

HOW WAS MIND MAPPING LEARNING MODEL INFLUENCED INDONESIAN LEARNING OUTCOMES FOR ELEMENTARY SCHOOL STUDENTS IN BOYOLALI DISTRICT, INDONESIA?

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Abstract

Several empirical studies shown that the students' learning outcomes have decreased after the Covid-19 pandemic. This research was conducted as a scientific effort to asses the students' learning outcomes through mind mapping learning model implementation. The research method applied was class action research with the type of individual action research. The subjects of this research were 9 students of the second grader of SDNegeri 2 Suroteleng, Selo, Boyolali. The instrument used was multiple choice written test. Research data were collected through students' learning outcomes tests in each of first and second cycle. The data analysis technique was carried out using descriptive methods to determine the mean, median, mode, presenting class intervals and presenting them in tables. The results of this study indicated that: 1) The implementation of mind mapping model in the first cycle achieved an average value of students' learning outcomes of 66.66. 2) The implementation of mind mapping learning model in the second cycle achieved an average value of students' learning outcomes of 77.77. 3) The implementation of mind mapping learning model can improve students' learning outcomes from the first cycle to second cycle was 44.55% with a 100% passing percentage. Thus, it can be concluded that the implementation of mind mapping learning model has the influence to improve students' learning outcomes at the elementary school level.

Keywords: Implementing, Mind Mapping Model, Learning Outcomes.

INTRODUCTION

Elementary school education is a place for the first experience that provides the basis for the formation of the students' personality (Mundzirroh et al., 2013). The 1945 Constitution of Indonesia explains that elementary school education is an effort to educate and print the life of a nation who is devoted, loves and proud of the nation and state, skilled, creative, virtuous, and polite and be able to solve problems in their environment. In the other hand, elementary school education is the education of children aged 7 to 13 years as education at the basic level which is developed in accordance with the education unit, regional potential, and socio-culture. Conceptually, the function of the school is to equip students with basic skills related to the ability to think critically, read, write, count, and basic mastery to study science and technology as well as the ability to communicate which is a minimum ability guide in social life. Furthermore, the function of basic education also includes activities to equip students with the basics of knowledge to be able to continue their education at the next level. Because in essence the success of attending education in secondary schools and universities is much influenced by success in following basic education.

Based on the explanation above, it can be understood that the purpose of elementary school education is to teach the basic of knowledge, skills, and character for students. All these aspects are taught so that students have the basic skills to continue their education to a higher level. In particular, the skills that must be taught to elementary school students as a beginner class are reading skills and writing skills (Pratiwi, 2020). The ability to read and write is the basis of the abilities that students will learn (Mustikowati, 2016 and Novriza, 2020).

Reading is one of the language skills which has an impact on increasing other competencies. Ambarita et al., (2021) stated that reading is not only used for Indonesian language subjects but for all

subjects because most of the acquisition of knowledge is carried out through activities carrying various sources and types of reading. Cicila&Nursalim (2019) said that reading aims to find information contained in a reading text, both explicit information (facts) and implied information (inference). The importance of students having reading skills because reading is the heart of education (Puspitasari, 2015). Reading and understanding text skills in elementary school students are very basic and important for future developments to hunt, absorb, and utilize information for the development of science and technology when they reach higher education (Muhyidin et al, 2018). Beginning reading skills for students in lower grades are useful for having the ability to understand and voice writing with reasonable intonation, as a basis for further reading. Beginning reading learning is the level of the process of learning to read to master the writing system as a visual representation of language.

Reading is very important to be taught at the elementary school level, especially in the early grades in order to understand texts and various information. This is in line with Novriza (2020) that reading is important to hone one's intellectual abilities by studying the aesthetics of a writing, learning how to make writing understood by both writers and other people as readers, and learning how to develop ideas into something more valuable. Reading in addition to being useful for increasing knowledge can also improve vocabulary mastery, furthermore the more vocabulary mastered will affect writing skills (Rahim, 2009 and Pratiwi, 2020). Both reading and writing skills aim to help children communicate their ideas or feelings to others, convey their intentions and requests (Christianti, 2013 and Muhyidin et al., 2018).

In addition, reading skills and writing skills are very important to be taught in elementary schools, especially in the early grades. Writing is an expressive and productive language skill (Hamidah et al., 2019). According to Pohan (2020) writing is a skill to express ideas or ideas in the form of text related to what is being thought about. Furthermore, Manshour et al., (2006) stated that writing is part of a communication system through the use of language through symbols and signs. The achievement of elementary school students' writing skills in the early grades is being able to write simple sentences to reflect on simple essays and ideas (Siti, 2017 and Kurniati et al., 2020). In writing the beginning, it is intended that students can write words correctly. At the beginning of writing students are expected to be able to produce writing that can begin with spelled writing (Mustikowati et al., 2016). The skills of students in writing activities will have a positive impact on themselves and both in various aspects of developing their minds as well as for their provisions in going to the world of further education and even the world of work. Students who develop writing skills and want to learn actively and creatively will be able to produce written forms that can be interesting and easily understood by others. This is a result that can be said to be a form of creativity (Hamidah et al., 2019).

The results of research released by PIRLS (Progress in International Reading Literacy Study) under the coordination of the IEA (The International Association for The Evaluation Achievement) in 2011 showed elementary school children have low reading skills, which is below the average international (Akbar, 2017). According to these data, literacy has not yet become a culture among Indonesian students, especially at the elementary school level. The results of research conducted by Pratiwi et al., (2020) revealed that the factors causing the low reading skills of elementary school students were the low reading competence in RA, which came from psychological and environmental factors. Psychological factors, from within the students themselves in the form of students' lack of interest in learning to read and socio-emotional maturity and self-adjustment. Environmental factors come from the lack of attention and guidance from both parents. Students' learning to read activities at school and at home is less, because these students play more.

The results of previous studies indicate that mastery of basic writing skills is a serious problem among elementary school students. The results of research by Kurniati et al., (2020) reveal several factors that cause children to have difficulty learning to write, namely the lack of attention and motivation from parents in overcoming children's learning to write difficulties. Students do not have self-awareness in writing and have not been able to memorize the letters of the alphabet. Students also do not have the awareness and responsibility to learn. Another problem is the lack of cooperation between schools and parents in overcoming children's learning difficulties. The problem in practice as expressed by Dewi (2015) is that several problems were found related to students' reading and writing skills, such as for first

grade students it was still difficult to distinguish *ng* and *ny* pronunciation, and it was still difficult to read fluently and for second grade students it was still difficult to recognize syllables and syllables put it into words. Research conducted by Putri (2018) revealed that learning difficulties in writing are often called dysgraphia. Difficulty learning to write is also known as agraphia. Dysgraphia refers to the inability to remember how to make letters or mathematical symbols. Dysgraphia is often associated with difficulty learning to read or dyslexia because the two types of difficulties are actually interrelated.

Based on the observations activity in the research field, it was found that the reading skills of early grade elementary school students were still low which had an effect on writing skills. There were still students who cannot read because there was no habituation before entering the elementary school level. This problem arised because of the role of parents at home who did not prioritize their children learning the basics of reading and writing at home. The results of this observation have similarities with the Kurniati et al., (2020) which revealed that (6.45%) students had difficulty learning to write, some students wrote fluently and there were still students who did not write fluently. This can be seen from the test scores below which under of the minumun passing criteria, students' learning difficulties were marked by being slow in completing assignments, complaining of being tired so that children are slow to write.

The observations results in the field shown that teachers still tend to use conventional learning methods or strategies which is not inlinewith the character of Generation Z (Gen-Z) students at this time (Wibowo, 2017). Teachers have not done proper learning preparation because they are often burdened with demands and other administrative burdens. So that the level of teacher creativity has not been seen in the learning process in the classroom. The researcher also found that the teacher's innovative breakthroughs were low to make learning fun. Learning seems to only take place where the learning activities have not been able to give the impression and meaning to students in depth. The learning conditions that have not been effective above are caused by the teacher's low mastery of learning strategies and methods, both theoretically and practically. This problem was the core cause of student learning outcomes at SDNegeri 2 Suroteleng, Selo, Boyolaliwas still low. Based on the description of the problem above, the researcher assumes that it is necessary to apply appropriate learning strategies or models according to the character of students at SDNegeri 2 Suroteleng, Selo, Boyolali. For this reason, researchers will apply the mind mapping learning model to improve student learning outcomes in Indonesian subjects in second grader ofSDNegeri 2 Suroteleng, Selo, Boyolali.

According to Buzan (2012) mind mapping learning model is a learning setwhich can be easy to generate imagination and help remember because mind maps involve the right side of the brain naturally through. Furthermore, Wulandari et al., (2019) mind mapping is a learning model that functions to express ideas or ideas that cause sparks of brain creativity which aims to improve students' creative thinking skills. This learning model is appropriate to use because it is able to stimulate students to find their own material to be studied and present it in an interesting way so that they will learn more effectively and retain what has been learned longer (Wibowo, 2017: 245). The results of previous studies showed that the application of the Mind Mapping learning model could improve student learning outcomes (Betaubun et al, 2018, Wulandari et al., 2019 andHidayat et al., 2020). The application of this learning model helps students improve their creative thinking skills in casting new ideas (Wibowo, 2017 &Wulandari et al, 2019). This model also helps students learn information by encouraging them to organize it and add pictures and color it (Jones & Chloe Ruff, 2021).

METHODOLOGY

The research design used was a class action research with the individual action research type. According to Sugiyono (2018) action research is a scientific way to obtain data with the aim of finding new problems and actions that can be used to solve problems, improve or improve work situations. To obtain effective and efficient action, the action is tested through several cycles, until a consistent action is found that can improve the situation. Meanwhile, individual action research is research conducted individually on social situations on a small scale such as in organization, production, and class.

The type of data in this study is quantitative data in ordinal form. Ordinal data is quantitative data in the form of rankings taken from measurement results (Sugiyono, 2019). The instrument used to collect

data is a student learning outcome test in the form of multiple choice consisting of 4 choices. Data was collected through a written test at SDNegeri 2 Suroteleng, Selo, Boyolali District in Indonesia. Data were analyzed descriptively to describe and explain the improvement of student learning outcomes based on each cycles. The method used to analyze the data from this research is descriptive method. For quantitative data, it is analyzed by finding the mean, median, mode, and presenting it in tabular form. The data were analyzed to explain the results of the actions given in each research cycle and to compare the results of the actions given between one cycle and another. The research procedure can be seen below:

1. Planning

At this stage the researcher develops lesson plan in accordance with the provisions of the national curriculum policy at the elementary school level, namely a scientific and thematic-based learning plan. In developing problem-based scientific and thematic learning plans, the writer consulted with other teachers to create instruments and develop teaching materials. At the preparation stage, an agreement was made between the subject teachers. The design is carried out jointly between researchers who will take action with other teachers.

2. Actuating

The second stage was the stage of implementing the action carried out by learning in class II of SDNegeri 2 Suroteleng, Selo, Boyolali District, Indonesia. At this stage, the researcher was active in taking action using the mind mapping learning model. This learning designed has previously been carefully studied to be applied in the classroom according to the learning steps based on the syntax of the problem-based learning model. Learning scenarios were implemented effectively.

3. Observing

This stage actually runs concurrently with the implementation of learning. Observations were made when the action was running, so both took place at the same time. At this stage the teacher who acts as a researcher made observations and records all things that occur during the implementation of the ongoing learning. This data collection was carried out using student achievement tests, including the results of careful observations in the classroom from time to time and their impact on student learning processes and outcomes.

4. Reflecting

This stage is intended to thoroughly review the actions which have been taken, based on the data that has been collected, then an evaluation is carried out in order to perfect the next action. Reflection in research includes analysis, synthesis, and assessment of the results of observations of the actions taken. If there are problems from the reflection process, a review process is carried out through the next cycle which includes activities: re-planning, re-action, and re-observation so that the problem can be resolved.

RESULTS AND DISCUSSION

It should be stated that the results of data processing include students, the environment, teachers, motivation and discussion activities, class conditions and learning progress, put forward graphs and tables of data analysis results that show progress that has occurred along with the results of data processing systematically and clearly (Suharsimi Arikunto, Suhardjono, Supardi, 2006: 83).

1. The First Cycle Results

The results of observations in the first cycle by implementing the mind mapping model were completed in 3 meetings can be seen in the following table below.

Table 1. The Learning Result in the First Cycle

Criteria	Score
Total score	600
Average	66.66
Highest score	80

Lowest score	60
Median	70
Total students	5
Total fail	4
Passing percentage	55.55

2. The Second Cycle Results

The results of observations in the second cycle by implementing the mind mapping model were completed in 3 meetings can be seen in the following table below.

Table 3. The Learning Result in the Second Cycle

Criteria	Score
Total score	700
Average	77.77
Highest score	90
Lowest score	70
Median	80
Total students	9
Total fail	0
Passing percentage	100%

3. Discussion of Comparative Results of First and Second Cycle

The total cycle in this study reached 2 cycles because students' learning outcomes in the first cycle had not yet reached the indicators of the success of this study. The following table and diagram below as an illustration of the comparison of students' learning outcomes in the treatment first cycle and the treatment in the second cycle.

Table 3. Students' Passing Percentage

No	Cycles	Evarage	Passing Percentage	
			Pass	Fail
1	First Cycle	66.66	55.55%	44.55%
2	Second Cycle	77.77	100%	0%

Table 3 above shows that the passing percentage of students in the first cycle is low which only 55.55% and students who do not pass are 44.55%. Student learning outcomes have increased in the second cycle where the percentage of students who pass as much as 100% and students who do not complete as much as 0%. The increase in student learning outcomes from first cycle to second cycle was 44.55%. This increase can also be said to be very significant and has reached the indicators of the success of this research. Students' learning outcomes can increase because the implementation of the mind mapping learning model is more effective because researchers continue to make improvements to the plan, implementation, and evaluation of first cycle to second cycle. The results of this study also prove that the results of previous studies are empirically proven to improve student learning outcomes (Wibowo, 2017, Wulandari, 2019., Hidayat et al., 2020, and Sakti, 2020).

4. Mind Mapping Learning Effectiveness

Empirically learning the mind mapping model was proven to be able to improve students' learning outcomes in Indonesian subjects in teaching materials for animals around me and plants around me. It could be proven that the increase in students' learning outcomes from first cycle to second cycle was 44.55%. Learning activities designed to encourage students to be actively involved and able to construct students' understanding through mapping to identify conceptual and factual material in learning. In addition, through making mapping in learning, it was easier for students to make patterns of learning materials and the methods taken to answer to build a complete understanding and encourage students to be involved in contextual learning. Saputra's research (2019) shown that the implementation of the mind mapping learning model could help to make learning

visually and graphically patterned which can ultimately help record, strengthen, and recall information that has been learned and could integrate and develop the potential of the brain work contained in the learning process student self.

Implementing of the mind mapping model could improve students' critical thinking skills and be able to identify learning material by developing key words in making mapping. This is in line with Ramdani (2018) students are able to determine the main branches related to the central image in this case the animals around me and the plants around me, students are able to determine the keywords of each branch and determine other branches related to the word keys, all of which have an impact on improving student learning outcomes which include the cognitive, affective and psychomotor domains. At the beginning of learning, students are invited to think through observing pictures and mapping activities that are displayed by the teacher. The next activity, the teacher asks several questions related to the information observed by students.

The research revealed by Saputra (2019) shown that the implementation of the mind mapping learning model was very appropriate for Indonesian subjects at the elementary school level. In this study, researcher observed the learning process in which students were encouraged to enthusiastically follow and carry out learning projects through mapping animals and plants around me. Students were easier to understand the categories of animals and plants based on the visuals made in a mapping. In addition to students easily understanding teaching materials through mapping, the process of making learning projects encourages students to collaborate well with other students. So that the effectiveness of learning can take place actively where students were fully involved in the learning process. This condition encouraged students' learning outcomes to increase in the second cycle.

CONCLUSION

Based on the analysis of the results and discussion in the previous section, the results of action research conducted can be concluded that the results include: (1) The implementation of the mind mapping learning model can improve the results of the students' learning outcome about animals around me and plants around me. (2) The implementation of the mind mapping learning model in the first cycle has increased from the value of the previous teaching material with an average value of student learning outcomes of 66.66, but has not yet reached the established research success indicators. (3) The implementation of the mind mapping learning model in the second cycle has increased from the first cycle with an average value of students' learning outcomes of 77.77, and has reached the established indicators of research success. (4) The implementation of the mind mapping learning model has increased students' learning outcomes from first cycle to second cycle by 44.55%. (5) The achieving of the indicator for action research was achieved in the second cycle with a 100% passing percentage with an average score of 77.77.

SUGGESTIONS

Based on the research conclusions formulated above, the author can provide suggestions to researchers, teachers, and school principals to apply mind mapping learning models to improve students' learning outcomes in Indonesian subjects at the elementary school level. Conducting similar research with different variables to increase the effectiveness, activeness, critical thinking skills, and collaboration skills of students in learning. Improving scientific culture in each educational unit through action research activities.

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