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Application of Ludo Board Game in Increasing the Activeness of the Physics Study Group of Mts DDI Seppange Students

Napsawati*, Yusdarina

Physics Education Department, Universitas Muslim Maros, Maros, 90511, Indonesia

**Corresponding author: nafsa.wati@gmail.com*

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Abstract – *This study aims to describe the activeness of the members of the physics science study group by implementing the Ludo Board Game and seeing the students' responses to the application of the Ludo Board Game in increasing the activity of the members of the physics science learning group. To achieve this goal, descriptive research has been carried out using the Ludo Board Game game. The subjects of this study were students of class VIII MTS DDI Seppange in the 2019/2020 school year, which may be 24 people. The data research method used was observation (observation), questionnaires, interview techniques and documentation. Furthermore, the analysis technique is carried out by means of proportional descriptive data analysis. The results showed that the increase in the activity of students' study groups after the implementation of the Ludo Board Game (LBG). Meanwhile, the students' responses to the application of Ludo Board Game in increasing the activeness of members of the physics science study group were very feasible, namely for the quality of the content with an eligibility level of 81.25% and a 94.53% usage level.*

Keywords: *activity, ludo board game, study group*

I. INTRODUCTION

Science lessons are one of the subjects taught at the junior high school level and the equivalent consisting of biology, physics and chemistry. According to Trianto (2014), science is a systematic collection of theories, its application is generally limited to natural phenomena, birth and development through scientific methods such as observation and experimentation and demands a scientific attitude. Thus, science is not just the mastery of a collection of knowledge but more than that, namely a process to produce discoveries.

From the understanding of science above, science lessons should be interesting and fun lessons for students, because these lessons are related to everything that is in themselves and the environment around them. However, the reality is that there are still many students who consider Science as a scary subject. One part of science learning that is often a frightening specter for students

is physics. Physics is a part of natural science that studies the nature and natural phenomena or natural phenomena and all the interactions that occur therein. However, most students consider that physics science lessons are a set of complex formulas that must be understood every time the lesson takes place.

Various ways have been done by educators so that physics science subjects can become interesting subjects for all students. One way this is done is by applying the group learning method by forming small groups. According to Octavia (2020), study groups aim to cooperate with each other, help help and mutual cooperation between one student and other students.

When studying in groups, there is a process of transfer of knowledge that involves more than one person, where one person complements each other. So that with the application of the group learning method, it is hoped that students will find it easier to solve the problems that are carried out through discussions between group members.

However, the reality is often found, the objectives of group learning are still not maximally achieved, this is evident from the less active group members as a whole. Active group members are students who have more understanding than their other friends. While group members who from the beginning did not understand physics prefer a safe position, for example as a moderator or a note taker if the group learning is presented through discussion. However, if it is focused only on doing the questions, students who do not understand will choose to remain silent while those who understand will be more act

Based on the results of research conducted by Napsawati (2019), it was found that physics lessons are one of the subjects that are feared and less favored by students with the assumption that physics lessons are too complicated to understand. So that from the phenomenon that occurs, as someone who deals in the world of education feels the need to provide an additional touch in group learning methods so that members of the study group can be active as a whole. The additional touch that is meant is by applying the ludo board game, one of the board games which consists of a number of small squares in it.

II. THEORITICAL BASIS

A. Ludo board game

Ludo board game is a traditional type of game that dates back to the 6th century in India called Pachisi (Marhadi, 2019). According to Sudono in Khamim (2016), playing is an activity that is carried out or without using tools that generate understanding or provide information, provide pleasure or develop imagination in children.

The description of the modified ludo board game is as follows:

Figure 1. Display of ludo board game

Based on Figure 1 above, it shows that:

1. The game board has 72 plots which are divided into 56 squares containing questions and 16 squares are bonus plots where there are no questions so that when students are in these boxes students do not need to work on questions.
2. In ludo board game, it is divided into 4 color parts, namely red, yellow, green, and blue. The color division is a reference in dividing the color of the pawn and the questions on the question card.
3. Questions in ludo board game are divided into 4 parts and each part consists of 11 questions. Apart from multiple choice questions, there are also essay questions. The essay questions consist of 12 questions which are divided into 4 parts.
4. The modified form of the ludo game has no change in the number of tiles from the previous ludo game, but it's just that it is more equipped with questions and additional safe tiles.
5. Ludo board game featuring physicists Albert Einstein, Issac Newton, Nikola Tesla and Marie Currie.

B. Application of ludo board game

The steps in implementing the ludo board game are as follows:

1. Prepare ludo boards and question cards containing questions. The question card is placed next to the ludo board game media and the placement of the question card is adjusted to the color of the home base box in the ludo board game.
2. Each student provides paper and pens.
3. Divide students into 4 groups.
4. Each group gets 4 Pawns according to the color of the home base ludo board game box.

In the ludo board game game, there are rules and steps that must be obeyed by each player, namely:

1. To remove a pawn from the Home Base, the player must get a 6 on the dice. If the player doesn't get the 6, then the turn to play is given to the next player.
2. When the player gets a 6, that player has the right to roll the dice again.
3. If the player scores a 6 on the third roll of the dice, he cannot remove any other

4. pieces from the Home Base. The 6 on the third whisk ends the player's turn.
5. Pawns are executed according to the number of dice that appear.
6. Each student rolls the dice according to the sequence. After the students roll the dice the participants run the pawn according to the results of the dice roll, then the students take the questions on that number (according to the results of the roll) and work on them on their respective papers.
7. If the player's pawn occupies the opponent's pawn then the opponent's pawn is eliminated and must return to the home base.
8. When a pawn is on a numbered square, the player must answer the question on the question card according to the tile number where the pawn is located, then if the pawn is on a starred square then the player does not need to answer the question.
9. The pawn that is on the grid with the same color as the pawn, then the owner of the pawn is free from the existing questions.
10. To be able to finish the game to the finish point, the player will pass 3 question boxes and 2 free question boxes that have been designed, the purpose of making questions in this box is that the more the player wants to finish the game, the more obstacles he has to pass.
11. The first player or group to arrive at the finish line and answer the most number of questions correctly is the winner of this game.
12. Each student reads the results of their work to be responded by their friends
13. Provide a conclusion to the work that has been responded by students. Then the answer sheets are collected to be given a grade.

From the concept of understanding the game and the rules of the ludo board game game, the benefits of the game include:

1. Creating a fun and competitive learning atmosphere
2. The game allows the active participation of students in solving the problems faced.
3. Every student has the same opportunity to solve existing problems
4. Helping students who have difficulty learning with traditional methods.
5. The game is flexible, can be used for various educational purposes.

C. The concept of activity

The activeness referred to in this research is the active learning of students in class. According to the large Indonesian Dictionary (2015), active is active (working, trying), while activeness is a state or thing where students are active. Meanwhile, according to Hamalik, learning activeness is a state or thing where students can actively carry out activities (Hamalik, 2013). The

activities in question are activities that lead to the learning process such as asking questions, asking opinions, doing assignments, being able to answer teacher questions and being able to work together with other students, as well as being responsible for the assigned assignments (Sardiman, 2016).

The learning process really requires the activeness of students, without the activeness of students, learning seems boring. The activeness of students is the most important element in learning, because activeness will have a big effect on the success of the learning process. According to Sudjana in Nugroho (2016) the active learning of students can be seen in terms of:

1. Participate in doing assignments
2. Involved in the problem-solving process
3. Ask a group friend or teacher if they do not understand the problem they are facing.
4. Carry out group discussions in accordance with teacher instructions.
5. Able to present their work.

From the various definitions above, it can be concluded that activeness is a condition in which students can carry out various activities such as paying attention to class learning, solving problems, working together in groups, expressing opinions, in order to help gain understanding of themselves regarding the material being discussed.

D. Study Group

According to Djamarah & Zain in Aprida & Muhammad (2017), in learning and teaching activities, students are the subject and object of educational activities. Therefore, the meaning of the teaching process is the learning activities of students in achieving a teaching goal. Teaching objectives will be achieved if students actively try to achieve them. The activeness of students is not only demanded from a physical perspective, but also from a psychological perspective. If only physically active and mentally inactive, then the purpose of learning has not been achieved. Meanwhile, according to Whitaker in Parnawi (2019), formulating learning as a process in which behavior is generated or changed through practice or experience. Meanwhile, according to Hamalik in Ifni (2017), there are three main elements of the meaning of learning, namely:

1. There is a change in behavior.
2. There is a process of experience, the behavior change occurs because it is preceded by a process of experience.
3. The length of time the learner's behavior changes in the form of cognitive, affective, and psychomotor changes.

To achieve good results, there are several factors that must be considered in the study group, namely:

1. There needs to be a strong urge to work in each member.

2. Solved problems can be viewed as a unit that is solved together, or the problem is divided up to be worked on individually.
3. Healthy competition between groups usually encourages children to learn.
4. A pleasant situation between members largely determines the success or failure of group learning.

III. METHODS

The research was conducted at MTs DDI Seppange, Bengo District, Bone Regency, South Sulawesi with the consideration that the school is far from the city center and the number of teaching staff is still limited and learning facilities are still lacking compared to other schools in the district city area. The subjects of this study were 24 students of class VIII MTs DDI Seppange in the 2019/2020 school year.

To collect the necessary data, used observations, questionnaires, interview techniques and documentation. This technique is used to obtain original data from informants as very important information in building perceptions about the activity of the Physics Science study group using the Ludo Board Game and then completed with written data.

The indicators for measuring the activeness of students 'learning consist of students' joy in following physics lessons, focus on following lessons, being on time in completing assignments, and having a strong drive to get high scores. Meanwhile, to find out how feasible the application of ludo board game is in increasing learning activeness based on the responses of students, namely the indicators of content quality and ease of use.

IV. RESULTS AND DISCUSSION

A. Research results

Based on the instrument in the form of a questionnaire to measure the learning activeness of a group of students consisting of 25 statements. Based on the results of the descriptive analysis that has been carried out, it shows that the average score (mean) obtained is 92.05, the median value is 92.00 with a standard deviation of 3.19, a minimum score of 88.00 and a maximum score of 100.00.

For the distribution of the percentage of respondents' answers regarding learning activeness before being implemented ludo board game:

Table 1. Categorization of the activity of the physics science study group prior to the application of LBG

Study group activity category	Percentage
Group learning activeness in the low category	12,5%
Group learning activeness in the medium category	62,5%
Activeness of group learning in the high category	25,0%

Based on table 1 above shows that the activeness of students in the physics science

study group before the implementation of the ludo board game (LBG) varies. Of the total number of students who were the sample of the study, 12.5% of students with activeness were in the low category, 62.5% of students with activity in the medium category and only 25.0% of students who had activeness at high category.

Furthermore, to see the level of activity of student learning groups after the application of Ludo is described in the following table.

Table 2. Categorization of the activity of the physics science study group after the implementation of LBG

Study group activity category	Percentage
Group learning activeness in the high category	16,7%
Group learning activeness in the very high category	83,3%

Based on the results obtained from table 2 shows that there is an increase in the activity of students' study groups after the implementation of the LBG. Furthermore, the feasibility of implementing the LBG in physics science learning is described in the percentage table below.

Table 3. Table of the feasibility of applying LBG in physics science learning

Indicator	Percentage
Content quality	81.25%
Ease of use	94.53%

Table 3 shows that the assessment aspect regarding the quality of isin gets a feasibility percentage of 81.25% and is categorized as very attractive and in the assessment aspect about the quality of isin gets a feasibility percentage of 94.53% and is categorized as very attractive.

B. Discussion

Based on the results of the research that has been obtained, it shows that the activity of the study groups of students in learning Physics Science is mostly still in the moderate category. This can be seen from the percentage obtained from the results of filling out the questionnaire. The results of filling out the questionnaire indicate that most of the items are still in the low and medium categories, even though some statement items are already in the high category.

The level of activity of these students has increased after the implementation of the ludo board game. This can be seen from the results shown in table 2. This is also in line with students' assessment of the appropriateness of the ludo board game in stimulating their activeness.

From the results of interviews with students also showed that from the game students felt challenged to get the highest score in order to become winners in the game. The desire of students to be winners in the game encourages them to be active in every lesson so that they can answer questions as one of the requirements to collect as many scores as possible in the ludo board game.

In addition to the feasibility of ludo board game in increasing the activeness of

students, ludo board game also contains the philosophy of life contained in it, including:

1. In rolling the dice, the player does not know the value of the dice that will appear. It also happens in life that a person can only try but the end result is the mystery of the creator
2. In the middle of the road, a pawn can be eliminated or removed by an opponent's pawn. This also applies in life where there are times when someone is at the lowest point or vice versa.
3. Pawns will cross several lines and questions to reach the finish line. It is the same in life that every journey has a phase and every phase there are things to solve.

From these results, it shows that the ludo board game can be well received by students as a learning medium. With the ludo board game, students can interact, work together or discuss with friends, it can make students not feel bored, and indirectly this can foster student activeness in learning.

V. CONCLUSION AND SUGGESTION

A. Conclusion

Based on the results of the research and discussion, it can be concluded that there is an increase in the activity of students' study groups after the implementation of the Ludo Board Game (LBG). While the students' responses regarding the application of Ludo Board Game in increasing the activeness of members of the physics science study group are very feasible, namely for the quality of the content with an eligibility level of 81.25% and an ease of use of 94.53%.

B. Suggestions

1. Teachers to be able to apply media that are attractive to students in order to create fun learning.
2. Researchers who are interested in researching the application of Ludo Board Game media can develop both in terms of design and rules in its application.

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