IMPROVING STUDENTS’ CREATIVITY IN WRITING RECOUNT TEXT BY USING MIND MAPPING

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Abstract
This study is conducted to identify the students’ creativity improvement in writing recount text in which mind-mapping is implemented in the writing class at the tenth grade of SMA Batik 2 Surakarta in the academic year of 2014/2015. By implementing mind-mapping, the students are actively involved in the teaching learning process. With the involvement, the students have more opportunities in conveying their ideas. The opportunities given improve their critical thinking and innovation. The research was conducted from July to December 2014. The method used in this research was classroom action research. There are two cycles conducted. Every research cycle consisted of planning, acting, observing, and reflecting. These phases are cyclical so that the researcher can refer back to the first phase after completing the last phase. There are qualitative and quantitative data collected in this research. The qualitative data were collected by observing while the quantitative data were collected by designing tests. The findings showed that the implementation of mind-mapping could improve students’ creativity in writing recount text. The critical thinking (from 57.89% to 86.84%), innovation (from 39.47% to 76.31%), and the learning outcome improved. Based on the improvement, it can be concluded that the result of mind-mapping implementation is positive.

Keywords: creativity, mind mapping, recount text, writing skill

INTRODUCTION
Language as a means of communication is important because of the emergence of communication demand nowadays. People communicate everyday with different languages. Information is exchanged either through direct conversation or from written text. People do things with language. The better the language skills they have, the better they can communicate with others. There are four language skills that cover listening, speaking, reading, and writing (Tarigan, 1993, p. 192). In an educational context, these four language skills are influenced by the way students learn in the classroom. Sagala (2003, p. 62) state that teaching-learning process is a planned activity designed by the teacher in order that the students can learn actively through learning resources.

As one of four language skills, learning how to write is very vital for students. Elbow (1973, p. 14) states that writing is a way to communicate what we think, feel, and see through words. It is a process of producing graphemic symbols and organizing the symbols to be meaningful (Widowwson, 1996, p. 61). Through writing, the students can convey their ideas (Ayuhendri, 2010). In communicating through written work, there are at least four aspects:
1) the writer as the one who communicates his or her ideas, 2) ideas, 3) media, and 4) the readers. Students are considered to have good writing skill if they have the ability to develop content, organize their ideas, write grammatically correct sentences, use correct mechanics (punctuation, spelling, and capitalization), and make use of appropriate vocabulary. Writing is not only a matter of expressing ideas through written work, but expressing ideas based on a certain writing convention. Since writing is the second most difficult skill to master besides speaking, teaching, and improving students’ writing skill is urgently needed.

For senior high school students, they are expected to be able to write many text types. One of the text types the students should write is recount text. In writing recount text, students should convey their ideas or past experiences creatively. However, the researcher found that the students at X MIA 3 of SMA Batik 2 Surakarta have difficulties in writing recount text. Based on the pre-test result, the students 1) got low score, 2) found it difficult to develop and organize the content, and 3) made many mistakes in grammar and mechanics.

The difficulties faced by the students are caused by some factors: 1) the students’ low creativity, 2) the students’ unawareness of the importance of writing skill, 3) the lack of writing practice, 4) the teacher’s ineffective strategy in teaching writing, and 5) the teacher’s ineffective strategy in developing materials. Among the difficulties, the teacher’s strategy in teaching writing is considered the major cause. Focusing to the cause, the teacher should seek strategy to overcome the problems. Mind-mapping is seen as one of the ways that can be used to help the students in improving creativity and writing recount text.

The study on the implementation of mind-mapping has already been conducted by Riska Dwi Cahyani in 2011. The former study entitled Improving Students’ Reading Comprehension through Mind Mapping (An Action Research at the Seventh Year Students of SMP N 3 Colomadu in the Academic Year of 2011/2012). The similarity between the former research and the recent research is that both researchers want to investigate the students’ improvement when mind-mapping is implemented. However, in the former study, mind-mapping was used to improve the students’ reading comprehension. Meanwhile, in this study, mind-mapping is used as a strategy to improve the students’ creativity in writing recount text.

The results of the former study showed that the use of mind-mapping could improve the students’ reading comprehension and class situation of English class. The improvement of students’ reading comprehension includes: students were able to identify 1) the main idea of the text, 2) the implicit and detail information of the text, 3) the explicit detail information of the text, 4) the reference of the text, and 5) they word meaning based on context in the text. While, the improvement of class situation includes: students 1) made less noise in teaching learning process, 2) focused in doing the task and asked the difficulties they found, 3) began to participate actively in discussing the text and the task, 4) did their assignment and always responded the teacher commands, and 5) paid attention to the lesson and did the task cooperatively with their group. It can be concluded that mind mapping can improve the students’ reading comprehension and the class situation. This previous research gives the researcher inspiration to implement mind-mapping for different language skill in her class.

Buzan (2004, p. 24) states that mind-mapping is an affective and creative way in which ideas are sorted based on its category. It is a writing strategy that places the students as the center of learning. Mind-mapping offers some benefits since it is unique, interesting, easy to
remember, and eye catching (Edward, 2009, p. 64). Through mind-mapping, the students are able to develop and organize their ideas systematically. Besides, mind-mapping will improve creativity since the students utilize not only words but also symbols, pictures, and colors. Hence, mind-mapping is an effective strategy to be used in teaching writing recount text.

Besides the appropriate strategy used, the successfulness of learning English, especially writing, is also determined by the students’ creativity. Creativity is an ability to invent new ideas through imagination (Drevdahl in Hurlock, 2005, p. 5). The imagination is used to connect the patterns of past experiences and the current situation. However, creativity covers not only imaginative activity but also critical thinking. With the combination of imagination and critical thinking, new and useful ideas will be invented (SuIarman, 2005, p. 373). Creative students are those who are brave to take challenges, expressive, humorous, and intuitive (Wycoff, 2002, p. 49). In order to improve creativity, there should be sufficient time for the students to develop their ideas, sufficient knowledge, supportive environment, and opportunities (Hurlock, 2005, p. 11). Teaching learning process and evaluation should stimulate students’ creativity. By doing so, the expected outcome will be achieved. Therefore, the researcher aims to know the students’ creativity improvement in writing recount text by using mind-mapping.

Jigsaw is considered method to enhance the students’ creativity and learning outcome. Therefore, in this research, there are several considerations the researcher takes into account: a) how can mind-mapping improve the tenth grade students’ creativity at MIA 3 of SMA Batik 2 Surakarta? b) how can mind-mapping improve the tenth grade students’ learning outcome at MIA 3 of SMA Batik 2 Surakarta?

LITERATURE REVIEW

1. Writing

For senior high school students, writing is considered as the second most difficult skill after speaking. In order for the students to master writing skill, practices and experiences are needed so that the students can express their ideas in a written form well. As stated by Elbow (1973, p. 14), writing is a process of expressing what we think, feel, and see through words. In written work, words are combined and organized grammatically to form messages and mechanics are put to make the messages easier to grasp (Widowwson, 1996, p. 61; Byrne, 1997, p. 1). In writing, the writer should consider some writing indicators: 1) content, 2) organization, 3) grammar, 4) vocabulary, and 5) mechanics.

Writing is one of four language skills besides listening, speaking, and reading. Skill is an ability to do something well (Hornby, 1995, p. 820). It is a technical competence obtained without continual development (Webster, 1968, p. 50). Therefore, writing skill is a technical competence to express thoughts and feelings through words. Having good writing skill is important because students can communicate not only orally but also through writing. Through writing, students can exchange information, solve problems, and experience things.

Writing processes cover pre-writing, whilst-writing, and post-writing. In the process of pre-writing, the student as the writer sorts the topic and develops the chosen topic in the outline. Once the topic is determined, the students start writing individually without the teacher’s assistance. The writing task can be done both inside and outside the class and then
will be collected to be scored. The last writing process is post-writing. In the process of post-writing, the students proof read the writing. They can add additional information, omit irrelevant information, and revise the work.

As a second most difficult language skill, there are some aspects that may be problematic. The first problem is psychological problem. Writing is a task for each individual so that it is burdensome. Another problem is linguistic problem. Different from speaking, writing requires more structured sentences and organized ideas so that the messages conveyed will not be bias. The last common problem is cognitive problem. Ideas should be expressed in such a way that the messages are comprehensive.

In teaching the students to write, the teacher should consider the different students’ needs and learning styles. Portfolio is also needed to monitor the students’ progress. Moreover, the teacher should give the students more exposure through various media. By getting more exposure, the students will have various writing models. In instructing the students to write, there should be guided-writing. In the guided writing, the students should compose sentences based on the given model, change the voice of the sentences, and combine sentences. Guided writing is an approach that focuses on grammar, organization, and mechanics.

2. Creativity

The word creative originates from the word create that means innovative. Drewdahl in Hurlock (2005, p. 5) states that creativity is an ability to invent new ideas imaginatively. It is a skill to compose or produce anything that has not been invented before. In the process of innovating ideas, the patterns of past experiences are connected to the current experiences. The result of the innovation is something useful. Creativity covers the ability to invent new and various and ideas used to solve the problems.

In line with Hurlock, Munandar (2003, p. 104) states that creativity covers the ability to 1) combine new and existing information, 2) find various solutions for a single problem, and 3) elaborates original ideas. Creativity is imaginative activities that create something original and valuable (Komite Penasihat Nasional Bidang Pendidikan Kreatif dan Pendidikan Budaya in Craft, 2005, p. 291). Besides involving imaginative activities, creativity involves cognitive activities (Suharman, 2005, p. 373).

There are some characteristics of creative students. They are confident, expressive, humorous, and intuitive. Students are considered 1) confident if they dare to face new challenges and take risk, 2) expressive if they dare to express their thoughts and feelings, 3) humorous if they can do something unexpected things, and 4) intuitive if they are able to sense what is wrong and what is right.

Creativity is not only influenced by the innate ability but also mental behavior. According to Hurlock (2005, p. 11), there are several factors that will improve someone’s creativity. The first factor is time. The more an individual has the time to develop the concepts and ideas, the higher the creativity he or she has. The second factor is related to opportunities. When an individual faces problems frequently, he or she will be more creative because of the experiences. Another factor is support from both parents and other related parties. Related to learning, students’ creativity level can be measured based on two creativity indicators as critical thinking and innovation.
3. Learning outcome

Learning outcome is the result of students’ learning. Djamarah (2002, p. 13) states that learning is a series of activity in which the students interact with others to experience things and get knowledge. Learning is a mental activity to improve affective domain, obtain knowledge, and develop skill (Darsono, 2000, p. 4). There are three domains of learning: cognitive, affective, and psychomotor.

While learning is an activity, learning outcome is what the students master after learning. Learning outcome is the result of teaching and learning process (Dimyati & Mudjiono, 2006, p. 3; Arikunto et al., 2007, p. 63). It is the realization and development of the skill (Sukamdinata, 2007. P. 102). Students reach the expected learning outcome if they pass the passing grade. In order to measure the learning outcome, the teacher should evaluate the students. In evaluating the outcome, the teacher can use tasks, homework, or tests.

4. Mind-mapping

Mind-mapping is a note-taking strategy that makes use of creativity so that it is effective (Buzan, 2004, p. 24). Mind-mapping is beneficial to put similar ideas together. There are several benefits of implementing mind-mapping: 1) eases the students to remember information, 2) eases the students to develop ideas, 3) makes the students to be more creative, effective, and efficient, and 4) makes the students able to control their lives better.

In implementing mind-mapping, there are six steps: 1) the teacher informs the expected learning outcome, 2) the teacher comes with ill-defined problem to the students, 3) the teacher assigns students into small groups randomly, 4) students in group should discuss the alternative solutions, 5) students in group should express their ideas systematically, and 6) students in group should summarize the lesson. For the students to use mind-mapping, they should prepare blank paper and different color pens (Buzan, 2004, p. 14). In the blank paper, the students should draw symbol to put the main idea in. The main idea will be supported with several supporting ideas drawn in different symbols. The symbol for the main idea and supporting ideas are connected by line.

RESEARCH METHODS

The design of the research is classroom action research. Classroom action research is a reflective research conducted through several phases as planning, acting, observing, and evaluating or reflecting (Sutama, 2014, p. 25; Sudjana, 2012, p. 22). This classroom action research was conducted from July to December 2014 at SMA Batik 2 Surakarta located at Jl. Sam Rtaulangi No 86, Kerten, Laweyan, Surakarta with the tenth grade students at MIA 3 as the research subject consisting of 20 female students and 18 male students.

Two cycles were designed. Each cycle consisted of planning, acting, observing, and reflecting. In the planning phase, the researcher started the research by doing pre-research. In doing the pre-research, the researcher directly observed the way the students learn to write recount text in the classroom and analyzed the score that the students got. After observing the learning activities and the score, the researcher identified the problems faced by the students in writing recount text. Once the problems were identified, the researcher proposed an alternative strategy (mind-mapping) suitable to overcome the problems and prepared the
Instruments to collect the relevant data.

In the acting phase, students learn to write recount text by using mind-mapping strategy. The researcher then observed the teaching learning process. Once the acting and observing phase were done, the researcher reflected on the results of the action by identifying whether or not the proposed solution, mind-mapping, was effective to overcome the problems. Based on the results of the reflection process, the researcher determined the following action in the next cycle. On the other words, the weaknesses of the teaching learning process in the first cycle would be minimized in the second cycle. Therefore, the researcher should modify or re-plan the teaching instruction based on the collected data.

The data were collected through observation and test. Observation was used to collect the data related to the teaching learning process and the students’ behavior in learning and writing recount text by using mind-mapping. Meanwhile, the students’ learning outcome was measured by the test. Since the collected data were qualitative data, it might be bias. Thus, the researcher validated the data through triangulation. Triangulation is a technique in which the researcher collects the data from two or more different sources or by using two or more data collection methods. The data collected from different sources or methods were the same so that the researcher could cross check the saturation of the data. After the data were collected, the researcher analyzed the data by using critical and comparative data analysis technique.

1. Research Findings and Discussion
a. Findings
1) Pre-research

In the pre-research observation, the researcher found that students’ mean scores in the first semester of the academic year 2014/2015 were 56.66%. It means that the students did not reach the passing grade (KKM). The teacher has tried several ways to increase the students’ scores. However, the scores have not been significantly increased.

Based on the pre-research observation, the number of the students who passed the writing test was 18 (39.47%) while the other 20 students (54.41%) did not pass the writing test. In the writing test, there were five aspects that the teacher scored. The five aspects were content, organization, grammar, vocabulary, and mechanics. This happened since the students’ readiness in joining the class was low so that there was the tendency for them to be passive during classroom activities.

Besides the low scores, the students at X MIA 3 also had low creativity. The students could not find ideas critically. Moreover, they were not innovative. There were some factors causing these problems. The first factor was related to the teacher’s teaching technique. The teacher taught the students by using conventional technique such as lecturing. The activities done in the classroom were dominated by the teacher and uninteresting so that the students felt bored. Another cause was that the students did not get opportunities to communicate in English so that they had few experiences and many difficulties in learning English.

In order to overcome the problems faced by the students at X MIA 3 of SMA Batik 2 Surakarta in writing recount text, the teacher as a researcher proposed a solution to use mind-mapping. By using mind-mapping, it was expected that the writing strategy would improve the students’ creativity and scores in writing recount text.
2) Cycle 1

The first cycle consisted of two meetings. Mind-mapping was implemented in every meeting. In the first meeting conducted on November, 14\textsuperscript{th} 2014 at 09.45-11.45, the teacher taught the students both the generic structure and the linguistic features of recount text with the help of power point. Meanwhile, students’ task sheet was used in the process of group investigation and problem solving.

To start the first meeting, the teacher asked the chairman to lead the prayer, checked the attendances, and explained the material and the expected outcome. There were 37 students who attended the class. The teacher then assigned the students into 8 groups randomly. After assigning the students into groups, the teacher asked questions that relate the previous material with the new material. Here, the teacher was the facilitator that assisted the group in discussing recount text. By being the facilitator, the teacher monitored and motivated the students.

However, the students were not accustomed to the implementation of mind-mapping since it was new for them. In group discussion, the students confused with the things they should do so that their ideas were not properly conveyed. Consequently, there was no improvement in their creativity. Even though, there were 22 (57.89\%) students who had critical thinking and 15 students who were innovative (39.47\%). The students’ scores also improved.

The second meeting of the first cycle was conducted on Wednesday, November 19\textsuperscript{th} 2014 at 08.00-08.45. There were 36 students since the two of the students were absent. In this meeting, the teacher and the students discussed the linguistic features of recount text. The activities done were similar with the activities in the first meeting with a few modifications as suggested by the observer.

With the modifications, the class situation became more conducive since the students started to be familiar with mind-mapping. Moreover, the students were motivated. They discussed the material well. There was also improvement on their creativity. There were 28 (73.68\%) students who thought critically and 23 (60.52\%) who were innovative.

After the two meetings of the first cycle were conducted, the teacher with the observer reflected on the observation results. The results showed that the teaching learning processes have been conducted as the instruction stated in the lesson plan. There was improvement on students’ creativity. The improvement can be seen in table 1.

<table>
<thead>
<tr>
<th>Table 1. The first improvement on students’ creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
</tr>
<tr>
<td>Meeting 1</td>
</tr>
<tr>
<td>Meeting 2</td>
</tr>
</tbody>
</table>

Though there was improvement after the first cycle was conducted. There were some weaknesses: the teacher did not 1) stimulate the students’ curiosity to ask, 2) guide the students to summarize the lesson, 3) evaluate, 4) explain the importance of creativity. These problems happened because of the lack of cooperation and interaction in the first meeting discussion.
Without good cooperation and interaction, the discussion took time so that the time allotment was not sufficient to complete the task. Moreover, in the second meeting, the teacher should re-explain what the students should do since most of the students did not know how to do the task. In order to overcome the problem, the teacher and the observer decided to 1) form heterogeneous group to maximize the implementation of mind-mapping, 2) control the class better, and 3) explain the instruction more clearly.

3) Cycle 2

The first meeting of the second cycle was conducted on Friday, November 21st 2014 at 09.45-11.45. There were 37 students who attended the class. In this meeting, the students started to write recount text about past activities, events, or phenomena. In writing the text, the students should consider the generic structure and linguistic features of the text. While the teacher led the instruction, the observer observed the teaching learning process without interfering.

The meeting was started by praying and checking the students’ attendances. The teacher then re-explained the materials. In order for the discussion to be successful, the teacher did not assign the students into groups randomly. The teacher assigned the students based on the rank that the students got in the first cycle so that the groups were heterogeneous. Questions were also asked to the students to motivate them and increase their curiosity. Since each group consisted of heterogeneous students, the discussion ran better with the assistance of the teacher as a facilitator. In the end of the first meeting, the teacher guided the students to review the lesson. Besides, the teacher also gave the students positive oral feedback and enhancement, and gave the evaluation test to measure the students’ current understanding.

Based on the first meeting observation results, the class situation was more conducive than the previous two meetings. In the group discussion, the students no longer faced difficulties. Moreover, the students were accustomed to the use of mind-mapping to help them in writing recount text. As a result, there was an improvement on the students’ creativity, 30 (78.95%) students who think critically and 27 (71.05%) students who were innovative.

<table>
<thead>
<tr>
<th></th>
<th>Critical thinking</th>
<th>Percentage</th>
<th>Innovation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting 2</td>
<td>28 students</td>
<td>73.68 %</td>
<td>23 students</td>
<td>60.52 %</td>
</tr>
<tr>
<td>Cycle 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting 1</td>
<td>30 students</td>
<td>78.95 %</td>
<td>27 students</td>
<td>71.05 %</td>
</tr>
<tr>
<td>Cycle 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second meeting of the second cycle was conducted at 08.00-08.45. There were 37 students attending the class. The activities done were the same with the activities in the first meeting with a few adjustments as suggested by the observer. With the teacher’s help, the students were finally able to discuss. Conclusively, the expected outcome was achieved. The improvement can be seen on table 3.
Table 3. The third improvement on students’ creativity

<table>
<thead>
<tr>
<th>Cycle 2</th>
<th>Critical thinking</th>
<th>Percentage</th>
<th>Innovation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting 1</td>
<td>30 students</td>
<td>78.95 %</td>
<td>27 students</td>
<td>71.05 %</td>
</tr>
<tr>
<td>Meeting 2</td>
<td>33 students</td>
<td>86.84 %</td>
<td>29 students</td>
<td>76.31 %</td>
</tr>
</tbody>
</table>

After the two meetings of the second cycle were conducted, the teacher with the observer reflected on the observation results. The results showed that the teaching learning processes have been conducted as the instruction stated in the lesson plan. In addition, the students were finally able to reach the expected outcome.

b. Discussion

In general, the teacher was already accustomed to implement contextual learning. However, when the teacher first implemented contextual learning, she thought that contextual learning was not effective. As the continual implementation, the learning became more interesting and communicative. This happened since there was group discussion in which the students conveyed their ideas and relate the ideas into their real life.

By implementing mind-mapping, the teaching and learning process became motivating and various. Mind-mapping is a strategy to learn information efficiently through overall outlines. In the discussion process when mind-mapping was implemented, the teacher became the facilitator that guided the each group separately. In the first cycle, the discussion was not communicative and creative. It tended to be monotonous. However, on the second cycle the students’ creativity and learning outcome were improved. Because of the improvement, the teacher proved that mind-mapping was affective to improve the students’ creativity and learning outcome. The final learning outcome can be seen in Table 4.

Table 4. The final outcome

<table>
<thead>
<tr>
<th>No.</th>
<th>Creativity indicators</th>
<th>Cycle 1</th>
<th>Cycle 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Meeting 1</td>
<td>Meeting 2</td>
</tr>
<tr>
<td>1</td>
<td>Critical thinking</td>
<td>22 students (57.89%)</td>
<td>28 students (73.68%)</td>
</tr>
<tr>
<td>2</td>
<td>Innovation</td>
<td>15 students (39.47%)</td>
<td>23 students (60.52%)</td>
</tr>
</tbody>
</table>

2) Cycle 1

Before the implementation of mind-mapping, the students’ creativity and learning outcome were low. This was proven since the students could not achieve the indicators of creativity and learning outcome. The indicators of creativity were critical thinking and innovation. In the first meeting of the first cycle, it was found that there were only 22 (57.89%) students who had critical thinking. After the acting phase in cycle 1 and cycle 2 was conducted, the students who thought critically improved from 22 (57.89%) students to 33 (86.84%) students. Related to the innovation, there was a significant improvement. In the beginning of the acting phase, there were only 15 (39.47%) students who were innovative. At the end of the research, there were 29 (76.31%) innovative students. Innovative students were those that could develop their ideas creatively.
Based on the result of discussion, both the creativity and the learning outcome were improved. The improvement on the students’ creativity could be seen from the percentage of two creativity indicators: critical thinking and innovation. Meanwhile, the improvement on the learning outcome could be seen from several aspects: 1) the students were able to explain the material well to other group members, 2) the students could do the task in group or individual well, 3) the students were brave to convey their ideas voluntarily, 4) the students were able to communicate effectively with others, and 5) the students could find the solutions of the problem they faced in answering the questions. Hence, it was concluded that mind-mapping and the students’ skill in conveying ideas through writing improved their creativity.

CONCLUSION
Mind-mapping as a learning strategy was implemented in this classroom action research. In implementing mind-mapping, the teacher followed some steps: 1) informing the expected learning outcome, 2) explaining the problem that the students need to solve, and 3) assigning students into small group. Meanwhile the students in group should: 1) discuss the solutions for the problem, 2) reporting the discussion results, and 3) summarize the lesson.

The implementation of mind-mapping strategy brought positive results on the students’ behavior. The students became more communicative in the discussion process. They also improved their confidence to present the results of the discussion in front of others. This improvement happened since the teacher engaged the students in the learning process so that they were more active and creative. By engaging the students, the teacher places the students as the learning center.

The results of the research showed that there was improvement on the students’ creativity. Before mind-mapping was implemented, there were only 15 (39.47%) students who thought critically. After the first cycle was conducted, there were 28 (73.68%) students who had critical thinking. At the end of the second cycle, the number of students who had critical thinking improved from 28 (73.68%) students to 33 (86.84%) students.

Similarly, the students became more innovative. In the pre-research observation, there were only 11 (28.95%) innovative students. After the first cycle was done, there were 23 (60.52%) innovative students. At the end of the research, there were 29 (76.31%) students who were innovative. The learning outcome improved also from 45.59% to 78.95% at the end of the first cycle and 86.84% on the second cycle. Based on the improvement, it can be concluded that the result of mind-mapping implementation is positive.

Since mind-mapping implementation brings positive results, the teacher can utilize mind-mapping as an alternative teaching strategy. By utilizing mind-mapping, the students will be more critical and creative in thinking. Consequently, the students will be more curious in the materials and interested in their learning. With the students’ curiosity and interest, the class situation will be more conducive. Therefore, the teacher as the facilitator will not face many difficulties in instructing the students to do the learning activities.

Hopefully, mind-mapping can be implemented in the other level students with the same topic by other researchers. In addition, it is expected that the result of this study can be reference for further researches so that the weaknesses of this study can be minimalized.
REFERENCES


