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# Applying "Make a Match" Model-based on Scientific Approach through Reward Education Game for Elementary School Students

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## Abstract

The main purpose of this study is to analyze how students learn by using the "Make a Match" and "Reward Education Games" strategies. This type of research is Classroom Action Research (CAR), where the teacher is the implementer and the researcher. Subject This research is a student of class VI A SD Negeri 37 Pontianak Southeast consisting of 26 students. The object of research is active learning and student learning outcomes. Data collection techniques using structured observation and field notes. Data were analyzed descriptively and presented in the form of diagrams. The results of the research obtained are learning by innovating the development of a scientific approach that is integrated with "Make a Match" and "Reward Education Games" that are did well to increase the students learning activities of class VI at SDN 37 Southeast Pontianak. Another result is the absorption of students in learning, students get scores above the KKM reaching 84.6%.

**Keywords**: *Scientific Approach; Make A Match, Reward Education Games*



## INTRODUCTION

Cognitive or physical development for the psychology of elementary school children, according to Piaget, children aged 7-11 years are in the concrete operational stage, namely when children can have the ability to think rationally, for example, reasoning in solving actual problems so that growth and development need to be considered.

Teaching comes when individuals learn to integrate their knowledge and abilities into themselves. Learning means making new meanings. Nowadays, education is mostly from the perspective of knowledge which is a set of facts that need to be remembered. The class still has its focuses on the educator who is the main source of its knowledge.

In an effort, students need educators to direct and guide them. In the class, the teacher's task is to provide students with facilities so that their goals are achieved. Educators are usually concerned with strategies and aids for students rather than providing information.

The development of science and technology is increasingly giving impetus to its renewal efforts when utilizing learning technology. Many educators have demands to be able to take advantage of the tools provided by the school and do not rule out the possibility that these tools are in harmony with the development of the times. The opinion by Arsyad (2014: 2) reveals that teachers are at least able to use efficient and affordable tools, although simple, but their goals must

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be achieved. So that when using teaching tools, educators can carry out modifications but the goal is still achieved.

The use of appropriate learning media can create pleasant and calm earning conditions, thus encouraging learning to be meaningful, creative, and active. This is in line with Azhar Arsyad, learning media is anything that can be used to convey messages or information in the learning process teaching so that it can stimulate students' attention and interest in the study. This learning situation can encourage students to know, learn to have work, learn to be themselves, and learn to live harmoniously with other individuals. Therefore, educators must always make improvements to the quality of their learning in all subjects, especially Social Science subjects. So far the author has used various methods to achieve his educational goals, but in reality, the results have not been satisfactory, where there are still some passive students and unable to complete the evaluation until they reach the KKM.

Researchers have an interest in integrating the Scientific Approach and Make a Match strategy with Education Games (Edugames) rewards. The reward is an educational method that can be used to motivate pupils while they are learning. In its most literal definition, reward entails getting someone thrilled, willing, and wishing for something (Dehkhoda, 1994). "Rewards are defined as any contingently delivered consequence like event, activity, and object associated with an increase in the future likelihood of a behavior in comparable conditions," Horner and Spaulding (2009) wrote (p.755). According to Skinner (as stated in Chen, 2011), reward or positive reinforcement is "something that reinforces the desired response to be repeated after the behavior or action is made". Develop an attractive approach and strategy as a means for student learning. Through this learning process innovation, researchers want to increase the learning activities of grade VI elementary school students, especially in processing information on natural and social features of neighboring countries. This research is also based on the technical guidelines for the 2018 PGRI learning innovation festival which for elementary school levels focuses on learning process innovation, meaning that researchers develop a scientific approach to increase student activity.

This study aims to learn about students' learning investigate activities in the Scientific Learning Process which is integrated with the Make a Match Strategy and Reward Education Games and to learn about how to apply it in the Scientific Learning Process which is integrated with the Make a Match Strategy and Reward Education Games.

## LITERATURE REVIEW

### Implementation of the learning process through a Scientific Approach

Abdul Rahman As'ari (2014:17), states that based on the curriculum, one of the characteristics of teaching and learning at the elementary school level is that learning in students is directed to use a scientific/scientific approach. Students are encouraged to observe, ask questions, explore, associate, and communicate. They must observe phenomena accurately (based on the theme used that day), raise investigative questions that will lead to exploration and investigation, collect and explore additional information, use their thinking, reasoning skills to come up with hypotheses/conjectures, and various ideas, and share their ideas to the class.

The opinion by Carbonneau and Reider (1995:11) reveals that "The other posits that children construct their knowledge by interacting with each other, knowledgeable and with other appropriate." On the other hand, students can create understanding through interaction with other


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students, a lot of knowledge, and a variety of appropriate materials. Implementation is carried out after the planning is made and compiled in a systematic and planned manner, which means that there is no change in the implementation.

**Scientific Approach Strategy**

Daryanto (2014: 51) stated the scientific approach strategy is a well-designed teaching stage so that students have activeness in building concepts, principles, and laws by observing, formulating problems, submitting, or formulating hypotheses, collecting data through various techniques, analysis. data, draw up conclusions and convey the concepts, principles, and laws they have found. According to Rina Fitriani (2018), scientific literacy is important therefore valuation of various aspects related to scientific literacy is continuous, which means that scientific literacy is very important to sustainable science. The scientific approach is very relevant to the current 2013 curriculum, especially at the elementary school level. In its application, the scientific approach places more emphasis on the ongoing learning process, (Fransiska Jaiman Madu et al. 2020). The scientific approach is characterized by the observation of reasoning, discovery, validation, and explanation of truth. Thus, the learning process must be carried out guided by values, principles, or scientific criteria, Rahmi (2017). Within the learning process, its elementary school has made use of the scientific approach as the approach that trains the students to perform scientific reasoning as early as possible, Masithoh (2018). This approach can train students to do reasoning as early as possible and is done since sitting in elementary school.

While opinion by Rusman (2015:232) The scientific approach is a teaching approach that focuses on student activities by observing activities, asking questions, reasoning, testing, and making networks for school teaching activities. However, the opinion by Joyce, Weil, and Calhoun (2009:12) in their book "Model of Teaching" reveals that, in addition to culture, constructivism does not only exist in students with teachers or their parents but can occur suddenly which is the student's response to the formation of the teaching environment.

**Make a Match Strategy**

Curran in Eliya (2009) reports that the Make a Match educational model is a student activity to find a companion card that is the answer to a question before the time ends, students who can match the cards will be given points and those who fail to match the cards may be given a punishment that has been mutually agreed upon. . The "Make a Match" learning method can help learning difficulties in terms of remembering the subject matter. The learning process using the more innovative learning method "Make a Match" can be oriented towards making student learning activities more meaningful (Suprapta, 2020). Teachers function more as facilitators and classrooms also need to be arranged in such a way, to support cooperative education. The teacher's decision in the preparation of the classroom must be adjusted to the conditions and atmosphere of the classroom and school. The Make a Match learning method is used to measure student understanding where students do it by matching cards containing questions and answers from the learning materials that have been taught, Rina Hidayati Pratiwi (2018). Lorry Curran (1994) Make a Match is an active learning method to explore or practice the content of the material that has been studied. Each student receives one card. The card can contain questions, can contain answers. Next, they look for a partner that matches the card they are holding. The advantage of this technique is that students can look for partners while learning to look for concepts or topics in a pleasant atmosphere, Kurnia (2014). In addition, the advantages of the Make A Match type cooperative model are that students can answer directly, make students creative, and avoid boredom in learning, (Eliza Nola Dwi Putri and Taufina, 2020).

According to Nur Fidiyanti "The implantations cooperative model of 'make a match' technique can also increase student's learning activity, both cognitively and physically" which



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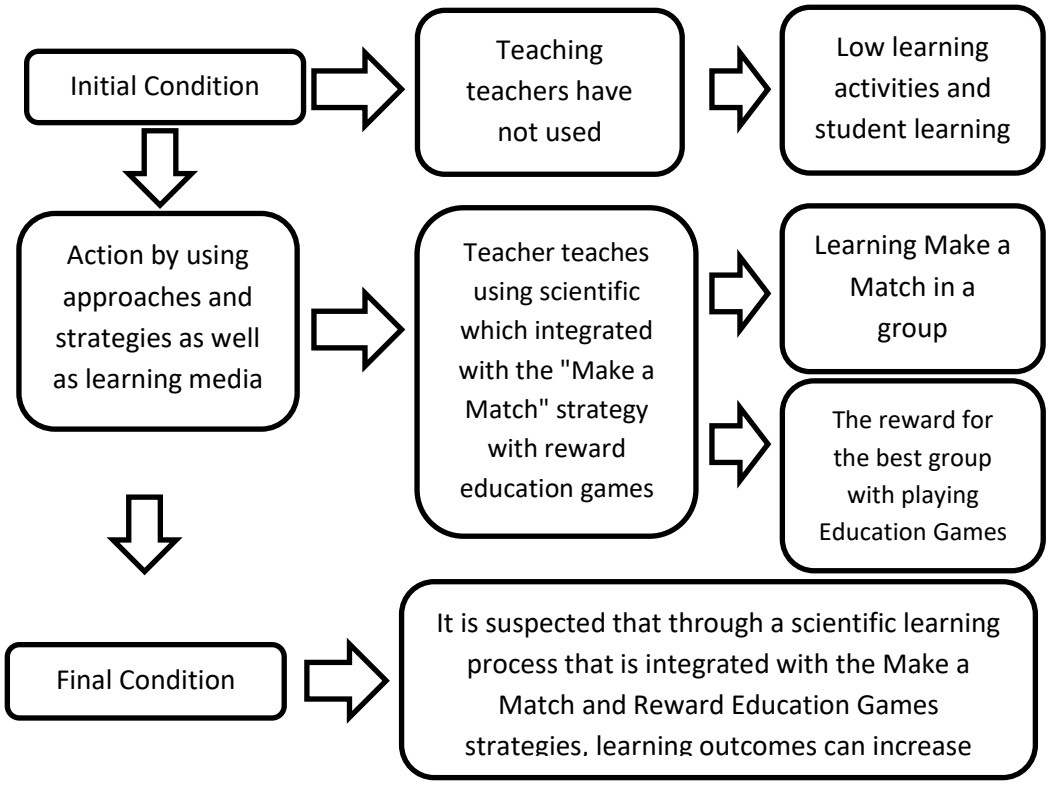
means that this 'make a match' model does not only learn about activity, and affects students' cognitive and psychomotor abilities.

**Education Game**

In the current phenomenon, students tend to forget about studying, because they are busy with games to fill time while at home. It would be nice for games to be one of the main solutions for the world of education to support learning activities and attract students' interest and motivation (Baiq Olatul Aini, Ayu, and Siswati 2019) Educational games are games designed to stimulate their thinking power which also includes increasing concentration and problem solving (Handriyantini 2009). Educational games are types of games that are designed for a specific purpose, namely to provide certain understanding/knowledge to the players. This type of game can be used in a variety of teaching media for students. According to Afidz Nurrohman (2021), Edugame (educational game) is considered interactive learning and has three main elements such as visual, sound, and motion. In the learning process, edugames are very appropriate to use in learning at this time, namely in the 21st century. This learning can lead students to innovate and use technology (Helsa et al. 2020).

As a learning media, educational games have many advantages when compared to other learning media. The use of games can be used as educational advice that not all games contain negative things, but games are entertaining (Nugraheny and Destiranti, 2016). The interactivity of educational games can make players interested in learning more about the knowledge contained in the game without coercion. Educational games are also proven to be able to increase students' skills for mastering the material. In addition, being given edugames can stimulate thinking power and increase concentration and solve problems in every learning encounter (Astari and Sudarmilah, 2019).

**Find of Mind**





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## RESEARCH METHOD

This study employs the Classroom Action Research approach. According to Kunandar (2010), classroom action research is "action research conducted by teachers who are also researchers in their class or in collaboration with others (collaboration) by designing, implementing, and reflecting collaborative or participatory actions aimed at improving or improving the quality (quality) of the learning process in their class through a specific action in a cycle." The usage of PTK is projected to improve teacher professionalism in enhancing the quality of social science teaching in elementary schools, as well as the ability to form partnerships between researchers and elementary teachers in addressing real-world social science learning difficulties.

Classroom action research is a method of learning in general and education in particular, with the results providing important information for decision-making. As a result, this research is a type of reflective research in which certain measures are taken to improve and increase classroom learning in a more professional manner.

## FINDINGS AND DISCUSSION

### Basic Idea

The basic idea of implementing a scientific approach that integrates the make a match strategy with rewarded education games is the nature of students who have a great curiosity about technology-based games. This media is presented to create meaningful learning activities for students. The hope is that by using a scientific approach that integrates make a match with reward education games, learning activities will be active and fun. Because every abstract and concrete concept can be more easily understood by students.

This media is also presented by the teacher so that it can be used in groups or individually. Besides being able to be used by many students, this media also instills an independent character and cooperation in the learning process. In addition to the education games application, the teacher also presents learning videos from five neighboring countries along with their natural features in the form of PPT which have been trimmed to make the videos more structured. This learning process uses non-IT media in the form of question cards and answer cards and IT media in the form of PPT teaching materials and Education Games applications.

Integrating the five scientific steps in this learning process is the author's innovation in the learning process in the form of developing a learning approach. This is inspired by the active and fun 2013 curriculum learning pattern and the high interest of students in playing games from mobile phones or laptops. This is the author's basic idea in integrating a scientific approach into the make a match strategy with reward education games.

This learning process is very easy to apply by teachers and easy to use by students, so the author tries to apply this innovation in learning activities. By using interesting media, it is hoped that students will be more actively involved in learning activities.

### Practical Applications in Learning

In social studies learning, especially in improving students' abilities in the natural and social features of neighboring countries, the authors found that 13 out of 26 students, or about 50% of students had not been able to identify the natural and social features of neighboring countries well. Therefore, the authors design a learning innovation through a scientific approach that is integrated with non-IT and IT learning media which is expected to increase student activity in the learning process. Below the author only describes the core activities in the learning process, while the initial and final activities can be seen directly in the attached learning video in the form of a file.

In the core activity, the teacher facilitates students to watch videos about five countries. Then students are allowed to ask questions. Next, proceed with students matching pairs of question cards and answer cards and communicating the results of their findings. In the last step, students try to complete the education games in groups.



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**Practical Application Results Data in Learning**

The study was conducted in the sixth grade of SDN 37 Southeast Pontianak with a total of 26 students consisting of 16 male students and 10 female students in social studies subjects. The research was conducted based on the problems that occurred in the class. The problems that occur are generally due to the lack of student learning activities and problems that arise in learning activities, especially learning in social studies subjects in sixth grade. The author finds that student learning activities, especially in social studies subjects, are still very lacking.

The development of a scientific approach that integrates make a match and reward education games can be used as an alternative to being able to develop sportsmanship in learning and increase cooperation in groups.

The percentage results for each student's process skills at the first meeting are as follows:

1. Students who pay attention to learning activities carried out in class are 100% and students who have not carried out these activities are 0%, meaning that 26 students perform process skills.
2. Students who read the results of their group work and are active in the question and answer session as many as 76.9% and 23.1% of students have not carried out these activities, meaning that 20 students perform process skills and 6 students have not performed process skills.
3. Students who listen to activities carried out by other groups and take notes are 88.4% and students who have not carried out these activities are 11.6%, meaning that 23 students do process skills and 3 students have not done process skills.
4. Students who are active in the learning process with non-IT and IT media are 100% and students who have not carried out these activities are 0%, meaning that all students do process skills and 0 students have not done process skills.

Based on the results of the analysis of the work done by the students, it can be concluded as follows:

a. 29 students can answer question number 1 correctly.
   Then the percentage obtained is as follows: 26/26x100%=100%
b. 13 students can answer question number 2 correctly.
   Then the percentage obtained is as follows: 13/26X100%=50%
c. 24 students can answer question number 3 correctly.
   Then the percentage obtained is as follows: 24/26X100%=92.3%
d. 23 students can answer question number 4 correctly.
   Then the percentage obtained is as follows: 23/26x100% = 88.4%
e. 25 students can answer question number 5 correctly.
   Then the percentage obtained is as follows: 25/26x100% = 96.1%
f. 23 students can answer question number 6 correctly.
   Then the percentage obtained is as follows: 23/26x100% = 88.4%
g. 22 students can answer question number 7 correctly.
   Then the percentage obtained is as follows: 22/26x100% = 84.6%
h. 24 students can answer question number 8 correctly.
   Then the percentage obtained is as follows: 24/26x100% = 96.3%
i. 23 students can answer question number 9 correctly.
   Then the percentage obtained is as follows: 23/26x100% = 88.4%
j. 25 students can answer question number 10 correctly.
   Then the percentage obtained is as follows: 25/26x100% = 96.1%


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Based on the percentage above, it can be seen that there are 84.6%, which means that there are 22 students who score above the passing grade (KKM). Meanwhile, there are 15.3%, which means that there are 4 students who have not scored above the KKM score.

**Data Analysis of Practical Application Results of Learning Innovation**

From the results of the data on student learning activities, the following data can be obtained. Learning using a scientific approach that integrates the make a match and reward education games can improve student learning activities. It is evident from the large percentage of student data who are active in learning activities. The data can be described as follows:

1. Students who pay attention to learning activities carried out in class are 100% and students who have not carried out these activities are 0%, meaning that 26 students perform process skills.
2. Students who read the results of their group work and are active in the question and answer session as many as 76.9% and there are 23.1% of students who have not carried out these activities, meaning that 20 students perform process skills and 6 students have not performed process skills.
3. Students who listen to activities carried out by other groups and take notes are 88.4% and students who have not carried out these activities are 11.6%, meaning that 23 students do process skills and 3 students have not done process skills.
4. Students who are active in the learning process with non-IT and IT media are 100% and students who have not carried out these activities are 0%, meaning that all students do process skills and 0 students have not done process skills.

Meanwhile, from the data on student learning outcomes, it was obtained that student learning outcomes increased. It is proven from the data that the scores of students who get scores above the KKM exceed 50% of the total number of students. The data can be described as follows. Based on the percentage of data from the student learning outcomes table, it can be seen that there are 84.6%, which means that 22 students score above the KKM. Meanwhile, there are 15.3%, which means that there are 4 students who have not scored above the KKM score.
From the two data above, it can be concluded that the use of scientific approach development innovations that are integrated make a match and reward education games can improve student activities and student learning outcomes.

**CONCLUSION**

Based on the results of the study, it was concluded that:

1. Learning by innovating the development of a scientific approach that integrates the make a match and reward education games that are well organized can increase the learning activities of sixth-graders at SDN 37 Southeast Pontianak.
2. Students' absorption of learning shows that there are 84.6% of students score above the KKM

**LIMITATIONS & FURTHER RESEARCH**

The limitation of this research is it refers to improving social studies learning outcomes in elementary schools, by integrating the Make a Match strategy and Reward Education Games. The "Make a Match" strategy is integrated with an education game, in this study students actively find pairs of question cards and answer cards which are then presented in front of the class. For students who have found their card partner, they will be rewarded with playing Android-based Edu games that they can access in class. With the selection of the right strategy, it can facilitate the development



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of intelligence and self-potential of students, not only their cognitive potential but also the development of students' soft skills that can be implemented in social science and technology.

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