Implementation of Mind Mapping Technique to Improve The Student’s Writing Ability of English Descriptive Texts: A Mixed Method

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Abstract. The students’ problem in writing was technique how to organize the structured and systematic ideas, besides how to write correctly and effectively appropriate to grammatical structure. This study aims to determine the learning outcomes of descriptive writing texts using mind mapping techniques and to find out students’ perspectives on the use of these techniques in improving their writing skills. This study used mixed methods, action research and quantitative research. The total respondents were 25 students (from The State Islamic Institute of Lhokseumawe). Instruments used to collect data in this study were pre-test and post-test, and questionnaire to analyze the quantitative data and to investigate the process and the learning outcomes that were structured and systematized using Kemmis and Taggart methods. The results showed that there were increasing points of each student in cycle 1 and 2 from the pre-test and post-test scores. The mean score of students in cycle 1 for the pre-test was 48.8 and the test post was 62.8. Whereas, in cycle 2, the students’ mean scores reached 77.4 (test post) from that of the pre-test (53.2).

Based on the questionnaire, in the items of “current writing class situation”, all students encountered the difficulties of organizing ideas in texts. Mind mapping techniques played an important role in improving their writing skills. This presented the majority of respondents agreed to on all the questions of implementation of mind mapping techniques. In addition, action research using the Kemmis and Taggart methods also increased their self-confidence, so they could organize their correct and systematic ideas.

Keywords: mind mapping, action research, descriptive texts

1. Introduction

Writing is one of indirect communications to express information or ideas of the author to the reader. Writing is an active and productive activity, so it needs organized thinking that let on in written communication. Writing ability is to take-note, to record, to copy, to report, to inform, and to influence the reader. To get the reader to understand what the author writes, the author must organize ideas well and communicative. Writing is a way to express ideas in written using alphabets, words, arts or media, and needs a mental process to let on ideas [1].

Writing is not easy because it needs to be learnt and practiced. Writing is the most difficult skill of four skills obtained because it involves effective coordination from many cognitive processes, linguistics and distinguishes psychometrics [2]. Writing skill is difficult and sometimes hard to teach, it needs not only the mastery of grammatical structure and rhetoric but also the concept elements and assessment [3]. In teaching writing, most students have problem with writing due to the difficulty. Writing consists
of components, such as content, vocabulary, rhetoric, grammatical structure and mechanism. One of the
texts often found in reading is descriptive text. Descriptive text is a text that describes certain object
(condition, event, or someone) in order that as if the reader saw the described object. Descriptive text
is a written text that has a special function to give a description of an object (creatures or non-creatures)
and has the aim to give object description clearly to the reader [4]. Although it is easier than others, the
researcher found some students have the difficulty of the descriptive writing texts because they do not
know the effective technique that can help them to write well.
To solve problem of the students, one of the techniques can be used to help them is mind mapping [5].
Mind mapping is a diagram that has many functions to organize ideas and appears ideas, tasks, or other
relations with the center keyword arranged by branches and especially having words, colors, short
phrases and pictures [5]. This technique is very good to any fields because guidance provided from the
branches, typically in writing.
This study used mind mapping by combining action research and qualitative research (survey research).
This approach is not the same with the experimental research, there are some re-teaching cycles
appropriate to success of the research.

2. Literature Review

2.1 Understanding of writing
Writing is an activity to express ideas. Writing is made to read in order that ideas delivered can be
understood by the reader. Writing is a productive and expressive activity to let on ideas, opinions, and
knowledge. The writer has to be able to utilize graphology, grammatical structure, and vocabulary.
Writing is a productive activity because it generates the product of the writing and called expressive
activity because this activity is to express ideas, opinions, and knowledge of the writer to the reader [6].
Furthermore, writing needs special thinking and practice to report, to inform and to influence the
writer’s ideas to the reader with the obvious opinions, organisation, the use of words, and grammatical
structures [6].

2.2 Function of writing
The function of written language is the same as the function of spoken language, written language is
used to make various things to do, provide information, and to entertain. In principle, the main function
of writing is indirect communication [7]. The main function of writing is a communication tool,
especially indirect or non-face-to-face communication with people who are invited to communicate.
Writing is very important for education because it makes it easier for students to think critically. In
addition, the ability to write can also make it easier for a person to feel and enjoy relationships, deepen
their comprehension or perceptions of solving the problems they face, form a sequence for an
experience. Writing can help explain what is on someone's mind. There are still many people who
experience difficulties in the actual writing process, namely in explaining what is on the mind in the
form of ideas, problems and events [6].

2.3 Purpose of writing
Besides having a function, writing also has a purpose, including can be used to convince, report, record,
and influence others. The purpose of writing, namely (a) the purpose of the assignment, (b) the purpose
of persuasive, (c) the purpose of information, (d) the purpose of self-statement, (e) creative goals, (f)
altruistic objectives and (g) problem solving objectives [6].
In addition, the purpose of writing can be clarified as follows: (1) Changing readers' beliefs; (2) Instill
an understanding of something with the reader; (3) Stimulating the reader thinking process; (4) Pleasant
reader thinking process; (5) Fun or entertaining readers; and (5) Notifying readers; and (6) Motivating
readers [7].
2.4. Benefits of writing

The benefits of writing include: (a) increase of intelligence, (b) development of initiative and creativity, (c) courage growth, and (d) driving the willingness and ability to gather information [7]. There are six benefits of writing, namely: (a) the means to express oneself, (b) the means for understanding, (c) helping to develop personal satisfaction, pride, feelings of self-esteem, (d) increasing awareness and absorption of the environment, (e) eager and not accepting, and (f) developing an understanding of something and the ability to use language [8].

Furthermore, six benefits of writing, namely: (A) raises curiosity and exercises sensitivity in seeing the reality of life, (b) encourages us to look for other references, such as books, magazines, newspapers, journals, and the like, (c) trained to compile coherent thoughts and arguments, systematic, and logical, (d) reducing the level of tension and stress, (e) gaining inner satisfaction especially if writing is beneficial to others through mass media, and (e) gaining popularity among the public [6].

2.5. Understanding of text

The text is a form of visual symbol communication system [9]. The text is the work of writing. Writing is arranging or arranging ideas or thoughts and feelings into a series of sentences regularly with a unified whole so that the things delivered can affect other people, must also be accompanied by an explanation [7]. The text is the result of formulating an idea formally and regularly about a topic or subject [10].

2.5.1 Kinds of text

There are five kinds of text, that is: (a) Narration text, (b) Descriptive text, (c) Argumentative text, (d) Expositive text, and (e) persuasive text [7].

2.5.2 Understanding of descriptive text

The word "description" comes from the Latin word *describere* which means to describe or give something. In terms of terms, a description is a form of text that describes or gives something as clear as possible so that the reader seems to witness or experience himself [11]. Through description, the author moves his impressions, observations, and feelings to the reader. He described the nature, characteristics, and details of the forms contained in the object he described.

The description is a type of written text, which has a special function to give an image of an object (living creature or non-living creature) and has the purpose of clearly describing the object to the reader [4]. It should be understood that the description is widely used in the types of declarative sentence texts, and the use of the current form. Shared use is definitely needed to realize coherent texts. The use of the dominant present tense form because what is described in the description is a matter of fact included in this category, facts that are generally accepted or reality.

In addition, description is a sensory experience, how things look, sound, and taste. For the most part, this is about visual experience, but description also relates to other types of perception [12]. Descriptive paragraphs are also called paragraphs of painting, which describe or describe what is visible before the eyes. Thus, this descriptive paragraph focuses on the spatial structure of the object or its author. Presentations can be sequentially from top to bottom or vice versa. So, the painting for this paragraph relates to everything that is captured or observed in meaning. For example, a description of lecture halls, auditoriums and so on.

2.6. Understanding of mind mapping

Mind mapping is one of the learning methods that can optimize learning outcomes. This method was first introduced by Tony Buzan in the early 1970s. Mind mapping is a creative, effective way of recording and will literally "map" thoughts [5]. In addition, mind mapping or mind maps are the most effective and efficient way to enter, store and extract data from/to the brain [13].

A mind map is a diagram that is used to present words, ideas (thoughts), tasks or other things connected to the main idea of the brain. Mind maps are also used to generalize, visualize and classify ideas and as
assistance in learning, organizing, problem-solving, decision making and writing. Mind mapping is an
easy way to extract information from inside and outside the brain [5]. In mind maps, the working system
of the brain is regulated naturally. Automatic work also corresponds to the naturalness of human
thinking. Mind maps make the human brain well explored, and work according to its function.
As we know, the human brain consists of the right brain and left brain. In mindmaps, both brain systems
are activated according to their respective portions. The brain is able to recognize visuals to get
maximum results. With a combination of colours, images, and curved branches, it will stimulate
visually. So that information from mind mapping is easy to remember.

2.6.1 Steps of making mind mapping
There are several ingredients needed to make mind mapping, namely blank unlined paper, coloured
pens and pencils, the brain, and imagination [5]. In practice, there are seven steps that must be taken by
someone who will make mind mapping, that is: (1) Starting from the centre of a blank paper whose
long side is landscape, (2) Using images or photos for the centre, (3) Use attractive colours, (4) Connect
the main branches to the centre image and connect the second and third level branches to level one and
two, and so on, (5) Make a connecting line that is curved, not a straight line, (6) Use one keyword for
each line, and (7) Using images.

2.6.2 Benefits of mind mapping
Mind mapping can be used for various purposes. There are several purposes for using mind maps,
including [14]:
1) To find out students' abilities in summarizing the material he has learned.
2) To identify the occurrence of misconceptions.
3) To find out the differences in students in understanding material.
4) To assess student learning outcomes.
5) To reflect on student learning outcomes.
6) To understand a person's process of constructing knowledge.

2.6.3 Steps of mind mapping implementation in writing
Consider the following steps while looking at the mind map about "Objects" below [14].
1. Make sure the main theme is in the middle, for example: objects.
2. From the main theme, derivative themes will emerge which are still related to the main theme. From
the main theme of "objects", the derivative themes can consist of: solid, liquid, gas, etc.
3. Look for relationships between each theme and mark them with lines, colours or symbols. From each
of the first derivative themes, the second, third and so on themes will appear again. Then the next step
is to look for relationships that exist between each derivative theme. Use lines, colours, arrows or
branches and other symbolic forms to describe the relationship between the derivative themes. These
patterns of relationships will help us understand the topic we will write.
4. Use uppercase letters
Uppercase letters will encourage us to just write important points on the Mind Map. In addition, reading
a sentence in an image will be much easier when in uppercase letters than lowercase letters. The use of
lowercase letters can be applied to bullet points which describe key points.
5. Create mind maps on plain paper and eliminate the editing process
The idea of a Mind Map is that we think creatively. Therefore, use plain paper and don't be easily
tempted to modify the Mind Map in the initial stages. Because if we are too early to make modifications
to the Mind Map, then often our focus will change so that it impedes the absorption of the understanding
of the theme we are studying.
6. Leave room for additional themes
A useful Mind Map is usually one that has been added to the theme and modified repeatedly for some
time. After drawing the first version of the Mind Map, we will usually add information, write questions
or mark important points. Therefore, always leave space on the Mind Map paper for additional themes.
3. Research Method

3.1 Participant
This study involved 30 randomly selected students of The State Islamic Institute of Lhokseumawe. Out of 30 participants, 25 participants took the study from the beginning to the end of the meeting. In this study, the participants obtained the course of writing 3 in the 5th semester and past writing 1 and 2 in previous semesters.

3.2 Instrument
Tests, pre and post-test, and questionnaires were instruments employed to collect the research data. The tests given to the participants were writing descriptive texts. Questionnaires were designed by the researchers. The instruments used in this study were entitled Writing Class Condition and Implementation of Mind Mapping Techniques (WCCIMMT). The instruments only major part that is a 4-option Likert scale (4=Strongly Agree, 3=Agree, 2=Disagree, and 1=Strongly Disagree) to the perspectives of students towards implementation of mind mapping techniques to improve their descriptive writing texts. The alpha reliability of this scale was 0.87. It means that the questionnaires were good appropriate to the rules of thumb for Cronbach's alpha.

3.3 Procedure for reporting and analyzing data
The questionnaires of WCCIMMT was distributed to the participants after teaching treatment in class done. The final questionnaires sample for a pilot study consisted of 25 participants. Returned questionnaires were coded, tabulated and entered into a program written using the SPSS (Statistical Package for the Social Science) system. The process of data analysis was described by using percentage analysis.

4. Results and Discussion

4.1 Data and finding research in cycle 1
4.1.1 Analysis of mind mapping usage in improving the ability of descriptive writing texts
Based on observation and field records, teaching procedure of the mind mapping techniques was well-implemented; even though some points should be well-considered, and some should be repaired. In the first meeting of cycle 1, the researchers still explained about texts, kinds of the texts, the function of the texts and mind mapping and how to implement mind mapping, the rules and the way how to make mind mapping, and how to implement it in descriptive texts. The researchers distributed a sample of the mind mapping having an incomplete vocabulary to students and asked them to complete vocabulary of the mind mapping. The researchers walked around the class to control their activities. They seemed serious to do their task. They discussed to complete the vocabulary existed on branch lines of the mind mapping and descriptive text they did.

The researcher gave an empty A4 paper to them and re-asked them to make their own mind mapping with theme “school holiday”. From the mind, mapping generated a descriptive text. Each student was very active in the teaching learning process. They gave chance to ask about the theme. The researchers re-walked around the class to ensure all students were able to make mind mapping and observe the content of their descriptive texts.

In the discussion session, they had many ideas in making mind mapping and of course, their descriptive texts were quite different from one to another. They had chance to command their classmate’s result if there were mistakes with reasonable statements. Most of them were so confident that their work runs well in the first meeting.

4.1.2 Analysis of students’ descriptive writing scores
Table 1.1 in the below showed the scores of each student and the increasing point in cycle 1
### Table 1.1 Scores of Each Student and the Increasing Point in Cycle 1

| No | Student Names | Pre-Test (Basic Score) | Pos-Test (Quiz Score) | Increasing Point |
|----|---------------|------------------------|-----------------------|-----------------|
| 1  | JD            | 40                     | 55                    | 15              |
| 2  | VA            | 60                     | 75                    | 15              |
| 3  | TP            | 40                     | 50                    | 10              |
| 4  | AR            | 55                     | 65                    | 10              |
| 5  | JR            | 50                     | 70                    | 10              |
| 6  | TND           | 55                     | 70                    | 25              |
| 7  | SN            | 50                     | 65                    | 15              |
| 8  | IMS           | 40                     | 55                    | 15              |
| 9  | NJ            | 40                     | 55                    | 15              |
| 10 | PIM           | 50                     | 65                    | 15              |
| 11 | IR            | 50                     | 70                    | 20              |
| 12 | LJ            | 40                     | 55                    | 15              |
| 13 | IDS           | 40                     | 50                    | 10              |
| 14 | MU            | 50                     | 70                    | 20              |
| 15 | F             | 50                     | 60                    | 10              |
| 16 | FA            | 55                     | 70                    | 25              |
| 17 | TNA           | 50                     | 60                    | 10              |
| 18 | CP            | 45                     | 55                    | 10              |
| 19 | VA            | 45                     | 55                    | 10              |
| 20 | FZ            | 50                     | 65                    | 15              |
| 21 | WR            | 50                     | 60                    | 10              |
| 22 | MS            | 55                     | 70                    | 25              |
| 23 | NS            | 55                     | 70                    | 25              |
| 24 | SR            | 50                     | 65                    | 15              |
| 25 | MRR           | 55                     | 70                    | 25              |

**Mean:** 48.8  **Mean:** 62.8

The table above shows that the mean scores obtained by students for pre-test were 48.8 and post was 62.8. It stated that the students made slight increasing points although this study did not get successful indicator. The average of the increasing points of each student got 10 points to 15 points from pre-test and post-test, and of 25 students only 7 students reached increasing points between 20 to 25. The lowest score of pre-test they got was 40 and the highest one was 60; meanwhile, the lowest score of post-test was 50 and the highest one was 75. Of 25 students only 1 student achieved a good score, 13 students achieved an average score, 9 students had a fair score and the others (2) were in low score. Because the scores did not achieve the indicator success of 70 scores, the researcher needed to review the cycle and revise the plan.

#### 4.2 Data and finding research in cycle 2

##### 4.2.1 Analysis of mind mapping usage in improving the ability of descriptive writing text

An analysis was done based on the result of the observation checklist both researchers and students, and the field records. The researchers found that after implementing and revising the strategy, teaching-learning process became better due to the improvement of students. During the teaching-learning process, analysis of the researchers' performance showed some increasing points. The researchers could manage well and finish every step of the teaching-learning process on time.

In the second improvement, the researchers considered difficulty level of materials given to the students. Therefore, the researchers wrote all words in the empty line branches. This was helpful to the students focus on ideas they would write in descriptive texts.

The researchers in the third improvement overcame the students' problems at the beginning of writing. The researchers explained and provided introduction statement consisted of a general statement and topic sentence and one sentence of each paragraph. For four paragraphs were provided with the initial sentence, so they could continue the next sentences.
4.2.2 Analysis of students’ descriptive writing scores
Table 1.2 in the below showed the scores of each student and the increasing point in cycle 2.

Table 1.2 Scores of Each Student and the Increasing Point in Cycle 2.

| No. | Student Names | Pre-Test (Basic score) | Pos-Test (Quiz Score) | Increasing Point |
|-----|---------------|------------------------|-----------------------|------------------|
| 1.  | JD            | 65                     | 85                    | 20               |
| 2.  | VA            | 70                     | 90                    | 20               |
| 3.  | TP            | 70                     | 90                    | 20               |
| 4.  | AR            | 50                     | 75                    | 25               |
| 5.  | JR            | 60                     | 80                    | 30               |
| 6.  | TND           | 60                     | 80                    | 30               |
| 7.  | SN            | 50                     | 75                    | 25               |
| 8.  | IMS           | 40                     | 70                    | 30               |
| 9.  | NJ            | 50                     | 75                    | 25               |
| 10. | PIM           | 50                     | 75                    | 25               |
| 11. | IR            | 50                     | 70                    | 20               |
| 12. | LI            | 50                     | 75                    | 25               |
| 13. | IDS           | 50                     | 80                    | 30               |
| 14. | MU            | 50                     | 75                    | 25               |
| 15. | F             | 40                     | 70                    | 30               |
| 16. | FA            | 40                     | 75                    | 35               |
| 17. | TNA           | 50                     | 70                    | 20               |
| 18. | CP            | 50                     | 80                    | 30               |
| 19. | VA            | 50                     | 75                    | 25               |
| 20. | FZ            | 60                     | 80                    | 20               |
| 21. | WR            | 50                     | 75                    | 25               |
| 22. | MS            | 60                     | 80                    | 20               |
| 23. | NS            | 50                     | 75                    | 25               |
| 24. | SR            | 50                     | 75                    | 25               |
| 25. | MRR           | 65                     | 85                    | 20               |

Mean: 53.2 Mean: 77.4

From the graphic above it displayed that the mean score of students reached 77.4. It means that the score had reached indicator success of 70, so the researchers did not need the next cycle. It seemed that the students made improvement and achievement of the indicator success stated. The average of increasing points of each student reached 20 to 25 point of pre-test and post-test score, and just 5 students got point from 30 to 35. The lowest score of pre-test they got was 40 and the highest was 70; whereas, to the lowest post-test score they got was 70 and the highest was 90. Of 25 students, only 2 students got an excellent score (score 90), 2 ones got a very good score (score 85), 17 ones got a good score (score between 75 to 80) and the rest (4 ones) got the average score (score 7).

4.3 Students’ perspectives to the implementation of mind mapping techniques in improving the ability of descriptive writing texts
4.3.1 Analysis of current writing class situation
The following table reveals the percentage of respondents’ agreement or disagreement towards the items of “current writing class situation”:

Table 1.3 Analysis of Current Writing Class Situation

| No. | Current writing class situation                                                                 | N   | Percentage |
|-----|------------------------------------------------------------------------------------------------|-----|------------|
|     |                                                                                                 | Agree | Disagree  | Agree | Disagree |
| 1.  | I always encounter the difficulties in writing text.                                            | 18   | 7          | 72.0  | 28.0     |
| 2.  | To start writing essays at the beginning, I was always constrained in organizing ideas.         | 18   | 7          | 72.0  | 28.0     |
| 3.  | Writing a text is very difficult for me because it takes a long time to think.                  | 11   | 14         | 56.0  | 44.0     |
| 4.  | I also have difficulty in composing sentences properly and correctly in writing text.           | 19   | 1          | 76.0  | 24.0     |
5. For me, writing is not easy because it requires unlimited vocabulary.

6. My writing ability is still low because I haven't received a more effective writing technique.

The table above shows that generally the majority of respondents (up 50%) indicated that the current writing class situation cannot help them to be able to write texts better (from item 1 to 6). For item 1, in general of the respondents (72%) agreed that they encounter the difficulties in writing a good text. The majority of respondents (72%) agreed with item 2 of to start writing essays at the beginning, they are always constrained in organizing ideas, only 28% of respondents disagreed. Over half of the respondents (56%) stated that writing a text is very difficult for them because it takes a long time to think (item 3). 76% of respondents declared that they also have difficulty in composing sentences properly and correctly in writing a text, while the rest (24%) disagreed (item 4). Data item 5 shows that the majority of respondents (72%) agreed that writing is not easy because it requires unlimited vocabulary. Most of all respondents (92%) acknowledged that their writing ability is still low because they haven’t received a more effective writing technique, but only 8% of respondents disagreed to item 6.

4.3.2 Analysis of mind mapping implementation

The following table presents the percentage of respondents’ agreement or disagreement towards the items of “mind mapping implementation”.

| No. | Mind mapping implementation                                           | N   | Percentage |
|-----|---------------------------------------------------------------------|-----|------------|
|     |                                                                     | Agree | Disagree | Agree | Disagree |
| 1.  | Mind mapping techniques help my writing skills in descriptive texts | 23   | 2         | 92.0  | 8.0      |
| 2.  | Writing essays using mind mapping techniques improves my writing comprehension | 23   | 2         | 92.0  | 8.0      |
| 3.  | Mind mapping techniques make it easier for me to organize ideas from an essay title | 23   | 2         | 92.0  | 8.0      |
| 4.  | Writing using mind mapping techniques is very fun than other techniques | 23   | 2         | 92.0  | 8.0      |
| 5.  | Writing using mind maps (mind mapping) increases creativity, learning speed and memory | 25   | -         | 100   | -        |
| 6.  | Mind mapping techniques help me improve vocabulary, and compose sentences | 24   | 1         | 96.0  | 4.0      |

Based on the table above, the majority of respondents declared that they agreed with the whole items. For item 1, 2, 3, and 4 the percentage of respondents who agreed had the same total (92%), but only 8% of respondents disagreed for the items. 100% of respondents agreed with the item 5 “writing using mind maps (mind mapping) increases creativity, learning speed and memory”. For item 6 96% of respondents declared that mind mapping techniques help them to improve vocabulary, and compose sentences, and only 4% disagreed with the item.

5. Conclusion

The learning result of descriptive text writing using mind mapping combined with mixed methods, action research and qualitative research (survey research) to the students of The State Islamic Institute of Lhokseumawe run well. The increasing point of each student in cycle 1 and 2 change significantly from the score of pre-test to post-test. The mean score of students in cycle 1 to pre-test was 48.8 and post-test was 62.8 in which the increasing point each student got from 10 (pre-test) to 15 (post-test). Meanwhile, in cycle 2, the mean score of students reached 77.4. It means that the score has achieved indicator success that is 70 with the increasing point reached 20 up to 35 from pre-test to post-test.
The use of mind mapping played an important role in improving the students’ writing ability typically descriptive texts. The majority of respondents agreed to the whole items of the questionnaire. They could write descriptive texts better than before in a regular writing class.

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