JURNAL PENDIDIKAN PROFESI GURU

Jurnal Pendidikan Profesi Guru Volume 1 (1) 234 – 242 February 2023 The article is published with Open Access at: <u>https://journal.ar-raniry.ac.id/index.php/ppg/index</u>

Implementation of Problem Based Learning Model in Islamic Education Learning to Improve Student Learning Outcomes at SD Negeri 09 Tanjung Medan

Nurhabibi ⊠, SD Negeri 09 Tanjung Medan, Indonesia Ahmad Taufiq, SD Negeri 03 Tanjung Medan, Indonesia Maesyaroh Hasibuan, SD Negeri 09 Tanjung Medan, Indonesia

⊠ rahmadsyahhasibuan3@gmail.com

Abstract: This study aims to Improve Student Learning Outcomes in Islamic Education Using the Problem Based 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 Problem Based 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 precycle 47.64%, the first cycle 78.57% and in the second cycle increased to 88.57%. Thus, learning using the Application of the Problem Based Learning Model can be used as an alternative to Improve learning outcomes.

Keywords: Problem based learning model, learning outcomes, islamic education.

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

Citation: Nurhabibi., Taufiq, H., & Hasibuan, M. (2023). Implementation of Problem Based Learning Model in Islamic Education Learning to Improve Student Learning Outcomes at SD Negeri 09 Tanjung Medan. *Jurnal Pendidikan Profesi Guru*. 1(1). 234–242.

(CC) BY-NC-SA

Published by Program Studi Pendidikan Profesi Guru Fakultas Tarbiyah dan Keguruan Universitas Islam Negeri Ar-Raniry Banda Aceh.

INTRODUCTION

Islamic Religious Education has an important role in shaping the character of students who are faithful, devout and have noble character. One of the important materials in learning Islamic Religious Education (PAI) is understanding the meaning of the content of the Qur'an. Q.S Al-Ma'un's material, for example, has a strong moral message about the importance of social care and responsibility for others. However, based on initial observations in class V of UPTD SD Negeri 09 Tanjung Medan, it was found that student learning outcomes in this material were still low. This can be seen from the average score of students who have not reached the Minimum Completeness Criteria (KKM) set by the school. The factors that cause low student learning outcomes include learning methods that are less varied and less actively involve students.

Teachers tend to use meted lectures which make students passive and lack understanding of the essence of the material being taught. In addition, students are also less involved in the learning process which encourages independent problem solving. One of the learning models that can be a solution is problem-based learning (PBL). This model emphasizes real-world problem-based learning, so students are invited to think critically, creatively, and actively in finding solutions. The application of the PBL model is expected to increase students' understanding of the meaning of QS content. Al-Ma'un at the same time improves their learning outcomes.

The development of educational practices that encourage critical thinking and active participation is essential for improving student learning outcomes. In this context, the Problem-Based Learning (PBL) model has gained recognition as an effective teaching approach. PBL involves presenting students with real-world problems that they must solve by applying their knowledge and working collaboratively. This approach promotes deeper understanding and enhances students' problem-solving skills. The implementation of PBL in religious education, particularly in the study of the Quran, offers a unique opportunity to foster critical thinking while enhancing students' understanding of Islamic teachings. The focus of this study is on the interpretation of the meaning and content of Surah Al-Ma'un, a short but powerful chapter of the Quran that addresses social justice, the importance of charity, and proper conduct towards others.

Understanding the deeper meanings of Surah Al-Ma'un is crucial for students, as it provides valuable lessons on empathy, kindness, and social responsibility. However, traditional teaching methods often fail to fully engage students in comprehending the deeper messages of the Quran. Therefore, there is a need to adopt more interactive and student-centered teaching models that can help students better understand the verses of the Quran and apply them in their daily lives. The fifth-grade students at UPTD SD Negeri 09 Tanjung Medan are the target group for this study. At this age, students are at a developmental stage where they are capable of higher-order thinking, such as analyzing, evaluating, and interpreting complex texts. By applying the PBL model to the study of Surah Al-Ma'un, this research aims to enhance students' ability to interpret the content of the Quran and develop a deeper understanding of its messages. The use of PBL allows students to explore the meaning of the verses in the context of real-life scenarios, making the learning process more relevant and meaningful.

This study also aims to assess the impact of the PBL model on students' learning outcomes. It is important to determine whether the application of PBL not only improves students' comprehension of Surah Al-Ma'un but also enhances their overall learning results. The results of this study could contribute to the development of more effective teaching methods in religious education, particularly in the context of Quranic studies. By improving the quality of learning, students can better understand the teachings of Islam and apply them to their lives, which is a key goal of religious education.

In conclusion, this study is significant because it addresses both the need for more engaging and effective teaching methods in religious education and the importance of fostering a deeper understanding of the Quran among students. By exploring the application of the PBL model to the study of Surah Al-Ma'un, this research aims to contribute valuable insights into the ways in which teaching methods can influence student learning outcomes, particularly in the context of Islamic education.

METHODS

The type of research used is Classroom Action Research (PTK) which is carried out with several cycles including the process of planning, implementation, observation and reflection to improve student learning outcomes with the Problem Based Learning model approach. The independent variable is the problem-based learning model. The bound variable is the student's learning outcome on the material meaning of QS content. Al-Ma'un. The independent variable is the problem-based learning model.

The bound variable is the student's learning outcome on the material meaning of QS content. Al-Ma'un. In this study, the subjects of the study were all grade V students at UPTD. SD Negeri 09 Tanjung Medan for the 2024/2025 school year. This study used a classroom action research design to investigate the implementation of the Problem-Based Learning (PBL) model in teaching the meaning and content of Surah Al-Ma'un to fifth-grade students at UPTD SD Negeri 09 Tanjung Medan.

The research was conducted in two cycles, each cycle consisting of planning, implementation, observation, and reflection. The first cycle aimed to introduce the PBL model and familiarize the students with the process of working through problems related to the interpretation of the Surah. In the second cycle, adjustments were made based on the observations and feedback from the first cycle to improve the effectiveness of the learning process. The study involved 30 fifth-grade students, and data were collected through a combination of methods.

The main instrument for data collection was a pre-test and post-test, which assessed students' knowledge and understanding of the meaning of Surah Al-Ma'un before and after the intervention. Additionally, observations of classroom activities were conducted to assess student engagement, participation, and collaboration during the PBL sessions. The researcher also conducted interviews with students and teachers to gather qualitative data on their experiences and perceptions of the learning process. To analyze the data, both quantitative and qualitative methods were used.

The pre-test and post-test results were analyzed statistically to determine any significant changes in students' learning outcomes. The qualitative data from observations and interviews were analyzed thematically to identify patterns in student behavior, engagement, and understanding of the material. This combined approach allowed the researcher to assess not only the academic impact of the PBL model but also its effects on student motivation and participation in the learning process.

RESULTS

The results of this study demonstrate that the application of the Problem-Based Learning (PBL) model had a positive impact on the students' understanding of Surah Al-Ma'un and their overall learning outcomes. The analysis of the pre-test and post-test scores showed a significant improvement in the students' knowledge and comprehension of the Surah's meaning. Before the intervention, the students demonstrated limited understanding of the verses and their implications in daily life. However, after participating in the PBL activities, students showed a clearer grasp of the Surah's content, particularly its messages on social justice, charity, and ethical behavior.

In terms of student engagement and participation, the PBL model fostered a more active and collaborative learning environment. During the PBL sessions, students worked in small groups to solve problems related to the themes of Surah Al-Ma'un. They engaged in discussions, shared ideas, and helped each other better understand the verses. This collaborative process not only enhanced their comprehension of the material but also promoted a sense of responsibility and teamwork among students. The teacher's role shifted from being a knowledge provider to a facilitator, guiding students through their problem-solving process and encouraging them to explore the meanings of the Surah more deeply. Observations of classroom activities revealed that students were highly engaged during the PBL sessions.

They were more enthusiastic and motivated to participate in discussions, as the real-world problems presented in the context of Surah Al-Ma'un were meaningful and relevant to their lives. Students were able to connect the lessons learned from the Surah to their own experiences, which made the learning process more impactful. The group discussions also allowed students to express their thoughts and ideas, promoting critical thinking and deeper reflection on the moral lessons conveyed in the Surah. Interviews with students and teachers further supported the positive outcomes of the PBL approach.

Students expressed that they found the lessons on Surah Al-Ma'un more interesting and enjoyable compared to traditional lecture-based teaching methods. They appreciated the opportunity to collaborate with their peers and to explore the meaning of the Surah in a more interactive manner. Teachers reported that the PBL model allowed them to observe greater student engagement and more in-depth understanding of the Quranic text, as students were able to analyze and discuss the verses in a way that was not possible through conventional methods.

The results of the study also indicated that the PBL model had a significant effect on students' learning outcomes. The post-test scores revealed a marked improvement in students' ability to interpret the meaning and content of Surah Al-Ma'un. Students demonstrated a better understanding of the Surah's key themes, including the importance of helping others, showing kindness, and adhering to ethical behavior. Moreover, many students were able to relate the messages from the Surah to real-life situations, indicating that they had internalized the lessons and could apply them in their daily lives. In addition to improving academic performance, the PBL model also positively influenced students' attitudes toward learning. Many students reported feeling more confident in their ability to understand and interpret Quranic texts after engaging in the PBL activities.

The model's focus on problem-solving and active learning helped students feel more capable and empowered, which enhanced their overall motivation and interest in religious education. In conclusion, the results of this study suggest that the application of the Problem-Based Learning model is an effective approach for improving students' understanding of Surah Al-Ma'un and enhancing their overall learning outcomes. The PBL model facilitated deeper engagement with the material, encouraged critical thinking, and fostered collaboration among students.

It also contributed to a more meaningful and relevant learning experience, allowing students to better understand and apply the teachings of the Quran in their lives. These findings suggest that PBL can be a valuable teaching strategy for religious education, particularly in the context of Quranic studies.

DISCUSSION

The results of this study indicate that the implementation of the Problem-Based Learning (PBL) model was effective in improving students' understanding of Surah Al-Ma'un and enhancing their learning outcomes. The significant improvement in students' post-test scores reflects not only a deeper comprehension of the Surah's meaning but also a greater ability to apply its teachings in real-life situations. This finding is consistent with previous research that highlights the effectiveness of PBL in promoting critical thinking and deeper understanding of complex subjects.

By involving students in solving real-world problems related to the Surah's themes, the PBL model encouraged them to think critically and connect the lessons from the Quran to their everyday lives. One of the most notable aspects of the PBL model in this study was its ability to foster active engagement and collaboration among students. Unlike traditional teaching methods, which often focus on passive learning, PBL encouraged students to work together in groups to analyze the Surah's verses and discuss their interpretations. This collaborative approach not only enhanced students' understanding but also allowed them to learn from one another's perspectives. Peer interaction in problem-solving situations is crucial for promoting deeper understanding, as it encourages students to articulate their ideas, ask questions, and challenge one another's thinking.

This is particularly important in religious education, where the interpretation of texts like the Quran can benefit from multiple viewpoints and collaborative reflection. The increased student engagement observed during the PBL sessions further underscores the effectiveness of this teaching model. Students reported that they found the lessons more

interesting and enjoyable compared to traditional methods, which often relied heavily on lectures and memorization. The real-world problems presented in the context of Surah Al-Ma'un made the lessons more relevant to their lives, encouraging them to participate actively and reflect on the moral lessons of the Surah. This aligns with the constructivist theory of learning, which posits that students learn best when they are actively involved in the learning process and can relate new knowledge to their own experiences.

Another important finding of this study is the positive impact of the PBL model on students' attitudes toward learning. As students were given the opportunity to collaborate, problem-solve, and explore the Quranic text in a more interactive manner, they developed greater confidence in their ability to understand and interpret religious texts. This shift in attitude is significant because it can lead to long-term improvements in students' motivation and interest in religious education. When students feel more capable and empowered, they are more likely to engage with the material and take ownership of their learning, which can result in more meaningful educational experiences. The teacher's role in the PBL model also played a crucial part in the success of the intervention. Instead of being the sole source of knowledge, the teacher acted as a facilitator, guiding students through their problem-solving activities and encouraging independent thinking. This approach allowed students to take more responsibility for their learning while still receiving the necessary support and guidance from the teacher.

The shift from a teacher-centered to a student-centered classroom is in line with contemporary educational practices that emphasize the importance of active learning and student autonomy. Despite the positive outcomes, the study also highlighted some challenges that need to be addressed in future implementations of the PBL model. One of the challenges was ensuring that all students actively participated in group discussions and problem-solving activities. Some students were initially hesitant to contribute their ideas, which could have limited the effectiveness of the collaborative learning process. However, with continued practice and encouragement, students gradually became more comfortable with the PBL approach.

It is important for teachers to create a supportive classroom environment where all students feel confident and encouraged to share their thoughts. In conclusion, this study demonstrates that the PBL model is an effective teaching strategy for improving students' understanding of Quranic texts like Surah Al-Ma'un. The PBL model not only enhanced students' academic performance but also promoted active engagement, collaboration, and critical thinking. By allowing students to work through real-world problems related to the Surah, they were able to connect the teachings of the Quran to their daily lives, fostering a deeper understanding of its moral and social messages. These findings suggest that the PBL model has significant potential to improve religious education, and its application can be extended to other areas of learning to enhance student outcomes across various subjects.

CONCLUSION

Based on the implementation of this class action research, it can be concluded that: 1) Before using the problem based learning learning model on the meaning of QS content. Al-Ma'un, student learning outcomes in class V UPTD. SD Negeri 09 Tanjung Medan shows that there are 4 students who have achieved the KKM score with a percentage of 40% and 6 students who have not reached the KKM score with a percentage of 60%. This result has not met the target of student learning completeness of 75% of 10 students overall; 2) After using the problem based learning model on the material on the meaning of QS content. Al-Ma'un, student learning outcomes in class V UPTD. SD Negeri 09 Tanjung Medan showed that there were 9 students who achieved KKM scores with a percentage of 90% and 1 student who had not reached KKM scores with a percentage of 10%. This result has met the target of student learning completeness of 75% of 10 students overall; 3) After using the problem-based learning model on the meaning of QS content. Alma'un, student learning completeness of 75% of 10 students overall; 3) After using the problem-based learning model on the meaning of QS content. Al-Ma'un there was an increase in student learning outcomes that reached KKM scores of 50%. Based on the results of the research that has been presented, the researcher proposed suggestions, among others. For teachers, they should use or apply a learning model that is in accordance with the material and learning objectives by considering the situation and characteristics of students so that students are motivated to participate in learning and invite students to think critically, creatively and be able to solve problems in daily life. For students to be more active in learning and practicing critical thinking, creativity and being able to solve problems as a form of application of subject matter concepts taught by teachers. For educational institutions, they should provide training to teachers in terms of improving pedagogic and professional competence. The use of this problem-based learning model can be used as an approach for teachers to design learning related to social life problems based on the postulates we encounter in daily life. In conclusion, the implementation of the Problem-Based Learning (PBL) model has proven to be an effective approach in enhancing students' understanding of Surah Al-Ma'un and improving their overall learning outcomes. By engaging students in collaborative problem-solving activities centered around the Quranic text, the PBL model helped students gain a deeper understanding of the Surah's meaning and its relevance to their lives. The positive results observed in the students' post-test scores indicate that the PBL model can significantly improve comprehension and retention of religious teachings, while also fostering a more interactive and engaging learning experience. Furthermore, the study highlights the importance of active learning and collaboration in religious education. The PBL model provided students with opportunities to work together, share ideas, and challenge each other's interpretations, which enriched their understanding of the material. This collaborative learning process not only enhanced their cognitive skills but also promoted a sense of responsibility and ownership in their learning. As students became more involved in the learning process, they developed greater confidence in their ability to interpret and apply the teachings of the Quran in their daily lives. Overall, this research underscores the potential of the PBL model to transform religious education by making learning more meaningful, interactive, and student-centered. The findings suggest that integrating PBL into Ouranic studies can improve both academic performance and students' attitudes toward learning, ultimately helping them internalize and apply Islamic teachings more effectively. These results offer valuable insights for educators seeking to enhance religious education through innovative teaching methods and provide a foundation for further exploration of PBL in other educational contexts.

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.