the mixed methods action research design proposed by (Ivankova & Wingo, 2018) to see the implementation of the clustering technique to increase students' performance in writing descriptive text; to discover students' participation in learning-teaching descriptive text using clustering technique; to find out the improvement of students' performance in writing descriptive text using the clustering technique.

This current research is expected to enrich learners' English writing performance by utilizing the clustering technique and offer novelty related to the implementation of the clustering technique in the learning-teaching process by discovering students' participation and their performance scores improvement. The utilization of the clustering

technique in the learning-teaching process is required through an action research approach to explore holistically how students or learners are experiencing the technique implementation. Therefore, this present study is also expected to bring constructive contribution both theoretically and practically to students, teachers, and further researchers. Theoretically, this research provides information on utilizing the clustering technique in the English writing learning-teaching process, so teachers-students and further researchers have preliminary preparation and understanding before implementing and researching the technique. Practically, this research could help students improve their English writing performance through clustering technique utilization. Students-teachers could cluster words into boxes, arrows, and circles using lines to connect, build, organize, and generate ideas into good English sentences, paragraphs, or text.

## **METHOD**

This research relies on Mixed Methods Action Research (MMAR) design proposed by Ivankova & Wingo (2018). It was used to give information on the changing of the classroom practices and the learning-teaching quality by diagnosing and solving the problems in the learning-teaching activity through need analysis in the pre-implementation techniques, planning and (re)planning, acting, observing, reflection, and creativity and innovation. The technique implementation was conducted in two cycles where every cycle has three meetings. This research design was used to seek the implementation of the clustering technique in the learning-teaching process and the results of the learning-teaching process itself, including students' participation in the English writing learning-teaching process using the clustering technique. The participants of this present study were 30 students of grade X Fashion Department students of Vocational High School Muhammadiyah Berbah located in Sleman Regency, Daerah Istimewa Yogyakarta (DIY), Indonesia. This school was appointed as the research setting since students have problems writing descriptive text in English. Students find it difficult to express and explore ideas and experiences in written form using English. Therefore, it is necessary to conduct research at this school using Mixed Methods Action Research (MMAR) to solve the problems and to

help students explore and express ideas and experiences through English writing using the clustering technique.

This research has two kinds of data, qualitative and quantitative data. Qualitative data are collected in words, pictures, and documentation (Aspers & Corte, 2019). Quantitative data refer to numerical information that includes standardized test scores to measure educational outcomes (Arias, Arias, & Rodríguez-Medina, 2021). To collect qualitative data, the researchers use observation and interviews. Meanwhile, English writing tests, pre-test, and post-test, are used to collect quantitative data. Qualitative data intend to discover the implementation of the clustering technique and students' participation in the learning-teaching process using the clustering technique. Quantitative data aim to determine students' performance and improvement in writing descriptive text using the clustering technique.

In analyzing the qualitative data, the researchers describe the observation and interview data findings by reviewing and exploring the data collected using the observation checklist and interview transcripts during the learning-teaching process using the clustering technique. In reviewing observation and interview data, the researchers describe the result of data into a descriptive explanation. Furthermore, the researchers calculate quantitative data to see students' performance and improvement in writing descriptive text in English using the clustering technique. The researchers analyze the results of quantitative data (pre-test, post-test I, and post-test II) using holistic scoring rubrics.

## **RESULTS AND DISCUSSION**

### *Pre-implementation*

Before implementing the clustering technique using the Mixed Methods Action Research design in the learning-teaching process of English writing, the researchers conducted some stages. In the first stage, the researchers observed the learning-teaching process to know students' difficulties in English writing descriptive text learning-teaching. Besides, the researchers also conduct a pre-test to measure students' pre-understanding and English writing performance. It is conducted to seek how deep their understanding of the descriptive text is as a consideration in applying the clustering technique in the classroom action research. Another aspect that becomes the consideration in applying the

technique is to know the result of students' tests, i.e., writing components (content, organization, vocabulary, punctuation, grammatical), generic structures, and language features of descriptive text. The second stage is the researchers' interview students and teacher(s) before preparing the lesson plan, the material, and the clustering technique in the learning-teaching process.

*The implementation of clustering technique: cycle I Planning*

The researchers plan and prepare everything before conducting learning-teaching activities in this stage. In this stage, the researchers use the appropriate clustering technique, appropriate material, and media to be taught and used in the learning-teaching process based on the English syllabus of tenth-grade students of Vocational High School Muhammadiyah Berbah. The researchers use descriptive text as the appropriate material, clustering technique as the appropriate technique, and PowerPoint and pictures as the media to teach. Besides, the researchers also make the lesson plan and consult it with the English teacher before applying it in the classroom. After getting the lesson plan ready, the researchers prepare the material of descriptive text and the clustering technique, including the research instruments for collecting the data.

*Acting*

Before conducting the first cycle, the researchers ask students to write the descriptive text to measure students' pre-understanding and English writing performance levels. The researchers give the pre-test before conducting the learning-teaching process. After giving a pre-test, the researchers conduct learning-teaching the next day in the classroom. One of the researchers acts as a teacher and explains the material of the descriptive text, starting with the definition of descriptive text to the generic structures using the clustering technique before asking them to write. The learning-teaching process is divided into three activities, i.e., pre-activity, main activity, and post-activity. The researchers begin the learning-teaching process in the pre-activity by greeting the students. After greeting the students, the researchers ask them to pray together by asking the class chairman to lead the praying. Furthermore, the researchers continued by starting to check the students' attendance by

calling the students' names one by one. After that, the researchers also convey to the students the material learned.

In the main activity, the researchers stimulate students by giving an example of descriptive text. Then, ask questions to the students related to the example of the descriptive text before explaining the material. Furthermore, the researchers measure students' pre-understanding of descriptive text orally. The researchers engaged the students in the learning-teaching process by giving the stimulation; then, the researchers used PowerPoint as the media to explain the descriptive text. After explaining the material, the researchers ask them about their understanding of the presented material. Furthermore, the researchers explore another example of descriptive text for each student to analyze the difference between the new example of descriptive text and the previous one. After that, the researchers ask students individually about the differences between both examples of descriptive text. After the students understand and differentiate both the example of descriptive text, the researchers explain the material using the clustering technique. Moreover, to relate the material and the clustering technique explained before, the researchers ask students to make the clustering before they write the descriptive text according to the question of the task individually. The researchers ask the students to write and practice English writing through the clustering technique on the piece of paper and then submit it to the researchers as teachers.

To end the learning-teaching process in post-activity, the researchers evaluate students' work and understanding by asking about their difficulties through the clustering technique. After that, the researchers return the students' works and ask them to bring them to the next meeting. Besides, the researchers summarize the material and then explain the next material to learn and discuss. Moreover, the researchers ask students to prepare and learn for the post-test I in the next meeting. Lastly, the researchers end the meeting by reciting thank you for students' attention and cooperation. This first activity similarly is also conducted in the next meeting.

*Observing*

In the first cycle, the learning-teaching process of descriptive text using clustering runs well. The implementation of the clustering technique engages

students' interest in the learning-teaching process. Although not all students are active in since they are still confused and ashamed to ask the researchers who act as teachers, some students are active in the learning-teaching process and curious about how to make clustering before writing descriptive text. Students' interest in clustering technique could be seen in the following quotation:

- Student A : "Sir, should I cluster the word based on its part of speech in English, e.g., verbs, nouns, adjectives, and so forth?"
- Researcher(s) : "No, word(s) clustering may not be based on the part of speech. It is free, as long as the meaning connects one another."

Furthermore, a student also asks about the identification and description of the descriptive text. Some students have difficulties writing based on the generic structures of descriptive text. They are still confused to distinguish between writing identification and description of the descriptive text. A student asks researchers about some vocabularies related to the place they described when writing a descriptive text about the place. Some students are still confused when describing a place because of many unfamiliar English words. One of the difficulties is described in the following quotation:

- Student B : "Mom, I don't know what to write in the identification and description. Sometimes, I cannot differentiate them."
- Researcher(s) : "In the identification, you should write the identified thing you are interested in. In the description section, you should explain it in more detail based on what you identified before."
- Student C : Mom, how to write in English "seni ukir" and "arca"?"
- Researcher(s) : "The English for "seni ukir" or "seni pahat" is "sculpture," and the English for "arca" is "statue." Please bring your dictionary to the next meeting."

### *Reflecting*

The results of the cycle I show that students have a high interest in learning English writing descriptive text using the clustering technique. However, some students cannot be active in the learning-teaching process, even though others are active by asking

questions during the learning-teaching process. It is in line with the study conducted by Utami, Pabbajah, & Juhansar (2018), stated that some students are active and others are not in English writing using jumbled sentences. It proves that the implementation of the clustering technique in the learning-teaching process is not satisfactory since some students find it difficult to translate unfamiliar vocabularies when describing a place. Furthermore, some students also struggle to differentiate between the identification and description in writing a descriptive text. It indicates that the researchers need to revise the planning creatively and innovatively to achieve better results in learning-teaching descriptive text using the clustering technique and overcome students' difficulties.

### *Creativity and innovation in the learning teaching process*

As a consequence of the cycle I result, the researchers revised the learning-teaching planning. The planning aspects should be revised in the learning-teaching process, such as students' participation and understanding of descriptive text and clustering techniques. The researchers changed and modified the clustering technique from individual to group settings so that students could discuss together within the group to solve their problems and be more active in learning-teaching activities. Besides, in the previous cycle, students found difficulties when the researchers ask them to describe a place. They do not know how to write in English. It challenges the researchers to change the "thing" identification from a "place" to a "person."

### *The implementation of clustering technique: cycle II Re-planning*

In line with the result of cycle I, the researchers revise the planning of the learning-teaching process creatively and innovatively. In this stage, the researchers also revise the lesson plan in cycle II. In revising the lesson plan, the researchers changed the clustering technique's implementation from individual to the group so that students could discuss, share ideas, and solve problems within the group. They could share their understanding of the material delivered in the learning-teaching process. Besides, the researchers also explained more deeply the material in the learning-teaching process. Furthermore, the researchers also change the "thing" to write, from a "place" to a "person."

### *Acting*

In this meeting, the researchers ask students about understanding the previous meetings' material. After that, the researchers asked them to make a group so that students could discuss everything related to material delivered in the learning-teaching process. The researchers not only ask students about their understanding of the material but also ask them about their difficulties in the post-test I. Students' responses show that they are still confused in identifying and describing the "thing" that they are writing about, as in the following quotations:

- Student D : "Sir, I am still confused in writing a "place" description in the identification part. I am still confused because I wrote a little information in this part and directly explained the detail."
- Researcher(s) : "You can try clustering the words maximally. The general information that you will write later becomes a part of the identification section. In clustering the words, you need to relate one word to another to get more ideas. In the identification part, you only explain the general information, not in detail, because the detailed information is explained in the description part."

The data above show how students are still confused in writing the identification part of descriptive text on "place." Therefore, the researchers explain the material more and give more exercises to students about "person" as a part of research creativity and innovation. In this session, the researchers divide the learning-teaching process into three sessions as in the previous cycle: pre-activity, main activity, and post-activity.

### *Observing*

The observation in this cycle is related to creativity and innovation as the development activity from cycle I. In this cycle, the implementation of the clustering technique makes students more active than in the previous cycle. The following quotations prove it:

- Student E : "Mom, how to write the identification part in describing someone?"
- Researcher(s) : "You can identify the general things

in the identification part, for example, describing a singer artist. You can identify the general things like their name."

- Student F : "Sir, is it free to cluster the words in every cycle?"
- Researcher(s) : "Yes, it is free as long as each word in the circle is related."
- Student G : "Mom, may I write a descriptive text about a person, but I write about "where she or he was born" or "where she or he lives" before writing it in detail?"
- Researcher(s) : "Absolutely, you can. It should be so, from general to specific."

Data above show that the students understand descriptive text in describing "person" and through clustering technique. Guiding students in clustering the words to write descriptive text make them enjoy the learning-teaching process and be more active. As a result of the observation after implementing the creativity and innovation, most students are no longer confused to start writing descriptive using the clustering technique, including how to cluster the words, how to organize the sentences related to the generic structure of descriptive text than in cycle I. Changing the implementation from individual to group proves that students enjoy the learning-teaching process and be more active than in cycle I since they can share and discuss ideas within group.

### *Reflecting*

The observation results show that students' participation, understanding, and writing development of descriptive text using the clustering technique are better than previously. The students understand more about descriptive text and its generic structure and language features. Furthermore, students enjoy the learning-teaching process through intensive guidance from the researchers. Similarly, Hanafiawi et al. (2020), Sari, Sutapa, & Sada (2021); Suryani & Apriliani (2021); Ullah & Dharma (2019) also stated similar ideas as this present study results. It means that implementing the clustering technique in the learning-teaching process help students in organizing ideas into the sentences in a generic structure of a descriptive text, express the ideas in the sentences, and bringing up the ideas into a good and correct paragraph. The change of the instruction

command from “place” to “person” supports students to be easier in clustering words and writing descriptive text in English. The change implementation technique from individual to group makes students enjoy the learning-teaching process since they can share ideas and discuss within the group and be more active. Besides, discussions within the group help students solve problems or difficulties in clustering words and writing descriptive text in English.

*Students’ participation in the learning-teaching process using clustering technique*

Using the clustering technique, the researchers use an observation checklist to discover students’ participation in the descriptive text English writing learning-teaching process. The results of the observation checklist can be seen in the following table 4:

Table 4. *Students’ participation in the learning-teaching process*

No	Point of Observation	Cycle I						Cycle II					
		Meeting 1			Meeting 2			Meeting 3			Meeting 4		
		H	M	L	H	M	L	H	M	L	H	M	L
1	The students’ participation in asking a question.			√		√		√			√		
2	The students’ participation in suggesting ideas.			√		√		√			√		
3	The students’ participation in responding to the question.		√		√			√			√		
4	The students’ participation in accomplishing the task.	√			√			√			√		
5	The students’ participation in being enthusiastic in implementing the clustering technique.		√		√			√			√		
6	Giving attention to the researchers’ explanation and instructions.		√		√			√			√		
7	Actively having discussions with the researchers.			√		√		√			√		
8	Making comments or asking questions about the explanation or instruction.		√		√			√			√		
9	The students are easy to understand descriptive text and clustering.		√		√			√			√		
10	The students use a dictionary to check unfamiliar English words.			√		√		√			√		
11	The students enjoy making sentences.		√		√			√			√		
12	Students’ participation in the group: Actively involved in a discussion.			√			√	√			√		
	Students’ participation in the group: Helping their friends when they find difficulties or problems.			√			√	√			√		
	Students’ participation in the group: Helping their friends to understand the instruction and material.			√			√	√			√		

Note: H means high participation; M refers to medium participation; L means low participation

Accordingly, table 4 shows students’ participation in learning descriptive text using the clustering technique in cycles I and II. The first point is about the students’ participation in asking questions during the learning-teaching process. Students who ask questions are in low and medium levels in the first and second meetings. It is in line

with the research conducted by Jenkins (2021) who showed students participation in asking questions in the learning-teaching process. However, after the researchers changed the implementation setting from individual learning to group learning, students’ participation in asking questions increased significantly during the third and fourth meetings. It

shows that students become more active in the learning-teaching process in a group setting, and most if not all students are active in asking questions. In the second point, students still have low and medium participation in the first and second meetings. Still, it changes to a high level in the third and fourth meetings. It proves a change in students' participation in the third and fourth meetings.

The third observation point shows a change in students' participation in responding to the question. The first meeting is at the medium level. It is caused by students' understanding of the material delivered in the learning-teaching process. In the second, third, and fourth meetings, after the researchers explained more about the material and asked students to make a group, most students responded to the question as seen in meeting two, three, and four. It indicates that students are more active and understand the materials explained by the researchers (teachers). The next point is about students' participation in accomplishing the task at a high level from the first to the fourth meeting. All students are enthusiastic and serious about participating in the learning-teaching descriptive text using the clustering technique. Besides, this point relates to point tenth on students use dictionaries to check unfamiliar English vocabulary. Students' enthusiasm and seriousness in implementing the clustering technique in writing descriptive text.

Point five shows that students tend to have a medium level in the first meeting since only half students understand the materials. Besides, some students are still confused and not enthusiastic about giving questions about the clustering technique to the researchers. It is similar to the research conducted by Iatrellis et al., (2021); Makruf, Lubna, Khasanah, Sulaeman, & Harahap, (2020). Furthermore, it is related to point nine about students understanding descriptive text easily because most students' responses show that they understand the descriptive text and clustering easily. Students' participation was high in the second, third, and fourth meetings because most of them understood the material by asking the researchers (teachers) questions about the clustering implementation. Point six is about giving attention to the teachers' explanation and instruction. In the first meeting at this point, students' participation

was at a medium level, but it was at a high level in the second, third, and fourth meetings. It shows a change in students' attention to the researchers' explanation and instruction by paying attention and seeing the researchers in front of the class when the researchers give explanation and instruction. Furthermore, it shows from the next point about making comments or asking questions on the explanation or instruction. It is related to one another. It shows that giving attention to the researchers' explanation and instruction is proven by the next point of students' participation in making comments or asking questions about the explanation and instruction. It means students give attention to the researchers' explanation and instruction.

Point eight shows a change from the medium to the high level. It shows that most students are more active. Besides, those two points are related to point seven, which students actively discuss with the researchers. Those points above show that most students discuss with the researchers. The last point is about students' participation in the group discussion. The students are actively involved in a group discussion with their friends; it is shown in the next point when their friends are having difficulties. Others help them make their friends understand the materials or the instruction by explaining and discussing the materials and the instruction of the researchers (Maranzano, Bento, & Manera, 2022). In short, the observation checklist points show that students are serious and more active in learning to write descriptive text in English using the clustering technique.

#### *The result of pre-test*

In conducting a pre-test, the researchers ask students to write a descriptive text about a place, i.e., the Prambanan temple. The researchers conduct the research in 30 minutes in the classroom with 30 students. To understand the pre-test results clearly, the researchers provide the table to measure their pre-understanding related to descriptive text before implementing the clustering technique in the learning-teaching process. The following table 5 shows some aspects of descriptive text English writing, such as Writing Components (WC), Generic Structure (GS), and Language Features (LF).



Table 5. *The students' scores of pre-test*

No	Students' ID	Score on Each Aspect			Total Score	Pre-Test Score
		WC	GS	LF		
1	Student 1	67.2	100	66.5	233.7	77.9*
2	Student 2	68.7	100	65	233.7	77.9*
3	Student 3	74.5	50	75.3	199.8	66.6
4	Student 4	78.8	50	65	193.8	64.6
5	Student 5	100	50	89	239	79.6*
6	Student 6	75.8	50	85	210.8	70.2
7	Student 7	65	50	75	190	63.3
8	Student 8	80	50	85	215	71.6
9	Student 9	75.7	50	65	190.7	63.5
10	Student 10	85.6	50	85	220.6	73.5
11	Student 11	53	50	44	174	58
12	Student 12	67.8	50	65	182.8	60.9
13	Student 13	83.3	50	70	203.3	67.7
14	Student 14	67.3	50	60	177.3	59.1
15	Student 15	63	50	73	186	62
16	Student 16	80	50	85	215	71.6
17	Student 17	88	100	75	263	87.6*
18	Student 18	75.7	50	67	192.7	64.2
19	Student 19	75	50	65	190	63.3
20	Student 20	67.8	50	65	183	61
21	Student 21	65	50	66	181	60.3
22	Student 22	75	50	85	210	70
23	Student 23	65	50	67	182	60.6
24	Student 24	75	50	70	195	65
25	Student 25	75	50	65	190	63.3
26	Student 26	67.3	50	60	177.3	59.1
27	Student 27	78	50	70	198	66
28	Student 28	75	50	70	195	65
29	Student 29	73	50	75	198	66
30	Student 30	78	100	78	256	85.3*
<b>Amount</b>		2.218.5	1.700	2.130.8		2.024.7
<b>Mean</b>		73.95	56.66	71.02		67.49

Note: symbol \* refers to a student who passed the KKM

The calculation data of the pre-test shows that the mean score of the pre-test is 67.49. Only five students, or 16.6%, pass the score above the *Minimum Mastery Criterion* (KKM- *Kriteria Ketuntasan Minimal*). Meanwhile, the other 25 students were below the criterion. Besides, the result of the pre-test about three aspects: Writing Components (WC) is 73.95, Generic Structure (GS) is 56.66, and Language Features (LF) is 71.02. Furthermore, it shows that most students still have very low scores on each aspect of descriptive text writing in English. After analyzing the result of the preliminary study, the researchers conclude that most students have low skills in writing descriptive text and low understanding of writing skills performance. Therefore, it needs to find out a solution to overcome this problem. Thus, the

researchers use the clustering technique to overcome the cycle I and cycle II problem.

#### *The result of post-test I*

After calculating the pre-test result, the researchers found that students still have low performance in writing descriptive text and less understanding of descriptive text writing. Therefore, the researchers conduct the post-test I to seek and increase the results of students' performance in writing descriptive text, including students' understanding of writing descriptive text in English. Besides, the post-test I show an improvement in students' performance in writing descriptive text using the clustering technique from pre-test to post-test I. Post-test I is conducted after implementing the clustering technique in cycle I. The students are

asked to write a descriptive text about the performance improvement from the pre-test to post-Borobudur temple. The following table 6 shows test I: students' scores on post-test I to discover students'

Table 6. *The students' score of post-test I*

No	Students' ID	Score on Each Aspect			Total Score	Post-Test I Score
		WC	GS	LF		
1	Student 1	80	100	76	256	85.3*
2	Student 2	63	100	70	233	77.6*
3	Student 3	76	50	84.3	210.3	70.1
4	Student 4	88.3	50	80	218.3	72.7
5	Student 5	78.2	100	70	248.2	82.7*
6	Student 6	83	50	87	220	73.3
7	Student 7	85	50	85	215	71.6
8	Student 8	85	50	85	215	71.6
9	Student 9	85	50	88	223	74.3
10	Student 10	75.3	100	65	240.3	80.1*
11	Student 11	85	50	85	215	71.6
12	Student 12	99.7	100	75	274.7	91.5*
13	Student 13	85	50	86.3	221.3	73.7
14	Student 14	74.2	50	75	199.2	66.4
15	Student 15	75.8	50	85	210.8	70.2
16	Student 16	70.3	50	76.5	196.8	65.6
17	Student 17	88.7	100	76	264.7	88.2*
18	Student 18	83	50	78	211	70.3
19	Student 19	85.3	50	84.5	219.8	73.2
20	Student 20	75	50	85	210	70
21	Student 21	85.6	50	83.5	219.1	73
22	Student 22	73.5	100	68.7	242.2	80.7*
23	Student 23	65.3	100	60	225.3	75.1*
24	Student 24	87.3	50	86.7	224	74.6
25	Student 25	82.3	50	78.3	210.6	70.2
26	Student 26	66.3	100	60	226.3	75.4*
27	Student 27	80.5	50	85.6	216.1	72
28	Student 28	78	50	83.5	211.5	70.5
29	Student 29	88.6	50	86.5	225.1	75*
30	Student 30	83.6	100	73	256.6	85.5*
<b>Amount</b>		2.411.8	2.000	2.362.4		2.252
<b>Mean</b>		80.39	66.66	78.74		75

Note: *Symbol \*refers to a student who passed the KKM*

Data above show that the mean score of post-test I is 75. Eleven students, or 36.6%, get scores above the Minimum Mastery Criterion (KKM). Meanwhile, the other 19 students have scores below the criterion. After analyzing the result of 3 aspects: Writing Components (WC) score is 80.39, Generic Structure (GS) is 66.66, and the Language Features (LF) is 78.74, it implies that Generic Structure has not fulfilled the Minimum Mastery Criterion (KKM). It has the lowest mean score, 66.66, below the criterion. Although the mean score of the post-test I pass the KKM, the aspect of Generic Structure in the post-test I need creativity and innovation in

the next cycle to make the performance improvement in every aspect.

*The result of post-test II*

The result of the post-test I implies that one aspect has not fulfilled Minimum Mastery Criterion (KKM). Therefore, it needs creativity and innovation in the next cycle. The researchers give post-test II as the last test to increase the better result of students' English writing performance. Students were asked to write a descriptive text about the artist "Iqbal CJR" or another well-known person like "Dilan" in the post-test II. Below is the table of students' post-test II results to see the

performance improvement from post-test I to post-test II after implementing creativity and innovation in learning-teaching.

Table 7. *Students' performance score in post-test II*

No	Students' ID	Score on Each Aspect			Total Score	Post-Test II Score
		WC	GS	LF		
1	Student 1	84	100	80	264	88*
2	Student 2	78.3	100	73.2	251.5	83.8*
3	Student 3	85	50	100	235	78.3*
4	Student 4	76	100	80	256	85.3*
5	Student 5	88	100	78	266	88.6*
6	Student 6	74.2	100	68.3	242.5	80.6*
7	Student 7	85.3	50	86.3	221.6	73.8
8	Student 8	78.3	100	64.2	242.5	80.8*
9	Student 9	85	50	100	235	78.3*
10	Student 10	75	100	67	242	80.6*
11	Student 11	86.6	50	85.7	222.3	74.1
12	Student 12	99.5	100	95	294.5	98.1*
13	Student 13	92.5	50	100	242.5	80.8*
14	Student 14	100	50	85	235	78.3*
15	Student 15	62.5	100	63.5	226	75.3*
16	Student 16	85	50	100	235	78.3*
17	Student 17	95.2	100	75	270.2	90*
18	Student 18	60.5	100	65	225.5	75.1*
19	Student 19	100	50	85	235	78.3*
20	Student 20	65.5	100	62	227.5	75.8*
21	Student 21	64.8	100	62	226.8	75.6*
22	Student 22	100	50	90.5	240.5	80.1*
23	Student 23	88.7	50	86.5	225.2	75*
24	Student 24	88	50	85.5	223.5	74.5
25	Student 25	85.6	50	85	220.6	73.5
26	Student 26	100	50	85	235	78.3*
27	Student 27	78.5	100	62.5	241	80.3*
28	Student 28	62	100	65.8	227.8	75.9*
29	Student 29	88.7	50	86.8	225.5	75.1*
30	Student 30	83.7	100	73.4	257.1	85.7*
<b>Amount</b>		2.412.6	2.300	2.396.2		2.396.2
<b>Mean</b>		80.42	76.66	79.87		79.87

Note: Symbol \* refers to students who passed the KKM

Table 7 shows that the mean score of post-test II is 79.87. There are twenty-six students, or 86.6% of students get scores above the Minimum Mastery Criterion. Meanwhile, the other four students' scores are below the criterion. From the post-test I up to post-test II, there are better results than before, from 36.6% to 86.6%. In the post-test II, the result of every aspect: the Writing Components (WC) is 80.42, the Generic Structure (GS) is 76.66, and the Language Features (LF) is 79.87.

*The analysis clustering technique implementation in the learning-teaching process*

The tests result, as mentioned previously, shows the improvement in students' performance in writing descriptive text. Implementing the clustering technique helps students enhance their English writing performance. Students' performance improvement mean percentage from the Minimum Mastery Criterion (KKM) (75). There are five students above the KKM or 16.6% in the pre-test, in the post-test I, there are 11 students above the KKM or 36.6%, and in the post-test II, there are 26 students above the KKM (the Minimum Mastery Criterion) or 86.6%. It indicates that students' performance improved from the pre-test to the post-test I and II. Although there is performance

improvement in the pre-test up to post-test I from 67.49 up to 75, the performance improvement score has fulfilled the minimum mastery criterion. However, one aspect of writing descriptive text still has not been fulfilled. The mean aspect of Generic Structure is 66.66, which has not fulfilled the minimum mastery criterion. The minimum mastery criterion is 75. The researchers conduct the creativity and innovation in cycle II to increase the students' mean performance. Based on the creativity and innovation result in cycle II, there is a performance improvement in students' mean on Generic Structure from 66.66 in the post-test I up to 76.66 in the post-test II. It means that creativity and innovation have succeeded in cycle II. Besides, the clustering technique enhances students' performance in writing descriptive text.

The improvement percentage of students' performance mean score calculation, from post-test I to post-test II. The calculation of post-test I is 11%. In post-test II, there is an improvement percentage up to 18.3%. The clustering technique helps the students improve their English writing performance. Indeed, the implementation of the clustering technique helps students enhance their skills in writing descriptive text. To make it clear, the following table 8 becomes the comparison mean aspect of students' English writing performance improvement:

Table 8. *The improvement of students' mean score performance in writing descriptive text of English*

No	Aspects	Mean		
		Pre-Test	Post-Test I	Post-Test II
1	Writing Components	73.95	80.39	80.42
2	Generic Structures	56.66	66.66	76.66
3	Language Features	71.02	78.74	79.87
<b>Overall Mean</b>		67.21	75.26	78.98
<b>% Improvement</b>			12%	18%

Table 8 shows the improvement of students' mean score performance in writing the descriptive text in English. The table shows a 12% performance improvement from pre-test to post-test I and 18% from post-test I to post-test II. In the column pre-test, three aspects belong to the category that not fulfilled the KKM because all of the aspects, Writing Components (WC), Generic Structures

(GS), and Language Features (LF), whereas the mean is less than 75.

After implementing the clustering technique in the learning-teaching process, the researchers conduct a post-test I to measure the improvement of students' performance in English writing, whether it is improving or not. After implementing the clustering technique, the researchers compare the pre-test and post-test results. Based on the results, there is an improvement in students' descriptive text writing. In table 9, one aspect still has not been fulfilled yet, the Minimum Mastery Criterion in the post-test I. Although the mean score of the post-test I have fulfilled the KKM, one of the mean aspects of writing descriptive text has still not fulfilled the KKM. The Writing Components in post-test I have mean aspect about 66.66. It means the post-test I still need the creativity and innovation in the learning-teaching process. Furthermore, the researchers modify the process of learning-teaching creatively and innovatively in cycle II to enhance students' mean score performance. In cycle II, the researchers conduct post-test II to discover the usefulness of the clustering technique towards students' performance in writing English text. The results of post-test II show that no students get less than a 75 performance score. In other words, the use of the clustering technique is effective in helping students enhance their English writing performance.

**CONCLUSION**

This research indicates that implementing the clustering technique in the learning-teaching process enhances students' English writing performance, especially in writing descriptive text. The clustering technique makes students' participation more active, serious, and motivated in the learning-teaching descriptive text, as seen in the results of the observation checklist. The clustering technique not only helps and attracts students' attention and participation in the learning-teaching descriptive text but also shows the improvement of students' performance in writing a descriptive text in English. Furthermore, students' performance means score percentage is 36.6% in the post-test I from the pre-test 16.6%. It proves that the students' mean scores on the tests increased from 67.49 in the pre-test to 75 in the post-test I. Although those results increase from pre-test to post-test I, they do not pass the Minimum Mastery Criterion (KKM). One aspect of writing descriptive text has not

fulfilled the KKM. Its score is 66.66. Therefore, the researchers modify the learning-teaching process by having creativity and innovation in cycle II to fulfill the minimum mastery criterion (KKM). The performance improvement in the post-test II is 86.6% as the students' mean percentage from the mean 79.87 and the aspects of Generic Structure increase up to 76.66. In line with the students' performance mean score, the improvement in every test shows students' performance mean score is 11% in post-test I up to 18.3% in the post-test II.

## REFERENCES

- Anggraini, F. (2020). Brainstorming technique in teaching writing descriptive text. *Channing: Journal of English Language Education and Literature*. <https://doi.org/10.30599/channing.v5i2.840>
- Arias, V., Arias, B., & Rodríguez-Medina, J. (2021). Quantitative research in education. In *Handbook of Research on Teacher Education in History and Geography*. <https://doi.org/10.4135/9781849209670>
- Arifuddin, H. (2019). Improvement of poetry writing skills by using clustering technique of class VIII Students of SMP Negeri 3 Alla, Enrekang District. *Celebes Education Review*, 1(1.4). <https://doi.org/10.37541/cer.v1i1.4>
- Aspers, P., & Corte, U. (2019). What is qualitative in qualitative research. *Qualitative Sociology*. <https://doi.org/10.1007/s11133-019-9413-7>
- Dewi, R. S., & Ayunisa, V. (2020). The effect of using clustering technique on students' achievement in writing descriptive text. *English Teaching and Linguistics Journal (ETLiJ)*, 1(2). <https://doi.org/10.30596/etlij.v1i2.4897>
- Fadhly, F. Z., Emzir, E., & Lustyantje, N. (2018). Exploring cognitive process of research topic selection in academic writing. *English Review: Journal of English Education*, 7(1), 157–166. <https://doi.org/10.25134/erjee.v7i1.1535>
- Hanafiawi, D., Muharam, H., & Parmawati, A. (2020). The use of clustering technique to improve students' skill in writing descriptive text. *PROJECT (Professional Journal of English Education)*. <https://doi.org/10.22460/project.v3i1.p5-10>
- Hasanah, R., & Aziz, N. (2021). Effect of online gamification learning on students' writing descriptive text. *Journal of English Education and Technology*.
- Hassanzadeh, M., & Fotoohnejad, S. (2021). Implementing an automated feedback program for a foreign language writing course: A learner-centric study. *Journal of Computer Assisted Learning*. <https://doi.org/10.1111/jcal.12587>
- Herniyastuti, H., & Rahmi, N. (2020). Application of scientific approach using clustering and fast writing techniques to improve folklore into short stories. *Journal of Indonesian Language Education and Literary*. <https://doi.org/10.31327/jilel.v4i2.1130>
- Iatrellis, O., Savvas, I., Fitsilis, P., & Gerogiannis, V. C. (2021). A two-phase machine learning approach for predicting student outcomes. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-020-10260-x>
- Ivankova, N., & Wingo, N. (2018). Applying mixed methods in action research: Methodological potentials and advantages. *American Behavioral Scientist*. <https://doi.org/10.1177/0002764218772673>
- Jenkins, A. (2021). Patterns of participation and non-participation in learning in mid-life and their determinants. *International Journal of Lifelong Education*. <https://doi.org/10.1080/02601370.2021.1937357>
- Khoiriyah, H., Waris, A. M., & Juhansar, J. (2019). The students' achievement in pronouncing English song using Smule application. *Indonesian EFL Journal*. <https://doi.org/10.25134/iefjl.v5i1.1610>
- Makruf, I., Lubna., Khasanah., Sulaeman, R., & Harahap, D. A. (2020). Educational data mining on higher education level education costs using clustering techniques in Indonesia. *Journal of Advanced Research in Dynamical and Control Systems*. <https://doi.org/10.5373/JARDCS/V12I6/S20201169>
- Manegre, M. (2021). The influence of outside foreign language and culture exposure in EFL classroom collaborative writing tasks. *The EuroCALL Review*. <https://doi.org/10.4995/eurocall.2021.13194>
- Maranzano, P., Bento, J. P. C., & Manera, M. (2022). The role of education and income inequality on environmental quality: A panel data analysis of the EKC hypothesis on OECD countries. *Sustainability (Switzerland)*. <https://doi.org/10.3390/su14031622>
- Megawati, M. (2019). The improving students' writing skill through clustering technique. *Jurnal Inovasi Pendidikan MH Thamrin*. <https://doi.org/10.37012/jipmht.v3i2.100>
- Nemati, M., Alavi, S. M., & Mohebbi, H. (2019). Assessing the effect of focused direct and focused indirect written corrective feedback on explicit and implicit knowledge of language learners. *Language Testing in Asia*. <https://doi.org/10.1186/s40468-019-0084-9>
- Potradinata, S. L. A. (2018). An analysis of student's

- descriptive text writing in Systemic Functional Linguistic (SFL) perspectives. *International Journal of Languages, Literature and Linguistics*.  
<https://doi.org/10.18178/ijll.2018.4.2.161>
- Sari, F., & Wahyuni, S. (2018). The use of clustering technique to improve the students' skill in writing descriptive paragraph. *English Community Journal*.  
<https://doi.org/10.32502/ecj.v2i1.1006>
- Sari, H. M., Sutapa, Y. G., & Sada, C. (2021). Clustering technique to improve ability of generating ideas in recount text writing. *JELTIM (Journal of English Language Teaching Innovations and Materials)*.  
<https://doi.org/10.26418/jeltim.v3i1.38880>
- Sari, I., Pulungan, A. H., & Husein, R. (2020). Students' cognition and attitude in writing descriptive text. *Britain International of Linguistics Arts and Education (BIoLAE) Journal*, 3(1), 125–135.  
<https://doi.org/10.33258/biolae.v2i1.210>
- Sumartini, S., Puspita, H., & Zahrida, Z. (2018). The effect of clustering technique on students' writing ability. *Journal of English Education and Teaching*, 2(2), 83-92.  
<https://doi.org/10.33369/jeet.2.2.83-92>
- Suryani, D. D., & Apriliani, A. M. (2021). Improving students' writing ability in descriptive text through clustering technique at tenth grade of MA Ma'arif Roudhotut Tholibin Metro. *Journal of English Development*.  
<https://doi.org/10.25217/jed.v1i01.1400>
- Ullah, W. O. R. Y., & Dharma, Y. P. (2019). Enhancing students' writing skill by using clustering technique. *VELES Voices of English Language Education Society*.  
<https://doi.org/10.29408/veles.v3i2.1553>
- Utami, F. S., Pabbajah, M., & Juhansar, J. (2018). The implementation of jumbled-sentences toward students' skill in writing report text. *English Review: Journal of English Education*, 7(1), 115. <https://doi.org/10.25134/erjee.v7i1.1501>
- Widiyanti, F., Susilawati, E., & Rosnija, E. (2018). The use of clustering technique to teach writing descriptive text. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa*.