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IMPLEMENTATION OF THE COOPERATIVE LEARNING MODEL OF INDEX CARD MATCH TYPE TO IMPROVE STUDENT LEARNING OUTCOMES

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Abstract

The problem in this study is the result of studying the mathematics of students IV UPT elementary school district 211 Punnia Pinrang district. The purpose in this study is to know the application of a cooperative learning Model Index Card Match can enhance the process and rewards of students' learning how to read and interpret data in the form of a bar diagram in country's IV UPT SD 211 district Punnia Pinrang. The approach used is a qualitative approach and the type of research is a class action study (PTK). The performance of this study is done in 2cycles beginning with preaction activities, then each cycle consist of 4 stage that include planning execution, observation, ang reflection. Data obtained through observation techniques, tes result and documentation. Instruments on this research are observation sheets, learning test result and documentation. Research shows that in the I category comes from observation of teacher activity with sufficient category and enough student activity observation. Cycle II shows increased results from good category observation of teacher activity and student activity observation increased by good category. Studies related to the results of studying cycle I are only 10 people complete with sufficient categories. Cycle II had an improvement of 15 students with good ratings. The study concludes with cooperative learning models.

Keywords: *index card match; cooperative learning; learning outcomes*

Abstrak

Masalah dalam penelitian ini adalah rendah hasil belajar Matematika siswa kelas IV UPT SD Negeri 211 Punnia Kab. Pinrang. Tujuan dalam penelitian ini adalah untuk mengetahui penerapan model pembelajaran kooperatif tipe *Index Card Match* dapat meningkatkan proses dan hasil belajar siswa tentang cara membaca dan menafsirkan data dalam bentuk diagram batang di kelas IV UPT SD Negeri 211 Punnia Kab.Pinrang. Pendekatan yang digunakan adalah pendekatan kualitatif dan jenis penelitian adalah penelitian tindakan kelas (PTK). Pelaksanaan tindakan penelitian ini dilakukan dalam 2 siklus diawali dengan kegiatan pra tindakan, kemudian pada setiap siklus terdiri dari 4 tahapan yang meliputi perencanaan, pelaksanaan, observasi, dan refleksi. Data diperoleh melalui teknik observasi, tes hasil belajar dan dokumentasi. Instrumen pada penelitian ini adalah lembar observasi, tes hasil belajar dan dokumentasi. Hasil penelitian menujukkan bahwa pada siklus I hasil observasi aktivitas guru dengan kategori cukup dan observasi aktivitas siswa dengan kategori cukup. Pada siklus II menunjukkan peningkatan hasil observasi aktivitas guru dengan kategori baik dan observasi aktivitas siswa meningkat dengan kategori baik. Hasil penelitian terkait dengan hasil belajar pada siklus I hanya 10 siswa yang tuntas dengan kategori cukup. Pada siklus II mengalami peningkatan menjadi 15 siswa yang tuntas dengan kategori baik. Simpulan penelitian ini adalah dengan menerapkan model pembelajaran kooperatif tipe *Index Card Match (ICM)* Untuk Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran Matematika Kelas IV UPT SD Negeri 211 Punnia Kab. Pinrang.

Kata Kunci: index card match; pembelajaran kooperatif; hasil belajar

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INTRODUCTION

Mathematics learning outcomes of class IV students at SD Negeri 211 Punnia Pinrang are still low and have not yet reached the Minimum Learning Completeness Standard. This is proven by the grades of Class IV UPT students at SD Negeri 211 Punnia Pinrang, out of 17 students, only 6 completed and 11 did not complete with an average score of 71, which is below the prescribed Minimum Learning Completeness Standard, namely 75. This is caused by two aspects, namely the teacher aspect. and student aspects. The teacher aspect is that the teacher has not maximized the application of varied learning models, the teacher has not maximized the use of media in the learning process, the teacher has not involved students working together in small groups. Meanwhile, in the student aspect, students are less active in the learning process, students are less encouraged to find their own answers to questions asked by the teacher, and students lack interaction with their classmates (Anjani & Safitri, 2023; Raka Siwa et al., 2018).

Education has an important role in producing quality future generations for the nation's future. One of the determining factors is how the learning process can run as expected. In general, the learning process aims to achieve learning outcomes. There are several factors that can influence learning outcomes, these factors are divided into two factors, namely factors within the student and factors outside the student. 1) Internal factors are factors that originate within the individual, such as a healthy physical condition and no physical symptoms. Psychological factors are factors that influence a person's behavior. Such as student intelligence, student talent, willingness to learn, and student interests. 2) External factors are factors that come from outside the student's self that influence learning outcomes such as family, school and community factors. (Susanto, 2013).

One way to create optimal learning outcomes is to use an interesting learning model so that it can increase student learning motivation and improve learning outcomes. This Index Card Match type cooperative learning model uses cards consisting of cards containing questions and cards containing answers which can make it easier for students to recall the lessons they have learned and make it easier for students to understand the lesson.

According to Suprijono, (2013) states that the steps for the Index Card Match learning model are as follows: 1) Make as many pieces of paper as there are students in the class; 2) On half of the section, write questions about the material you have studied. Each paper contains one question. On the other half of the paper, write the answers to the questions you have created; 3) Then shuffle all the paper so that the questions and answers are mixed up; 4) Each student is given

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one paper. Explain that this is an activity to do in pairs. Half of the students will get questions and the other half of students will get answers; 5) Ask students to find their partners. If someone has found a partner, ask them to sit close to each other. Explain that they should not tell the material they got to other friends; 6) After students find a partner and sit close together, ask each pair in turn to read the questions they received aloud to the other friends. Then the question is answered by the partner; 7) End this process by making clarifications and conclusions.

Similar research has been carried out by Defi Yuniantika (2018) with the title Application of the Index Card Match learning model to increase interest and achievement in mathematics learning for class III students at SDN Wirokerten Yogyakarta which has increased in each cycle. In pre-action, the students' average score was 59.29. Then it increased in cycle I to 64.59. Furthermore, in cycle II it increased again to 81.14.

Based on the explanation of the problem above, the aim of this research is to improve student learning processes and outcomes through the use of the Index Card Match type cooperative learning model in Mathematics for class IV students at UPT SD Negeri 211 Punnia, Pinrang Regency.

RESEARCH METHODS

This research is classroom action research that uses a qualitative approach. According to Ardiawan, I, K & Wiradnyana, (2020) stated that classroom action research is an action carried out in the classroom where the activities take the form of a series of activity cycles aimed at increasing and improving the practice and quality of learning. The location of this research was carried out at UPT SD Negeri 211 Punnia, Mattiro Bulu District, Pinrang Regency, South Sulawesi Province. The research subjects were 17 class IV teachers and students. This research consists of 4 stages, namely planning, implementation, observation and reflection. This research was carried out in 2 cycles, which is a process of improving actions that are still lacking as well as reflecting results in a better direction. Each cycle is held 2 times. This is in accordance with the syllabus and learning implementation plan that has been created by the author, where the material for learning Mathematics is reading and interpreting data in the form of bar diagrams.

The data collection techniques used in this research are observation, tests and documentation. The data analysis techniques used in this research are data condensation, data presentation, and drawing conclusions and data verification. The instruments of this research are observation sheets, learning results tests, and documentation. Especially for the evaluation of each

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cycle, each lesson is 2 hours. The instruments of this research are (1) a learning outcomes test in the form of 10 multiple choice questions in cycle I and cycle II; (2) observation sheet of the teacher aspect of the learning process; (3) student aspect learning observation sheet.

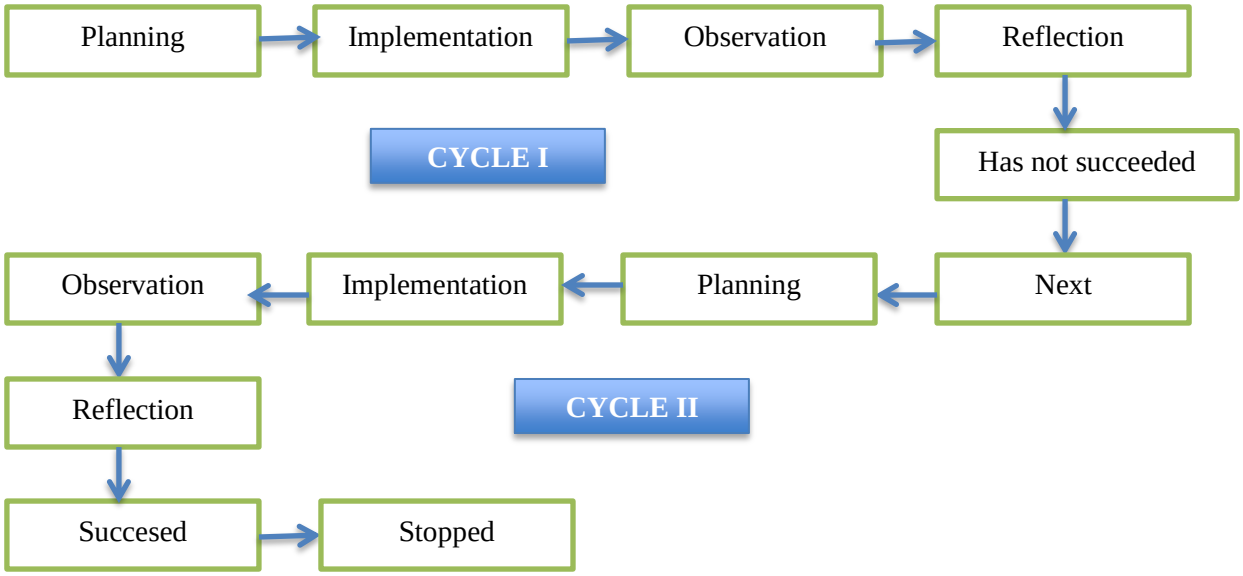

Figure 1. Cycle Design According to Arikunto

RESULTS AND DISCUSSION

Research Results

This research was carried out in two cycles, where each cycle held one meeting.

a. Siklus I

Implementation of actions in cycle I will be carried out on Tuesday 14 June 2022 starting at 08.00-09.40 WITA. The detailed learning time starts at 08.00-09.10 WITA, then a 30 minute learning outcomes evaluation test is carried out. The activity begins with the teacher saying hello, asking about news, praying together, followed by checking the students' attendance, then the teacher delivers the learning material and learning objectives then the teacher provides motivation to the students. The learning process carried out is that the teacher applies the steps of the Index Card Match learning model proposed by Suprijono (2013).

b. Siklus II

Implementation of actions in cycle II will be carried out on Monday 20 June 2022 starting at 08.00-09.40 WITA. The detailed learning time starts at 08.00-09.10 WITA, then a 30 minute learning outcomes evaluation test is carried out until 09.40 WITA. The activity begins with the teacher saying hello, asking about news, praying together, followed by checking the students' attendance, then the

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teacher delivers the learning material and learning objectives then the teacher provides motivation to the students. The learning process carried out is that the teacher applies the steps of the Index Card Match learning model proposed by Suprijono (2013).

Tabel 1. Percentage of Completeness of Cycle I and Cycle II learning outcomes

Mark	Category	Cycle I		Cycle II	
		F	%	F	%
75-100	Complete	10	58,82%	15	88,23%
0-74	Not Completed	7	41,18%	2	11,77%
Amount		17	100%	17	100%

Soursce: Data output in 2022

Based on table 1 above, it can be seen that student learning outcomes increased from cycle I to cycle II. It is known that in cycle I there were 10 students who completed their studies, and 7 students who did not. Then it increased in cycle II to 15 students who completed their studies and 2 students who did not. With this, the results of learning to read and interpret data in the form of bar charts for class IV UPT SD Negeri 211 Punnia Pinrang students in cycle II by applying the Index Card Match type cooperative learning model have reached the predetermined percentage of success and the research is considered successful and the research is stopped.

Tabel 2. Teacher Activity Presentation

Activities	Cycle I	Cycle II
	Category	Category
Make as many pieces of paper as there are students in the class, namely 17 students.	C	C
Write questions about the material you have studied on half of the paper. Each paper contains one question. On the other half of the paper, write the answers to the questions you have created	B	B
Shuffle all the paper so that the questions and answers are mixed up	C	B
Give each student one paper. Explain that this is an activity done in pairs. Half of the students will get questions and the other half of students will get answers	C	B
Ask students to find their partners. If someone has found a partner, ask them to sit close to each other. Explain that they should not tell the material they got to other friends	K	C
After students find partners and sit close together, ask each pair in turn to read the questions they received aloud to the other friends. Then the question is answered by their partner	B	B
End this process by making clarifications and conclusions.	C	B
Percentage of Achievement	71%	90,47%

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Category	Cukup(C)	Baik (B)

Based on table 2 above, it shows that teacher activity has increased from cycle I to cycle II. In cycle I, the percentage of student activity achievement was 71% with a sufficient category (C). Then in cycle II there was an increase, namely 90.47% with good category (B).

Tabel 3. Presentase Aktivitas Belajar Siswa

Activities	Cycle I	Cycle II
	Category	Category
Make as many pieces of paper as there are students in the class, namely 17 students.	C	C
Write questions about the material you have studied on half of the paper. Each paper contains one question. On the other half of the paper, write the answers to the questions you have created	C	B
Shuffle all the paper so that the questions and answers are mixed up	C	B
Give each student one paper. Explain that this is an activity done in pairs. Half of the students will get questions and the other half of students will get answers	C	B
Ask students to find their partners. If someone has found a partner, ask them to sit close to each other. Explain that they should not tell the material they got to other friends	C	B
After students find partners and sit close together, ask each pair in turn to read the questions they received aloud to the other friends. Then the question is answered by their partner	B	B
End this process by making clarifications and conclusions.	C	B
Percentage of Achievement	68,06%	90,47%
Category	Cukup(C)	Baik (B)

Based on table 3 above, it shows that student activity has increased from cycle I to cycle II. In cycle I, the percentage of student activity achievement was 68.06% with a sufficient category (C). Then in cycle II there was an increase, namely 90.47% with good category (B).

Discussion

The researcher carried out this research in two cycles, with each cycle consisting of one meeting. Each meeting consists of several stages, namely planning, implementation, observation and reflection. Cycle 2 is an improvement on cycle 1. The results of the two cycles are used to determine the improvement in student learning outcomes at SD Negeri 211 Pinrang. Based on the results of observations and interviews conducted by researchers with class IV teachers at SD Negeri 211 Punnia Pinrang, in reality the Mathematics learning outcomes of class IV students at SD Negeri

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211 Punnia Pinrang are still low and have not yet reached the Minimum Learning Completeness Standard.

This is proven by the grades of Class IV UPT students at SD Negeri 211 Punnia Pinrang, out of 17 students, only 6 completed and 11 did not complete with an average score of 71, which is below the predetermined SKBM, namely 75. This is caused by two aspects, namely the teacher aspect. and student aspects. The teacher aspect is that the teacher has not maximized the application of varied learning models, the teacher has not maximized the use of media in the learning process, the teacher has not involved students working together in small groups. Meanwhile, in the student aspect, students are less active in the learning process, students are less encouraged to find their own answers to questions asked by the teacher, and students lack interaction with their classmates.

Data obtained before and after the action was implemented showed an increase in learning processes and outcomes. The results of the first cycle test were 58.82% or 10 students who completed and 41.18% or 7 students who did not complete. Then, in the results of the 2nd cycle test, the learning outcomes were 88.23% or 15 students who completed and 11.77% or students who did not complete. Then the teacher's activities also increased, in cycle 1 the percentage results were 71% and in cycle 2 the percentage results were 90.47%. Then student activity also experienced an increase, in cycle 1 they obtained a percentage result of 68.08%% and in cycle 2 they obtained a percentage result of 90.47%.

Quality education can be achieved through a process called learning. Suardi, (2018) stated that a person is said to be learning if there is a change in himself, namely a new change, be it a change in skills, understanding and attitudes that are in accordance with the norms that apply in society (Handayani et al., 2023; Nasution et al., 2023; Safitri et al., 2023; Uswatun Hasanah et al., 2023). Results are something obtained after carrying out a process, while learning is a change in behavior. This is in accordance with the opinion expressed by Rusman, (2017) "learning outcomes are the abilities that students have after they receive their learning experience" (p.130). According to Zainal et al., (2019) stated that "learning models are very important for increasing student motivation in learning so that they can facilitate students to obtain the expected learning outcomes" (p.226).

To overcome various problems in implementing learning, the Index Card Match (ICM) type cooperative learning model is used. According to Silberman (2009) states that Index Card Match is also known as "looking for card pairs". This strategy has the potential to make students happy in participating in the learning process. The game elements contained in it certainly make learning not

boring. Astining Rahayu, (2013). According to Suprijono, (2013) stated that the Index Card Match learning model is a learning model to find pairs of cards which is quite fun to use to repeat learning material that has been given previously (Fitriani et al., 2022; Harahap et al., 2022; Mansah & Safitri, 2022; Syahputra & Safitri, 2022).

CONCLUSION

Based on the results of cycle I activities, the teacher and student learning process is included in the sufficient category (C) and student learning outcomes are included in the sufficient category (C). In cycle II, the teacher and student learning process activities were included in the good category (B) and student learning outcomes were included in the good category (B). Based on the problem formulation and through the implementation of research, it can be concluded that: The application of the Index Card Match type cooperative learning model can improve the process and learning outcomes of reading and interpreting data in the form of bar charts for class IV students at UPT SD Negeri 211 Punnia, Pinrang Regency.

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