IMPLEMENTATION OF MIND MAPPING-ASSISTED PROBLEM-BASED LEARNING MODEL TO IMPROVE SOCIAL SCIENCE LEARNING OUTCOMES FOR STUDENTS AT CLASS 5B OF SD KRISTEN 03 EBEN HAEZER SALATIGA

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PENERAPAN MODEL PEMBELAJARAN BERBASIS MASALAH BERBANTUAN MIND MAPPING UNTUK MENINGKATKAN HASIL BELAJAR IPS PADA SISWA KELAS 5B SD KRISTEN 03 EBEN HAEZER SALATIGA

ARTICLE HISTORY	ABSTRACT
	Abstract: *This paper discusses the implementation of the mind mapping-assisted problem-based learning model in improving Social Science learning outcomes for students at grade 5B students of SD Kristen 03 Eben Haezer Salatiga. The method used in the classroom action research was carried out in two cycles with a number of 26 students in grade 5B of SD Kristen 03 Eben Haezer Salatiga. Data were collected using values from post-tests from each cycle to find out or test using the implementation of the problem-based learning model assisted by mind mapping to improve social science learning outcomes for students at grade 5B of SD Kristen 03 Eben Haezer Salatiga and uses observation sheets of teacher's activities and students' activities to determine the implementation of the mind mapping-assisted problem-based learning model that during teaching and learning process in the classroom. There is an increasing percentage of students who completed the preliminary implementation of 8 students with a percentage of 30.77% who completed and increased to 12 students with a percentage of 46.15% who completed the first cycle. In addition, it increased to 21 students with a percentage of 80.1% who completed the second cycle. The results are based on the whole students. Therefore, the implementation of the PBL learning model assisted by Mind Mapping has been proven to be able to improve students' learning outcomes and has achieved the indicators with 80% of students who achieved learning completeness.* ***Keywords: PBL model, mind mapping, students' learning outcomes***
	Abstrak: Artikel ini memiliki tujuan penelitian ini adalah untuk menguji penerapan model *Problem-Based Learning* berbantuan *Mind Mapping* dalam meningkatkan hasil belajar IPS pada peserta didik kelas 5B SD Kristen 03 Eben Haezer Salatiga. Metode yang digunakan dalam penelitian penelitian tindakan kelas yang dilakukan 2 siklus dengan 26 peserta didik yang ada di kelas 5B SD Kristen 03 Eben Haezer Salatiga. Data yang dikumpulkan menggunakan nilai dari *post-test* dari setiap siklusnya untuk mengetahui atau menguji dengan menggunakan penerapan model *Problem-Based Learning* berbantuan *Mind Mapping* dapat meningkatkan hasil belajar IPS pada peserta didik kelas 5B SD Kristen 03 Eben Haezer Salatiga serta menggunakan lembar observasi aktivitas guru dan aktivitas peserta didik untuk mengetahui penerapan model *Problem-Based Learning* berbantuan *mind mapping* yang terjadi saat pembelajaran di kelas. Adapun kenaikan jumlah peserta didik yang tuntas dari kondisi awal 8 peserta didik dengan persentase 30.77% dari keseluruhan peserta didik yang tuntas lalu meningkat menjadi 12 peserta didik dengan persentase 46.15% dari keseluruhan peserta didik yang tuntas pada siklus I. Selain itu, meningkat 21 peserta didik dengan persentase 80.1% dari keseluruhan peserta didik yang tuntas pada siklus II. Hasil-hasil tersebut berasal dari total jumlah keseluruhan siswa. Berdasarkan hasil tersebut maka tindakan penelitian menggunakan model PBL berbantuan *Mind Mapping* terbukti dapat meningkatkan hasil belajar siswa dan telah mencapai indikator keberhasilan yaitu 80% peserta didik mencapai ketuntasan belajar. ***Kata Kunci: model PBL, mind mapping, hasil belajar siswa***

INTRODUCTION

Education is a process of maturing students to develop their talents. potential. and skills in facing life. Therefore. education must be designed well to provide understanding and improve students' learning achievements (Sinulingga. 2021). This shows that education plays an important role in shaping the nation's personality. The quality of education in Indonesia is a concern for many parties due to various problems faced. such as teacher quality. learning processes. graduates. and educational facilities. The government has made various efforts to improve the quality of education. such as curriculum improvements. teacher competence enhancement. and the provision of educational facilities. The quality of education today will affect the future of the nation and society.

Learning in elementary school (SD) plays an important role in shaping the foundation of students' knowledge and skills. One of the subjects taught in SD is Social Science (IPS). IPS is a subject that studies about society. culture. geography. history. and government. IPS is one of the subjects taught in school to help students understand and learn important concepts about society. history. geography. and politics (Fauzi. A. et all. (2020). However. sometimes students have difficulty understanding IPS material due to lack of curiosity and interest in learning this subject.

Problem-Based Learning (PBL) and Mind Mapping are learning models and techniques that have been widely applied in various educational institutions. PBL emphasizes active. creative. and problem-solving learning. where students are expected to work together and develop cognitive and social skills (Handayani. 2019). Meanwhile. Mind Mapping is a visual technique used to organize information and assist students in understanding and remembering the information provided (Novitasari and Kusuma. 2021). With Mind Mapping. students can organize information in a logical and easy-to-remember way. This technique also helps students visualize the relationships between related concepts and provide an overall picture of the topic being studied. In addition. the Mind Mapping technique can also help students improve memory. concentration. and problem-solving skills.

Based on observations conducted at SD Kristen 3 Eben Haezer Salatiga. there are problems found in the IPS subject. where students' learning outcomes are still low. and they tend to rely on monotonous and less interactive learning methods. In addition. the learning outcomes of students in IPS at SD Kristen 03 Eben Haezer Salatiga are still not optimal. especially in complex materials. in the form of memorization and lack of literacy skills by students. as indicated by the pre-cycle data obtained from initial observations. This is also supported by the low achievement of learning outcomes achieved by students with a KKM of 72. where students can only achieve an average score of 63. which can be seen in Table 1 below.

Table 1. Frequency distribution of social studies learning outcomes of grade 5B students of SD Kristen 3 Eben Haezer Salatiga

No	Completeness	Frequency	Percentage
1	Completenes	8	30.77%
2	Incomplete	18	69.23%
Sum		26	100%
Minimum Value		38	
Maksimum Values		92	
Average		63	

Therefore. this study aims to address the issue by implementing PBL assisted by Mind Mapping in IPS learning. which is expected to improve student learning outcomes. In this study. students are expected to become more active. creative. and problem-solve in IPS learning (Riyadi et al.. 2021). Mind Mapping will help students organize information and facilitate understanding of the taught material. It is hoped that with the implementation of this method. student learning outcomes in IPS will improve and the problem of low IPS learning outcomes can be overcome. Hence. the author was motivated to conduct a classroom action research entitled "Application of Mind Mapping-Assisted Problem-Based Learning Model to Improve Social Studies Learning Outcomes in Class 5B Students of SD Kristen 03 Eben Haezer Salatiga"

LITERATURE REVIEW
A. Learning Outcomes

Learning outcomes refer to the changes that occur in students. both in cognitive. affective. and psychomotor aspects. as a result of learning activities. The definition of learning outcomes also includes students' achievements in learning school subjects. which are measured through scores obtained from tests related to a number of specific subjects (Siagian. R. E. F. 2015). Measuring learning outcomes is crucial in evaluating the effectiveness of learning programs in schools. This is aimed at determining the extent to which students have understood and mastered the subjects taught. and whether there is a need to expand or narrow the material in the next learning period. In addition. learning outcomes can also be used to provide feedback to students and teachers in order to improve existing learning processes and increase the effectiveness of learning programs in schools. Therefore. it is important for every school to pay attention to the process of measuring and evaluating learning outcomes routinely and regularly. In short. learning outcomes reflect students' ability after going through the learning process.

Social studies is an abbreviation of social science. which is a science that studies various social and humanistic disciplines and human activities scientifically to provide insights and in-depth understanding to students. especially in the scope of education. Social science is a science that covers various aspects of social. economic. psychological. cultural. historical. and political life. which are studied scientifically within the framework of primary and secondary education (Nashihah. I. 2022). Therefore. Social studies becomes one of the important core subjects to be taught to students at the primary education level. Through learning IPS. students will gain useful understanding and insights to face various problems in their lives. This is very important because the materials obtained by students at school can be developed into something more meaningful when they are in the community environment. both in the present and in the future. Therefore. it is necessary to choose the appropriate learning model for social studies learning so that students can absorb it optimally in the IPS learning.

B. Learning Models

A learning model is a plan or pattern used as a guideline in planning classroom or tutorial learning (Rehalat. A. 2014). Learning models must be adjusted to the material being studied. as well as the conditions of the students and the classroom. It is hoped that by using an appropriate learning model. students can be more active in learning and obtain meaningful learning experiences. Conversely. the use of inappropriate learning models can cause students to become passive and result in the material presented by the teacher not being effectively received. According to this view. learning models refer to learning that starts from the beginning to the end using systematic procedures tailored to the conditions of the students in the classroom. the subject matter. and learning resources to achieve learning objectives (Wicaksono. L. 2016). The presentation of learning models must be adjusted to the characteristics of the teacher who teaches in the classroom. The selection of learning models must also be adjusted to the conditions of the students and the classroom. If the selection of learning models is not adjusted to the conditions of the students in the classroom. it will impact the lack of activity and boredom of the students during the lesson. so that the subject matter cannot be absorbed optimally.

C. Problem Based Learning (PBL) Learning Model

Problem Based Learning (PBL) is a form of learning that involves understanding through the process of resolving a problem (Masrinah. et al. 2019). PBL learning involves students in problem-solving as a means of understanding the lesson. The PBL model encourages students to gain understanding by presenting them with a problem that needs to be solved. Problem-based learning is an interaction between stimulus and response and is a two-way learning relationship between students and their environment. In the PBL model. students are given a real-life problem and are required to find a way out or solve the problem. so that they can gain an understanding of certain concepts.

In the PBL learning model. the role of the teacher changes to become a facilitator for students in finding answers and solutions to a problem. The teacher does not convey all the course material to students. but students are given the opportunity to search for and learn the material independently. with the help of a facilitator. As a facilitator. the teacher provides guidance and direction in formulating the problem and evaluating the solutions generated by students (Rosita. I.. & Leonard. L.. 2015). Therefore. PBL learning emphasizes the ability of students to think critically. communicate and work together in groups. The teacher only acts as a director and ensures that students achieve the learning objectives that have been set.

The Problem-Based Learning (PBL) learning model is based on a constructivist paradigm approach (Mayasari. et al. 2019). It can be concluded from the definitions presented by several experts above that the PBL model is a learning model that allows students to actively engage in the learning process. both independently and in groups. with the aim of developing their own knowledge based on their experiences in solving authentic problems related to course material.

The characteristics of the PBL model are the presentation of questions or problems that will be solved by students. The authentic problems presented are discussed in relation to real life situations. PBL should use authentic problems that are adjusted to the level of students' knowledge. involve students in discussions. lead to the proper identification of problems. stimulate self-directed learning. and engaging activities (Schmidt et al.. 2011:795). The Problem-Based Learning syntax presented by Arends (2012) in Learning to Teach Seventh Edition is as follows:

1. Phase 1: providing orientation to students about the problem The teacher introduces a complex and authentic problem or challenge to the students. This problem should challenge students to solve it independently or in groups.
2. Phase 2: organizing students to research After introducing the problem. the teacher guides students in understanding the problem. considering necessary information. and asking relevant questions.
3. Phase 3: assisting independent or group investigation Students conduct independent or group research and exploration to gather necessary information to solve the problem. The teacher can provide guidance and resources to assist students in this process.
4. Phase 4: developing and presenting work results After conducting research and exploration. students present their work results to the class or group. The teacher provides constructive feedback and guides students in reflecting on their learning process.
5. Phase 5: analyzing and evaluating the problem-solving process Providing feedback on students' understanding and use of learning resources. as well as helping students to expand their understanding and solve the researched problem or situation.

D. Assited Mind Mapping

One way to collaborate with the PBL model is by using Mind Mapping. Mind Mapping is the easiest way to input information into the brain and retrieve information from the brain (Rochanah. S. 2021). Mind Mapping or Mind Mapping is a way to realize who is creative. strong. and literally "map" our thoughts. Mind Mapping is a graphic technique that allows us to explore the full potential of our brain for thinking and learning purposes (Anggraini. T. R.. 2017).

Based on the definitions provided by several experts above. it can be concluded that the Mind Mapping method is a method for maximizing the potential of the mind by combining the functions of both brain hemispheres simultaneously by pouring ideas into a visual or graphic map. This makes the process of understanding and remembering information easier. Mind Mapping is an excellent learning method that can be used by teachers to enhance the memory and strong concept understanding of students. Students can also improve their creativity through freedom of imagination. The Mind Mapping method helps students develop their thoughts in a connected sequence. and as more information is obtained. this method can provide meaningful experiences to the students (Suwaib. et all. 2020).

The use of Mind Mapping has a positive effect on the learning process because it is a visualized tool that assists in referencing information. thereby enhancing students' academic performance (Liu et al.. 2014:26). Through the Mind Mapping method. students can project the problems they face and pour their thoughts or ideas into a map or graphic technique. making it easier to understand. Therefore. the Mind Mapping method is very suitable to be combined with the PBL model to improve the quality of the learning process and the results of the students. To avoid plagiarism. it is important to properly cite and reference the sources used when discussing the Mind Mapping method.

METHOD

This is a Classroom Action Research study aimed at improving the learning process in order to achieve the desired educational objectives. The action research model used in this study is the which consists of four stages: planning. action. observation. and reflection. This research aims to test the application of Problem-Based Learning model assisted by Mind Mapping in improving social studies learning outcomes in students of class VB SD Kristen 03 Eben Haezer Salatiga semester 2. And this study also aims to determine how

much the increase in social studies learning outcomes in VB class students of Eben Haezer Salatiga 03 Christian Elementary School after applying the Problem-Based Learning model assisted by Mind Mapping.

The research was conducted during the second semester of the 2022/2023 academic year. from March 2023 to May 2023. at SD Kristen 03 Eben Haezer Salatiga. located at Jalan Jendral Sudirman No.111 B RT 1 RW 1 Kutowinangun Kidul. Gendongan. Kec. Tingkir. Kota Salatiga. Central Java 50742. The subjects of the study were 26 students in class VB at SD Kristen 03 Eben Haezer Salatiga. consisting of 10 female students and 16 male students. Additionally. the subjects were found to be in the stage of play age and concrete operational stage. Moreover. in their learning. the lecture method was mostly used. causing students to become bored and not pay attention to the learning process. which had a negative impact on their learning outcomes. The class average score was below the school's minimum completeness criteria (KKM) for Social Sciences (IPS). which is 72.

This research employed two types of variables. independent and dependent variables. The independent variable was the action taken by the teacher using the Problem-Based Learning (PBL) model aided by Mind Mapping. The dependent variable in this study was the IPS learning outcomes measured through post-tests consisting of multiple-choice questions. The PBL model aided by Mind Mapping used in this study emphasizes active and participatory learning. where students are involved in the learning process by directly engaging in problem-solving. It is hoped that this learning model can help develop critical. creative. and independent thinking skills and enable students to solve problems more effectively.

This research is planned to be conducted in two cycles. The basic concept of action research according to Kemmis and McTaggart (Arikunto. 2006: 97) is that research has four stages (and repetitions). namely planning. action. observation. and reflection.

The validity and reliability of the test items were analyzed using validity and reliability tests with the SPSSVer.18.0 program. In this study. the instrument trial used the applied test technique to test validity and reliability. meaning that the instrument trial was conducted simultaneously with the actual research. Therefore. the applied test is a technique used to test validity and reliability by collecting data only once. and the results are immediately used to test hypotheses. Meanwhile. observation is an activity conducted by researchers to observe the behavior and activities of individuals during the learning process. In this study. observation was conducted to observe the performance of teachers and students during the teaching and learning process.

RESULTS AND DISCUSSION

Implementation of classroom action research with the application of Problem-Based Learning assisted by Mind Mapping has been conducted in accordance with the learning plan that has been developed. There was an improvement in student learning outcomes in pre-cycle. cycle 1. and cycle 2 with the application of the Problem-Based Learning model assisted by Mind Mapping on students in class 5B at SD Kristen 3 Eben Haezer Salatiga in the second semester of the academic year 2022/2023. The following are the results of student learning outcomes (social studies subject) in the initial condition. cycle 1. and cycle 2:

Table 2. Comparison of Social Studies Learning Outcomes of 5B Students at SD Kristen 03 Eben Haezer Salatiga in the Initial Condition Cycle 1 and Cycle 2

No	Learning Completeness	Score	Pre-Cycle		SiklusI		SiklusII	
			F	%	F	%	F	%
1.	Completeness	≥ 72	8	30.77	12	46.15	21	81
2.	Incomplete	<72	18	69.23	14	53.85	5	19
	Sun		26	100	26	100	26	100
	Highest Score		92		87		100	
	Lowest Score		20		33		47	
	Average		63		68.03		80.1	

From the table. it can be seen that there was an improvement in student learning outcomes from the initial condition. cycle I. and cycle II. Out of 8 students. 30.77% of the overall students who achieved learning mastery in the initial condition increased to 12 students. 46.15% of the overall students who achieved learning mastery in cycle I. and increased to 21 students. 80.1% of the overall students who achieved learning mastery in cycle II. Based on these results. it can be concluded that the implementation of the PBL learning model assisted by Mind Mapping has been proven to improve learning outcomes and has achieved the success indicator of 80% of students achieving learning mastery. The comparison of learning mastery between the initial condition. cycle I. and cycle II is shown in the table below.

Meanwhile. the comparison of the implementation of activities by teachers and students in implementing the PBL learning model assisted by Mind Mapping can be seen in the table below:

Table 3. Comparison of Teacher and Student Activities Results in Cycle I and Cycle II And Table Comparison of Student Activity Results in Cycle I and Cycle II

Description	Cycle I (%)	Cycle II(%)
Teacher Activities	82.60%	100%
Student Activities	72.26%	100%

Based on the two tables. there is an improvement in both teacher and student activities in cycle 1 and cycle 2. In cycle 1. the observation of teacher activity reached 82.60%. while student activity reached 72.26%. In cycle 2. this research is considered successful if the observation of both teacher and student activities reach 100% during the learning process. and this occurred in cycle 2 for both teacher and student activities.

DISCUSSION

In this study. the Problem Based Learning model assisted with Mind Mapping was used to improve the learning outcomes of IPS for students in class 5B of SD Kristen 03 Eben Haezer Salatiga. After conducting cycle I and cycle II. there was an improvement in student learning outcomes. as seen from the average scores of the students. In cycle II. the number of students who passed increased to 21 students or 80.1% of the total students. The application of the PBL model assisted with Mind Mapping made the learning process more enjoyable and the students became more active in learning IPS. Therefore. the results of this study support the hypothesis that the implementation of PBL learning steps assisted

with Mind Mapping can improve IPS learning outcomes.

Based on ased on the research conducted written by Suwaib (2020) explained that the percentage of cognitive learning completeness of students in cycle I was 76.19% and increased to 95.24% in cycle II. Based on the results of the study. it can be concluded that the application of the Problem-Based Learning model assisted with Mind Mapping can improve the teacher's activity. student's activity. and cognitive learning outcomes in IPS learning for grade IV students of SD Negeri 002 Sebatik Utara Kabupaten Nunukan.

Based on the above studies. the similarity of the research conducted is both using the PBL learning model assisted with Mind Mapping to improve learning outcomes. The difference is in the difficulty of the material experienced by the students and the number of students who experience difficulty with the material.

CONCLUSIONS AND RECOMMENDATIONS

The Problem-Based Learning (PBL) model assisted by Mind Mapping can improve the learning outcomes of Social Studies for grade 5B students in SD Kristen 03 Eben Haezer Salatiga. The steps of its implementation include providing problems to students. organizing them to research. develop. and present their results. as well as conducting analysis and evaluation. The application of this model increased the percentage of learning outcomes mastery from 30.77% to 80.1% in cycle II. The average score of the students also increased from 63 to 80.1 in cycle II. As for the recommendations for students. they need to participate actively in discussions and Q&A sessions during the PBL learning process. They also need to pay more attention during the joint discussions to strengthen their understanding of the material. so that their learning outcomes can improve. Meanwhile.

for teachers. they can apply more diverse learning models in teaching Social Studies. including the PBL model assisted by Mind Mapping. This model can create a more enjoyable learning atmosphere. encourage students to become more active and enthusiastic in learning. Moreover. the application of this model has been proven to improve the learning outcomes of students. During the discussion activities. the teacher needs to manage the condition so that all students actively answer the questions. Time limits are also necessary to make the discussion activities more effective. Finally. the PBL model assisted by Mind Mapping can be used as a reference to improve the quality of the teaching and learning process for students in SD Kristen 03 Eben Haezer Salatiga.

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