



IMPROVING STUDENTS' CONCENTRATION AND LEARNING OUTCOMES THROUGH PROJECT-BASED LEARNING ASSISTED BY GAMES AS THE METHOD

Vika Mutiara Ghozelin¹, Agnes Herlina Dwi Hadiyanti², Yohanes Bruri Kriswanto³

^{1,2} Sanata Dharma, Yogyakarta, Indonesia

³ SD Kanisius Demangan Baru 1, Yogyakarta, Indonesia

^{1*} vikamutiara37@gmail.com, ² agnes.hadiyanti@gmail.com, ³ nikiwanto2010@gmail.com

ABSTRACT

This paper is based on the students' low concentration and learning outcomes. The purpose of the research is to increase the students' concentration and learning outcomes through the project-based learning model assisted by the game method. The type of research is classroom action research. The research subjects were students at class 4A of SD Kanisius Demangan Baru 1. The research object was the improvement of students' concentration and learning outcomes through the project-based learning model assisted by the game method. Data collection techniques were obtained through observation, interviews, and tests. The data analysis techniques used were quantitative and qualitative. The research results indicate that the percentage of students' learning concentration before applying the action was still in the low percentage (58.33%), after conducting the first cycle increased to the moderate category level (69.44%), and after conducting the second cycle increased to the excellent category (90.27). The average mastery level of students' learning outcomes of students before applying the action was still in the low category (57.27). After conducting the first cycle, the student's learning outcomes increased to the medium category (67.72), and after applying the second cycle increased to the high category (84.09). Thus, students' learning concentration influences their learning outcomes. It is because if students can focus their attention so they can optimize their ability to respond to the lesson that they learned, so their learning outcomes also increase.

Keywords: concentration, learning outcomes, project-based learning

PENINGKATAN KONSENTRASI DAN HASIL BELAJAR SISWA MELALUI PENERAPAN MODEL PROJECT BASED LEARNING BERBANTUAN METODE PERMAINAN

ABSTRAK

Artikel ini dilatarbelakangi pada rendahnya konsentrasi dan hasil belajar peserta didik. Tujuannya yaitu untuk meningkatkan konsentrasi dan hasil belajar peserta didik melalui model *project-based learning* berbantuan metode permainan. Jenis penelitian adalah penelitian tindakan kelas (PTK). Subjek penelitian adalah peserta didik kelas 4A SD Kanisius Demangan Baru 1. Objek pada penelitian adalah peningkatan konsentrasi dan hasil belajar melalui model *project-based learning* berbantuan metode permainan. Teknik pengumpulan data diperoleh dengan observasi, wawancara, dan tes. Teknik analisis data yang digunakan adalah analisis data kuantitatif dan kualitatif. Hasil penelitian menunjukkan bahwa konsentrasi belajar peserta didik sebelum dilakukan tindakan masih dalam persentase Rendah (58.33%), setelah dilakukan tindakan siklus I meningkat menjadi kategori Sedang (69.44 %), dan setelah dilakukan tindakan siklus II meningkat menjadi kategori Sangat Baik (90.27). Hasil belajar peserta didik sebelum dilakukan tindakan diketahui rata-rata ketuntasan masih dalam kategori Rendah (57.27). Setelah dilakukan tindakan siklus I hasil belajar siswa meningkat menjadi kategori Sedang (67.72), dan setelah dilakukan tindakan siklus II mengalami peningkatan menjadi kategori Tinggi (84.09). Dengan demikian, konsentrasi belajar siswa mempengaruhi terhadap hasil belajar mereka. Ini karena apabila peserta didik dapat memusatkan perhatiannya maka dapat mengoptimalkan kemampuannya dalam merespon pelajaran yang sedang dipelajari, sehingga hasil belajar mereka pun mengalami peningkatan.

Kata Kunci: konsentrasi, hasil belajar, project-based learning

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INTRODUCTION

Education for human life is an absolute necessity that must be met throughout life.

Education is interpreted as one of the human facilities and infrastructure to achieve success.

Education is also one of the solid foundations that are dynamic in nature which aims to shape humans so that they have knowledge, skills and psychomotor insights that can be applied for lifelong provision both for personal life and in social life. In particular, education in elementary schools is one of the strong foundations for creating human beings who have integrity and are a picture of how humans will be formed in the future (Jariyah, Wae, & Why, 2022: 277). Whether or not one of the teaching objectives is achieved can be seen from the learning achievements achieved by students. With high achievement, students have indications of good knowledge. One of the factors that can affect student achievement or learning outcomes is learning concentration (Dharmayani, 2021: 217).

Concentration is an effort to focus attention on the object that is needed by ignoring other stimuli that are not needed (Sukri & Purwanti in Fridaram, et al., 2020: 162). Concentration of learning is very necessary in any learning process. Concentration is intended to focus all the power of attention on the learning situation. In learning there may be modest attention but not concentration, so material that enters the mind has a tendency to impress but is vague in awareness. Therefore, concentration has a large effect on learning outcomes. If someone has difficulty concentrating, then learning will be in vain because it only wastes energy, time and money. Someone who can study well then he must have the habit of concentrating the mind (Mayasari, 2017: 4). The characteristics of someone who is not concentrating include being easily bored with something, restless, uncomfortable and always changing places, when invited to interact such as talking tends not to be heard, engrossed in chatting alone, and disturbing other friends (Winata, 2021: 16).

A person's ability to concentrate while studying or when doing assignments is very important. According to Shah (in Mahmudah, 2015: 20) someone who has a great interest in learning will focus more attention than other students. Then because of the concentration on intensive material that will encourage students to study more actively and ultimately achieve the desired learning outcomes. The child is said to

concentrate on the lesson if he can focus on what he is learning, because by concentrating the child is not easy to divert attention to other problems outside of what he is learning. Easy (2015:21) argues that low learning outcomes are not always caused by low ability but rather from the lack of concentration of students during the learning process. The cause of the difficulty of students concentrating does not always come from the students themselves but from the lack of educator skills in managing the learning process. The selection of an inappropriate learning model results in learning that seems monotonous and less varied, making students less interested and inactive, making it difficult to concentrate.

Winata (2021: 16) also suggested that lack of concentration can lead to low quality of activities, cause learning to be less attentive, and affect the ability to understand the material. Concentration can be influenced by many factors, including internal factors and external factors. Internal factors are the first and main factors that determine whether a person can concentrate or not, including: physical health; a healthy and nutritious diet; all five senses function properly; do not have serious problems and do not easily give up learning. While external factors include: a relatively calm learning environment, sufficient lighting, and support from the surrounding community during the learning process.

Concentration and learning outcomes are closely related, because concentration has an impact on learning outcomes. If students cannot concentrate on the ongoing lesson, it will have a negative impact, namely it will harm the students themselves because they do not get anything from the lesson. However, if students' concentration on learning is good, then the impact is also positive, namely increasing learning outcomes. The importance of concentration can make students more mastery of the material provided and increase enthusiasm and motivation to be more active during the learning process. Because concentration is so important for students, so concentration can be a prerequisite for students in learning to succeed in achieving learning goals and improving learning outcomes (Setyani & Ismah, 2018: 74).

Sudjana (in Ismail, 2019: 909) argues that learning outcomes are patterns of behavior, values, and abilities possessed by students which are obtained after carrying out learning and after being given corrective action on learning. According to Dimiyati and Mudjiono (in Ahmadiyanto, 2016: 983), learning outcomes are things that are viewed from two sides, namely the side of the learner and the side of the teacher. From the side of students, learning outcomes are a better level of mental development when compared to before learning. The level of mental development is manifested in the types of cognitive, affective, and psychomotor domains. Meanwhile, from the teacher's point of view, learning outcomes are when the lesson material is completed. According to Hamalik (in Ahmadiyanto, 2016: 983) the result of learning is that if someone has learned there will be a change in behavior in that person, and from those who initially did not understand to understand. So it can be concluded that learning outcomes are abilities acquired by individuals after the learning process takes place which can provide changes in behavior both knowledge, experience, attitudes, and skills of students so that they become better than before. Learning outcomes can be said to be changes that occur in individuals as a result of the efforts made or the interaction of individuals with their environment. Individual results can be seen from the evaluation results which are carried out in stages during the teaching and learning process. Evaluation can be done at the beginning of the lesson, during the lesson or at the end of the lesson (Ahmadiyanto, 2016: 984).

The reality in the field is known through observation and interviews, it is known that when the teacher asks a question, students do not immediately answer but must wait to be appointed beforehand so they want to answer questions from the teacher. In addition, some students who had their turn to answer no longer paid attention to the teacher and the lesson, but chose to chat with their classmates. Students do not pay attention to the teacher's explanation and choose to play around. There are also students who walk around and play in class during the learning process. The teacher said that in some studies sometimes using experimental models,

but there are still many students who play around in these activities. So that these things seem to eliminate the concentration of students' learning.

Based on the problems stated above, an appropriate learning model is needed, one of which is the project based learning (PjBL) model. The project based learning (PjBL) model is often referred to as a teaching model that uses problems in the system with the aim of facilitating students in the process of understanding and absorbing the theory provided so that student concentration is formed (Anggraini & Wulandari, 2021: 294). Project based learning (PjBL) according to Bie (in Erisa, Hadiyanti, & Saptoro, 2021: 3) namely learning models that focus on the main (central) concepts and principles of a discipline, involve students in problem-solving activities and other meaningful tasks, provide opportunities for students to work autonomously to construct their own learning, and ultimately produce work product. The project based learning (PjBL) model can foster a more disciplined student learning attitude and can make students more active and creative in learning. The project based learning (PjBL) model also has enormous potential to make learning experiences more interesting and meaningful so that students' concentration will be focused during the learning process because the project based learning (PjBL) model is student centered. Achievement of these skills can be achieved by applying appropriate learning models in terms of material and skills. So that the application of the game-assisted project based learning (PjBL) model is expected to increase the concentration and learning outcomes of students. Because the world of students is a world of play, the application of learning methods by playing is one of the processes to improve student learning outcomes. Playing while learning can increase the enthusiasm of students because it can create a good and fun mindset. If the inner students feel happy, of course it can increase the understanding of learning for students. So that the application of the game-assisted project based learning (PjBL) model is expected to increase the concentration and learning outcomes of students. Because the world of students is a world of play, the application of learning methods by playing is one

of the processes to improve student learning outcomes. Playing while learning can increase the enthusiasm of students because it can create a good and fun mindset. If the inner students feel happy, of course it can increase the understanding of learning for students. So that the application of the game-assisted project based learning (PjBL) model is expected to increase the concentration and learning outcomes of students. Because the world of students is a world of play, the application of learning methods by playing is one of the processes to improve student learning outcomes. Playing while learning can increase the enthusiasm of students because it can create a good and fun mindset. If the inner students feel happy, of course it can increase the understanding of learning for students. Playing while learning can increase the enthusiasm of students because it can create a good and fun mindset. If the inner students feel happy, of course it can increase the understanding of learning for students. Playing while learning can increase the enthusiasm of students because it can create a good and fun mindset. If the inner students feel happy, of course it can increase the understanding of learning for students. Playing while learning can increase the enthusiasm of students because it can create a good and fun mindset. If the inner students feel happy, of course it can increase the understanding of learning for students.

Previous research on the application of the project based learning (PjBL) model in learning found that it can improve learning outcomes, but the use of the project based learning (PjBL) model requires a lot of time to solve problems so that there are still students who play around and chat with their friends outside the topic of ongoing learning, students give up easily and have difficulty in group work activities because they get bored easily. Therefore, researchers innovate in implementing the project based learning (PjBL) model, namely with the help of the game method. Learning using the project based learning (PjBL) model combined with the game method is a technique that provides innovation in the art of teaching that can focus students' attention. Because the age of elementary school children is the age where he likes to play. The use of the project based learning (PjBL) model assisted by the game method can be an effective alternative as an effort to increase the concentration and learning outcomes of these students. Therefore, the

implementation of project based learning (PjBL) is accompanied by a game method.

The novelty of this research compared to previous studies lies in the game method. In previous research, it was not assisted by the game method. With the help of the game method, the project based learning (PjBL) model which is characterized by the existence of activities to design and carry out a project will be more capable of increasing the concentration and learning outcomes of students. So that the game method and project work will produce a real work that can be shown. Students will feel happy in the learning process so that it will lead to high learning concentration.

The focus of the research based on this problem is that the researcher intends to conduct further research on the application of the project based learning (PjBL) model assisted by the game method in increasing the concentration and learning outcomes of students.

REASERCH METHOD

The type of research used is classroom action research. The research procedure was carried out in two cycles, each cycle consisting of four stages, namely the planning stage (plan of action explaining the plans to be carried out in the implementation of the cycle, implementation of the action (stage of implementing the contents of the previously planned action plan), observation (gathering data by recording all the events or things that happened in the research class), and the reflection stage (evaluating activities related to what has been carried out in class action as an effort to improve in the next cycle). The subjects in this study were students in class 4A. The object of this study is to increase concentration and learning outcomes through a project based learning (PjBL) model assisted by the game method. This research was conducted at SD Kanisius Demangan Baru 1, Yogyakarta. The research was conducted in October 2022-January 2023. Data collection instruments were obtained through observation and tests. The data analysis technique used is quantitative and qualitative data analysis. This research was conducted to improve the concentration and learning outcomes of students through the project based learning (PjBL)

model with the help of games. The following is the formula according to Riduan (2013: 41) to find out the percentage of students' learning concentration:

$$P = 100\% \frac{F}{N} \times$$

Information:

P = percentage number

F = frequency of observed activities

N = the total number of activities

As for how to calculate the completeness of the value of student test results is to use the formula Arikunto (2007: 264), namely as follows:

$$X = \frac{\sum x}{\sum N}$$

Information:

X = Average value

$\sum x$ = The total value of all students

N = Number of students

Table 1. Concentration Criteria and Learning Outcomes

Mastery Level	Categories of Concentration and Learning Outcomes
0-54	Very low
55-64	Low
65-79	Currently
80-89	Tall
90-100	Very high

Source: (Ministry of Education and Culture, 2016)

RESULTS AND DISCUSSION

Study Concentration

The results showed that in the pre-cycle it was known through observation that the percentage of students' learning concentration was still in the low category, namely 58.33%, thus it was necessary to carry out treatment by applying the right learning model in order to overcome problems related to the low concentration of students' learning. The model is a game-assisted project based learning (PjBL) model. The application of the game-assisted project based learning (PjBL) model in class is

carried out based on the teaching modules that have been prepared at the planning stage. The concentration of learning is known through the stages of implementation and observation/observation. At this stage, the teacher observes the activities of students to determine the concentration of students' learning. After being given treatment in cycle I and cycle II, students' learning concentration increased. The following table shows an increase in learning concentration.

Table 1. Increased Learning Concentration

NO	Activity	Study Concentration
1	Pracyclus	58.33%
2	Cycle I	69.44 %
3	Cycle II	90.27 %

Based on the table above, it is known that students' learning concentration in pre-cycle is still in the low category with a total percentage of 58.33%. After treatment with the application of the game-assisted project based learning (PjBL) model, namely focus pat, the learning

concentration of students in cycle I increased in percentage to the medium category (69.44%). The teacher then carries out the reflection stage to make improvements to learning in cycle I. The reflection results show that there are still students

whose concentration is still low, students have not fully paid attention to learning activities.

The researcher then carried out cycle II based on the results of reflection on cycle I. Cycle II showed the results that the students' learning concentration had increased to a very high category (90.27%). The results of the study concentration are known through the implementation and observation stages. From the results of the increase in learning concentration, it can be seen that after being given action with the project based learning (PjBL) model assisted by the game method, the achievement of the percentage of good scores in the indicators of student learning concentration has increased significantly overall.

Learning outcomes

Based on the research results, it is known that the initial conditions or pre-cycle learning outcomes of students are still in the low category (57.27). Student learning outcomes are still low because there are still some students who do not fully understand the lesson because students are playing around when the teacher explains. There are still students who have not reached the minimum completeness criteria (KKM). There are still some students who do not respond to the stimulus provided by the teacher in the learning process. After treatment with the application of the game-assisted project based learning (PjBL) model in cycle I and cycle II, it was found that student learning outcomes had increased. The following table shows an increase in student learning outcomes.

Table 2.Improved Learning Outcomes

NO	Activity	Learning outcomes
1	Pracyclus	57.27 (Low)
2	Cycle I	67.72 (Medium)
3	Cycle II	84.09 (High)

Based on the table above, it is known that the initial condition of student learning outcomes is still in the low category. After taking action by applying the project based learning (PjBL) model assisted by the game method in cycle I, it was found that the learning outcomes of students had increased to the moderate category. Learning outcomes are obtained based on the results of tests given by the teacher at the end of learning at the implementation stage. The teacher then carries out the reflection stage to make improvements to learning in cycle I. The reflection results show that there are still some students when asked questions they cannot answer, so the score of the test results is still low.

Cycle II was carried out based on the results of reflection in cycle I. Cycle II learning outcomes obtained based on test results are included in the high category (84.09). Thus it is known that the initial conditions of student learning outcomes are still low, after being treated in cycle I and cycle II student learning outcomes have increased. So that the application of the game-assisted project based learning (PjBL)

model has been successful in increasing student learning outcomes.

Discussion

Study Concentration

The success of the learning process can be seen from the level of concentration of students in the class. Concentration of learning is the ability to focus on the lesson, the focus is on the content of learning materials and the process of obtaining them. Concentration as a driving force for the overall learning activities of students, guarantees the continuity of the learning process, provides direction for the learning process, enables the achievement of subject objectives, and allows students to achieve learning in school (Riinawati, 2021: 2). However, the facts on the ground show that the low concentration of students in the learning process. Based on the results of the study, the concentration of learning at the pre-cycle stage is still in the low category (58.33%). Boredom is a factor in the low concentration of students' learning, thus making students not pay attention to the teacher's explanation and choose

to play around. A noisy classroom environment is caused by some students playing around during the learning process causing a noisy class and other students losing concentration. Disturbance by a friend next to the seat so that over time it will disturb other students and disrupt the concentration of students. This can be seen when the teacher asks questions, students do not immediately answer but must wait to be appointed first so they want to answer questions from the teacher. In addition, students who have a turn to answer no longer pay attention to the teacher and the lesson, but choose to chat with their classmates.

Thus, it is necessary to carry out treatment by applying the right learning model in order to overcome problems related to the low concentration of students' learning, this model is the game-assisted project based learning (PjBL) model. Thomas (2000) (in Insyasiska, et al., 2015: 15) states that the project based learning (PjBL) model as project-based learning is an innovative approach, emphasizing contextual learning through complex activities. The project based learning (PjBL) model requires a high learning focus/concentration, because learners Those involved in the project as a whole will select topics, decide on approaches, conduct experiments, draw conclusions and communicate the results of the project being undertaken. The project based learning (PjBL) model shows concentration learner through high involvement of all learners, work ethic, cohesiveness, and self-confidence learners. Learning concentration will be formed when someone is grouped in a group that will help learners find understanding in the learning process. Emphasis on learning concentration learners using the project based learning (PjBL) model lies in activity learner to solve problems by applying the skills of researching, analyzing, creating, up to presenting learning products based on real experiences. The project based learning (PjBL) model can improve learning concentration learners which has an impact on increased learning outcomes through problems related to real situations Rais and Ardhan (in Nugraha, et al., 2021: 145). Ardianti (in Pratiwi, et al., 2018: 178) added that the project based learning (PjBL) model is a learning

model characterized by the activity of designing and carrying out a project to produce a product. In its implementation, the project based learning (PjBL) model is implemented with the help of the game method, because it is not complete learners concentrate in each stage of the project based learning (PjBL) model. If learners already seen not focused/not concentrated, then The game method can be used to increase student learning motivation, in a way when students' concentration conditions begin to decrease during learning, learning activities can be transferred to the game method for a certain time so that students can concentrate again.

The application of the game method in learning science class IV which has been implemented can increase concentration in the process of learning activities. The relationship between the application of game methods and learning concentration can be a treatment for learning activities to be varied, fun and meaningful so that if these feelings arise in students it will make it easier for teachers to achieve maximum learning outcomes. Because if the concentration of students is low, then this will affect their learning outcomes (Hamzah in Jamini, 2019). This can be seen based on the actions that have been carried out in cycle I and cycle II. After being given treatment in cycle I, it increased to a moderate category (69.44%) and cycle II also increased to a very high category (90.27%). Based on the results of observations on learning concentration, it can be seen that after being given action with the project based learning (PjBL) model assisted by the game method, the achievement of the percentage value of students' learning concentration has increased overall.

According to Gujrati and Porter (in Riinawati, 2021: 2307) the importance of concentration can make students more mastery of the material provided and increase enthusiasm and motivation to be more active so that learning outcomes learners increased. Concentration has a big influence on the success of the learning process, if someone has difficulty concentrating, the teaching and learning process is not optimal. Therefore it is important for teachers to pay attention to various kinds of learning strategies and models in order to motivate students to focus

attention/concentration on each material provided. Mulyana in (Fridaram et al., 2020: 162) argues that through the concentration of learning, students are able to follow the learning process so as to be able to achieve the expected learning objectives. The ability to understand lessons is obtained by paying attention to what the teacher teaches as well as efforts from independent learning. Mahmudah (2015: 23) suggests that good and maximum learning concentration is believed to improve good learning outcomes.

Learning outcomes

Learning outcomes are the abilities possessed by students after they receive their learning experience (Sudjana, 2010: 22). Wahid Murni & Ridho (2010: 18) argues that learning outcomes are obtained by a learner through earnest effort so that he will get a satisfactory grade. Someone can be said to have succeeded in learning if he is able to show a change in himself. These changes can be shown, among others, from the ability to think, skills, or attitude towards an object. Learning outcomes are influenced by two things, namely internal factors and external factors. Students will get good results if the factors of learning success are owned and used properly. However, it is known that at the pre-cycle stage, student learning outcomes are still in the low category (57.27).

Based on the research results, it is known that the cycle I test is included in the moderate category (67.72). This shows that there is an increase, from the low category to the medium category. Then the researcher made a reflection as an improvement for the first cycle. Based on the results of the first cycle reflection, the researcher carried out the second cycle with the test results obtained, namely in the high category (84.09). Thus it is known that the initial conditions of student learning outcomes are still low, after being treated in cycle I and cycle II student learning outcomes have increased. So that the application of the game-assisted project based learning (PjBL) model has been successful in improving student learning outcomes.

Wicaksono & Iswan (2019: 113) suggests that the use of learning models plays an important role in efforts to achieve good learning outcomes.

Therefore, forms of effective learning activities using effective learning models should continue to be pursued optimally by teachers. Thus, the use of the right model can be the most important part as an effort to improve student learning outcomes. According to Surya, Relmasira, & Hardini (2018: 45) to improve student learning outcomes, learning activities need to create innovative learning activities that are fun and encourage children to be able to express creativity, concentration, and be able to improve student learning outcomes. The project based learning (PjBL) model assisted by the game method requires students to be able to design a problem and find their own solution while playing, so as to increase concentration in learning to bring up their own solutions to make learning activities more meaningful so that they are remembered.

CONCLUSIONS AND RECOMMENDATION

Based on the research objectives, it can be concluded that the project based learning (PjBL) model assisted by the game method can increase learning concentration and student learning outcomes. It is known that the condition of students' learning concentration before the action is carried out is still in a low percentage. After the action was taken by applying the project based learning (PjBL) model assisted by the game method, the first cycle increased to a moderate category, and the second cycle increased to a very high category. Meanwhile, the learning outcomes of students before the action is carried out are still in the low category. After the action was taken by applying the project based learning (PjBL) model assisted by the game method, it experienced a significant increase, namely in cycle I it increased to the medium category, cycle II increased to the high category. Based on the results of this study, the researchers recommend the project based learning (PjBL) model assisted by the game method to be applied to learning activities because it can increase student concentration and learning outcomes. Because students whose concentration is not good will make learning outcomes low. With a good concentration of learning students can absorb and understand the information obtained

when students study so that learning outcomes increase.

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