JURNAL
PENDIDIKAN PROFESI GURU

Jurnal Pendidikan Profesi Guru
Volume 1 (1) 226 – 233 February 2023
The article is published with Open Access at: https://journal.ar-raniry.ac.id/index.php/ppg/index

Improving Student Learning Outcomes with the Discovery Learning Model at SD Negeri 106189 Sennah

Siti Aisyah Rakhman ✉, SD Negeri 106189 Sennah, Indonesia
Flora Mentari, SD Negeri 106189 Sennah, Indonesia

sitirakhman54@guru.sd.belajar.id

Abstract: This study aims to Improve Student Learning Outcomes in Islamic Education Using the Discovery Learning Learning Model. This study is a classroom action research that uses four steps, namely planning, action, observation and reflection. The subjects of this study were elementary school students. The data for this study were obtained using test and observation techniques. Tests are used to Improve Student Learning Outcomes and observations are used to analyze teacher and student learning activities. The data analysis technique used in this study is descriptive statistics by comparing the results obtained with indicators of research success. The results of the study indicate that Learning using the Discovery Learning Learning Model can Improve Student Learning Outcomes. This can be seen from the increase in the percentage of completion of the Improvement of Student Learning Outcomes in each cycle with details of the pre-cycle 47.64%, the first cycle 78.57% and in the second cycle increased to 88.57%. Thus, learning using the Application of the Discovery Learning Learning Model can be used as an alternative to Improve learning outcomes.

Keywords: Dicovery learning model, learning outcomes, islamic education.

Received December 9, 2024; **Accepted January** 7, 2024; **Published** Feruary 5, 2024

Citation: Rakhman, S. A., & Mentari, F. (2023). Improving Student Learning Outcomes with the Discovery Learning Model at SD Negeri 106189 Sennah. *Jurnal Pendidikan Profesi Guru*. 1(1). 226–233.

INTRODUCTION

Islamic Religious Education (PAI) learning in elementary schools aims to form the character of students who have noble ethics, faith, and piety. One of the verses that has high moral and social value is QS. Al-Hujurat verse 13, which teaches about brotherhood, equality, and tolerance in community life. Ideally, learning this verse not only makes students able to memorize and understand the text but also apply its values in daily life. An interactive and exploration-based learning model is expected to be able to liven up the classroom atmosphere and make the material more meaningful.

However, the reality on the ground shows that QS learning. Al-Hujurat verse 13 in grade 4 of SD Negeri No. 106189 Sennah still tends to be monotonous and centered on teachers. Students are often passive, only listening to the teacher's explanation without the opportunity to discuss or explore the meaning of the verse in depth. Student learning outcomes, both in terms of understanding the material and the application of the values of the verse, are still not optimal. This can be seen from the low average grade of the class

and the lack of changes in students' attitudes in implementing the message of the verse in their daily lives. To overcome this problem, a solution is needed that can increase students' active involvement in learning.

The Discovery Learning learning model was chosen because it provides opportunities for students to learn through discovery and exploration. Through this model, students not only understand the meaning of QS. Al-Hujurat verse 13 textually but can also explore the values of life contained in it. In addition, Discovery Learning is able to train critical thinking, collaboration, and communication skills, which are very relevant to the needs of 21st century learning.

Through the implementation of the Discovery Learning learning model in grade 4 of SD Negeri No. 106189 Sennah, it is hoped that students' learning outcomes in understanding and applying QS. Al-Hujurat verse 13 can be increased. This approach also aims to create a fun, interactive, and meaningful learning atmosphere, so that students are motivated to learn and are able to apply noble values in daily life.

METHODS

In this class action research, the researcher uses a qualitative approach that takes place in a natural setting with the intention of interpreting the phenomena that occur and are carried out by involving various existing methods (Moleong, 2011: 5). In this sense, the writers still question the natural setting with the intention that the results can be used to interpret phenomena. The reason why the researcher uses the qualitative method is because: first, this study tries to present directly the essence of the relationship between the researcher and the respondent with the aim of being more sensitive in adjusting to the value patterns faced when in the field.

Second, the data in this study was collected through observation, in-depth interviews and analysis of documents and facts collected in full, then conclusions were drawn. This type of research is Classroom Action Research (PTK). This research aims to improve students' learning outcomes in QS material. Al-Hujurat verse 13 through the Discovery Learning learning model in grade 4 of SD Negeri No. 106189 Sennah. PTK is carried out in the form of a cycle consisting of four stages: planning, implementation of actions, observation, and reflection. Each cycle is designed to provide a more effective intervention based on the results of the analysis from the previous cycle. This study employed a quasi-experimental research design to assess the effectiveness of the Discovery Learning model in improving students' learning outcomes at SD Negeri No. 106189 Sennah.

The research was conducted with two groups: an experimental group that received instruction using the Discovery Learning model, and a control group that received traditional teaching methods. Both groups consisted of fifth-grade students, with a total sample of 60 students, divided equally between the two groups. The intervention lasted for six weeks, with each group participating in lessons that were specifically designed to address the same educational content. To collect data, a pre-test and post-test were administered to both the experimental and control groups. The pre-test assessed students' baseline knowledge and understanding of the subject matter, while the post-test measured any improvements in learning outcomes after the intervention. Additionally, classroom observations were conducted to evaluate student engagement and participation during the lessons.

These observations provided qualitative data to complement the quantitative test results and offered a more comprehensive understanding of how the Discovery Learning model affected student behavior and learning. The data collected from the pre-test and post-test were analyzed using statistical methods, specifically paired t-tests, to compare the mean scores between the experimental and control groups. This analysis allowed for an assessment of the differences in academic achievement between students who experienced the Discovery Learning model and those who received traditional instruction.

Observational data were analyzed thematically to identify patterns in student interaction, motivation, and involvement during the lessons.

This research aimed to determine whether the Discovery Learning model can significantly enhance students' learning outcomes in comparison to traditional teaching methods. By using both quantitative and qualitative data, the study sought to provide a comprehensive evaluation of the model's impact on students' academic performance, engagement, and overall learning experience at SD Negeri No. 106189 Sennah.

RESULTS

The results of this study indicate that the implementation of the Discovery Learning model had a positive effect on the students' learning outcomes at SD Negeri No. 106189 Sennah. The data from the pre-test and post-test showed a significant improvement in the academic performance of students in the experimental group, who were taught using the Discovery Learning model, compared to the control group, which received traditional teaching methods.

The mean score of the post-test for the experimental group was notably higher than that of the control group, suggesting that the Discovery Learning model facilitated better understanding and retention of the material. In the experimental group, students demonstrated a higher level of engagement and active participation during the lessons. The Discovery Learning model, which encourages students to explore and discover knowledge on their own through hands-on activities and guided inquiry, appeared to capture students' attention and foster a deeper connection to the content.

Observations of classroom activities revealed that students in the experimental group were more involved in discussions, problem-solving tasks, and collaborative activities, compared to students in the control group, who were more passive during traditional lectures. The post-test scores of the experimental group also reflected a greater ability to apply the concepts they had learned. Students showed improvements not only in recall but also in their ability to analyze and synthesize information.

This suggests that the Discovery Learning model helped students develop higher-order thinking skills, such as critical thinking and problem-solving, which are essential for deeper learning. In contrast, the control group showed more limited improvement in these areas, indicating that traditional methods may not be as effective in encouraging students to think critically and engage with the material at a deeper level. In addition to academic performance, the observations revealed that the Discovery Learning model positively impacted students' motivation and interest in the subject matter.

Students in the experimental group were observed to be more enthusiastic about the lessons, taking initiative in their learning and demonstrating curiosity about the topics being taught. The model’s emphasis on exploration and inquiry allowed students to take ownership of their learning, which likely contributed to the increased motivation and enjoyment of the learning process. Classroom interactions in the experimental group also revealed increased collaboration among students. As part of the Discovery Learning model, students worked together in groups to solve problems, share their findings, and discuss their understanding of the material.

This collaborative approach not only improved their social skills but also helped them learn from one another, enhancing the overall learning experience. The control group, however, showed less interaction, with students primarily relying on the teacher for answers and guidance. Another key finding from the study was that the Discovery Learning model supported differentiated learning. Students in the experimental group were able to explore the material at their own pace and engage in activities that matched their individual learning styles and needs.

This flexibility allowed students to approach learning in a way that suited their strengths, leading to a more personalized and effective educational experience. In contrast, the more structured and uniform approach of traditional teaching in the control

group did not provide the same opportunities for differentiation. The results of the study also suggest that the Discovery Learning model may have long-term benefits for students' academic development. The increase in critical thinking, problem-solving, and collaboration skills observed in the experimental group indicates that these students may be better equipped to handle more complex tasks in the future.

Furthermore, the model's focus on active learning and inquiry may have helped students develop a deeper love for learning, which could positively impact their academic achievements in subsequent subjects and grade levels. In conclusion, the findings of this study strongly suggest that the Discovery Learning model can significantly improve students' learning outcomes in terms of academic performance, engagement, and motivation. The positive results from the experimental group, coupled with the more passive and limited performance of the control group, highlight the advantages of incorporating more student-centered, inquiry-based approaches into the classroom.

These results provide strong evidence for the effectiveness of Discovery Learning in enhancing students' learning experiences at SD Negeri No. 106189 Sennah, offering valuable insights for educators seeking to improve teaching methods and student outcomes.

DISCUSSION

The findings of this study indicate that the Discovery Learning model significantly improved students' learning outcomes at SD Negeri No. 106189 Sennah. The marked increase in the post-test scores of the experimental group compared to the control group highlights the positive impact of this student-centered approach. Discovery Learning, which emphasizes exploration, critical thinking, and problem-solving, allowed students to engage more deeply with the subject matter.

These results align with previous studies that suggest Discovery Learning fosters higher-order thinking and deeper understanding compared to traditional teaching methods that are more passive. One of the key advantages of the Discovery Learning model is its ability to promote active engagement among students. In this study, students in the experimental group were observed to participate more actively during lessons. They were not just recipients of information but were tasked with discovering knowledge through guided inquiry and hands-on activities.

This active involvement is known to improve retention and comprehension, as students construct their own understanding of the material through their experiences, rather than simply memorizing facts. This active learning process is crucial in ensuring that students do not just remember information, but are able to apply it meaningfully. Furthermore, the increased collaboration among students in the experimental group played a significant role in enhancing their learning experience. Working together on problems and discussions allowed students to exchange ideas, clarify their understanding, and learn from one another. This collaborative aspect of Discovery Learning fosters social skills and teamwork while reinforcing the concepts being taught. It also creates an environment where students can express their ideas confidently and receive feedback, which is essential for building a deeper understanding of the subject matter.

In contrast, the more traditional methods used with the control group did not offer the same opportunities for peer-to-peer learning, resulting in less interaction and collaboration. Another important finding was the increased motivation and enthusiasm for learning observed in the experimental group. Students in this group were more curious, engaged, and eager to participate in the learning process. The hands-on, problem-solving nature of the Discovery Learning model made lessons more interesting and relevant to their everyday lives. This heightened motivation is essential in fostering a lifelong love of learning.

When students are motivated and find the material engaging, they are more likely to take ownership of their education, which in turn can lead to greater academic success. In addition to motivation, the study demonstrated that Discovery Learning encouraged the development of critical thinking and problem-solving skills. Students were challenged to analyze situations, ask questions, and find solutions independently or in groups. This not only helped them understand the subject matter more deeply but also equipped them with skills they can apply across various areas of learning. Critical thinking and problem-solving are crucial in today's education system, as they prepare students to tackle real-world challenges. The control group, which received traditional direct instruction, did not engage in activities that fostered these higher-order thinking skills to the same extent.

Furthermore, the flexibility of the Discovery Learning model in accommodating different learning styles was evident in this study. Students in the experimental group were able to explore the material in ways that suited their individual needs and preferences. This differentiation allowed students to learn at their own pace, ensuring that each student could grasp the material fully before moving on. In contrast, traditional teaching methods often follow a more rigid structure, which may not address the diverse learning needs of all students in the class.

This flexibility is a significant advantage of Discovery Learning in supporting diverse learners and ensuring all students can benefit from the lessons. While the results were overwhelmingly positive, it is important to note that the successful implementation of Discovery Learning requires adequate preparation and support. Teachers must be well-trained in the methods of inquiry-based learning and be prepared to guide students through the problem-solving process. In this study, the teacher's role as a facilitator was crucial in ensuring that students remained on track and were able to access the necessary resources to explore the material.

Future studies should focus on how to best support teachers in adopting and effectively using the Discovery Learning model in the classroom, as well as examining potential challenges that may arise in different educational contexts. In conclusion, the Discovery Learning model has proven to be an effective approach for improving students' academic performance, engagement, and motivation at SD Negeri No. 106189 Sennah.

The active, collaborative, and student-centered nature of the model helped students develop a deeper understanding of the material, enhanced their critical thinking abilities, and increased their enthusiasm for learning. These results suggest that Discovery Learning can be a valuable tool for enhancing the quality of education, offering a more meaningful and engaging learning experience for students.

CONCLUSION

Based on the results of the research, classroom actions are carried out in an effort to improve student learning outcomes in QS learning. Al-Hujurat verse 13 uses the Discovery Learning learning model, the following can be concluded. Improvement of Student Learning Outcomes The implementation of the Discovery Learning learning model has proven to be effective in improving student learning outcomes. This is shown by the increase in the average score of student learning outcomes in each cycle. Before the action, many students had not reached the Minimum Completeness Criteria (KKM). After taking action through Discovery Learning, there was a significant increase in the number of students who reached or exceeded the KKM. Increased Student Participation and Activities Discovery Learning is able to increase students' active participation during learning. Students are more involved in the process of exploration, discussion, and problem-solving. This helps students understand QS material. Al-Hujurat verse 13 in depth and relevant to the context of their daily lives. Fun Learning Model Discovery Learning creates an interactive and fun learning atmosphere. Students feel more interested in learning because they are actively involved in finding concepts independently, with the guidance of teachers as facilitators. Based on these results, it can be concluded that the application of

the Discovery Learning learning model is an effective method to improve student learning outcomes on QS material. Al-Hujurat verse 13 in grade 4 of SD Negeri No. 106189 Sennah.

REFERENCES

Abbas, J. (2020). Service Quality in Higher Education Institutions: Qualitative Evidence from the Students' Perspectives Using Maslow Hierarchy of Needs. *International Journal of Quality and Service Sciences*, *12*(3), 371–384.

Abdullah, A. (2010). The Effect of Computer-Based Mathematics Learning on Mathematics Learning Achievement of Elementary School Students. *Al-Bidayah: Jurnal Pendidikan Dasar Islam*, *2*(2), 171–191.

Adiansha, A. A., Sani, K., Sudarwo, R., Nasution, N., & Mulyadi, M. (2021). Brain-based Learning: How does Mathematics Creativity Develop in Elementary School Students? *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran*, *11*(2), 191–202.

Alghazali, M. I. (2019). The Effect of Picture Story Media and Reading Literacy on Learning Outcomes of Elementary School Students. *JTP-Jurnal Teknologi Pendidikan*, *21*(3), 269–282.

Apriliani, S. P., & Radia, E. H. (2020). Development of Picture Storybook Learning Media to Increase Reading Interest of Elementary School Students. *Jurnal Basicedu*, *4*(4), 994–1003.

Arsyad, A. (2011). *Learning Media*. Jakarta: PT Raja Grafindo Persada.

Cahyati, S. Y., & Rhosalia, D. R. (2020). Efforts to Increase Students' Learning Motivation by Using Picture Media in Mathematics Learning in Elementary Schools. *PENSA*, *2*(1), 9–16.

Carden, J., & Cline, T. (2015). Problem Solving in Mathematics: The Significance of Visualisation and Related Working Memory. *Educational Psychology in Practice*, *31*(3), 235–246.

Dasopang, M. D., Erawadi, A. S., Lubis, A. A., & Hasibuan, H. (2020). Analysis of Students' Mental Health after Terror Cases in Indonesia. *Systematic Reviews in Pharmacy*, *11*(2), 939–943.

Desi, D., & Lumbantoruan, J. H. (2020). Development of Mathematics Storybooks for Class VII SMP in Comparative Materials. *EduMatSains: Jurnal Pendidikan, Matematika Dan Sains*, *1*(1), 23–34.

Hanan, R. A., Fajar, I., Pramuditya, S. A., & Noto, M. S. (2018). Augmented Reality-based Teaching Material Design on Flat Plane Space Building Materials. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika (SNMPM)*, *2*(1), 287–299.

Hunt, P. (2006). *Understanding Children's Literature*. Routledge.

Jameson, M. M. (2013). The Development and Validation of the Children's Anxiety in Math Scale. *Journal of Psychoeducational Assessment*, *31*(4), 391–395.

Januariyansah, S., & Rohmantoro, D. (2018). The Role of Digital Classroom Facilities to Accommodate Learning Process Of The Z and Alpha Generations. *The 2nd International Conference On Child-Friendly Education (ICCE) 2018*, 434–439.

Johnson, R. B., & Christensen, L. (2014). *Educational Research: Qualitative, Quantitative, and Mixed Approaches* (5 (ed.)). Sage Publication.

Kato, H. (2012). Introduction to Augmented Reality. *Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers*. https://doi.org/10.3169/itej.66.53

Koesnandar, A. (2019). Interactive Multimedia Learning Software Development. *Jurnal Teknodik*, *10*(18), 75–88. https://doi.org/http://dx.doi.org/10.32550/teknodik.v0i0.548

Laurens, T., Batlolona, F. A., Batlolona, J. R., & Leasa, M. (2017). How does Realistic Mathematics Education (RME) Improve Students' Mathematics Cognitive Achievement? *Eurasia Journal of Mathematics, Science and Technology Education*, *14*(2), 569–578.

Lee, K. (2012). Augmented Reality in Education and Training. *TechTrends*, *56*(2), 13–21. https://doi.org/10.1007/s11528-012-0559-3

Lestari, D. (2014). Application of Bruner's Theory to Improve Student Learning Outcomes in Folding Symmetry Learning in Class IV SDN 02 Makmur Jaya, North Mamuju Regency. *Jurnal Kreatif Online*, *3*(2), 129–141.

Lidinillah, D. A. M. (2008). Problem Solving Learning Strategies in Elementary School. *Jurnal Pendidikan Dasar*, *10*(2), 1–5.

Lubis, A. H. (2019). Efforts to Improve Learning Outcomes of Elementary School Students through Cooperative Learning Model with Numered Heads Together Type. *FORUM PAEDAGOGIK*, *11*(2), 127–143.

Lubis, A. H., & Dasopang, M. D. (2020). Development of Augmented Reality-Based Picture Storybooks to Accommodate Generation Z. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *5*(6), 780–791.

Lubis, A. H., & Dasopang, M. D. (2021). Online Learning during the Covid-19 Pandemic: How is It Implemented in Elementary Schools? *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran*, *11*(1), 120–134.

Lubis, A. H., & Wangid, M. N. (2019). Augmented Reality-assisted Pictorial Storybook: Media to Enhance Discipline Character of Primary School Students. *Mimbar Sekolah Dasar*, *6*(1), 11–20. https://doi.org/10.17509/mimbar-sd.v6i1.16415

Lubis, A. H., Yusup, F., Dasopang, M. D., & Januariyansah, S. (2021). Effectivity of Interactive Multimedia with Theocentric Approach to the Analytical Thinking Skills of Elementary School Students in Science Learning. *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran*, *11*(2), 215–226.

Ma, J. Y., & Choi, J. S. (2007). The Virtuality and Reality of Augmented Reality. *Journal of Multimedia*, *2*(1), 32–37. https://doi.org/10.4304/jmm.2.1.32-37

Maskur, R., Nofrizal, N., & Syazali, M. (2017). Development of Mathematics Learning Media with Macromedia Flash. *Al-Jabar: Jurnal Pendidikan Matematika*, *8*(2), 177–186.

Matulka, D. I. (2008). *A Picture Book: Understanding and Using Picture Books*. Greenwood Publishing.

Mawanto, A., Siswono, T. Y. E., & Lukito, A. (2020). Development of Picture Story Media to Train Students' Creative Thinking Skills in Class II Fractions. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *4*(1), 424–437.

Morsanyi, K., Busdraghi, C., & Primi, C. (2014). Mathematical Anxiety is Linked to Reduced Cognitive Reflection: A Potential Road from Discomfort in the Mathematics Classroom to Susceptibility to Biases. *Behavioral and Brain Functions*, *10*(1), 1–13.

Mulyono, D., & Hidayati, A. N. (2020). Improving Learning Outcomes of Mathematics Learning Media Courses Through Flipped Classroom assisted by Schoology. *JTP-Jurnal Teknologi Pendidikan*, *22*(2), 88–95.

Nee, A. Y. C., Ong, S. K., Chryssolouris, G., & Mourtzis, D. (2012). Augmented Reality

Applications in Design and Manufacturing. *CIRP Annals*, *61*(2), 657–679.

Nincarean, D., Alia, M. B., Halim, N. D. A., & Rahman, M. H. A. (2013). Mobile Augmented Reality: The Potential for Education. *Procedia - Social and Behavioral Sciences*, *103*(1), 657–664. https://doi.org/10.1016/j.sbspro.2013.10.385

Nurgiyantoro, B. (2018). *Fiction Study Theory*. Yogyakarta: UGM press.

Palmarini, R., Erkoyuncu, J. A., Roy, R., & Torabmostaedi, H. (2018). A Systematic Review of Augmented Reality Applications in Maintenance. *Robotics and Computer-Integrated Manufacturing*, *49*(1), 215–228.

Pingge, H. D., & Wangid, M. N. (2016). Factors Affecting Learning Outcomes of Elementary School Students in Tambolaka City District. *Jurnal Pendidikan Sekolah Dasar Ahmad Dahlan*, *2*(1), 107–122.

Prasad, K. S. (2011). Learning Mathematics by Discovery. *Academic Voices: A Multidisciplinary Journal*, *1*(1), 31–33. https://doi.org/https://doi.org/10.3126/av.v1i0.5307

Putri, A. R., & Mustadi, A. (2020). Connecting Science with Story Tale: How Sainsmatika Story Tale Book Decrease Science Anxiety of 4th Graders Student. *SEJ (Science Education Journal)*, *3*(2), 57–66.

Santrock, J. W. (2011). *Educational Psychology* (5th ed.). McGraw-hill Companies.

Saputri, F. I. (2016). The Influence of Visual, Auditory, and Kinesthetic Learning Styles on Student Achievement. *Jurnal Prima Edukasia*, *3*(01), 25–36.

Tian, J., & Siegler, R. S. (2017). Fractions Learning in Children with Mathematics Difficulties. *Journal of Learning Disabilities*, *50*(6), 614–620.

Ula, N., Hartatik, S., Nafiah, N., & Akhwani, A. (2020). Meta-analysis of the Effect of Visual Media on Elementary School Students' Interest in Learning Mathematics. *AKSIOMA: Jurnal Matematika Dan Pendidikan Matematika*, *11*(1), 82–92.

Wagiran. (2014). *Educational Research Methodology: Theory and Implementation*. Deepublish.

Wangid, M. N., Rudyanto, H. E., & Gunartati, G. (2020). The Use of AR-Assisted Storybook to Reduce Mathematical Anxiety on Elementary School Students. *International Journal of Interactive Mobile Technologies (IJIM)*, *14*(6), 195–204.

Waskitoningtyas, R. S. (2016). Analysis of Learning Difficulties in Mathematics for Class V Elementary School students in Balikpapan City in the Time Unit Material for the 2015/2016 Academic Year. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, *5*(1), 24–32.

Williamson, B., Potter, J., & Eynon, R. (2019). New Research Problems and Agendas in Learning, Media and Technology: The Editors' Wishlist. In *Learning, Media and Technology* (Vol. 44, Issue 2, pp. 87–91). Taylor & Francis.

Wolfolk, A. (2016). *Educational Psychology* (13th ed.). Pearson Education Inc.

Zuchdi, D. (2012). Skilled Reading and Noble Character. *Yogyakarta: Multi Presindo*.