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Improving Students' Achievement in Energy Resources Theme by Using Edusainsnopoly in Grade IV at SDN 3 Karang Tengah

Gema Mahardika[1]✉, Kasmadi Imam Supardi[2] & Amin Yusuf[3]

[1] Universitas Muhammadiyah Cirebon, Jawa Barat, Indonesia
[2] Chemistry Education, Universitas Negeri Semarang, Indonesia
[3] Non-formal Education, Universitas Negeri Semarang, Indonesia

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Abstract

The aim of this study is to improve the students achievement in energy resources theme by using Edusainsnopoly in grade IV of elementary school. The type of study is a Classroom Action Research using 2 cycles. The result of analyzing data and reflection in every cycles show the improvement of students' achievement by using energy resources theme is higher than that of student's who using contextual learning in the classroom. The achievement percentage target indicators is 75%, but in cycle 1 the percentage is about 72%. Since it have not fulfilled yet the achievement target indicators, so it continues to cycle II. In cycle II, the percentage of the achievement target indicators increases into 84%, which mean that there are about 12% of increasing. According to the result above it shows that the use of edusainsnopoly media can improve the students achievement in energy source, theme in grade IV of elementary school.

✉ Correspondence address:
Tuparev No.70, Kedungjaya, Kedawung,
Cirebon, Jawa Barat 45153
E-mail: gemaelmahar@gmail.com

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INTRODUCTION

Indonesia applies the curriculum 2013 system with several theme in every class in elementary school exactly. This curriculum is designed to cover the needs of 21th where the attitudes competencies, knowledge competencies, and skill competencies are implemented in curriculum 2013. The government by the Ministry of National Education declare that human resources should be printed out not only smart in knowledge but also have a good attitudes. It is the government responsibility in providiy better education to provide good human resources in Indonesia. To gain the goals we should concern in method, strategy and media that are used to, so students can have a good outcomes. According to Udin, in Siskawati *et al*. (2016), he stated that students will learn well and meaningful if they do what they are learnt.

There are several efforts to provide better education by using innovative learning, so students can get meaningful learning within fun, interactive and challenges. One of method that can be used by teacher to improve this meaningful learning is by using game as learning activity.

According to Rahmawati (2015) by using game method, students will do the meaningful learning so students will comprehend more the material that is given. So that, the game method is expected to make a meaningful learning. Not only making a meaningful learning, but also as a media to support the success of increasing the aims of learning. Suciati (2015) stated that to reach the aims of learning, it can facilitate by using learnine media.

According to Smith in Purwanto (2012), using games in learning process can be asset in the class and develop the students' skill. Azizah (2015) stated that media can help students to comprehend the material or the knowledge that is learnt and make the teacher easy to deliver the material to students. So, the use of appropriate method and media will create the meaningful learning.

The learning process in SDN 3 Karangtengah especially in grade IV use more lecture method. It is not only the difficulties of learning process but also the number of media were so limited in learning process, which lead the teacher can not make meaningful learning. The media of energy sources theme is also limited. It is only using the pictures that printed by teacher and stick them in the white board. The use of these media can only be used once and cannot last long.

Based on the media usage on the data above, it can be conclude that the teacher of grade IV uses lecture methode in delivering his lesson. The result shows that, there are 14 students who can not get Minimum Mastery Criterion from all 25 students. They seemed bored to study, then they can not focus learning the material. There are also found students who draw even it is not art lesson. Some students chat with their chairmate then some also felt sleepy in the class while the learning process is going.

Various facts in the field eventually lead to conditions that are less conducive to learning resulting in low learning outcomes. Students were prefer to choose interactive and fun learning so that their interest arises in learning the material. The use of game-based media is expected to improve student learning outcomes, especially in the grade IV of elementary school. As said by Supardi quoted by Siskawati *et al*. (2016) it was revealed that playing in the classroom is intended to avoid or eliminate students less motivate during learning process. Hence learning in the classroom must be able to create meaningful experience so that children will be more active and memorable when learning. According to Siskawati (2016) the use of a game as media

According to Siskawati (2016) the use of instructional media with a game system is expected to lead to interesting teaching and learning activities that directly involves students in active teaching and learning activities so as to make learning being not boring, train cooperation, increase student understanding of the material being taught, foster student interest for learning, accelerate the information process and solve problems, as well as increasing social sensitivity.

As written in Susilana *et al*. (2012), students should have a more concrete experience, the message to be conveyed can actually achieve goals and objectives. According to Vikagustanti *et al.* (2014) revealing that environmental condition which supports fun and free from boredom both in family and school environment during learning process can lead students to express all their abilities. Therefore this research will be applied to edusainsnopoly learning media. This media is the result of the development of monopoly with an environment-based design. The reason of this media use is because the monopoly game is often used by students so that it can facilitate the implementation in the classroom. According to Wena as quoted by Ramadhani *et al*. (2016) revealed that the media is a means of channeling the subject matter messages delivered by the teacher so that students can easily accept material that has been conveyed by users of learning media correctly which is important in learning process. According to Vikagustanti *et al.* (2014) revealed that in monopoly game, students are required to master material in a fun way so that students' interest in learning will grow.

The material that will be used in this edusainsnopoly is about energy sources related to student science. According to the Ministry of National Education as quoted by Ramdhani, *et al.* (2016) revealed that the Science of Natural Sciences is a science to find out about nature systematically and develop understanding as well as application of concepts to serve as a product that produces, so that Science is not just a collection of knowledge in the form of facts, concepts or principles,but rather a process of discovery and development. Based on the background problems above, this research is very important to improve student learning outcomes, especially on the theme of energy sources.

METHODS

The research method used is the Classroom Action Research (CAR) method. According to Kemmis cited by Sanjaya (2009) classroom action research is a form of reflective and collective research conducted by researchers in social situations to improve the reasoning of their social practices. In CAR research method, there are several cycles that will be applied, this cycle will produce a different discussion according to the treatment in the field. According to Sanjaya (2009), the cycle or round in CAR is one time of the learning process in accordance with the plans that have been prepared. In each cycle, there are 4 stages, namely phase of planning, implementation, observation and reflection.

The planning stage is the complete guidelines for the learning process in which there are lesson plans and learning media that will be conveyed during the learning process. The implementation stage contains the treatment that will be applied based on plan that has been prepared at the time of planning.

The observation stage contains information about the implementation process carried out by researchers in the learning process. Through information, the observation results can be input into the reflection stage. The reflection stage shows that there are deficiency when researchers take action to improve in the next cycle.

This research will use a cycle model of Kemmis and Taggart. According to Kemmis and Taggart, quoted by Vitiarti (2014), it is revealed that this cycle model is spiral-shaped from one cycle to the next. Stages by stages carried out have to certainly use research instruments in measuring research success. The instruments applied in this study were observation and tests. Observation is conducted to gather information related to research information. While the test is used to measure learning outcomes. This instrument will be applied in each research cycle.

This research took place from 30th October to 7th November 2018 in the grade IV of elementary school number 3 Karangtengah. The subjects of this study were 25 students, with 15 female students and 10 male students. Indicators of success in this study are 75% achieving completeness with Minimum Mastery Criteria values ≥ 64. Individual completeness is achieved if students meet Minimum Mastery Criteri which

is 64, to find out completeness, they will be given a test in the measurement.

RESULTS AND DISCUSSION

The media used in this research is edusainsnopoly media, this media is developed from monopoly media. The differencies between monopoly and edusainsnopoly are monopoly used share puchases using counterfeit money, but on edusainsnopoly used scientific literary card. In monopoly uses counterfleit money and edusainsnopoly uses energy resources card, doorprize card contains instructional. Below is the example of edusainsnopoly can be seen in Figure 1.

Figure 1. Media Edusainsnopoly

This media uses the box like monopoly, but there are no city and building that should be bought. This is game can be seen ini Figure 2.

Figure 2. Students Playing of Edusainsnopoly

Based on the Figure 2, there were 5 player, 4 students as the player and a students as card holder. If the player enters to the box of energy resource, so the card holder should give the card to read and follow the instruction contain in the card.

The result of the observation found that there are still students who get score under the criteria. One of the example of students worksheet who get under the criteria can be seen in Figure 3.

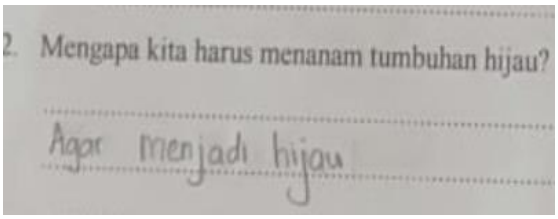

Figure 3. Result Pre-cycle

The Figure 3, the students still cannot answer the questions completely and the questions with a short answer, because lack of understanding. That result continued because there are many students who get the score under the criteria. There are about 56% percentage for all 25 students. This is the pra-cycle when observation, the pra cycle score when observation is can be seen in Table 1.

Table 1. Pre-cycle Achievment

Completeness	Frequency	Percentage (%)
Complete	11	44
Incomplete	14	56
Total	25	100

Based on Table 1, from 25 students, students who have a complete score are 11 students or 44% and students who have not completed that is 14 students or 56% therefore there needs to be improvements in learning. Researchers used CAR research method with Kemmis and Taggart designs. In cycle I, students are divided into 5 groups with each group having 5 members to be given edusainsnopoly media boards. By using these media, students feel they are not familiar with it yet and do not understand the procedures for playing. Therefore the class is still noisy and cannot be conducive at the beginning of learning, but the class time starts conducive and can follow the learning well.

Cycle I was held on Wednesday 31 October 2018 with all departing students in total 25 students. The first planning is done by teacher by making lesson plans as a basis for learning, then preparing the media to be implemented for students. Students are divided into 5 groups in which 1 group consists of 5 students. After the first cycle using edusainsnopoly media, the results are presented in Table 2.

Table 2. Cycle I Achievment

Completeness	Frequency	Percentage (%)
Complete	18	72
Incomplete	7	28
Total	25	100

Completeness in the first cycle reached 72% with a total of 1,706 and the average was 68. With results like this in the first cycle, it still did not reach the completeness indicator that is 75%. Below is the example of students who get increasing score 60 to 80 can be seen in Figure 4.

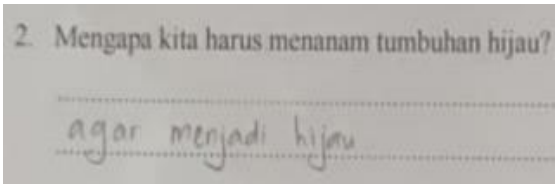

Figure 4. Result Cycle I

Figure 4, students still have the same understanding like before. It shown by when the students answering the questions, their answers still same The increasing in cycle 1 have done to student because student knows directly the benefit of thrifty energy by using edusainsnopoly card media. But, overall the other's friend have not reached yet the completeness indicator. Because of that, the cycle continues to cycle II.

Cycle II it was held on November 7, 2018 and in this cycle students better understood the use of media and the class was not noisy like in cycle I, they were more accustomed and more understand. Students are increasingly motivated in cycle II because at the first cycle there were some students who lost in the science edopoly game, those who lost were motivated to win in cycle II. After being improved from the first cycle using the addition of a media projector, learning in cycle II is expected to increase student learning outcomes. These are the students worksheet who get increasing can be seen in Figure 5.

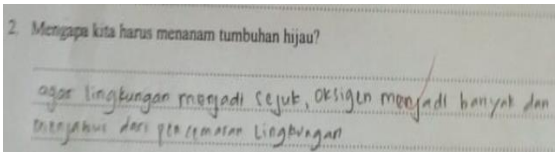

Figure 5. Result Cycle II

After the cycle II, students can explain the answers completely based on student understanding and students have increased in understanding energy resource and the impact of not thrifty energy. By using video and edusainsnopoly games, students can increase their score. The results of the second cycle are presented in Table 3. The results of the second cycle can be seen in Table 3.

Table 3. Cycle II Achievment

Completeness	Frequency	Percentage (%)
Complete	21	84
Incomplete	4	26
Total	25	100

The completeness of the second cycle reached 84% or 21 students who finished Minimum Mastery Criteri. The total number in cycle II is 1,831 with an average of 73. With results like this, the indicator of success has been reached that is 75% and it is not continued to cycle III. There is a significant increase in completeness from cycle I to cycle II was 12%. The increase can be a media reference to teach the theme of energy sources. This media is expected to be implemented well by teachers and students so that learning becomes fun in order to make student learning outcomes become more improved. The results of the increase in each cycle are presented in Table 4.

Table 4. Increase per cycle Achievment

Completeness	Number of Cycle		
	Pre cycle	Cycle I	Cycle II
Complete	11	18	21
Incomplete	14	7	4
Total	25	25	25

CONCLUSION

The constraints that exist in the first cycle become a reflection in the second cycle so that there are improvements to further improve learning outcomes. The constraint in cycle I is that there are many students who do not understand the rules of the media game so the class becomes noisy and the students are lack of focus because they ask each other questions to their friends.

Based on reflection in the first cycle, the second cycle applied the projectors to assist in the delivery of the way to play the polyclinic media so that students could better understand. Based on the results of the research it can be concluded that the media of polyclinic can improve the learning outcomes of the Grade IV students of elementary school on the theme of energy sources. This is evident as each cycle has increased and the achievement of indicators that have been set is 75%.

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