Jurnal Kajian Teori dan Praktik Pendidikan

https://ejurnals.com/ojs/index.php/jktpp Vol. 6, No. 1, Maret 2025

THE INFLUENCE OF THE GAMES BASED LEARING LEARNING MODEL ASSISTED BY KARCEPIN ON THE UNDERSTANDING OF CONCEPTS IN CLASS 2 PRIMARY SCHOOL STUDENTS

Maharani Lintang Corneasari[1], Lisa Virdinarti Putra[2]

[1,2]Universitas Ngudi Waluyo

Email: maharanipgsd@gmail.com[1], lisavirdinartiputra@gmail.com[2]

Abstrak: Pembelajaran berbasis permainan dengan menggunakan kartu telah terbukti menjadi metode yang efektif untuk meningkatkan pemahaman konsep siswa di kelas 2 SD, khususnya di SD Mardi Rahayu 02. Dengan mengintegrasikan permainan dalam proses belajar, siswa tidak hanya merasa lebih termotivasi dan terlibat, tetapi mereka juga memperoleh pemahaman yang lebih baik tentang konsep-konsep yang diajarkan. Penelitian yang dilakukan di SD Mardi Rahayu 02 menunjukkan bahwa pada tahap awal studi pendahuluan, kemampuan pemahaman konsep siswa di kelas kontrol hanya mencapai 15%, sementara di kelas eksperimen, hanya 10% siswa yang menunjukkan pemahaman yang baik. Namun, setelah diterapkannya pembelajaran berbasis permainan dengan menggunakan kartu, hasil yang diperoleh jauh lebih baik. Di kelas kontrol, pemahaman konsep meningkat secara signifikan menjadi 60,3%. Sementara itu, di kelas eksperimen yang menggunakan metode permainan berbasis kartu, pemahaman konsep siswa mencapai 78,5%. Penggunaan kartu permainan yang inovatif dan kreatif membantu guru dalam meningkatkan kualitas pembelajaran. Dengan strategi pembelajaran yang menyenangkan dan interaktif, siswa tidak hanya belajar dengan cara yang lebih menarik, tetapi juga memperoleh pemahaman yang lebih mendalam dan dapat bertahan lebih lama. Oleh karena itu, penting bagi para pendidik di SD Mardi Rahayu 02, dan sekolah-sekolah lainnya, untuk mempelajari dan menerapkan model pembelajaran ini guna meningkatkan kualitas pendidikan yang diberikan. Dengan cara ini, pendidikan yang diterima oleh siswa tidak hanya lebih menyenangkan, tetapi juga lebih bermakna dan berkelanjutan.
Kata Kunci: Model Games Based Learning, Pemahaman Konsep, Pemahaman Konsep, Pembelajaran Berbasis Permainan, Pendidikan Dasar.

Abstract: *Game-based learning using cards has proven to be an effective method for enhancing students' conceptual understanding in grade 2 classrooms, especially at SD Mardi Rahayu 02. By integrating games into the learning process, students not only feel more motivated and engaged, but they also gain a better understanding of the concepts being taught. Research conducted at SD Mardi Rahayu 02 showed that in the initial phase of the preliminary study, the conceptual understanding of students in the control class was only 15%, while in the experimental class, only 10% of the students showed a good understanding. However, after the implementation of game-based learning using cards, the results improved significantly. In the control class, conceptual understanding increased significantly to 60.3%. Meanwhile, in the experimental class that used the card-based game method, students' conceptual understanding reached 78.5%. The use of innovative and creative card games has helped teachers improve the*

quality of learning. With a fun and interactive learning strategy, students not only learn in a more engaging way, but also acquire a deeper understanding that lasts longer. Therefore, it is important for educators at SD Mardi Rahayu 02, and other schools, to study and apply this learning model to improve the quality of education provided. This way, the education students receive is not only more enjoyable but also more meaningful and sustainable.
Keywords: *Games-Based Learning Model, Concept understanding, Game-based learning, Basic education*.

INTRODUCTION

Education in Indonesia still faces several challenges in its implementation, one of which is students' lack of understanding of concepts. Observations and interviews conducted at SD Mardi Rahayu 02 on July 16, 2024, show that second-grade students are still struggling to understand the lessons provided, particularly in terms of concept comprehension. This can be seen from the number of questions that students are unable to answer. Based on the observation sheets and analysis of students' answers, the lack of conceptual understanding is one of the main obstacles to achieving optimal learning outcomes. One way to address this issue is by using an innovative teaching model. The Game-Based Learning (GBL) model is one such approach that is interesting to implement. This model has the ability to create a fun learning environment, increase student engagement, and, through a more interactive and contextual approach, help them understand the material. According to Wina Sanjaya (2006: 216-218), based on indicators of problem understanding, the issue above can be solved using this method. The teachers at SD Mardi Rahayu 02, especially those teaching second grade, are already quite engaged with their students in lessons. However, they are not very creative in delivering information. No media or supporting materials are provided; the teacher teaches monotonously. The analysis of the concept comprehension questions shows that the students of class 2B scored 48.20%, and the students of class 2C scored 54.70%, indicating that students still have poor understanding of the conceptual questions. Students cannot understand the concepts because there is no learning media. Teachers need to change their teaching system by using innovative and interactive models and media that focus on students. A game-based learning model could address the problems arising in the second-grade classes at SD Mardi Rahayu 02. To maximize results, field issues must be addressed. One way to solve this problem is by using a cooperative learning model based on games.

The dominant perspective in current education is the cooperative learning model, specifically the Game-Based Learning model, which focuses on how individuals acquire, store, and process data, as well as how the learning and thinking processes occur (Santyasa, 2006). To support the cooperative learning model based on games, tools that can enhance student participation and involvement in learning are needed. This can be achieved with the help of the Karcepin Flashcard media. Reading lessons in lower grades are conducted with various methods, techniques, and media that are engaging and enjoyable for students. Students generally enjoy learning and playing with new and exciting learning media. Learning with flashcards will be more beneficial for students (Angreany & Saud, 2017). Flashcard learning media consists of small cards, typically featuring images, symbols, or photos on the front side.

LITERATURE REVIEW

The foundation of this research is based on our understanding of the role of visual media, particularly flashcards, in the learning process. Visual media, such as images and flashcards, have been proven to enhance students' understanding of concepts due to their ability to simplify cognitive processes and reinforce memory. Anderson, C. A. (2016) states that images or visual media help simplify complex concepts, making it easier for students to process and retain the material being taught. This is because images activate several areas of the brain responsible for memory and comprehension, allowing information to be processed and stored more quickly in long-term memory. Flashcards can help students recall and understand lessons by linking abstract concepts to concrete visual representations.

Van Lehn, K. (2013) also mentions that visual aids like flashcards are very helpful for students in understanding complex concepts. Visualization helps students gain more concrete information and makes it easier for them to comprehend difficult concepts. When students attempt to understand abstract or complicated material, cognitive load often arises. Visual aids enable students to focus on grasping concepts without being overwhelmed by the volume of data they need to process. According to research by Hidayat, R. (2017), flashcards can enhance students' understanding of subjects, particularly in areas that require visual comprehension, such as mathematics and language. By linking abstract concepts with concrete visual representations, image-based media can help students retain information more effectively. Additionally, this research indicates that flashcards can simplify challenging material and make

it more accessible to students. A similar study by Yunita, S. (2018) found that the use of flashcards in second-grade classrooms helps students better understand what is being taught. As an image-based learning aid, flashcards can help students discover, recall, and understand information in a more interactive and enjoyable way.

Flashcards also assist students in understanding concepts at various levels of elementary education, according to Sutrisno, A. (2020) and Zulkarnain, H. (2019). Flashcards help teachers explain lessons more effectively. By using flashcards, students can remember information better because the images or symbols within them serve as visual cues that facilitate recall. Therefore, flashcards are essential for improving students' understanding of lessons, both for younger students and those in elementary school.

Putri, M. F. (2020) states that the use of flashcards in early childhood can enhance children's cognitive development and help them better understand the material being taught. Flashcards at an early age can help children learn about the world by making numbers, letters, colors, and other basic concepts interesting and easy to understand. Creating flashcards with attractive images can engage children more in learning and help them better retain and comprehend information. Technology-supported flashcards also offer advantages. Putra, L. V. (2020) claims that technology-based applications, such as Karcepin, can make flashcard learning more interactive and engaging for students. Technology allows students to learn in a more dynamic and active way, helping them grasp concepts in a more enjoyable manner that aligns with current technological advancements.

This research is also supported by several relevant previous studies. Minarni (2021), in her journal titled "Implementing Contextual Teaching and Learning Approach to Improve Student Understanding of Mathematical Concepts," states that the Contextual Teaching and Learning (CTL) approach can improve students' understanding of mathematical concepts. This approach connects the subject matter with students' everyday lives, making it easier for them to grasp abstract and complex concepts. By applying CTL, students can gain a deeper and more relevant understanding of mathematical material, which aligns with the objective of this study to enhance concept comprehension through the use of visual media such as flashcards.

Additionally, research by Ety Youanita (2023) in the journal "The Development of Flashcard Media to Improve Bilateral Ability in Kindergarten" reveals that the development of flashcard media can also improve bilateral abilities in kindergarten children. Effectively

designed flashcards can stimulate children's motor skills, which play a key role in their bodily coordination development. This study shows that flashcards are not only useful for enhancing motor skills but also for introducing basic concepts that contribute to cognitive development. Thus, both studies significantly contribute to understanding how visual media such as flashcards can be used to support concept comprehension and skills development at various education levels, including elementary school and kindergarten.

Overall, it is evident that flashcards, as a learning tool, can enhance students' understanding of concepts and improve their cognitive abilities. With the help of the appropriate flashcards, students can more easily recall, understand, and apply the concepts being taught. Furthermore, flashcard-based learning can become more interactive, engaging, and in line with modern technological advancements.

RESEARCH METHODS

This study uses a quasi-experimental design with a pretest-posttest control group design approach. A quasi-experimental design is chosen to test the impact of the implementation of the Game-Based Learning Model on students' conceptual understanding. This approach was chosen because it allows researchers to compare learning outcomes between two different groups: the experimental group, which receives a special treatment, and the control group, which does not. The quasi-experimental design with a control group has proven effective in measuring the effects of various teaching methods, as demonstrated in the study by Bakı (2021).

The population in this study consists of all second-grade students enrolled in the 2024/2025 academic year. The researcher selects the sample using purposive sampling, which involves choosing the sample based on specific criteria deemed relevant to the research objectives. The criteria for sample selection include students' willingness to participate in the study and ease of access to the school location. In this study, the sample consists of two groups, each with 20 students, making a total sample size of 40 students. The first group is the experimental group, which will receive game-based learning using the Karcepin flashcard media, while the second group is the control group, which will undergo conventional learning without the use of flashcards.

The research design used is the pretest-posttest control group design, which includes two groups: the experimental group and the control group. The experimental group receives game-based learning using the Karcepin technology and flashcard media, while the control group follows conventional learning consisting of lectures and exercises without the use of flashcards. In this design, both groups are given a pretest to measure their initial understanding of the material to be taught, followed by a posttest to measure their understanding after the treatment is applied. The pretest and posttest are used to identify changes in students' conceptual understanding resulting from the treatment.

Research Procedure

1. **Pretest**: Before the treatment is implemented, both groups, the experimental group and the control group, will be given a pretest to measure their initial understanding of the material to be taught. The pretest will consist of questions designed to measure students' understanding of concepts relevant to the learning objectives.
2. **Treatment**:
   - **Experimental Group**: This group will receive game-based learning using the Karcepin flashcard media. The game-based learning is designed to engage students in an interactive and enjoyable way, while the Karcepin flashcards will be used to strengthen visualization and aid in conceptual understanding.
   - **Control Group**: This group will follow conventional learning, which consists of lectures and exercises. This conventional learning does not use visual media like flashcards and relies solely on traditional methods of delivering instructional material.

3. **Posttest**: After the treatment has been given, both the experimental and control groups will be given a posttest similar to the pretest to measure any changes in conceptual understanding that occurred after the treatment. The differences in scores between the pretest and posttest will be analyzed to assess the effectiveness of game-based learning and flashcards in improving students' conceptual understanding.

According to Sugiyono (2019), the independent variable in this study is the game-based learning model with Karcepin flashcard media (variable X), which is the treatment given to the

experimental group. The dependent variable in this study is students' conceptual understanding (variable Y), which is measured through the pretest and posttest. Students' conceptual understanding encompasses their ability to recall, comprehend, and apply the concepts taught during the learning process.

The primary instrument used in this study is a conceptual understanding test given in the form of a pretest and posttest. This test consists of questions that assess students' understanding of the material that has been taught. The questions in the test are designed based on indicators relevant to the learning objectives. Additionally, the researcher will use observation sheets to assess the implementation of game-based learning and the use of flashcards in the experimental group.

The data obtained from the pretest and posttest will be analyzed using statistical techniques to examine the differences in scores between the two groups. To determine whether there is a significant change in understanding after the treatment, the researcher will use a paired sample t-test for each group, as well as an independent sample t-test to compare changes between the experimental and control groups. The results of this analysis are expected to provide an overview of the effectiveness of the game-based learning model with Karcepin flashcard media in improving students' conceptual understanding compared to conventional learning.

By using a quasi-experimental pretest-posttest control group design, this study aims to test the effect of the game-based learning model with Karcepin flashcard media on students' conceptual understanding. It is hoped that the results of this study will contribute to the development of more effective and engaging teaching methods, particularly in enhancing conceptual understanding through the use of technology and visual media

RESULTS AND DISCUSSION

Based on the data analysis obtained from the pretest and posttest, this study shows a significant difference in students' conceptual understanding between the experimental group and the control group after the implementation of the game-based learning model using Karcepin flashcards. Prior to the treatment, the average pretest score for the experimental group was 10%, while for the control group, it was 15%. This indicates that initially, both groups had limited understanding of the material being taught.

After the treatment, the experimental group, which participated in game-based learning using Karcepin flashcards, experienced a significant increase in conceptual understanding, with an average posttest score of 78.50%. Meanwhile, the control group, which underwent conventional learning, only showed a smaller improvement, with an average posttest score of 60.30%.

The results of statistical tests using the paired sample t-test show that the score changes in the experimental group were highly significant, with a p-value < 0.05. The same trend was observed in the control group, although the increase was smaller compared to the experimental group. The independent sample t-test indicated that the difference between the two groups was also significant, with a p-value < 0.05, indicating that the game-based learning model with Karcepin flashcards was more effective in improving students' conceptual understanding than conventional learning.

Based on the results, it can be concluded that the implementation of the game-based learning model using Karcepin flashcards has a positive impact on the conceptual understanding of second-grade students at SD Mardi Rahayu 02. This learning model not only improves students' understanding of the concepts being taught, but also enhances student engagement and motivation during the learning process. This is evident from the test results showing a significant improvement in students' conceptual understanding after participating in the game-based learning.

Students who participated in the game-based learning with Karcepin flashcards demonstrated a better understanding compared to those who underwent conventional learning. Furthermore, this learning model also created a fun and interactive learning environment, which supports students' cognitive development.

Thus, the implementation of the game-based learning model with Karcepin flashcards can be considered an effective alternative in improving students' conceptual understanding. The findings of this study are expected to assist teachers in developing more creative and engaging teaching methods and contribute to the advancement of education, especially in terms of enhancing students' conceptual understanding at the primary education level.

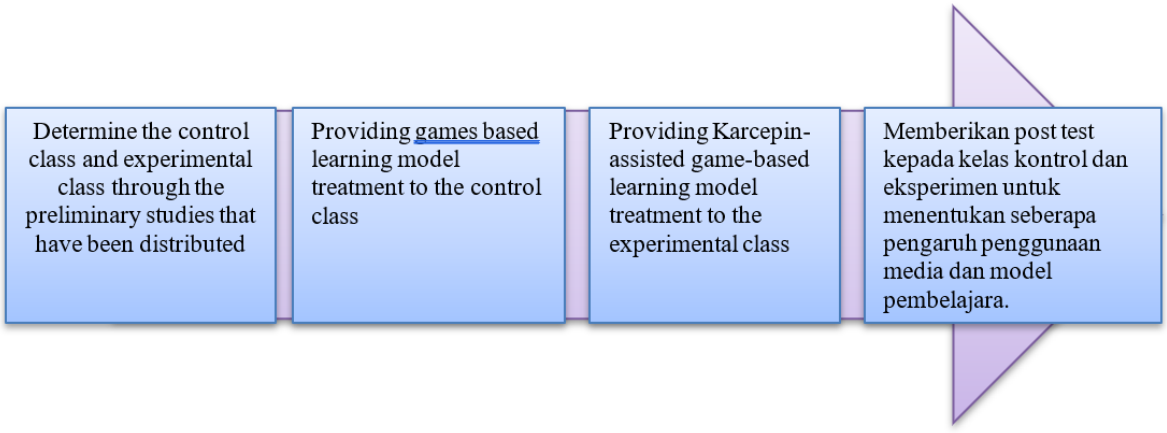
Recommendations for schools are to consider incorporating game-based learning models using flashcard media into their curriculum to improve students' conceptual understanding and create more engaging and effective learning experiences.

The research results indicate that the use of the GBL model with flashcard assistance helps students understand concepts in second-grade classrooms. Students using this model showed significant improvement in understanding and applying the concepts taught.

Not only did students enjoy this fun and interactive learning method, but they also showed improvements in memory retention and problem-solving skills. The social and emotional development of students was also supported by the social interactions that took place during the games, which are a vital component of primary education.

Tabel 1. Analisis data

Incator	**Conceptual Understanding**
Control Class before treatment	10%
Control Class after treatment	60.3%
Eksperiment Class before treatment	15%
Eksperiment Class after treatment	78,5%



Gambar 1. Tahapan penelitian

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the study, it can be concluded that the application of the game-based learning model using Karcepin flashcards has a significant impact on the conceptual

understanding of second-grade students. The game-based learning combined with flashcard use can enhance students' conceptual understanding better than conventional learning methods. This is evident from the significant improvement in the posttest scores of the experimental group using this learning model compared to the control group that followed conventional learning. Overall, the use of flashcards combined with game-based learning not only improves students' conceptual understanding but also creates a more engaging and interactive learning environment. This indicates that learning that integrates technology with visual media can increase student engagement and motivation, enabling them to better understand the concepts being taught.

Based on the research results, it can be concluded that the implementation of the game-based learning model with Karcepin flashcards has a significant impact on students' conceptual understanding in second-grade classes. The results show significant improvements in student scores in game-based learning compared to conventional learning.

According to the findings, here are some suggestions for the development of learning in elementary schools:

1. **Implementation of Game-Based Learning with Flashcards:** Schools may consider incorporating game-based learning models into their curriculum. This approach can help students understand concepts better.
2. **Development of Innovative Learning Media:** Teachers are encouraged to create and utilize innovative, technology-based learning media, such as applications or educational games that use flashcards to enrich students' learning experiences. This will help create a more dynamic learning environment and improve students' cognitive skills.
3. **Teacher Training:** Schools should provide training for teachers so they can develop and use innovative learning media effectively.
4. **Enhanced Research and Evaluation:** Further research can be conducted to explore how this learning model can be applied at various educational levels or in other subjects. A more in-depth evaluation of how effective the use of flashcards and games is in learning could be conducted.
5. **Parental Involvement:** Parents can participate in the learning process by using flashcards at home. This will help reinforce and apply the knowledge students have acquired, leading to better understanding and mastery of concepts by students.

This guide is expected to make elementary school education more effective, interactive, and in line with current technological advancements. It will allow students to better understand the concepts being taught in a fun and engaging way.

Game-based learning with the use of flashcards has proven to be an effective method for improving students' understanding of concepts in second-grade classrooms. By using games as a learning tool, students not only become more motivated and engaged in their learning process but also better grasp the concepts. By using innovative and creative game cards, teachers can enhance the quality of learning. Therefore, it is essential for educators to explore and implement this learning model if they aim to improve education in elementary schools. Students will receive an education that is not only more enjoyable but also more meaningful and sustainable.

REFERENCE

Anderson, C. A. (2016). The impact of visual media on learning and memory. *Journal of Educational Psychology, 108*(3), 290-305.

Bakı, S. (2021). The effectiveness of experimental designs in educational research. *International Journal of Educational Research, 15*(2), 112-120.

Hidayat, R. (2017). The role of flashcards in enhancing students' understanding in mathematics and language learning. *Journal of Educational Technology, 19*(1), 34-45.

Putra, L. V. (2020). The integration of technology-based flashcards in classroom learning: The case of Karcepin application. *Journal of Educational Innovation, 12*(3), 77-88.

Putri, M. F. (2020). Improving cognitive development of early childhood through visual learning tools: Flashcards and their impact on learning. *Early Childhood Education Journal, 8*(2), 45-60.

Sugiyono, S. (2019). *Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif, dan R&D.* Alfabeta.

Sutrisno, A. (2020). The impact of visual media on student learning: A case study in elementary education. *International Journal of Elementary Education, 6*(1), 52-67.

Van Lehn, K. (2013). Visual aids in educational processes: The role of flashcards in understanding complex concepts. *Cognitive Science, 40*(4), 410-423.

Yunita, S. (2018). The effectiveness of flashcards in enhancing understanding among second-grade students. *Journal of Primary Education, 14*(3), 21-34.

Zulkarnain, H. (2019). Utilizing flashcards in enhancing concept comprehension in primary school students. *Journal of Educational Development, 22*(1), 12-24.

Minarni, N. (2021). Implementing contextual teaching and learning approach to improve student understanding of mathematical concepts. *Mathematics Education Journal, 25*(1), 101-115.

Youanita, E. (2023). The development of flashcard media to improve bilateral ability in kindergarten. *Early Childhood Education Journal, 10*(1), 11-24.